

REFERENCES AND BACKGROUND PAPERS

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- Adel Salameh - Al edara al tarbaweya be jomhoreyat masr al-'Arabiya : ta'therateha fi tamkeen al toulaab le mojtama' al ma'refa (Educational administration in Egypt: its effect in enabling the students for the knowledge society).
- Ahmed Hijji - E'adad al nashe' le mojtama' al ma'refa derasa tahleleya mokarana lel adabeyat al tarbaweya wal khebarat al ajnabeya (International and regional literature and experiences in preparing future generations for the knowledge society).
- Atif A. Kubursi - Al ta'leem al mobaker wa tahadeyat al tanmeya al-'Arabiya (The Economic Feasibility of preparing Arab future generations for knowledge society).
- Fahmi Houidi - Al keyam al sa'eda fi al manteka al-'Arabiya wa atharha 'ala johood e'dad al nashe' le wolooj mojtama' al ma'refa (Prevailing values in the Arab region and their impact on efforts of preparing Arab future generations for the knowledge society).
- Fayez Saudi - Tatweer al manahej al trabaweya fi al manteka al-'Arabiya wa athar zaleka fi eadad al nashe' (Curriculum Development in the Arab Region and its impact on preparing future Generations for the Knowledge Society in the Arab Region).
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- Hussein Kamel Bahaaeldin - Re'aya al tofola al mobakera wal ta'leem le mojtama' al ma'lomat (Early childhood and preparation of Arab generations for knowledge society).
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- Kamal Abdullatif - Nahwa bena' al ajyal al-'Arabiya al kadema le wolooj mojtama, al ma'refa (Building future generations to access the knowledge society).
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- khamis al mokhtara (masr, al ordon, al emarat, al maghreb, al yaman), (Human Development Trajectory/Trends in the Arab Region and their impact on preparing future generations for the knowledge society/economy).
- Mahmoud Abdulfadil - Moasherat wa mokawemat mojtama' al ma'refa bayn al shabab fi alwatan al-'Araby (knowledge society's indicator and elements among the youth in the Arab world).
 - Mahmoud el-Naqa - Azmat al logha al arabeya ta'leman wa ektesaban wa athar zaleka a'la e'adad al nashea le wolooj mojtama' al ma'refa (Arabic Language teaching and learning crisis and its effects on preparing children for the knowledge society).
 - Mariam Lootah - Al ta'leem wa nosoq al keyam fi dawlat al Emarat al arabeya al motaheda (Systems for inculcating values for knowledge society in the Arab region).
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 - Mohamed Ben Fatma - eslah al taleem fi al manteka al arabeya wa athar zaleka e'adad al nashe' le -mojtama' al ma'refa (Educational Reform in the Arab Region and its impact on preparing future Generations for the Knowledge Society in the Arab Region).
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 - Mona Hadidi - Al ma'any wal madameen allaty tatadamnha qanawat al etesal al jamahery wa atharaha fi ea'dad ajyal al mostaqbal le a'sr wa mojtama' al ma'refa (Contents of Media Means and their Impact on Preparing future generations for Knowledge Age and Society).
 - Mustafa Abdl Samie - Al be'a al tamkeeneya le ea'dad al nashe'a le mojtama' al ma'refa fi al manteka al-'Arabiya (Enabling Environments for preparing future generations in the Arab region for the knowledge society).
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 - Nawal al Fauri - al tanshe'a al osareya wa dowraha fi tahye'a al ajyal al-'Arabiya al qadema le mojtama' al ma'refa (Family upbringing and its role in preparing Arab future generations for knowledge society).
 - Rafica Hamoud - Ea'dad al ajyal al kademah le mojtama' al ma'refa (Preparing future generations for the knowledge society).

ANNEXES



FIELD SURVEY RESULTS FOR THE FOUR ARAB CASE STUDIES

STUDENTS RESPONSES

Table m-1: Student's political opinions

	Tendency to a political thought		Desire to participate in political life	
	quantity	%	quantity	%
Yes	1970	30.7	2042	31.8
No	3720	58.0	3617	56.4
No Answer	725	11.3	756	11.8

Table m-2: Student's freedom of choice (%)

Freedom of choice	Great freedom	Moderate freedom	Weak freedom	No freedom
- Personal Choices	63.7	31.8	3.4	1.1
- Scientific Choices	48.8	42.2	7.1	1.9
- Intellectual Choices	59.9	30.8	6.9	2.3

Table m-3: Student's political opinions (%)

	Fully Agree	Somewhat agree	Do not agree	Do not agree at all	Do not know
- There are strict laws that restore rights to their owners within the school	46.3	35.6	10.6	4.2	3.3
- There are strict laws that restore rights to their owners in the society as a whole	34.0	38.4	16.1	7.2	4.3
- Because of existing laws in the school, students think a lot before breaching the rules of conduct	37.8	36.7	15.4	5.5	4.6
- Because of existing laws in the society as a whole, people think a lot before breaching the rules of conduct	34.3	35.3	16.7	7.8	5.9
- There is no laxity in the application of law in school regardless of the status or position of a person	37.4	31.7	15.7	9.6	5.6
- There is no laxity in the application of law in society regardless of the status or position of a person	31.9	28.0	18.7	14.5	6.9
- Who has money has a better chance to education	52.0	23.1	13.1	8.3	3.5
- Positions are occupied according to the efficiency of applicants and not for other considerations (e.g. favouritism or mediation)	30.0	28.4	18.6	15.2	7.8
- Promotion at work does not depend on objectivity but on personal opinions	30.9	36.3	14.6	5.5	12.7
- Objective considerations, not favouritism and mediation, are applied in certification, recruitment, promotion and other privileges	30.6	32.3	13.3	9.5	14.3

Table m-4: Student's opinions on government media (%)

	Fully Agree	Somewhat agree	Do not agree	Do not agree at all	Do not know
Audio-visual media convey images fairly and honestly	35.1	40.3	13.5	6.4	4.7
- Audio-visual media convey different views of the society	38.3	43.3	8.8	4.1	5.5

Table m- 5: Student's opinions on non-government media (%)

	Fully Agree	Somewhat agree	Do not agree	Do not agree at all	Do not know
Audio-visual Media convey images fairly and honestly	32.4	39.5	14.0	6.3	7.8

TEACHERS' RESPONSES

Table m-6: Student's opinions on non-government media (%)

	In all classes	In most classes	In some classes	Do not practice
- Participation with students in educational/learning activities	32.9	40.2	25.5	1.4
- Training students on solving problems	31.6	43.4	22.7	2.3
- Explaining theoretical concepts	57.7	26.9	13.5	1.9
- Writing lessons on the blackboard	55.8	18.0	15.9	10.3
- Discussion with students about the concepts of the lesson	69.8	22.8	7.2	0.2
- Discussion of presentations by students related to academic concepts	10.1	27.5	53.8	8.6
- Evaluation of students' achievement (tests, exams, etc.)	19.6	34.2	44.3	1.9
- Helping students to conduct scientific/practical experiments	7.8	15.1	47.0	30.1
- Organise the work of students in small groups	12.9	27.2	47.5	12.4
- Linking educational material with the requirements of everyday life	44.3	35.0	18.0	2.7
- Keeping class quiet and deterring troublemakers	75.6	18.1	5.1	1.2

Table m-7: Importance of specific evaluation practices (%)

	Not important	Weak Importance	Moderate Importance	Great Importance
- School attendance (non-absence)	2.2	1.6	9.9	86.3
- The amount of effort exerted in homework	2.5	1.8	25.0	70.7
- Steady improvement in results	1.6	2.1	19.2	77.1
- Good behaviour inside and outside the classroom	2.0	2.3	11.2	84.5
- Active participation in the class	2.4	0.8	12.7	84.1
- Creativity and innovation	1.0	4.1	38.4	56.5
- The ability to think and raise questions	0.8	2.7	26.5	70.0
- Taking initiative	0.8	5.3	39.6	54.3
- Correct answers in the examination paper	2.5	1.6	24.2	71.7

Table m-8: Teaching aids available to the teacher at home (%)

	Yes	No
- Computer	91.0	9.0
- Internet subscription	73.7	26.3
- Scientific encyclopaedia	64.2	35.8
- Subscription to an educational magazine	18.2	81.8
- Dictionary or lexicon	82.6	17.4
- Library	79.2	20.8

Table m-9: Teaching ability to use technology (%)

	Weak	Moderate	Good	Advanced
	10.7	28.4	41.5	19.4

Table m-10: Use of technology for educational purposes (%)

	Yes	No
	68.6	31.4

Table m-11: Students' opinion on school environment (%)

	Always	Sometimes	Rarely	Never
- There are cases of violence at school among teachers themselves	1.4	4.9	24.6	69.1
- There are cases of violence at school among students and between teaching and administrative staff	2.9	20.8	40.0	36.3
- There are cases of violence among students at school	7.0	35.7	39.3	18.0

Table m-12: Teachers' opinion on education (%)

	Fully Agree	Somewhat Agree	Do not agree	Do not agree at all
- Improvement of education in the Arab world compared to the past	20.6	46.2	22.7	10.5

Table m-13: Teachers' opinion on the teacher (%)

	Fully Agree	Somewhat Agree	Do not agree	Do not agree at all
- Teachers no longer enjoy the same degree of respect in society	58.4	33.9	6.1	1.6

Table m-14: Teachers' opinions on the school (%)

	Fully Agree	Somewhat Agree	Do not agree	Do not agree at all
- General decline in students' respect for teachers compared to the past	62.2	29.9	6.5	1.4
- Students' interest in study decreases day after day	60.4	30.7	7.9	1.0
- The current generation of students is characterised by strong character	21.8	44.4	25.5	8.3
- The current generation of students is better prepared than previous generations	9.2	23.7	42.2	24.9
- Material values dominate the cognitive values among most students	53.9	39.6	5.5	1.0

Table m-15: Teachers' opinion on the school (%)

	Fully Agree	Somewhat Agree	Do not agree	Do not agree at all
- The role of school has become secondary in providing students with science and knowledge	14.1	44.0	31.4	10.5
- Educational methods adopted in schools do not motivate students to seek knowledge	34.2	44.9	14.2	6.7

Table m-16: Teachers' opinion on the preparation for the teaching profession (%)

	Fully applicable	Somewhat applicable	Not applicable	Fully opposing
- I feel that I need a professional qualification to be able to teach tomorrow's generation	15.3	31.2	37.6	15.9

Table m-17: Teachers' opinion on the relationship with parties involved in education (%)

	Fully applicable	Somewhat applicable	Not applicable	Fully opposing
- The relationship between me and students is based on mutual respect	82.9	16.1	1.0	0.0
- The relationship between me and my colleagues is based on mutual respect	92.2	7.1	0.4	0.3
- The relationship between me and parents is based on mutual respect	87.3	10.9	1.4	0.4
- The relationship between me and administrative board is based on mutual respect	88.2	10.1	1.4	0.3
- I meet with parents regularly to exchange views with them on issues of interest to students	18.2	45.2	29.9	6.7

Table m-18: Teachers' opinion on educational curricula and programmes (%)

	Fully Agree	Somewhat Agree	Do not agree	Do not agree at all
- Educational curricula and programmes prepare students to face the challenges of the future	32.1	45.9	18.8	3.2
- Educational curricula and programmes help in acquiring the necessary skills	29.6	54.8	13.9	1.7
- Educational curricula and programmes help prepare competent cadres able to compete internationally	25.6	43.7	27.7	3
- Educational curricula and programmes contribute to instilling the values of citizenship and civilised behaviour	36.8	50.0	11.7	1.5
- Educational curricula and programmes prepare students to deal with the problems of daily life	24.0	45.4	25.7	4.9
- Educational curricula and programmes provide a structure that takes into account cognitive, conative, and social dimensions	24.6	50.2	21.6	3.6
- Educational programmes and curricula provide a structure for coping with scientific and technological development	26.9	48.2	21.7	3.2

Table m-19: Teachers' opinion on the factors influencing the preparation of future generations (%)

	Yes	No
(a) Poor financial resources of the school	80.9	19.1
(b) Tense relations between students, teachers and administration	61.1	38.9
(c) Shortage of equipment and materials at schools	83.6	16.4
(d) Poor preparation of teachers	66.7	33.3
(e) Training does not respond to the advanced needs of teachers	77.6	22.4
(f) Poor (financial, professional, and other) incentives	92.3	7.7
(g) Multiplicity of knowledge sources competing with the school	58.6	41.1
(h) Weak learning motivation among students	87.7	12.3
(i) Students do not have good command of correct Arabic language	78.8	21.2
(j) Non-mastery of foreign languages (e.g. English, French, etc.)	82.7	17.3

Table m-20: Results of analysing the impacts of some enabling factors on students' performance with respect to skills and values (%)

	Variance Degree*	Mother's level of education	Father's level of education	Family's upbringing pattern	Family's monitoring of child's study	Educational well-being at home	Financial well-being in family	Educational well-being at school	Educational well-being in local environment
Cognitive Skills	14.0%	0.150**	0.037	0.076	0.085	0.184	X	0.050	X
Conative Skills	6.4%	X	X	0.126	X	X	X	0.096	0.068
Social Skills	5.4%	0.072	X	0.121	X	0.076	X	0.092	X
Cognitive Values	10.2%	X	X	0.284	X	X	-0.163	0.064	0.127
Conative Values	7.3%	-0.092	0.059	0.248	X	0.072	-0.090	X	0.045
Social Values	6.9%	-0.149	X	0.198	0.056	0.096	-0.085	X	0.047
Universal Values	8.3%	X	X	0.262	X	0.130	-0.186	X	X

* The ability of independent variables to explain changes in the dependent variable.

**Standard Regression Coefficients



STATISTICAL ANNEX

GENERAL INDICATORS

Table 1: Total population, population growth, and proportion of children in the Arab region

Country	Total Population 2010 (Million)	Population Growth Rate 2005 - 2015 Predicted (%)	Proportion of the total population under 15 years old 2010 (%)	Proportion of the total population between 15-24 years 2010 (%)
Jordan	6.5	1.5	34.0	20.4
UAE	4.7	1.9	19.2	11.9
Bahrain	0.807	1.8	25.9	17.9
Tunisia	10.4	0.9	22.9	19.3
Algeria	35.4	1.5	27.0	20.5
Djibouti	0.879	1.6	35.6	21.6
KSA	26.2	1.9	32.0	18.9
Sudan	43.2	2.0	38.7	20.3
Syria	22.5	8.1	34.7	20.5
Somalia	9.4	2.7	44.9	18.6
Iraq	31.5	2.6	40.7	19.9
Oman	2.9	1.92	30.8	20.6
Occupied Palestinian Territories	4.4	2.9	44.5	19.9
Qatar	1.5	1.5	16.0	17.9
Kuwait	3.05	2.04	23.3	14.4
Lebanon	4.3	0.79	24.8	18.0
Libya	6.5	1.8	30.1	17.3
Egypt	84.5	1.7	32.1	20.2
Morocco	32.4	1.2	28.0	19.7
Mauritania	3.4	2.07	39.3	20.1
Yemen	24.3	2.7	43.4	22.1

Source: World Population Prospects 2008 Revision, April 13, 2011. http://esa.un.org/undp/wpp/unpp/panel_population.htm

Table 2: Human Development Indices⁶¹

Country	Human Development Index Value 2010		Human Poverty Index (%)	GDP per Capita (Purchasing Power Parity US Dollar 2008)	Life Expectancy at Birth	Adult illiteracy rate (%aged 15 and above)	Gender Inequality Index
	Ranking	Indicator					
Jordan	82	0.681	2.7	5700	73.1	8.9	0.616
UAE	32	0.815	0.6	56485	77.7	10.0	0.464
Bahrain	39	0.801	...	27838	76.0	10.0	0.512
Tunisia	81	0.683	2.8	8509	74.3	20.0	0.515
Algeria	84	0.677	...	8477	72.9	22.4	0.594
Comoros	140	0.428	73.9	1174	66.2	22.5	...
Djibouti	147	0.513	29.3	2274	56.1	...	...
KSA	55	0.752	...	24208	73.3	13.3	0.760
Sudan	154	0.379	...	2300	58.9	39.1	0.708
Syria	111	0.589	5.5	4857	74.6	15.3	0.687
Somalia	...	..	81.2	...	50.4	...	...
Iraq	...	..	14.2	...	68.5	25.9	0.751
Oman	...	...	...	26258	76.1	13.7	...
Occupied Palestinian Territories	97	...	0.7	...	73.9	6.2	...
Qatar	38	0.803	...	77178	76.0	6.9	0.662
Kuwait	47	0.771	...	50284	77.9	5.5	0.451
Lebanon	...	0.796	...	13510	72.4	10.4	...
Libya	53	0.775	...	16999	74.5	11.7	0.504
Egypt	103	0.620	6.4	5840	70.5	33.6	0.714
Morocco	116	0.567	28.5	4638	71.8	41.8	0.693
Mauritania	136	0.433	61.7	2037	57.3	42.4	0.722
Yemen	133	0.439	52.5	2595	63.9	36.8	0.853
Arab Countries	...	0.713	...	...	...	...	...

Data of the Human Development Report, 2010.

Source: UN: Statistical update of the Human Development Report tables, April 26, 2011.

<http://hdrstats.undp.org/en/countries/profiles/>

Table 3: World Bank Knowledge Economy Index (KEI)* (most recent compared to year 2000)

Country or region	Most recent score	2000	Change
Arab Countries			
UAE	6.73	5.96	0.77
Qatar	6.73	6.06	0.67
Bahrain	6.04	6.73	-0.69
Kuwait	5.85	6.24	-0.39
Jordan	5.54	5.62	-0.08
Oman	5.36	5.16	0.20
KSA	5.31	4.56	0.75
Lebanon	4.81	4.78	0.03
Tunisia	4.42	4.12	0.30
Egypt	4.08	4.31	-0.23
Morocco	3.54	3.72	-0.18
Algeria	3.22	2.73	0.49
Syria	3.09	2.96	0.13
Mauritania	2.36	2.09	0.27
Yemen	2.20	2.03	0.17
Sudan	1.78	1.43	0.35
Djibouti	1.47	1.70	-0.23
Neighbouring and comparison countries			
Iran	0.99	2.30	-1.31
Turkey	5.55	5.63	-0.08
Cyprus	7.50	7.36	0.14
Malaysia	6.07	6.17	-0.10
India	3.09	3.17	-0.08
China	4.47	3.92	0.55
Top-ranking countries			
Denmark	9.52	9.50	0.02
Sweden	9.51	9.73	-0.22
Finland	9.37	9.62	-0.25
Holland	9.22	9.27	-0.05
Canada	9.17	9.15	0.02
US	9.02	9.32	-0.30
UK	9.10	9.21	-0.11
Geographic regions of the world			
Middle East and North Africa	5.47	5.63	-0.16
Africa	2.71	3.01	-0.30
East Asian and the Pacific	6.41	6.78	-0.37
Europe and Central Asia	6.45	6.25	0.20
G7	8.72	8.95	-0.23
Latin America	5.21	5.46	-0.25
South Asia	2.58	2.70	-0.12
Income level			
High-income states	8.23	8.23	0
Upper-middle-income states	5.66	5.74	-0.08
Lower-middle-income states	3.78	3.85	-0.07
Low-income states	2.00	2.32	-0.32
World	5.21	5.26	-0.05

Source: World Bank database, Knowledge Assessment Methodology (KAM),
http://info.worldbank.org/etools/kam2/KAM_page6.asp on April 4, 2010

* The Knowledge Economy Index is calculated from twelve indicators. Values area on a scale of 0-10; the top 10 per cent of countries score in the range 9-10; the next highest 10 per cent of countries score in the range 8-9; and so on.

Table 4: Worldwide governance indicators in the Arab region and comparison countries

Country	Voice and accountability	Political stability and absence of violence/terrorism	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
Jordan	-0.85	-0.23	0.28	0.36	0.38	0.27
UAE	-0.87	0.91	0.93	0.56	0.52	1.04
Bahrain	-0.83	-0.09	0.62	0.78	0.51	0.30
Tunisia	-1.27	0.23	0.41	0.10	0.22	0.02
Algeria	-1.04	-1.20	-0.59	-0.94	-0.73	-0.49
Djibouti	-1.11	0.48	-0.91	-0.60	-0.65	-0.26
KSA	-1.77	-0.37	-0.09	0.22	0.12	0.15
Sudan	-1.59	-2.65	-1.32	-1.25	-1.34	-1.24
Syria	-1.63	-0.68	-0.61	-1.07	-0.47	-0.96
Somalia	-1.99	-3.31	-2.30	-2.56	-2.53	-1.73
Iraq	-1.17	-2.33	-1.26	-1.04	-	-1.38
Oman	-1.08	0.81	0.65	0.66	0.68	0.48
Occupied Palestinian Territories	..	..	..	..	..	..
Qatar	-0.89	1.12	1.13	0.62	0.96	1.64
Kuwait	-0.54	0.42	0.21	0.20	0.59	0.42
Lebanon	-0.33	-1.51	-0.67	-0.07	-0.64	-0.80
Libya	-1.89	0.62	-1.12	-1.00	-0.75	-1.10
Egypt	-1.12	-0.63	-0.30	-0.14	-0.03	-0.41
Morocco	-0.79	-0.43	-0.11	-0.01	-0.16	-0.23
Mauritania	-1.01	-1.17	-0.90	-0.66	-0.84	-0.66
Yemen	-1.27	-2.31	-1.12	-0.60	-1.15	-1.03
India	0.47	-1.19	-0.01	-0.28	0.05	-0.39
South Korea	0.66	0.45	1.26	0.88	0.82	0.36

Source: World Bank, Worldwide Governance Indicators 2009

World Bank - Worldwide Governance Indicators 2009: (Voice & Accountability - Political Stability & Absence of Violence/Terrorism - Regulatory Quality - Rule of Law - Control of Corruption)

http://info.worldbank.org/governance/wgi/sc_chart.asp, on April 14, 2011.

Indicators are calculated by estimation on a scale of -2.5 to 2.5 (-2.5 indicating the weakest performance and 2.5 indicating the highest performance)

Table 5: World Bank Economic Incentive and Institutional Regime Index* (most recent compared to 2000)

Country or region	Most recent score	2000	Change
Arab Countries			
Oman	7.15	7.65	-0.5
Qatar	7.05	6.63	0.42
UAE	6.75	7.71	-0.96
Bahrain	6.75	7.51	-0.76
Kuwait	6.50	7.02	-0.52
Jordan	5.99	5.28	0.71
KSA	5.94	4.50	1.44
Lebanon	4.42	3.04	1.38
Morocco	4.12	4.92	-0.8
Tunisia	4.04	3.92	0.12
Mauritania	3.64	2.67	0.97
Egypt	3.59	3.73	-0.14
Yemen	2.66	2.12	0.54
Algeria	2.18	1.12	1.06
Djibouti	1.99	2.17	-0.18
Syria	1.65	1.86	-0.21
Sudan	0.48	0.51	-0.03
Neighbouring and comparison countries			
Iran	0.99	2.30	-1.31
Turkey	5.55	6.19	-0.64
Israel	8.24	8.87	-0.63
Cyprus	7.50	7.70	-0.2
Malaysia	6.11	6.15	-0.04
India	3.50	3.59	-0.09
China	3.90	2.84	1.06
Top-ranking countries			
Denmark	9.61	9.13	0.48
Sweden	9.33	9.45	-0.12
Finland	9.31	9.48	-0.17
Holland	9.22	9.27	-0.05
Canada	9.45	8.63	0.82
US	9.24	9.06	0.18
UK	9.04	9.06	-0.02
Geographic regions of the world			
Middle East and North Africa	4.86	4.52	0.34
Africa	2.68	2.85	-0.17
East Asian and the Pacific	5.52	5.90	-0.38
Europe and Central Asia	5.71	4.75	0.96
G7	8.15	8.84	-0.69
Latin America	4.71	4.98	-0.27
South Asia	2.65	2.85	-0.2
Western Europe	8.71	9.05	-0.34
Income level			
High-income states	8.02	8.13	-0.11
Upper-middle-income states	5.08	4.87	0.21
Lower-middle-income states	3.01	2.97	0.04
Low-income states	2.05	2.30	-0.25
World	5.21	5.26	-0.05

Source: World Bank database (Knowledge Assessment Methodology), http://info.worldbank.org/etools/kam2/KAM_page5.aspx http://info.worldbank.org/etools/kam2/KAM_page5.aspx on April 17, 2011.

* The index value falls on a scale of 0-10 and is calculated from three key indicators: Tariff and non-tariff restrictions, regulatory quality, and rule of law. The top 10 per cent of states score in the range 9-10; the next highest 10 per cent of states score in the range 8-9; and so on.

Table 6: Corruption Perceptions Index (CPI) 2010

Country	Value	Ranking among Arab countries	Ranking among the countries of the world (178)
Qatar	7.7	1	19
UAE	6.3	2	28
Oman	5.3	3	41
Bahrain	4.9	4	48
Jordan	4.7	5	50
KSA	4.7	6	50
Kuwait	4.5	7	54
Tunisia	4.3	8	59
Morocco	3.4	9	85
Egypt	3.1	10	98
Algeria	2.9	11	105
Lebanon	2.5	12	127
Syria	2.5	13	127
Libya	2.2	14	146
Yemen	2.2	15	146
Sudan	1.6	16	172
Iraq	1.5	17	175
Somalia	1.1	18	178

Source: World Bank, Indicators of Good Governance, (the Index measure the level of corruption in the public sector in a given country) April 27, 2011
 "Transparency International, the global coalition against corruption", Corruption Perception Index - 2010 results.
http://www.transparency.org/policy_research/surveys_indices/cpi/2010/results

EDUCATION

Table 7: Adult and youth literacy rates by gender in the Arab states 2008 (or closest three years)

Country	2008 (or closest three years)							
	Adult literacy rate				Youth literacy rate			
	Males (%)	Females (%)	Total (%)	Gender parity	Males (%)	Females (%)	Total (%)	Gender parity
Jordan	95.2*	*87.0	91.1*	*0.91	*98.9	99.0*	*99.0	*1.00
UAE	*89.5	*91.5	*90.0	*1.02	*93.6	*97.0	*95.0	*1.04
Bahrain	91.7	89.4	90.8	0.97	99.8	99.7	99.7	1.00
Tunisia	86.4	71.0	77.6	0.82	98.1	95.8	96.8	0.98
Algeria	**81.3	**63.9	**72.6	**0.79	**94.4	**89.1	**91.8	**0.94
Comoros	79.3	67.8	73.6	0.85	85.7	84.1	84.9	0.98
Djibouti	...	...	...	...	...	...	...	...
KSA	89.5	82.2	85.5	0.90	98.4	96.2	97.3	0.98
Sudan	79.0	59.6	69.3	0.75	88.6	81.7	85.2	0.92
Syria	90.0	77.2	83.6	0.86	95.6	92.5	94.1	0.79
Somalia	...	...	...	...	...	...	...	...
Iraq	86.0	69.2	77.6	0.81	84.5	80.2	82.4	0.95
Oman	90.0	80.9	86.7	0.90	97.6	97.6	97.6	1.00
Occupied Palestinian Territories	97.1	90.9	94.1	0.94	99.3	99.0	99.2	1.00
Qatar	93.8	90.4	93.1	0.96	99.1	99.0	99.1	1.00
Kuwait	***95.2	***93.1	***94.5	***0.98	***98.5	***98.4	***98.4	***1.00
Lebanon	***86.0	***93.4	***89.6	***0.92	***98.4	***99.1	***98.7	***1.01
Libya	94.9	81.3	88.4	0.86	99.9	99.7	99.8	1.00
Egypt	...	...	...	...	*87.9	...	84.9**	...
Morocco	69.4	44.1	56.4	0.64	84.8	68.4	76.6	0.81
Mauritania	64.1	49.5	56.8	0.77	70.5	63.4	67.0	0.90
Yemen	78.9	42.8	60.9	0.54	95.1	70.00	82.9	0.74
Arab Countries	71	65	68	0.92	..	..	..	..

2008 Data, (*2005, **2006, ***2007)

Source: Database of the UNESCO Institute for Statistics, <http://www.unesco.org/new/en/unesco>, on April 19, 2011

Table 8: Gross enrolment ratios in education in the Arab states, 2009 (or nearest three years)

Arab Countries	2009 (or nearest three years)					
	Primary Education		Secondary education		Higher education	
	Total (%)	Gender parity	Total (%)	Gender parity	Total (%)	Gender parity
Jordan	88	1.0	88	1.04	41	1.11
UAE	95	1.00	95	1.01	30	1.89
Bahrain	96	1.01	96	1.04	51*	0.98*
Tunisia	92	1.03	92	1.08	34	1.49
Algeria	..	..	83	1.08	31	1.44
Comoros	..	..	..	..	5	..
Djibouti	30	0.82	30	0.73	3	0.69
KSA	97	0.91	97	0.86	33	1.23
Sudan	38	0.89	38	0.88	..	..
Syria	75	0.97	75	0.99	..	..
Somalia	8	0.53	8	0.46		
Iraq	51	0.81	51	0.75	16	0.59
Oman	91	0.97	91	0.96	26	..
Occupied Palestinian Territories	87	1.04	87	1.07	46	1.31
Qatar	85	1.20	85	1.47	10	6.31
Kuwait	90	1.01	90	1.03	18	2.32
Lebanon	82	1.04	82	1.11	53	1.19
Libya	93	1.05	93	1.17	..	..
Egypt	..	..	..	..	28	..
Morocco	95	0.88	56	0.86	13	0.88
Mauritania	24	1.03	24	0.89	4	0.41
Yemen	..	..	46	0.49	10	0.42
Arab Countries	96	0.92	68	0.92	22**	1.05**

Source: UNESCO Institute for Statistics

(Education for All Global Monitoring Report, Regional Overview: Arab States, UNESCO Institute for Statistics)

* 2010 Data,

**2004 Data, on May 1, 2011

Table 9: Indicators of primary education in Arab states

Country	Percentage pupils not enrolled (2007)	% of trained teachers (2007)	Pupil/teacher ratio (PTR) (2007)
Jordan	60	...	...
UAE	5	100	17
Bahrain	0.4	...	...
Tunisia	35	...	18
Algeria	149	99	24
Djibouti	56***	80***	34***
KSA	497	91	11
Sudan	...	59**	37
Syria	...	...	...
Iraq	508	...	21*
Oman	87	100**	13
Occupied Palestinian Territories	108	100	30
Qatar	1.2	69**	11**
Kuwait	13	100	10
Lebanon	74***	13***	14***
Libya	...	...	...
Egypt	232	...	27
Morocco	395	100	27
Mauritania	89	100	43
Yemen	906*	...	...
Arab Countries	5752	100	21
World	71791	...	25

Source: UNESCO Institute for Statistics, on May 2, 2011.

(Education for All Global Monitoring Report, Regional Overview: Arab States, UNESCO Institute for Statistics

* 2005 Data, ** 2006 Data, *** 2008 Data.

Table 10: World Bank Education and Human Resources Index* (KAM) (most recent compared to 2000)

Country or region	Most recent score	2000	Change
Arab Countries			
Bahrain	5.82	5.73	0.09
Jordan	5.62	5.76	-0.14
Qatar	5.37	5.05	0.32
Kuwait	4.93	5.45	0.52-
Lebanon	4.92	5.08	0.16-
UAE	4.90	3.92	0.98
KSA	4.89	3.99	0.9
Oman	4.47	3.63	0.84
Egypt	4.35	4.70	0.35-
Tunisia	4.08	3.79	0.29
Algeria	3.66	3.47	0.19
Syria	3.10	2.89	0.21
Morocco	1.95	2.00	-0.05
Yemen	1.79	2.14	-0.35
Sudan	1.28	1.29	0.01-
Mauritania	0.89	0.89	0
Djibouti	0.88	0.72	0.16
Neighbouring and comparison countries			
Iran	3.80	4.21	-0.41
Turkey	4.46	4.71	-0.25
Israel	6.86	7.11	-0.25
Cyprus	6.65	6.65	0
Malaysia	4.21	4.21	0
India	2.21	2.21	0
China	4.20	2.0	2.2
Top-ranking countries			
Denmark	9.78	9.78	0
Sweden	9.29	9.29	0
Finland	9.77	9.77	0
Holland	9.21	9.40	-0.19
Canada	9.26	9.26	0
US	8.74	8.74	0
UK	8.49	8.49	0
Geographic regions of the world			
Middle East and North Africa	3.75	3.92	-0.17
Africa	1.38	1.38	0
Europe and Central Asia	6.62	6.62	0
G7	8.75	8.75	0
Latin America	5.05	5.05	0
South Asia	1.92	1.92	0
Western Europe	8.29	8.29	0
Income level			
High-income states	7.47	7.47	0
Upper-middle-income states	5.63	5.53	0.1
Lower-middle-income states	3.32	3.32	0
Low-income states	1.61	1.61	0
World	4.24	4.47	-0.23

Source: World Bank database (Knowledge Assessment Methodology),
http://info.worldbank.org/etools/kam2/KAM_page5.asp http://info.worldbank.org/etools/kam2/KAM_page5.asp
on April 18, 2011

* The index value is calculated from three key indicators: adult literacy rate, secondary enrolment, and tertiary enrolment. Index values range from zero to ten and express the position of the country relative to that of all other countries for which the index has been calculated. The top 10 per cent of countries are those ranked between nine and ten; the next top 10 per cent are those ranked between eight and nine, and so on. A decline in the value of the index with regard to a given country does not necessarily mean a decline in the values for the indicators entered to create the index. It may simply be a product of the fact that the values of these indicators have risen but to a lesser degree than those of other countries that are jockeying for their place on the scale.

Table 11: Government expenditure on education in the Arab countries in the five years 2005-2009

Country	Expenditure as a proportion of total government expenditure (%)	Expenditure as a proportion of GDP (%)
Algeria	20.3	4.3
Bahrain	11.7	2.9
Comoros	..	7.6
Djibouti	22.8	8.4
Egypt	11.9	3.8
Iraq	..	..
Jordan	..	..
Kuwait	12.9	3.8
Lebanon	7.2	1.8
Libya	..	..
Mauritania	10.9	2.9
Morocco	25.7	5.6
Oman	31.1	3.9
Occupied Palestinian Territories	..	..
Qatar	..	..
KSA	19.3	5.6
Somalia	..	..
Sudan	..	..
Syria	16.7	4.9
Tunisia	22.4	7.1
UAE	23.4	1.2
Yemen	16.0	5.2

Source: Based on data from the database of the UNESCO Institute for Statistics, April 18, 2011.

<http://stats.uis.unesco.org/unesco/TableViewer/tableView.aspx>

Table 12: World Bank Innovation System Index* (most recent compared to 2000)

Country or region	Most recent score	2000	Change
Arab Countries			
UAE	8.59	7.91	0.68
Qatar	8.06	7.06	1.00
Bahrain	7.30	7.31	-0.01
Kuwait	6.96	7.10	-0.14
KSA	6.43	5.51	0.92
Lebanon	5.35	6.51	-1.16
Jordan	4.95	5.24	-0.29
Oman	4.90	5.13	-0.23
Tunisia	4.88	4.55	0.33
Syria	4.43	3.58	0.85
Morocco	4.37	3.94	0.43
Egypt	3.92	3.78	0.14
Sudan	3.52	2.11	1.41
Algeria	3.46	3.11	0.35
Mauritania	2.68	2.82	-0.14
Yemen	1.67	2.32	-0.65
Djibouti	1.32	2.61	-1.29
Neighbouring and comparison countries			
Iran	5.65	5.12	0.53
Turkey	4.92	6.28	-1.36
Israel	7.54	8.56	-1.02
Cyprus	7.95	8.15	-0.2
Malaysia	7.14	7.33	-0.19
India	2.49	2.87	-0.38
China	4.33	4.80	-0.47
Top-ranking countries			
Denmark	9.21	9.70	-0.49
Sweden	9.66	9.86	-0.20
Finland	8.73	9.42	-0.69
Holland	9.52	9.60	-0.08
Canada	8.54	9.08	-0.54
US	8.83	9.52	-0.69
UK	9.45	9.02	0.43
Geographic regions of the world			
Middle East and North Africa	5.71	6.46	-0.75
Africa	2.45	3.50	-1.05
East Asian and the Pacific	6.64	7.60	-0.96
Europe and Central Asia	6.46	6.38	0.08
G7	8.80	8.97	-0.17
Latin America	5.27	5.79	-0.52
South Asia	2.45	2.76	-0.31
Western Europe	8.78	9.00	-0.22
Income level			
High-income	8.42	8.35	0.07
upper-middle income	5.89	6.16	-0.27
Lower-middle income	3.85	4.13	-0.28
Low-income	1.82	2.68	-0.86
World	6.22	7.10	-0.88

Source: World Bank database (Knowledge Assessment Methodology), http://info.worldbank.org/etools/kam2/KAM_page5.asp on April 18, 2011.

* The index value falls on a scale of 0-10 and is calculated from three key indicators: Total royalty payments and receipts in US\$ per person, number of patent applications granted by the US Patent and Trademark Office per million people, and the number of scientific and technical journal articles published per million people. The top 10 per cent of states score in the range 9-10, the next highest 10 per cent of states score in the range 8-9 and so on.

http://info.worldbank.org/etools/kam2/KAM_page5.asp

INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)

Table 1: World Bank ICT Index (most recent compared with 2000)

Country or region	Most recent score	2000	Change
Arab Countries			
UAE	6.69	4.31	2.38
Qatar	6.45	5.52	0.93
Jordan	5.59	6.21	-0.62
Kuwait	4.98	5.42	-0.44
Oman	4.94	4.24	0.70
Tunisia	4.65	4.24	0.41
Lebanon	4.53	4.48	0.05
Egypt	4.44	5.03	-0.59
Bahrain	4.29	6.38	-2.09
KSA	3.97	4.25	-0.28
Morocco	3.72	4.04	-0.32
Algeria	3.59	3.24	0.35
Syria	3.17	3.52	-0.35
Mauritania	2.24	1.65	0.59
Sudan	1.86	1.37	0.49
Djibouti	1.68	1.31	0.37
Neighbouring and comparison countries			
Iran	4.56	2.61	1.95
Israel	9.40	9.53	-0.13
Cyprus	7.81	7.41	0.40
Malaysia	6.82	6.62	0.20
India	4.15	3.83	0.32
China	5.44	4.28	1.16
Top-ranking countries			
Denmark	9.49	9.52	-0.03
Sweden	9.76	9.72	0.04
Finland	9.67	9.68	-0.01
Holland	9.45	9.54	-0.09
Canada	9.44	9.39	0.05
US	9.47	9.55	-0.08
UK	9.24	9.38	-0.14
Geographic regions of the world			
Middle East and North Africa	7.57	7.63	-0.06
Africa	4.31	4.11	0.20
East Asian and the Pacific	8.49	8.41	0.08
Europe and Central Asia	6.99	6.91	0.08
G7	9.19	9.34	-0.15
Latin America	5.80	6.17	-0.37
South Asia	3.29	3.10	0.19
Western Europe	9.27	9.33	-0.06
Income level			
High-income states	9.02	8.94	0.08
Upper-middle-income states	6.03	6.29	-0.26
Lower-middle-income states	4.96	4.77	0.19
Low-income states	2.52	2.56	-0.04
World	8.11	8.12	-0.01

Source: World Bank database (Knowledge Assessment Methodology), http://info.worldbank.org/etools/kam2/KAM_page6.asp on April 20, 2011.

Note: The table includes data from only 17 Arab states.

* The index value falls on a scale of 0-10 and is calculated from three key indicators: number of telephone lines per thousand population, number of computers per thousand population, and number of internet users per thousand population. The top 10 per cent of states score in the range 9-10, the next highest 10 per cent of states score in the range 8-9 and so on.

Table 2: Classification of Arab countries by ICT infrastructure indicators

Arab Countries	Number of computers per thousand population 2007	Mobile telephone lines per thousand population 2007	Fixed telephone lines per thousand population 2007
Jordan	70	830	100
UAE	330	1,770	320
Bahrain	180	1,230	260
Tunisia	80	770	120
Algeria	10	810	90
Djibouti	20	50	10
KSA	140	1,170	170
Sudan	110	210	10
Syria	90	310	170
Oman	70	960	100
Qatar	190	1,510	280
Kuwait	240	970	200
Lebanon	100	310	170
Egypt	50	400	150
Morocco	40	650	80
Mauritania	50	420	10
Yemen	30	140	40

Source: World Bank database (Knowledge Assessment Methodology/KAM), http://info.worldbank.org/etools/kam2/kam_page3, on April 20, 2011.

Table 3: Classification of Arab countries by internet use, access cost, and bandwidth

Arab Countries	Number of internet users per thousand population 2007	Price basket for internet (US\$ per month)	Internet bandwidth (bits per person) 2007
Jordan	200	11.12	164
UAE	520	13.07	2,785
Bahrain	330	30.01	2,544
Tunisia	170	11.59	303
Algeria	100	23.7	89
Djibouti	10	41.45	56
KSA	260	21.33	510
Sudan	90	28.87	345
Syria	170	13.65	53
Oman	130	14.50	142
Qatar	420	16.41	2,781
Kuwait	340	22.30	871
Lebanon	380	10.00	227
Egypt	140	4.20	189
Morocco	210	15.62	814
Mauritania	10	37.32	70
Yemen	10	10.98	28

Source: World Bank database (Knowledge Assessment Methodology/KAM), http://info.worldbank.org/etools/kam2/kam_page3, on April 20, 2011.

Table 4: Ranking of select Arab countries according to Network Readiness Index (2010/2011)

Arab Countries	World ranking (among 138 countries)	Network Readiness Index
UAE	24	4.80
Qatar	25	4.79
Bahrain	30	4.64
Tunisia	35	4.35
KSA	33	4.44
Jordan	50	4.00
Oman	41	4.25
Kuwait	75	3.74
Egypt	74	3.76
Morocco	83	3.57
Syria	124	3.06
Libya	126	3.03
Algeria	117	3.17
Mauritania	130	2.98

Source: Website of the World Economic Forum, http://www3.weforum.org/docs/WEF_GITR_Report_2011.pdf, on April 20, 2011.

Table 5: Global Competitiveness Index and rank of select Arab states with respect to selected factors, 2010/2011

Arab Countries	Global Competitiveness Index		Basic requirements		Efficiency enhancers		Innovation and sophistication factors	
	Ranking ⁽¹⁾	Value	Ranking	Value	Ranking	Value	Ranking	Value
Qatar	17	15.10	13	5.73	26	4.68	23	4.54
KSA	21	4.95	28	5.32	27	4.67	26	4.41
UAE	25	4.89	8	5.82	21	4.82	27	4.37
Kuwait	35	4.59	36	5.16	68	4.03	60	3.57
Tunisia	32	4.65	31	5.25	50	4.28	34	4.09
Bahrain	37	4.54	21	5.48	33	4.54	55	3.67
Oman	34	4.61	24	5.41	48	4.30	47	3.87
Jordan	65	4.21	57	4.67	73	3.98	65	3.50
Morocco	75	4.08	64	4.57	88	3.78	79	3.36
Lebanon	92	3.89	106	3.87	70	4.00	74	3.41
Syria	97	3.78	83	4.28	117	3.38	115	2.97
Egypt	81	4.00	89	4.19	82	3.85	68	3.48
Libya	100	3.72	107	3.82	92	3.75	120	2.93
Algeria	86	3.96	80	4.32	107	3.49	108	3.04
Mauritania	135	3.14	131	3.39	138	2.79	134	2.63

Source: The Global Competitiveness Report 2010-2011.

<http://www.weforum.org/issues/global-competitiveness> on April 27, 2011

¹ With respect to the 139 countries covered by the report.

ARAB KNOWLEDGE REPORT 2010/2011

Part II: Case Studies

EVALUATING THE READINESS OF FUTURE GENERATIONS FOR INTEGRATING INTO THE KNOWLEDGE SOCIETY



ARAB KNOWLEDGE REPORT 2010/2011

EVALUATING THE READINESS OF FUTURE GENERATIONS FOR INTEGRATING INTO THE KNOWLEDGE SOCIETY

JORDAN CASE STUDY



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The present Arab Knowledge Report constitutes an important episode of the series of reports issued by UNDP and Mohammed bin Rashid Al Maktoum Foundation, as well as a legal extension and qualitative translation of the Arab Knowledge Report 2009. It addresses the Arab knowledge status with its economic, social, educational and cultural dimensions in four Arab countries: Morocco, the UAE, Yemen and Jordan. Considering knowledge as the main gate for human development.

The case study relied on the analyses of reports and the results of highly reliable studies for the monitoring and diagnosis of the economic, social, cultural, political and educational reality in Jordan, which showed many of the strengths and weaknesses in these systems. Further, a significant contribution to the enrichment of this report was achieved by the field study applied on a large segment of the second secondary grade students in Amman, in order to test how far they possess the required skills and values to identify the extent of their readiness to access the knowledge society, their views about the enabling environments as well as to explore teachers' views in this area.

A workshop was held in 2010 in the capital Amman for experts and decision makers to get their feedback on the issues discussed in the current report.

The essence of this case study lies in its last chapter, which represents a summary of the previous chapters and introduces a set of recommendations that will urge the movement towards preparing the emerging youth to build the knowledge society and reach sustainable development in Jordan.



GENERAL INTRODUCTION

CONCEPTS AND PROBLEMATIC OF THE KNOWLEDGE SOCIETY IN JORDAN

The knowledge structure is manifested in qualitative and quantitative changes in the present era. Such changes extend to the infrastructure and superstructure of human societies producing a new 'knowledge society' with new behavioural and communicative cultural patterns and a multiple and diversified knowledge map. The Arab Knowledge Report 2009 identifies two concepts of knowledge: intermediary concepts, which are still in the evolutionary phase, and middle concepts that pertain to the production and reproduction of the knowledge discourse. It should be mentioned that attempting to form such concepts is still unclear and may be subject to varying interpretations. Furthermore, the association of knowledge with other widespread concepts, such as the information society, technology society, knowledge economy, network society and digital society, does not make it a single entity. Its implication varies from one field to another. In today's world new meanings for knowledge are supported by the information revolution, communication technology and genetic engineering, in addition to mathematics, sociology, economy and language (United Nations Development Programme (UNDP) and Mohammed bin Rashid Al Maktoum Foundation, 2009).

Despite the seemingly different concepts and meanings, it can be agreed that such societies depend on the dissemination,

production and efficient application of knowledge in all societal activities with the purpose of achieving integrated and comprehensive human development. This is because knowledge is an effective interactive tool necessary in building prosperous societies based on a broad spectrum of human options, capacities, freedoms and welfare. The knowledge society is characterised by a mutual interaction between society, economy and technology, and depends on freedom, open communication and transparency. Moreover, it is fostered by an enabling environment in which legislation, systems and institutions converge to create an appropriate climate for achieving the utmost potential of society members, and which opens the doors of globalisation enabling the establishment of new market relations.

A series of questions and problems emerge relating to the knowledge society. The first problem concerns the indigenisation of the transfer of knowledge, its production, innovation and dissemination through providing the environment and the institutions that can foster it, in order to access the knowledge society.

The second problem focuses on the correlation between knowledge, freedom and development as the principal requirement and necessary basis for creating the knowledge society as underlined by the Arab Knowledge Report of 2009. Knowledge is a basic human right. It is also a means for human beings to overcome many difficulties and problems. It is an extremely important developmental requirement. The successful application of knowledge in all economic and social spheres contributes

The successful application of knowledge in all economic and social spheres contributes positively to increasing human options and achieving greater freedom in overall human development

Jordan has further created enabling environments supporting growth by developing legislation that give youth and the future generation more freedom to expend their power and creativity. It has also created a technological infrastructure to help transfer and adapt knowledge and information

positively to increasing human options and achieving greater freedom in overall human development. Development is a direct product of knowledge, and no knowledge can be available without granting the youth and future generations more freedom to express their ideas and innovations to achieve comprehensive societal development (UNDP and Mohammed bin Rashid Al Maktoum Foundation, 2009).

In recent years, many ideas, policies and practices have emerged in Jordan in order to build the knowledge society and prepare future generations to access it. To that end, Jordan has implemented many reforms in the last ten years in the economic and social spheres to transfer and indigenise knowledge and direct it towards overall development efforts. Jordan was determined to reform its education system through consecutive five-year plans. Such plans resulted in improving educational outreach programmes, through a growth in the education enrolment rate, a decline in the illiteracy rate and an improvement of student performance in international tests in maths and sciences. Furthermore, the economic reforms have enhanced Jordan's competitiveness and have helped it form international economic partnerships. Jordan has further created enabling environments supporting growth by developing legislation that give youth and the future generation more freedom to expend their power and creativity. It has also created a technological infrastructure to help transfer and adapt knowledge and information.

Developing the future generation for the knowledge society in Jordan requires coordination and harmony between acquisitions of knowledge on the one hand, and the creation of a climate of freedom that supports development options, on the other. Much like the Arab region in general, Jordan still has a long way to go in order to reach the desired goal. Achieving this goal requires continued insightful and purposeful political will to help overcome these knowledge gaps.

It also entails mobilising and harnessing the necessary energy and allocating the required resources to establish the enabling environment for the desired knowledge society. Moreover, it needs to provide social and political structures and a broader scope of freedom, and to establish the institutions that can nurture innovation and the development of knowledge. It further requires turning gains into a means of realising overall human development thus achieving equality among all sections of society, as well as formulating the laws/legislations necessary to control and protect institutional behaviour.

THE STATUS OF KNOWLEDGE IN THE JORDANIAN SOCIETY

Evaluating the status of knowledge in the Jordanian society requires studying the state of human development which is considered a pathway to, as well as a product of knowledge. Development entails increasing human choices for a decent life. In this context, we will review the status of human development and its manifestation in the economic, social, political, and health spheres, as well as the developmental challenges facing society in general and the future generation in particular. Moreover, we will demonstrate the demographic reality since the younger generation and the youth constitutes the majority in Jordanian society.

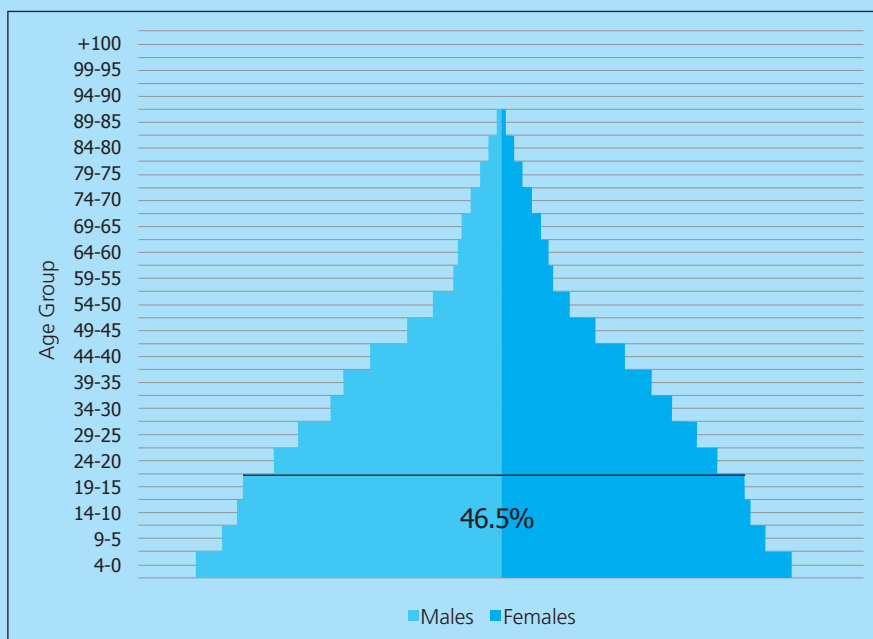
DEMOGRAPHIC MAP

The growing population rate, particularly among the under twenty-five age group poses a developmental demographic challenge in Jordan, in addition to the existing political and knowledge challenges.

The increasing growth rate in this age group is a double-edged sword. Its negative aspects include psychological and social disorders if young people are unemployed for long periods of time. However, its positive aspects can lead to major independent gains in the event

FIGURE 1-1-1

Population hierarchy in Jordan



Source: US Census Bureau database
(US Census Bureau) <http://www.census.gov/ipc/www/idb/groups.php> dated 30 May 2011

Jordan is moving fast towards a demographic transformation that constitutes a promising demographic and developmental potential, if handled correctly

of adopting the appropriate policies and programmes for the optimum investment in human capital (World Bank, 2007). In the light of that, the major question would be in changing the societal culture in order to mobilise efforts to produce qualified individuals capable of translating visions to build and access the knowledge society, either by contributing to building it or making use of its output.

Jordan is moving fast towards a demographic transformation that constitutes a promising demographic and developmental potential, if handled correctly. This demographic transformation is expected to peak in the beginning of the third decade of this century when the percentage of the workforce (aged 15-64) will greatly exceed the percentage of dependents (under 15 or over 64 years of age). The economically active percentile will be around 69% of the population, while dependents will drop to 31% in 2030.¹ Jordan can make substantial gains from this population shift, if it monitors its effects and plans, and prepares

for it in advance. The population rate is expected to decline, thereby reflecting the volume of the population needs in all aspects of life. In addition, the age structure will change considerably because the number of children and dependents will decrease becoming closer to that in developed societies. The numbers in the workforce will increase, thereby helping to promote the Jordanian economy and provide the market with highly qualified and skilled labour. In order to achieve such results, overall investment policies must be adopted. Such policies should depend on activating health programmes, especially ones concerned with reproduction as well as improving women's economic and social status and enhancing their involvement in the labour market and public life. Such policies should also include optimum investment in general and higher education, by empowering the young generation to develop using information and communication technology (ICT) in education. Investment should further develop scientific research activities during

The relative stability in the international ranking of Jordan's development indicates a state of general stability in the development process

the educational stages in addition to developing critical and analytical thinking skills in young people together with a sense of responsibility. It should also include helping the youth master more than one language, take decisions and solve problems to enable them to acquire, adapt, use and produce knowledge. This will make them highly skilled and qualified human resources capable of competing. In order to respond to such requirements, we must be aware of the status of human development, its strengths and weaknesses in Jordan. This will be a strong starting point that will help the youth integrate into the knowledge society.

THE STATE OF HUMAN DEVELOPMENT, ITS PROSPECTS, ISSUES AND VARIABLES

In recent years, Jordan has implemented developmental programmes aiming at improving the standards of living of its citizens. During that time, the Human Development Index was steadily increasing from 0.621 in 2000 to 0.652 in 2005 to reach 0.681 in 2010. In 2010, the UNDP Human

Development Index (HDI) indicated that Jordan had moved two places forward between 2005 and 2010, to rank 82nd out of 169 countries.² Table 1-1-1 refers to a set of human development variables that broadly define welfare.

The relative stability in the international ranking of Jordan's development indicates a state of general stability in the development process. Moreover, the indicators suggest an acceptable state in basic fields, such as education and health. However, it may be difficult to retain such stability in the coming years, especially under the increasing effects of the financial and economic crisis and the fluctuating rising price of oil. The wide gap between rich and poor people in the poverty indicators is mainly due to the unbalanced distribution of income and resources. The percentage of the population living below the poverty line was recorded at approximately 14%. This will increase social problems with the progressive increase in the hunger rate.

Development in Jordan faces several problems that hinder the preparation of the future generation. Perhaps the most prominent problems pertain to the daily life of citizens, namely, the rising prices of

TABLE 1-1-1

Various human development indicators in 2010

Life expectancy at birth (in years)	73.1
Adults illiteracy rate	7.8%
GDP per capita	USD 5,700
Health expenditure percentage of GDP	5.4%
Education indicator on HDI	0.87
Education expenditure percentage of GDP (2000-2007)	4.9%
Population living below poverty line (2000-2008)	14.2 %
Percentage of the population not using a purified water source	4%
Percentage of people without sufficient sanitation facilities	2%
Percentage of the population suffering from malnourishment	5>%
Net primary education rate (2001-2009)	96.3%
Mobile phone subscribers per 1,000 people	830
Internet subscribers per 100 people	27
Percentage of underweight children under 5 years of age	1.9%
Percentage of underdeveloped children under 5 years of age (2003-2008)*	12%

Source: UNDP website dated 20 April 2011 www.Hdr.undp.org
UNICEF website www.unicef.org

basic commodities such as food and fuel, as well as accommodation. Such problems further include the lack of an overall strategy to combat poverty, and the private sector's insufficient performance of its social responsibilities. Achieving sustainable human development entails fair distribution of income as well as the promotion of development in rural areas. It also requires enhancing natural resource management and broadening public involvement in formulating and implementing developmental programmes. Achieving such goals will be the major challenge for Jordan during the upcoming stage.

GENERAL KNOWLEDGE ISSUES

Knowledge is regarded as a system that affects the world's input, including human beings, nature, society, values and products. It is a tool for the management of people, society and states. Such a concept indicates that knowledge is not needed in itself but is required for work and action. The power of knowledge is now evident in all its forms, particularly in the technology sector. Furthermore, the role of knowledge, in terms of production and employment, is heightened by directing sound scientific research methods towards issues concerning people, societies and states and using the results to re-establish these three elements.

In recent years, Jordan has witnessed progress in establishing the knowledge society and preparing future generations for this aspired society. In the field of education, the country has seen quantitative success through the increase in the enrolment rate at all stages.

The total education rate of the second grade in the pre-schooling stage was 51.8% in 2009. The literacy rate for adults (over 15 years of age) reached 92.5%. The total basic education enrolment rate reached 99% and the secondary education enrolment rate reached 83.3%. In addition, the equivalence indicator for

basic education amounted to 1.01 and the ratio of females to males in the secondary education was 1.04 (the Ministry of Planning and International Cooperation (MOPIC), 2010A). Also, 42% of the 19-23 age group went into higher education (Anwar Al Batikhy, 2009).

Despite the quantitative progress in the education field, there are still many problems and issues the education system suffers from, especially in terms of low education quality – that will be discussed in detail in chapter 2. However, this does not negate the fact that Jordan has achieved important gains in improving the quality of the knowledge acquired through education. Jordan came first in sciences and second in maths among Arab countries participating in the Trends in International Mathematics and Science Study (TIMSS) conducted for eighth grade students in 2007 (UNDP, 2007).

Creativity and scientific research are considered important pillars of knowledge leading to development. In spite of the efforts made by Jordan in setting up and supporting scientific, technological, social, human and artistic establishments and institutes, achievements in such fields have not yet reached the desired levels. The value of the innovation index for the most recent year with available data, according to the World Bank's Knowledge Assessment Methodology (KAM), was 5.59.³ Jordan came third in the basics of creativity out of fifteen Arab countries with available data.⁴ According to the Global Competitiveness Report 2010/2011, the factors of creativity conceal a weak ability of creativity and innovation, since Jordan ranked 68th out of 139 countries.

It can be said that if we exclude the King Abdullah II Award for Excellence in Government Performance and Transparency, the Queen Rania Award for Excellence in Education and the efforts of some other institutions, such as the Shoman Foundation and the Scientific Foundation of Hijjawi, we find that little importance is given to creativity by the public and private

In the field of education, the country has seen quantitative success through the increase in the enrolment rate at all stages

One of the challenges facing scientific research is the relatively small number of scientific researchers in Jordan compared with developed countries.

sector. This impedes performance in their required role to provide an environment that helps discover and nurture talent. The little attention given to creative people is perhaps manifested in the economic and social status of some categories of innovators such as poets, writers and artists.

Scientific research, development and networking are considered basic elements in preparing the future generation and building the knowledge society, through which it is possible to produce and apply knowledge in the economic and social fields. The Global Competitiveness Report 2010/2011 indicated that Jordan was placed 65th out of 139 countries (the World Economic Forum (WEF), in English, 2010). Despite the efforts made to promote research and development by establishing laws, trying to improve research environments and setting up a scientific research fund, expenditures have not exceeded 0.34%⁵ of GDP. In addition, the private sector's contribution to the production and application of research is still very limited, when compared with the government sector. Data showed a considerable weakness in corporate spending on research, with Jordan placed 116th out of 139 countries (Previous Source).

It seems that the public as well as the private sectors are responsible for the weak contribution in the scientific research field. The government does not take special actions with respect to the rules and regulations that encourage investment in the field of scientific research and development. Instead, it has exempted companies from scientific research tax, through the provisional law of unified tax adopted in 2010, thereby depriving scientific research from additional annual support. Moreover, the private sector depends on transferring knowledge instead of indigenising and producing it, due to the weak culture of scientific research and the lack of awareness of private sector companies of its impact on economic life. Also, the company owners focus only on

profits that perceive the Jordanian market as only consumer-based and not a producer of output of knowledge societies.

One of the challenges facing scientific research is the relatively small number of scientific researchers in Jordan compared with developed countries. The number does not exceed 135 researchers per million citizens, compared with around 4,000 to 5,000 researchers per million citizens in the United States. Such a low number is attributed to various factors, the most important of which is the low financial return from scientific research. This pushes researchers to engage in other more lucrative professions in most cases, or even to travel abroad. Also, many unqualified researchers are dispatched to conferences, seminars and workshops held by developed countries. These researchers neither submit any new scientific studies, nor do they make use of foreign scientific expertise in order to apply it in their own country (Anwar Al Batikh, in Arabic, 2009).

Universities are also held responsible in two respects: First, the contribution of postgraduates to the development of scientific research is described as being limited. This is because most of them are not fully devoted to scientific research and enter into postgraduate study not out of an interest in research, but only to obtain a certificate to improve their standard of living. Second, the research activities of the teaching staff rarely exceed their academic duties, given the lack of schemes that encourage the researcher to be fully dedicated to research and development.

The General Secretariat of the Higher Council for Science and Technology (HCST), supported by the Scientific and Research Fund (SRF), has taken serious steps to formulate a road map for the Jordanian researcher. Thus, it has conducted a national study on the priorities of scientific research in Jordan for the period 2011-2020, based on the importance of scientific research in achieving sustainable development.

The weak coordination between

research centres and the private sector is evident in that most scientific institutions and universities do not have specialised tools to market their research and findings to the concerned entities. Moreover, there are no consulting institutions that employ the findings of scientific research and turn them into profitable economic projects.

We should review the experience of business incubators in Jordan when referring to applying research findings to practical reality and turning innovative ideas into creative initiatives. This is considered a leading and distinguished experience that has proved its success and has produced a number of successful companies. For example, iPARK Jordan's Technology Incubator affiliated with HCST, has developed – since its foundation in 2003 - 35 ICT companies, and formed 20 companies that offered more than 750 job opportunities. This is also the case with the Jordan Innovation Centres Network (JICs Network) that has greatly contributed to nurturing a number of incubators and providing them with financial assistance.⁶ Although there are many successful incubators, they suffer from limited resources and capabilities against the increasing demand on the incubation processes. Also, the government and major local companies do not prioritise the entrepreneurship products and start-up company sector. Moreover, the leading incubated ideas and interests need to be directed towards vital sectors in Jordan, such as water and clean nuclear power sectors.

Jordan regards information technology (IT) as the basic foundation for building the knowledge society and preparing the future generation. This is because IT is now considered the principal tool for the dissemination and circulation of knowledge. Jordan has taken satisfactory steps in updating infrastructures and has recorded a growth in institutional performance. In addition, it scored an average value on the ICT Index according

TABLE 1-1-2

KAM indices

Index	Value
Knowledge Economy Index (KEI) ⁷	5.54
Economic Incentive and Institutional Regime Index	5.99
Innovation Index	5.59
Education and Human Resources Index	5.62
ICT Index	4.95
Total value = 10	

Source: the World Bank's database (KAM) dated 23 May 2011 www.worldbank.org

to the World Bank's KAM. The index value was 4.95 for the most recent year with available information. The ICT quality is measured by the Networked Readiness Index (NRI). In this area, Jordan ranked 50th out of 138 world countries in 2010-2011, compared to 44th out of 133 world countries in the previous year (WEF and INSEAD, in English, 2011).

Jordan holds an intermediate position in such indices that range from 5.99 on the Economic Incentive and Institutional Regime Index, to 4.95 on the ICT Index.

While talking about the economy and the knowledge society, and particularly promoting knowledge industries, we should tackle the issue of intellectual property rights protection. Jordan has taken major positive steps that enable it to access knowledge society. This is done through a set of laws and legislation that protect intellectual property rights, in many domains such as Copyright, Patent, Goods Marks, Trade Names, as well as Unfair Competition and Trade Secrets. Such laws have abided by the criteria of protecting intellectual property rights as stipulated in the World Trade Organisation (WTO) Agreement and the Free Trade Agreement with the United States and the European Union.

The middling position of Jordan in the KAM indices is not satisfactory. It needs to be enhanced and upgraded, especially in the vital areas of economic incentives and the institutional regime as well as ICT. Efforts should be resumed in this regard, if Jordan is willing to achieve a qualitative

Jordan regards information technology (IT) as the basic foundation for building the knowledge society and preparing the future generation.

leap and to move in a fast and integrated manner in preparing the youth, including the young generation, to integrate into the knowledge society.

PREPARING THE FUTURE GENERATION: A BASIC APPROACH TO BUILDING THE KNOWLEDGE SOCIETY

Preparing generations to take part in the knowledge society is a complex process that includes a broad spectrum of challenges and consequences. It requires paying close attention to such a process so that the next generation can respond to it effectively. A set of questions arises here relating to developing a generation capable of survival, self-continuity and resilience, that enables renewal to overcome challenges and innovations particular to that generation. It requires enhancing coordination, cooperation and integration among the educational, training and vocational institutions to build a generation that can access the knowledge society, or is capable of accessing it.

Paying close attention to the next generation is vital as they represent a large percentage of the population (the group under 19 years of age constitutes around 46.5% of the Jordanian population).⁸ This group represents the workforce that will be responsible for leading development and achieving progress in the future. Caring for the future generation is an invitation to early investment in this group to build a strong base of human capital required for social development and to respond to the needs of comprehensive development by securing future generations' educational, health and social needs. The reason for focusing on the future generation is that their learning abilities exceed those of older people. In addition, the outputs of human capital represented in the youth will affect the output of their children in the future. The process of establishing the knowledge society in itself includes preparing the upcoming generation for many changes that will last for a long time

into the future.

Jordan has shown interest in the future generation as leaders of change and a main catalyst for achieving future progress. It is worth mentioning that many of these initiatives are either being planned or implemented. Thus, the question remains that of the effectiveness and success of such initiatives, and whether or not they are efficiently applied and followed in order to achieve acceptable performance levels.⁹

THE SYSTEM OF PREPARING THE FUTURE GENERATION FOR THE KNOWLEDGE SOCIETY

Conforming with what is established in the Arab Knowledge Report 2010/2011 and all the case studies, a procedural definition of the phrase 'future generations' has been considered, which is the age group under 18 years, since it is the category that is the most sensitive to the future, thereby requiring optimum investment (see Preamble of General Report). The system of preparing future generations for the knowledge society is based on two axes: the first pertains to the necessary correlation between the triad of skills, values systems and enabling environments. The second relates to the desire to move towards the knowledge society as well as securing action in this direction and its requirements.

In preparing future generations to build the knowledge society the first axis (triad of skills, values and enabling) entails repeated correlation between three paths:

- First path: building the skills needed by labour markets in the future and helping adapt the future generation to a renewing, dynamic and amazingly changing world.
- Second path: instilling the system of values that is more general, comprehensive and stable and therefore less susceptible to change from trends. In addition to the preferential (corrective)

The process of establishing the knowledge society in itself includes preparing the upcoming generation for many changes that will last for a long time into the future

side, it includes the moral side studied by exploring moral behaviour. The human being may develop thousands of trends, but only a few values.

In order to achieve overall human development under the umbrella of the knowledge society, skills alone will not be effective unless they are accompanied by a perfect system of values that regulates and structures practices, using skills to direct them through the required paths. Thus, it is important to equip future generations with a suitable system of values in order to deal with the knowledge society and positively contribute to its building.

- **Third path:** providing enabling environments that are the structure or framework that allow future generations to possess the skills and values that enable them to overcome challenges. Freedoms, coping and interacting with this era as well as setting up institutions and networks, are prerequisites for enabling, since it is a fundamental condition for establishment. If building skills requires a value perspective and a general standard vision, it requires at the same time enabling environments that foster and support the future generation to facilitate their integration into the knowledge society.

QUATERNARY SYSTEM OF ACTION

We will try to identify the bases, methods and action mechanisms that can prepare future generations to establish the knowledge society. It is a dynamic, interactive and interrelated system that includes four basic elements as follows:

Willingness to act: it is the basis of any change. It refers to the true desire of all societal segments to change and develop, accept and appreciate them, establish an incentive scheme and encourage innovation. Good will and determination are also required to achieve that.

The ability to act: this means knowing

the extent of readiness by exploring available financial and human capabilities as well as obstacles and the cultural, legislative, or political determinants that may suppress or reduce such efforts. Readiness is also known by discovering societal abilities that can prepare future generations for the knowledge society on one hand, or prevent them from acquiring the skills and values necessary for that society on the other.

How to act: this consists of the methods of building skills, instilling values and achieving enablement, and finding alternative action according to the available opportunities or capabilities. It further includes dealing with the vocational and training methods along with educational reforms.

Securing the requirements of action: this includes being aware of the nature, type and specifications of the institutional, organisational, administrative, financial and legislative requirements which are needed for positive action, and for supporting the continuity of the enabling environments to prepare future generations for the knowledge society.

According to the Arab Knowledge Report 2009, knowledge, freedom and development are the basic foundations of the knowledge society. They are integrated elements. Building any knowledge society is in all cases, an overlapping and dynamic process based on three basic pillars: Providing the enabling environments, transferring and indigenising the adaptation of knowledge, and implementing it to achieve human development. As for Jordan, it has made some progress towards the knowledge society in some principal fields, such as education and health. However, it has not reached the required level in other areas, especially those providing several elements of the enabling environments, such as caring for scientific research and innovation. In addition, fair distribution of wealth among citizens is also needed in this regard. Moving to the knowledge

Moving to the knowledge society entails giving attention to future generations by applying the triad of skills, values and enabling environments as prerequisites for the system of action.

society entails giving attention to future generations by applying the triad of skills, values and enabling environments as prerequisites for the system of action. This triple point basis is integrated within the quaternary of action requirements that includes the desire, ability and definition of the work mechanisms and requirements. Without these two systems, it will be difficult to empower youth and prepare them efficiently for the knowledge society to help achieve sustainable human development.



THE EDUCATION SYSTEM AND PREPARATION OF THE FUTURE GENERATION FOR THE KNOWLEDGE SOCIETY IN JORDAN

This chapter discusses the systems of preparing the future generation in Jordan for the knowledge society by looking analytically at the elements, components and strategies of such systems and their compatibility with the requirements and features of the knowledge society (through the presentation of an analytical overview). Attention will be given to reviewing the Jordanian education system by analysing its elements, including policies, objectives, programmes, methods and practices, in addition to the education environments and the efforts of educational reform, highlighting their strengths and weaknesses.

PREVAILING EDUCATION SYSTEMS FOR PREPARING THE FUTURE GENERATION

Education is considered an important and principal factor for enabling and preparing the future generation to take an effective part in the knowledge society and in achieving economic and social development. It clearly contributes to social, political and economic progress, due to its role in discovering and developing talents and abilities of the future generation. It further prepares their minds to accept, anticipate and demand change in an effective way. Moreover, education stimulates innovation and initiative and helps the underprivileged sectors discover and nourish their abilities and latent potential. It also deepens the future generation's sense of freedom and assists them in maintaining it. Furthermore, education helps develop and enrich the social and cultural values, and

supports political affiliation to the country and keeps the latter's unity and sovereignty. It also provides future generations with a great deal of knowledge, information and skills enabling them to adhere to positive values. Education also improves the future generation's health and helps them feel safer and more secure to further enjoy their life.

The education system is regarded as the most important source of preparing the society's members and a main catalyst for increasing production. Moreover, it is a basic pillar in the developmental reform process. Education is the point of departure towards the knowledge society. This requires a fundamental change in the system's structure, roles of management and the design of the different education environments. In addition, it entails achieving the integrated communication of knowledge and moving from the teaching and memorisation of knowledge to its construction, production and reproduction.

THE JORDANIAN EDUCATION SYSTEM: GENERAL POLICIES AND OBJECTIVES

The education system in Jordan aims to prepare citizens equipped with various skills (including cognitive, communication, teamwork, scientific thinking, technological, professional and scientific research skills). It further tries to provide them with the information needed for the knowledge society. The system also endeavours to make education accessible for all and

Education is considered an important and principal factor for enabling and preparing the future generation to take an effective part in the knowledge society and in achieving economic and social development

In order to improve the quality of the education system's outputs, the Ministry of Education has formulated the general policy document 2009-2013

to achieve equality and justice in the educational services both quantitatively and qualitatively. It also focuses specifically on the qualitative development of education according to the students' education levels as well as upgrading the internal and external efficiency of the education system. However, such skills and knowledge have not reflected clearly on student performance. This is evident from scores in the Programme for International Student Assessment (PISA) that was 415 in science and 387 in maths in 2009. This was below the average of the member states of the Organisation for Economic Cooperation and Development (OECD) which was 496 for maths and 501 for sciences (OECD, in English, 2010).

On the other hand, the education system's efficiency improved on the quantitative level as the basic education enrolment rate rose to 97.6% for 2008-2009 (United Nations and MOPIC, 2010). The rate of early school leavers declined to 0.3%. Moreover, programmes have been set up to nurture advanced students and students with special needs and learning disabilities.

In order to improve the quality of the education system's output, the Ministry of Education has formulated the general policy document 2009/2013. Such a document is intended to monitor, review and analyse policies using a scientific approach and to put the education system on a comprehensive and stable developmental path that fits with the requirements of the knowledge society. The document highlighted the education system's challenges and obstacles for the coming phase including early childhood, achieving education for all, quality of education, life skills and life-long education, in addition to the eradication of illiteracy, of gender inequality and the sound management of the education system.

The document comprises a set of policies that are represented in the following:

- Good governance of the education system; strategic planning, decentralisation, granting powers and authorities, communication, in addition to services, management and school-based development.
- Programmes assigned for providing education for all including kindergartens, non-formal education and special education situations.
- Human resources; including the sustainable professional development of teachers, a human resources system, administrative development and teachers' social security.
- Safe education and learning environment includes the physical learning environment.
- Learning; comprising of curricula, learning resources, assessment, health, school lunches, vocational education and the national development plan.
- Quality assurance; including adopting the ministry, education directorates and schools in the ISO system.

This is emphasised by the serious attempt of the Jordanian education system to respond to the requirements of this era. Moreover, there is a noticeable shift in the policies concerning education output as well as the gradual decentralisation of power from the ministry to the field and school.

Such policies will contribute to achieving quality, effectiveness and aptness. They will also help in establishing definite objectives through education development plans capable of promoting true human development in order to respond to the requirements of the knowledge society which is devoted to the learner and strengthens the human values system.

In order to encourage the opportunity of forming the knowledge capital of youth, Jordan has established two streams for secondary education: the academic and vocational streams. The academic stream is divided into literary, scientific, ICT, health education and religious education branches. The vocational stream is divided into industrial, agricultural, home economics

Madrasati (my school) Jordan

The 'Madrasati Jordan' project was launched in 2008 as an educational initiative supported by a number of partners. The initiative aims at improving the condition of 500 disadvantaged public schools. Since its launch and up to the end of 2010, the Madrasati initiative has managed to access 300 schools and over 110,000 students. The initiative will include a further 100 schools in 2011.

The Madrasati initiative depends on a two-dimensional method to meet the needs defined by schools themselves:

Fixing and improving the school infrastructure: To date, 3,659 classrooms have been designated in 300 schools.

Developing and enriching the education environment at schools by providing educational programmes that suit every school, such as teacher training, ICT, entrepreneurship and health awareness programmes, in addition to other

programmes that are implemented at schools through several partners. The **Madrasati** initiative is made up of different partners, including: Queen Rania Teacher Academy (QRTA), Royal Health Awareness Society (RHAS) (that implements school health programmes), Jordan River Foundation (JRF) (that conducts safe school programmes), the Jordan Education Initiative (JEI) (that implements a range of technology-based programmes at schools), and the Children's Museum.

Madrasati has further developed an effective method that has enabled its partners from the public and private sectors as well as civil institutions to collaborate. Moreover, it has made education a part of the social responsibility of all individuals, not only of the government because everybody can contribute in one way or another. Partnership based initiatives can be a success.

Source: (Mohsen Ziyadah, 1988 and Butts, 1995).

and hotels and tourism education branches. It is worth mentioning that all such streams and branches have a number of educational subjects in common, such as: Arabic, English, maths, computer, Islamic education, and civic education, with specialised subjects for each branch.

Nevertheless, no studies were conducted to evaluate the effect of such courses of action in preparing the young generation to effectively move towards the knowledge society and equip them with the knowledge, skills and values required for it. The reason for this is perhaps the lack of scientific research in this field, and of follow up, evaluation and reviewing mechanisms.

SKILL BUILDING SYSTEMS

EDUCATION OUTPUT

Through numerous strategic paths, especially the 'general policy document', Jordan has revised its education system structure, the role of its management as well as interaction methods in learning situations at schools. It has also reconsidered enriching educational environments and developing their curricula for education

output that meet the requirements of the knowledge society. Such a review aims at focusing on equipping students with the necessary skills, trends and values. It also concentrates on moving away from the traditional concept of curricula that give the teacher a major role in the classroom to a concept that focuses on the students with the aim of providing them with the knowledge, experience and skills from various learning resources.

This is evident in some skills which were approved by the national committee for setting the general framework of curricula and assessment in terms of students' possession of academic knowledge in different subjects and their ability to apply it in various fields. This includes the ability to use linguistic skills (reading, writing, speaking, listening) to communicate with others, the ability to produce knowledge and exchange it with individuals and groups, in addition to the ability to employ modern technologies in managing, exchanging and investing information, possession of scientific research and teamwork skills, as well as meditation, self-review and improvement.

Reflection on the general education output of the Jordanian education system

Reflection on the general education outputs of the Jordanian education system shows a clear shift in the general objectives of the system through its response to the prerequisites of the knowledge society

However, exploring education output in Jordan clearly reflects the lack of inter-curriculum coordination incorporating the skills needed by students to access

shows a clear shift in the general objectives of the system through its response to the prerequisites of the knowledge society and the focus on providing students with the skills and knowledge needed for it. This is evident in the following desired general output:

- Demonstrating commitment to life-long education
- Showing responsibility, self-confidence, independence, and seeking new ideas.
- Communicating and cooperating effectively with others.
- Making use of ICT to monitor, manage, analyse and transfer information in addition to producing and applying knowledge
- Using deep and creative thinking as well as developing cognitive abilities in scientific thinking with its different approaches and methodology.
- Using critical thinking and problem-solving in addition to decision-making skills effectively.

These elements were considered when setting the general and specific output for each educational subject. This output served as the basis for drawing up the educational and learning materials and resources of basic and secondary education stages according to a vision of horizontal and vertical integration in the content of curricula and teaching methods. Subject output was derived from the general output of the education system. While preparing the output, it was taken into account that it is possible to measure and observe it in the skills that students try to develop, according to conditions and criteria that define their level of acquiring knowledge as well as understanding concepts and facts, in addition to mastering and practising skills. In order to guarantee effective education and learning, whether in preparing or planning, the general and specific output does not specify the activities, methods or sources that the teacher should use. But, it gives teachers more freedom to design activities and use the appropriate

teaching and assessment methods for their students. They also give teachers the chance to make use of the educational resources to achieve the output, including ICT.

However, exploring education output in Jordan clearly reflects the lack of inter-curriculum coordination incorporating the skills needed by students to access the knowledge society. Coordination concentrated exclusively to the nature of subjects to be presented to students. Moreover, those who set the output did not understand the meaning of the knowledge society's skills and requirements accurately, since they focused only on the use of technology. On the other hand, much of the output was not suitable for the students' age groups, since it was higher than their age level.¹⁰

Another shortcoming of such curricula is their difficult learning materials due to the repetition and overlap in the subjects of social studies and Arabic. In addition, such curricula didn't achieve an adequate presentation between the image of a man and a woman. The curricula still reflect many stereotypical images and define traditional roles for the Jordanian woman.

The field studies conducted within the context of this report at the beginning of the academic year 2010/2011 confirmed the different opinions of the participating teachers on the role of Jordanian curricula in preparing the future generation for the knowledge society. Only 27% of the teachers 'completely agreed' that the curricula help students overcome future challenges and acquire the needed skills. However, 59% agreed partially by answering 'somewhat agree', while 14% of the respondent teachers did not agree (see table m1-1 in the appendix). Therefore, the education output should be reviewed and those who set the output should correctly understand the requirements of the knowledge society and integrate it with a scientific method. This can be done through holding specialised training programmes on this issue as well as

involving the research and study centres.

TEACHING STRATEGIES

The knowledge that is supposed to be acquired is not limited to the answer to questions such as ‘what do you know?’ However, it should extend to include answers to questions, such as; Do you know how to make this?, Where and how do you find the required knowledge? What is the value of the available knowledge? and What are its possible uses? In order to achieve that, there are teaching strategies that teachers should adopt, use and apply to help empower the future generation to access the knowledge society and make them able to realise educational goals that exceed studying and memorising information. Such strategies should also focus on high cognitive abilities and critical thinking. The amazing development of technologies and information exchange has imposed new learning strategies and methodology, such as problem solving and group learning, in addition to critical and creative thinking. Teachers were provided with the concepts and contents of such strategies along with their implementation mechanisms. They were also trained on such strategies with examples and exercises in various classroom situations.

The findings of the assessment studies of curricula showed a change in the teaching practices and methodology in classrooms. Such change has reflected partially on the students’ knowledge, skills and attitudes. Yet, teachers still need to focus on teaching methodology, like initiation, group training, problem solving and deduction (National Centre for Human Resources Development NCHRD, 2008). The survey conducted in the context of this report to understand teachers’ opinions on their possession of such skills showed that nearly half the respondent teachers believe that they have an intermediate skill in using problem solving methodology (48.5%) and critical analytical thinking methodology

(51.5%). On the other hand, most of the teachers admitted they were average to highly skilled in using teaching and memorisation methodologies (33.3% and 56.6% respectively), (see table m1-2 in the appendix). Notwithstanding, the study revealed that most teachers confirmed that it is ‘absolutely necessary’ to practice and use the modern teaching methodology, like problem solving, critical thinking and teamwork for preparing students (83%, 75%, 77.2% of the respondent teachers’ answers who participated in the field survey), (see table m1-4 in the appendix). The teachers also had different opinions on the role of the Jordanian school in providing students with sciences and knowledge and on the role of the teaching methodology adopted by schools in making knowledge desirable for students (see table m1-6 in the appendix). To sum up, teachers are convinced and willing to apply modern teaching methodology. This paves the way to help these teachers acquire the necessary teaching skills, if they are properly trained and prepared in the environments that enable them to apply such skills.

ASSESSMENT STRATEGIES

For students to achieve education output, teachers are required to use the concept of learning assessment, by applying assessment strategies and tools. These are intended to monitor the method of achieving the education output of the knowledge content, the development of skills, trends and all types of thinking, in addition to effective communication as well as research and investigation. The strategies also aim at providing feedback to students and parents to improve the learning process so as to prepare individuals who are able to join the knowledge society and participate actively on national and international levels. To that effect, a general assessment framework was set that included numerous tools and strategies that focus on student performance. The

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framework further comprised the methods of implementing such strategies inside classrooms, and monitoring their results in the student appraisal report.

In addition, performance indicators and benchmarks were set up as reference for all those concerned with the education process, including the teacher. This will help develop the teaching process and track students' performance and progress. The assessment process includes a four-grade system for each education output: 'unable', 'still at the beginning', 'almost able' and 'able'. Based on this system, comparison is made on the national level for the performance of directorates, schools and students against performance benchmarks. Such indicators are important for taking decisions pertaining to the evaluation of teachers and schools as well as improving the students' learning. However, such indicators did not cover all curricula and school grades; it was set to include four subjects (Arabic, maths, English and sciences). The indicators were also exclusive to the fourth, eighth, tenth and twelfth grades.

The Ministry of Education's survey to collect the opinions of teachers and students on curricula¹¹ showed that most teachers found it difficult to assess and follow up with students. This is attributed to over-crowded classrooms, packed learning materials, limited time, and an increasing number of teachers, in addition to the unavailability of the tools for assessment. As for the students, they said that there are various assessment methods and that they have the ability for self-assessment.

The field study of this report revealed interesting views of teachers on assessment practices. Such opinions may suggest that teachers do not possess the modern assessment methodology needed. The percentage of teachers who attached much importance to taking initiative as well as creativity and innovation as assessment methods did not exceed 55.4% and 62% respectively. This is in spite of the fact that they are two of the most important

skills that should be developed in students. On the other hand, most teachers (83%) saw that 'good conduct inside and outside the classroom' is the basic element of assessment. This is considered one of the traditional practices (see table m1-7 in the appendix).

MASTERING THE ARABIC LANGUAGE

The Arabic language is the basic cultural pillar of the Arab nation. Furthermore, it is the means of communication between its individuals, the basic component of its identity as well as the embracer of its heritage and thoughts. The 'national language' contributes principally to fostering sustainable development as well as the economic and cultural development through the broad involvement of the entire society in indigenising and cultivating knowledge by not only using its outputs but also producing it on national and international levels. Therefore, the preservation and development of the Arabic language in order to keep up with the prerequisites of this era is essential and requires enormous efforts.

Jordan has updated the Arabic language curricula as well as its teaching and assessment methods and developed the proficiency of its teachers. This was made within the Education Reform for the Knowledge Economy (ERfKE I) plan; given that Arabic is the basic language in the educational process. The curriculum's main axis is represented in communication skills, linguistic styles, structures, grammar, morphology, rhetoric and criticism. The Arabic language learning resources were diversified including academic books along with flash cards and tapes in order to promote student learning. The Arabic language curriculum was also computerised using the blended learning method.¹²

In order to determine the strengths and weaknesses of applying the Arabic language curriculum, a number of assessment studies were undertaken. In the

survey on the teaching methodology used by Arabic language teachers (Al Fayoumi, 2006), it was found that 54% of teachers followed single or traditional methods, while 25% used the problem solving and research skills method. Moreover, a recent study revealed that the focus on creative thinking skills by Arabic language teachers in Jordan is very low (4.5%), (Amin Al-Kukhun , Kamel Atoum, 2007). Another study showed that the Arabic language teachers find difficulty in teaching the Arabic language curriculum. The most prominent difficulties included the large volume of the curriculum, as well as adapting teaching styles according to individual differences. The difficulties also included a shortage of materials and teaching aids, in addition to a lack of experience in using modern teaching and assessment methods (NCHRD, 2008).

The (PISA) 2009 Report indicated that approximately 50% of students of almost 15 years of age did not reach the second of six reading levels and the problem was even greater among male students (OECD, in English, 2010).

The final report of the conference entitled, 'The Arabic Language in Jordanian Institutions: Status and Development Methods' (Jordan Academy of Arabic, 2010), referred to the importance of giving extra attention to the curriculum activities and encouraging students to free reading. The report also indicated that greater concern be given to developing the role of school libraries, in addition to taking part in the school radio, morning speech and wall magazines among others, as well as obliging the Arabic language teachers in particular and all teachers in general to use sound Arabic in teaching. The report further recommended formulating a strategy for overall linguistic planning for the education system in cooperation with the Ministry of Education, Ministry of Culture, Jordan Academy of Arabic, together with public and private universities, NCHRD and civil society institutions (Amin Al-Kukhun, Kamel Atoum, in Arabic, 2007).

GIFTED AND CREATIVE STUDENTS' PROGRAMMES

Nurturing gifted students in the Jordanian education system has gained increasing interest in recent years. Gifted and creative students were given specific high quality educational and learning input and processes that helped develop their abilities and that highlighted on their creativity and invested in their potential. This enabled them to cope with changing life circumstances through different models of educational programmes which are exclusive to such a category, and that combine integration, separation and enrichment. The Ministry of Education has allocated a special directorate within the ministry, to support the excellent and gifted student programmes. These programmes include:

Pioneer Centres Programme: this programme supports talented students through offering enriching programmes in the basic curriculum. It also offers the service of using ICT in teaching students, as well as specialised courses in different activities, such as music, languages and art. The goal of such programmes is to provide educational and learning opportunities that suit the needs and capabilities of talented students, develop their abilities, cater for their needs, improve their communicative and social skills and enhance their special abilities in the areas of art and literature. The number of these centres exceeds 20.

Academic Acceleration Programme: this programme allows advanced and gifted students to complete their basic education faster than usual. This is done by grouping school grades according to a certain set of conditions and criteria that should be met during the programme implementation. The programme intends to meet the students' educational needs and help the student skip grades according to his/her cognitive ability. It allows the student to finish his/her academic curricula earlier than planned.

King Abdullah II Schools of

Nurturing gifted students in the Jordanian education system has gained increasing interest in recent years

The education system is expected to prepare a student's thinking and behaviour in preparation of citizenship duties as well as active political participation.

Excellence Programme: This programme seeks to offer specialised educational services that aim at developing the education and learning process for excellent and gifted students in order to meet their educational needs. Such services also intend to upgrade the school and classroom environment so as to help students develop and release their talent and innovation, in a way that achieves democracy of education and equal opportunities. Students are elected to join these schools according to a clear mechanism based on a set of rules and criteria. Students are given the opportunity to make use of additional enriching curricula in maths, ICT, and research projects design in addition to thinking, leadership and current issues. Moreover, the schools aim at offering educational services appropriate for the abilities of excellent students and help develop their interests and abilities in sciences and maths. The schools also seek to enhance the students' leadership and innovation skills as well as scientific research skills and strive to raise their awareness of the role of information technology in acquiring knowledge. The ministry seeks to secure such a school in each governorate. So far there are three such schools operating.

Resource Rooms for the Gifted and Talented Student Programme: This programme aims at enhancing students' abilities in order to develop their talent and innovation. This is carried out through a set of enriching activities according to a single educational plan for each student implemented at a special place within a regular school.

Statistics indicated that gifted students benefiting from such programmes constituted 12.33% of the total gifted students in 2009 (MOPIC, 2010A). This indicates the importance of expanding such programmes to include all gifted students and provide a strategy for the early discovery of the gifted and the cooperation between the different government institutions to

provide them with care.

In spite of efforts made to nurture gifted and talented students, they are not always offered the appropriate services. In addition, the quality of programmes offered to this group of students does not always fit their abilities and talent. Moreover, teachers who work with these students are not provided with sufficient training or any support or financial incentives.

SYSTEMS OF INSTILLING VALUES

The fast-paced change that is taking place around the world will inevitably affect us all. Accordingly, the education system has great responsibility in preparing the future generation by setting up a programme that trains them in resilience and responsiveness to international, regional and national developments. This means that the education system should focus on systematic thinking in dealing with intended or sudden change. It should also concentrate on the self-acquisition of new knowledge and its rapid implementation through effective response to the unexpected problems and developments in the personal and social spheres.

The education system is expected to prepare a student's thinking and behaviour in preparation of citizenship duties as well as active political participation. It is also expected to make the student become aware of their rights, to exercise their examples of daily interaction at school, to respect others, to develop arguments, work in a team and form public opinion in the classroom. The education system is also expected to help the student exercise democracy at school and take part in planning activities, such as participation in volunteer work in the fields of public health and environmental conservation, as well as avoiding fanaticism and sectarian strife. Such activities and programmes should develop what is called project, problem solving or cooperation. At the end of the project, the building of ideas may begin.

The changes that accompany the knowledge society prompt more political, societal and cultural freedoms. This means commitment to spreading democratic values in the political and educational fields among others. The school is considered an active tool that contributes to preparing the members of society for such change, because it is a microcosm of society in which the student exercises freedom and develops social features. Therefore, Jordan has incorporated an integrated values system into the academic curricula that includes passion for knowledge and reading, exposure to other cultures, as well as taking responsibility and developing a sense of belonging. The system further comprises self-control, respect of the code of ethics and tolerance, in addition to co-existence with others and respect of diversity. Moreover, Jordan has consolidated such values through a set of extra-curricular activities, such as life skills, school parliaments, and teacher-parent councils, in addition to reading, public speaking, poetry and prose competitions. The extra-curricular activities are directed to help achieve the objectives of the school curricula and support its role in building the student's character, in the sense that all types of activity are part of the curriculum in its broadest sense. Any activity carried out in school or among other joint schools, such as classroom activities, trips, or joint programmes gives the student added value and preparation. The goal of the activity is to help students acquire or develop certain skills that would assist them during the course of their lives. The civil society institutions have set up various projects to train students on such practices and behaviour. There are numerous success stories in different schools. Notwithstanding, students demonstrate behaviour that underlines the need for added attention to the values system. Such behaviour includes violence at schools including student attacks on teachers or on each other as well as vandalising public and particularly school property. Moreover, the male students' desire for learning

has weakened and smoking has become a common phenomenon among them. Again, a problem that has recently emerged is the students' partial or complete absence from school, in addition to their refusal to take part in scientific, cultural and social activities. Furthermore, obesity has become common among students, since they develop unhealthy eating habits and rarely engage in physical exercise. Their increased demand for violent computer games is also noticeable.

Studies to evaluate the teacher-student relationship were conducted. Such studies concluded that it is essential to set up an on-site training programme for teachers, administrators and advisors. This programme will present alternative methods and strategies that should be adopted to reduce targeted student aggression especially verbal offences, and activate partnerships between school committees, students and parents to provide an appropriate environment for democratic practices at school.¹³ With respect to school violence, the field study undertaken in the context of this report showed that there are irregular violent incidents, most of which occur among the students themselves. 21.8% of the respondent teachers said that violence between students occurs sometimes, while 46.5% said that it rarely takes place. There are almost no violent incidents among teachers. As regards to violence between students on the one hand and between teachers and the administration on the other hand, 66% of the teachers denied the occurrence of violence, whereas 28% said it rarely happens and 1% said that it happens frequently (see table m1-8 in the appendix).

AVAILABLE ENABLING SYSTEMS FOR FUTURE GENERATIONS THROUGH EDUCATION

For decades Jordan has progressively worked on providing a safe educational environment. To this end, it has included in the ERFKE 1 plan a special section for the educational

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Jordan has sought to be an ICT hub that applies modern technologies in education and provides students and schools with their technological needs

environment and its development, through establishing integrated modern school buildings that include computer labs and libraries, in addition to highly designed sports, arts and health facilities. Moreover, the development plan included fully equipping other partially equipped schools, reducing the number of rented and overcrowded schools as well as setting up a number of kindergartens.

However, there are differences between the school environments, in terms of the quality of the buildings and the number of students, in addition to the type of complementary facilities and learning resources, due to the increasing number of schools and their remoteness. The percentage of students in rented schools that were originally residential buildings was 10.9% in 2009. In most cases such schools lack the necessary educational facilities, thereby depriving students from undertaking educational activities. The percentage of the students attending the two-shift schools was 11.3% and the classrooms of schools, especially those based in the major cities of Amman, Irbid and Zarkaa have become overcrowded, with a space that does not exceed one square metre per student at best. In addition, combined mixed-level classrooms are common in remote areas (MOPIC, 2010A).

There have been successive efforts to reduce such disparity in school environments. One of the most recent efforts is the 'Madrasati' (my school) initiative that has gained a high level of support and care. The goal of this

initiative is to provide a better educational environment by having partnerships with the local community as well as the public and private sectors' institutions. This has been included in the developmental plans for the coming years.

Jordan has sought to be an ICT hub that applies modern technologies in education and provides students and schools with their technological needs. This is to enable the student and teacher to deal with the educational technology and keep up with modern developments and participation needed by the knowledge society.

In the field of infrastructure, computer labs were established in the Jordanian schools and were equipped with ICT. Moreover, schools were connected electronically via 'Eduwave'. This is an integrated e-learning system that allows the learning community's access to the world of technology by feeding the system with knowledge and information sources, as well as advanced tools that suit the academic and scientific needs of learners. The system further provides the tools of producing and publishing curricula and books online and develops the skills required for entering the knowledge society. This system offers its services to the teacher, student and parent.

Many training programmes were held to enable the teacher to deal with different types of technologies and employ them in education. Most teachers have become computer literate via the ICDL programme and their skills were developed to employ technologies through advanced programmes. These advanced programmes include Intel (education for the future) that has resulted in the production of e-learning portfolios in order to promote the students' learning and enhance higher cognitive processes. The advanced programmes also comprise (Word Linx) that aims at enhancing the skills of e-learning and continuous life-long education. In order to motivate teachers to learn such programmes, certification was linked to the teacher's promotion and subsequent financial allowances.

Such training has had an effect in

BOX 1-2-2

Jordan Education Initiative (JEI)

Jordan Educational Initiative was launched in 2003. The initiative aimed at introducing modern technologies in 100 Jordanian public schools that were known later as 'discovery schools'. The initiative managed to reach 80,000 students and 3,589 teachers and schools. According to national

and international tests, the students of the discovery schools outperformed their counterparts of the other public schools in maths, sciences and reading. In 2009, JEI was granted the UNESCO Award (sponsored by King Hamad bin Eissa Al Khalifa for using ICT in education).

encouraging teachers to acquire technology and use it for educational purposes. In the field study undertaken in the context of this report, the teachers indicated that they possess such technologies at home; 100% own a computer and 98% are internet subscribers. They also referred that technologies are available at schools but with a lower extent; 26.8% of the teachers stated that each one of them has a computer at school, and 69.1% stated that the school is connected to the internet. Moreover, 84.1% of the respondent teachers indicated that they have fair ability (adequate or advanced) to employ such technologies and 96% said they use them for educational purposes (see tables m1-9, m1-10, m1-11, and m1-12 in the appendix).

Regarding students, they are trained to work on computers as these skills are included in the different school curricula from grades one to six. A separate computer curriculum was designed for grades seven to twelve, so that students are able to handle multiple programmes. It is worth mentioning that many developed countries allocate computer courses in the early grades and integrate it into the other subjects taught in the higher grades. This is done to help students develop the basic computer skills so they can employ them in the learning of other curricula.

SYSTEMS FOR TRAINING TEACHERS AND THEIR ECONOMIC AND SOCIAL STATUS

Like other professions, teaching has become subject to the changes and modifications that affect all aspects of life due to the unexpected fast-paced developments in the knowledge fields as well as the social systems. Therefore, the teaching profession in the knowledge society requires people with efficiency and distinguished academic qualifications.

The teacher in any educational institution is required to hold a teaching licence. For the teachers of kindergarten and basic

education such a licence is issued to a person holding a first university degree. However, in the secondary education stage, the licence is given to the person holding the first university degree in addition to an educational qualification with a study period of no less than one academic year (Education Act No.3, 1994). However, teachers who do not fulfil these conditions are still granted a temporary licence until their studies are completed. Based on the recommendations of the education development conferences, partnerships were established between Jordanian universities and MOE to prepare teachers for the first university degree.

Training takes several forms. An example of this is the supplementary training to compensate for some deficiencies, and the remedial training to enhance a certain skill, or renewal training to keep up with scientific developments. In order to achieve the desired training results, an educational training centre was established in the ministry and Queen Rania Teachers Academy - QRTA was founded to train teachers on the latest and most important methods and tools of premium education in the knowledge society age.

Several teacher-training programmes were conducted. These include technology programmes, modern teaching strategies and assessment methods programmes, in addition to new teacher programmes. In the field study of this report, the teachers showed in their answers that the school provides them with regular training courses to develop their abilities and skills (44.1% always and 44.1% sometimes). Moreover, school meetings are held for teachers for consultation and coordination of educational activities (63.7% always and 24.5% sometimes), (see table m1-13 in the appendix).

Some assessment studies of training programmes showed that they achieved a medium level of satisfaction for their participants, in terms of meeting their training needs and the training methods used. The participants indicated that the training methods were traditional, such as

Like other professions, teaching has become subject to the changes and modifications that affect all aspects of life due to the unexpected fast-paced developments in the knowledge fields as well as the social systems

Jordan uses different strategies to attract excellent and talented people to the teaching profession and to improve their economic and social conditions.

lecturing and discussion (Emad Ababena, 2008). Another study about the training on the modern teaching and assessment strategies indicated that the training period was not long enough and that the trainers were not sufficiently acquainted with the training material.¹⁴

Statistics show that the average salary of teachers, upon recruitment, does not exceed JOD 230 /month (USD \$324). In addition, teachers' salaries do not increase as steadily as salaries of other professions. This creates dissatisfaction among teachers with their economic and social status. The academic year 2009/2010 witnessed a number of strikes in which teachers demanded an improvement in their economic and social conditions. This has prompted the government to accept and adopt a set of procedures, including a 100% increase in the teaching allowance, as well as serious consideration for restructuring salary levels and founding a teacher syndicate.

Jordan uses different strategies to attract excellent and talented people to the teaching profession and to improve their economic and social conditions. For example, there is the teaching job hierarchy that is linked with financial incentives as long as the teacher meets the conditions of each rank (teacher, senior teacher and expert teacher). There is also the royal makruma (scholarship) for the university education of teachers' children as well as the Queen Rania Award for Excellence in Education to encourage innovation at work. However, there is still a shortage of male teachers, especially in the scientific subjects and English, which are closely associated with preparing the future generation for the knowledge society (MOPIC, 2010A). Although most of the respondent teachers in the field study of this report stressed that they take pride in their profession and that they have a mission to fulfil 82.3%, the majority of them said that the teaching profession does not help them achieve self-sufficiency, 49% and 37.3% somewhat agreed. Moreover, 33.3% expressed that they would leave the profession completely

if they found an alternative that provides them with a higher income (see table m1-14 in the appendix).

In conclusion, despite many accomplishments, exploring the state of the education system shows a lot of weaknesses in its components. The education environment suffers from the problem of rented schools, double-shift schools and overcrowded classrooms, especially in the major cities. In addition, there is a considerable and increasing shortage of male teachers, especially in scientific subjects. Teachers are also discontent with their profession due to their low pay and social status. Again, there are no current programmes for preparing and training new teachers except for short-term training courses that last a maximum of ten days upon recruitment. These problems will undermine efforts to prepare the future generation for the knowledge society unless they are solved in the light of a clear vision as well as systematic action plans and programmes.

EDUCATIONAL REFORM EFFORTS: BASES, PROGRAMMES, SUCCESSES AND FAILURES

Educational reform efforts emerge increasingly in Jordan in 1987 when the First National Conference for Educational Development was held. The conference underlined the importance of political education in the education system. Moreover, it stressed that it is essential to consolidate involvement and justice and provide opportunities to achieve sustainable development. The conference further emphasised the importance of focusing on developing the citizen's ability for criticism, analysis and initiative as well as achieving the centralisation of planning and following up and the decentralisation of management.

Successive development plans appeared as a result. The Vision Forum for the Future of Education was held in 2002 and the ERfKE I programme was set up

for the period 2003-2008 including four components as follows:

The first component redirecting the objectives and strategies of the education policy. This is done through governance and administrative reform and formulation of a national education strategy, in addition to making organisational changes in some education fields. It is also done through adopting programmes to follow up and evaluating the existing projects as well as establishing a fund to embrace education innovations.

The second component focused on changing the education programmes and practices to achieve educational output that is in line with the knowledge society. This is made by developing curricula, measuring learning rates, teachers' professional development and the diversification of effective learning resources.

The third component focused on providing the support needed to create a high quality educational environment. This is done through developing and improving facilities in addition to providing the required qualitative equipment. The goal of this is to secure an appropriate educational environment based on definite priorities, and by reducing the number of overcrowded classrooms as well as replacing unsafe school buildings. A noticeable progress has been made in establishing new schools or refurbishing existing ones.

The fourth component focused on developing readiness for learning from an early childhood stage. It concentrated on promoting the endorsement of programmes intended to improve the quality of education during early childhood, and providing equal education opportunities for all children. It also focused on supporting the programmes enabling parents to deal with children of this age group.

This programme has made notable progress, since the total enrolment rate in basic education increased to 97.6% in 2009, and the secondary education enrolment rate increased to 79% in the

same year, thereby putting more pressure on infrastructure. Moreover, the enrolment rate of students in the second grade of kindergarten exceeded 51% (MOPIC, 2010A). The educational reform efforts have had a remarkable effect in improving the quality of the education output. As evidence of that improvement, there was a progress in students' performance in the international science and maths tests; in a TIMSS science test in 2007, there was an increase in student scores (30 points), in comparison to the results attained in 1999. This reflects the students' acquisition of the knowledge economy skills, such as critical thinking and problem solving skills. It also indicates that students are able to apply the knowledge they gained during their study. In 2007, Jordan ranked first among the Arab countries in the TIMSS science test and was placed second in maths. In addition, Jordan held the second place among the Arab countries in the PISA reading and scientific culture tests in 2009 (OECD, in English, 2010).

To strengthen such gains and address weaknesses, the second phase of (ERfKE II) for the period 2009-2014 is currently underway. This phase is made up of five components:

First component: Establishing a national development system with the school and the directorate as its base. This is aimed at applying an effective process for school-based development, since the school is the primary tool for equipping students with concepts, skills, attitudes and values that enable them to participate in the knowledge society. It is further intended to create a sound educational experience for students, through a comprehensive process to improve and develop schools. Investment in this component will be made through funding the development and implementation of the required procedural frameworks, mechanisms, and tools as well as local and national structures.

Second component: It concentrates on following up, evaluation, institutional development, and capitalisation on ERfKE

The educational reform efforts have had a remarkable effect in improving the quality of the education output

Jordan expands to secure a technological structure at schools in order to help acquire and circulate knowledge wherever possible.

I policy-related investments as well as guaranteeing that the outputs of such activities support the approach that focuses on the school in offering educational services.

Third component: Developing learning and education. It focuses on the policies relating to teachers' employment, training and professional development as well as the modification and improvement of curricula and the development of assessment and learning sources, including the use of ICT and e-learning.

Fourth component: Developing special programmes aiming at making education more accessible to all children by focusing on three important sectors that are: Early childhood, special education, and vocational education with a focus on females.

Fifth component: Improving the learning environment. The goal of this component is to secure effective, sustainable, economic and qualitative educational schools and facilities that help students reach effectively managed, qualitative and friendly learning environments.

The current data show that Jordan has been moving, according to policies, objectives, plans and strategies over decades. Such elements seek to provide the future generation with the knowledge, skills, trends and values needed to deal with the current input and prepare them for the future and make them able to meet its requirements. Programmes, projects and work mechanisms have been set up to achieve that. In addition, school curricula and books have been subject to continued review and many professional, academic and technological development programmes were adopted to improve the teachers' abilities to reflect positively on the students' performance level. Moreover, Jordan expands to secure a technological structure at schools in order to help acquire and circulate knowledge wherever possible. The educational services and programmes also extended to include special needs and kindergarten students.

However, in spite of such costly and sustained efforts, their output is still limited.

More than half of the teachers participating in the survey conducted for the purposes of this report admitted that their practices still incline to the traditional teaching and assessment methodology that depend on teaching and the ability to remember. Most of these teachers were concerned that it is important to give greater importance to developing mental abilities through school curricula and books, such as problem solving as well as critical and creative thinking skills. Furthermore, kindergartens as well as the gifted and disabled student institutions do not include all the people who need their services in such fields. The limited output of these efforts may be attributed to several factors, the most important of these being the deficiency in some experts who are specialised in preparing curricula and educational materials that meet the requirements of the knowledge society. Such factors further include keeping the available meagre financial resources away from the teaching profession, and the weak coordination and integration between the institutions concerned with preparing the future generation to integrate into the knowledge society. These difficulties that are faced by the Jordanian education system will undermine the efforts to prepare future generations to access the knowledge society, unless they are overcome through an overall comprehensive vision and a process for which the required resources are allocated. Such a process should aim at directing the education system to prepare the future generation for the knowledge society as required and in a manner that allows it to catch up with knowledge societies worldwide.



SOCIAL UPBRINGING INSTITUTIONS AND THEIR ROLE IN PREPARING THE FUTURE GENERATION IN JORDAN

The concern with preparing the future generation has become a national responsibility. This is based on the recognition of the role in building a contemporary society and the effect of this on its future components, as well as the role in causing change and moving the society towards a state of sustainable development that achieves the well-being of all.

Efforts are being made in Jordan to provide the environment and requirements that release the utmost potential of the youth in all aspects. The societal concern includes primarily the efforts of the Jordanian family to elevate its children and their well-being, especially in terms of education levels that according to society are the most important means for raising economic and social levels. Jordan witnessed a series of efforts, including the establishment of a Higher Council for Youth (HCY). This council aims at enabling the future generation to enter the labour market, promotes their political participation and creates a safe and healthy culture among them. The council also intends to meet the needs of the youth as well as their aspirations and launches youth related initiatives, such as the 'We Are All Jordan' Youth Commission.

FAMILY UPBRINGING AND ITS ROLE IN PREPARING THE FUTURE GENERATION

The family is considered the most significant unit of socialisation. It is considered as the first cell of the societal system and a secure source for the future generation to satisfy most of their needs.

Furthermore, it is the first place of stability and communication in life. Therefore, an individual's stability and development depends entirely on the familial relationships. There are many definitions of family upbringing. One analyst defines it as: "What parents offer children of care or negligence, encouragement or discouragement, warmth or indifference, do's and don'ts, demands, punishment and tolerance. These elements form a general psychological atmosphere that surrounds the interaction between the child and his family." (Mohammed Salama Mamdouh, in Arabic, 1984). Another researcher defines it as: "A parental response to the child's behaviour which leads to the change of such behaviour" (Zahrán Hamed Abdel Salam, in Arabic, 1986). A third researcher defines it as: "The procedures and methods used by parents to socialise their children." (Hoda Mohammed Kennawy, in Arabic, 1996).

The findings of studies conducted on this issue show that there is no fixed pattern for family upbringing methods. Such methods differ from one family to another and from one society to another. They are also affected by the societal changes. The personal traits of the rising generation as adults are determined by these methods throughout their stages of growth. The future generation's character is formed according to the type of the upbringing methods used with them during their life. Fathers play a vital role in such process since they set good examples for children. Likewise, mothers play an effective role in preparing children for the knowledge society, given their great ability

The family is considered the most significant unit of socialisation. It is considered as the first cell of the societal system and a secure source for the future generation to satisfy most of their needs.

to affect children in their development stages. The upbringing methods used by parents are determined by their readiness as well as awareness of their sensitive role, in addition to their cultural background, educational level and ability to envision the future and its challenges.

FAMILY UPBRINGING PATTERNS IN JORDAN

It is difficult to define the prevalent methods of family socialisation in Jordan. However, it can be said that there are two prevailing methods that play an important role in family socialisation: the first is the democratic pattern; that is based on the principle of respecting each other. This pattern makes all people aware of their responsibilities based on the principle of respecting the human beings and giving them the opportunity for a normal development. The second is the domineering pattern based on the absolute power of the head of the family. This pattern has an adverse effect on all the family's members who tend to be submissive and lose the sense of independence and self-confidence. It may also drive the members to violence and revenge in the absence of guidance.

The two patterns are common in society. Both patterns can be exercised within the same family, especially when conflict occurs between what the family hopes to cultivate into their children on the one hand and the children's aspirations and interests on the other. They are also seen as a result of the disagreement between parents and children on defining priorities and evaluating some customs, values and behaviour.

Both patterns reflect on the family's members, especially on the children's upbringing. If the 'democratic' pattern prevails, the interaction will be based on love, acceptance, trust and a positive response to the environment. Consequently, the child will love, accept and trust others and will have an integrated personality that allows

him or her to express him or herself freely. He or she will also be an effective member of the community and will be prepared to access the knowledge society.

However, if the second 'domineering' pattern prevails, it may have negative effects, such as refusal, domination, cruelty, instability, pampering, over protection, discrimination and negligence. This may cause the child to develop a psychological disorder that may affect his or her behaviour in the form of a negative response towards his/her environment, such as aggression, a sense of oppression, an attempt to draw the attention of others, lying, etc. That will have an adverse effect on growth and psychological health in this stage and in subsequent stages.

ROLE OF SOCIETAL CULTURE IN PREPARING THE FUTURE GENERATION

The culture of Jordanian society is composed of a set of elements, namely, the religious doctrine, customs and traditions, ideas and attitudes, in addition to the specific or common attitudes and the value system that controls the interaction of all elements in Jordanian society.

It is worth mentioning that there are several negative customs and traditions that prevail in the society's culture, including society's conception of the role of men and women. Women are commonly regarded as being inferior. There are still common ideas and beliefs that women are lower in status than men and that their role is limited to raising children and doing housework, despite the relative increase in general social awareness as well as the new economic situations imposed by the world conditions. It may be mentioned also that one of the negative phenomena in Jordanian society is what is known as, 'crimes of honour' committed against women. Although such crimes are limited, they do occur from time to time. Such ideas and beliefs cause a rift in the social hierarchy, and promote disorder in the

The importance of the maternal role becomes more important because the mother spends longer periods of time than the father, in keeping and running the house

social system as well as family upbringing. Although there are still approaches in this context, Jordan has taken good steps in achieving integration in the roles of men and women and eliminating such a passive image. Women cooperate with men in all aspects of life. In addition, women's roles are appreciated through recognition of the right to work, learn, vote, run for political and other positions as well as hold high-ranking public posts.

CULTURAL DIVERSITY AND ITS ROLE

Jordanian society is one of the societies that feature cultural diversity. The social structure includes a lot of sub-cultures, such as Arabs, Circassians, Chechens, Armenians, and Kurds. There are also Bedouins, farmers, city dwellers and those in refugee camps among others. Such components contribute to enriching the one national culture and making the Jordanian society a home for integrated and interactive cultures. These components can become a clear example of the social harmony and allow the future generation to acquire the concepts of co-existence with others and respect for their beliefs. This was emphasised in the results of a student survey, which showed that they had strong communication skills, such as expressing their opinions, and listening attentively to others, in addition to observing the manners of dialogue and accepting other people's opinions. Intellectuals and experts taking part in the workshop held in Jordan unanimously agreed that the strongest skills of the future generation included the skills of expression, communication, influencing, and persuasion, as well as building social relation networks. Such skills are considered driving forces for development and stability, if governmental and non-governmental efforts are mobilised for that issue. This can be done by designing programmes and activities in this field and promoting the spirit of love and fraternity between the members

of the society within a multi-racial and multicultural society. It is also made through social interaction that enriches the knowledge resources, helps exchange experiences and gives society's members in general and the future generation in particular many positive values that are ultimately considered a common cultural heritage for all sections of society.

Tribalism is also regarded as a basic component of the Jordanian social structure. In part, tribalism plays a positive role in solving problems and settling disputes between conflicting parties. In addition, it has a vital function in strengthening communication and forgiveness between people. However, tribalism has several negative aspects, including fanaticism, and total loyalty to the tribe regardless of the validity of their attitude. The strong tribal fanaticism of the youth affects their devotion to the country, since some tribal conflicts have witnessed attacks and incidents of vandalism of public property. This affects the ability of the future generation to possess communication skills that are a pillar of the knowledge society.

RELIGIOUS THINKING AND THE PREVAILING SYSTEM OF VALUES AND THEIR IMPACT ON THE FUTURE GENERATION

Religious belief in Jordan is based on moderation and fighting extremism and fanaticism. This was expressed in the 'Amman Message' for 2004 that demonstrated the principles of Islam and its position on such extremist behaviours. Like the other divine religions, Islam calls for a system of moral principles and life values whose aim is to protect the welfare of the human being. This is emphasised in the peaceful coexistence between Islam and Christianity in Jordan over centuries and the absence of extremist movements which are rejected by the whole society. The evidence for this is the strong condemnation of Jordanians from different societies of the Amman

Religious belief in Jordan is based on moderation and fighting extremism and fanaticism

The true connector of identity and information is the democratic culture in its civil sense that is synonymous with modernity and informed free citizenship.

explosions that were carried out in 2005 by extremists and which killed dozens of innocent citizens. At that time, all Jordanian citizens firmly denounced extremism in all its forms and directions. Although Jordanians have suffered from terrorist acts, they still support moderation and denounce extremism.

The religious thought of the future generation in Jordanian society, where Muslims represent the majority of the population, includes several positive behaviours, attitudes and values that call for rejecting extremism and fighting terrorism. Such thinking has had a clear effect on behaviours and actions and protected the country from facing several health and social problems, such as HIV/AIDS, drugs and crime.

Nevertheless, some young people have joined extremist movements that have tried to implant ideas, beliefs and values based on an incorrect understanding of Islam. The ultimate danger resulting from these extremist ideas is in their call for isolation and in seclusion on the pretext that this will protect Islam. This conflicts with the principle of intercommunication and positive openness that is a fundamental principle for participation in the knowledge society.

IDENTITY, CITIZENSHIP AND A SENSE OF BELONGING AMONG THE YOUTH

Undoubtedly, globalisation and its relevant technological and information revolutions have left their footprint on Jordanian society and have affected the youth's minds and souls in different forms. Despite the achievements of these revolutions, which were manifested through easy access to information and its circulation as well as the enhancement of youth knowledge and thinking, such revolutions have had negative effects on behaviour and daily lifestyles, making young people follow a consuming pattern. These revolutions have led to the development of incorrect

cultural, health and social customs among the youth. It is true that similarity in language, culture, history and geography may increase attraction between individuals and promote a sense of belonging; thereby forming a unified identity. However, we find sometimes that belonging has moved from the country level to the central level. This is clear in tribal, ethnic and sectarian affiliation.

The controversial relationship between identity and the information society should be mentioned here. Such a relationship has a strong effect that may be either negative or positive, based on the culture's ability to integrate identity into history on the one hand, and the ability of the political mind, which is responsible for government, to crystallise modern options in the system of thinking, behaviour and institutions on the other hand. The true connector of identity and information is the democratic culture in its civil sense that is synonymous with modernity and informed free citizenship. Media, which is the core of the information society, is a product of democracy and a requirement of freedom and citizenship. It is the true approach to developing democratic practices as well as dialogue, communication and interaction methods. In addition, identity is the key to modernity, as well as the question of the future and the method of critical scientific thinking to overcome ignorance and integrate into globalisation. (Mahmoud Abu Asaad, in Arabic, 2007).

In the face of such great flow of knowledge economy and information standardisation networks we should think deeply of how to preserve the national culture and identity. Meanwhile, we should conform to the principle of communication, which is a basic requirement for the knowledge society. Thus, it has become essential to cultivate a sense of identity into the future generation while preparing them for the knowledge society. To do so, the educational and social systems should provide enabling environments secured by upbringing methods which depend on

rational thinking and movement and on a social structure that has modern culture and great abilities to communicate with the external society. This will occur by giving the youth more freedom for innovation as well as encouraging them and providing them with incentives.

ASPECTS OF CHANGE IN THE JORDANIAN SOCIAL SYSTEM

There are several aspects of social change that reflect the Jordanian society's dynamic ability to develop and cope with constant changes. Such aspects foster the opportunity of accessing the knowledge society if they are supported and built upon. As was highlighted in the previous chapter, the most prominent aspects of change include the increasing importance of education, knowledge, information and technology in people's lives. Such aspects further comprise the radical changes in the lives of members of certain groups and sections, such as the change in the status of women in society, and the appreciation of her role through recognising her rights and offering her the opportunity to work, gain an education and vote. The aspects of change also involve the establishment of social institutions and political organisations, such as societies, labour unions and parties. Jordan had 1,117 charitable societies, 14 labour unions¹⁵ and 34 political parties in 2008, with the latter's number recently reduced to 15 parties. Furthermore, the urbanisation rate increased due to the movement of rural communities to cities, which make up 80% of the population of Jordan.¹⁶ In addition, new social customs and values emerged such as respecting laws, punctuality, and regular attendance to work among others, while more traditional ones, such as revenge, retreated.

The above mentioned data indicate that there are several social institutions in Jordan, starting from the family which plays a vital role in preparing the future generation for the knowledge society by following two main patterns, the democratic and domineering

ones. Diversity and multiculturalism in Jordan have strengthened the future generation and motivated them to achieve development through the dominant concepts of co-existence and dialogue as well as respecting different customs and beliefs. Such diversity has also given the future generation great opportunity for intercommunication between cultural sections on the basis of understanding, sharing and acceptance. In addition, the concepts of tolerance, moderation and fighting extremism dominate the religious thought of the youth, thereby helping them develop the human and social values needed to integrate into the knowledge society. For the purposes of preparing the future generation for the desired knowledge society, the preparation process in Jordan should aim at building a generation that can realise society's primary requirements, based on the following principles:

First: The belief in the value of the human being and respecting his or her mind, feelings, dignity and his or her role in human development, regardless of gender, colour, or religion.

Second: Stressing the rights of human beings and freedom in life and education; believing that the individual has fundamental rights that should be preserved and not be violated, including the right of identity, security, thinking, working, and participating in national decisions with equal opportunities.

Third: Believing that the human being is an end and not a means for achieving other ends and that each should have a fair share in the society's overall development.

Fourth: Appreciating human intelligence and its ability to innovate and overcome the problems facing human beings in life; recognising the individual's role in the establishment of culture and diversification of work, in addition to participation and purposeful interference in society's affairs.

Fifth: Believing that it is essential to keep a balance between the interests of the individual and those of the group, so that each of them may seek to drive the other

Diversity and multiculturalism in Jordan have strengthened the future generation and motivated them to achieve development through the dominant concepts of co-existence and dialogue as well as respecting different customs and beliefs

to development and progress.

Sixth: Believing in the necessity that all citizens should have equal rights and duties, and that rights should be associated with duties and all citizens should be given equal opportunities in all fields of life.

Seventh: Respecting the system of democratic values and helping the future generations practice them during their social interaction for the purpose of co-existence; values such as tolerance, cooperation, justice, equality, acceptance of other opinions and multiculturalism, as well as peaceful dialogue for problem solving, peaceful exchange of power and the rule of law.

Eighth: Believing in the value of education in advancing society, raising democratic awareness, making the required changes as well as catering for society's needs and preparing members of the society for their social roles and responsibilities.



ENABLING ENVIRONMENTS AFFECTING THE PREPARATION OF THE FUTURE GENERATION FOR THE KNOWLEDGE SOCIETY

This chapter presents the economic and social systems as well as the status of freedom and their impact on the preparation of future generations, since they are important enabling environments for the integration into the knowledge society. The chapter further discusses each system's index that reflects its performance level and its position compared with international indices. Moreover, the chapter tackles a number of challenges facing Jordanian society in general and the future generation in particular that may impede achieving sustainable human development.

THE ECONOMIC SYSTEM

A sound economic system with its components is considered a primary element in creating motivating environments that enable the future generation to possess the material tools necessary for the knowledge society. The system helps create various business environments that encourage internal and external competition based on level of knowledge, skills and values, thereby leading to highly qualitative output. This will keep the continuity and development of such environments and the adoption of a strong knowledge economy that will reflect positively on all aspects of human development.

The efficiency of the Jordanian economy is measured by several major international indices and other minor ones. Such indices show the progress Jordan has made towards achieving the millennium development goals, together with the trends of the Jordanian economy

and its efficiency in empowering the future generation to join the knowledge society.

As for economic freedom, an index is used to measure the extent of state intervention in the economy. According to the 2011 assessment, Jordan was placed 38th out of 179 countries, ranking 4th among 16 Arab countries, compared with 52nd out of 179 countries in 2010.¹⁷

The Networked Readiness Index (NRI) measures the quality of ICT used in the country as well as the infrastructure and the ability of users, companies and governments to use them for the interest of that country. Jordan maintained position 44 out of 133 countries for 2009 and 2010 respectively,¹⁸ (MOPIC, 2010 C).

The Globalisation Index explores the international trends towards globalisation, i.e. the international openness of 181 countries. The index measures three main dimensions, namely, economic, social and political globalisations. Jordan was placed 36th among the world countries in 2010.¹⁹

The Competitiveness Index is regarded as an important tool for decision-makers in the public and private sectors, especially in formulating the economic policies. The highly competitive economy can generate higher gross income for its citizens. Moreover, competitiveness helps achieve fast-paced economic growth.

Jordan fell in the Global Competitiveness Index from 50th place out of 133 countries in 2009/2010 to 65th out of 139 countries in 2010/2011 (WEF in English, 2010). This has affected sustainable economic development in Jordan and the achievement of economic boom. This is because a highly

A sound economic system with its components is considered a primary element in creating motivating environments that enable the future generation to possess the material tools necessary for the knowledge society

However, Jordan managed to achieve the first millennium development goal pertaining to the elimination of hunger seven years ahead of schedule

efficient economy can increase options for citizens, especially youth, and enables the latter to access the knowledge society that believes in freedom, availability of infrastructure and efficient readiness. The current economic situation has adversely affected several aspects of life and impacted the youth and the future generation in particular. Jordan's position retracted in terms of the principal requirements of basic development, such as infrastructure, health and basic education. Its position also declined with regard to efficiency in areas such as higher education, training, market efficiency, labour market, economic markets, development, and electronic readiness and in terms of factors of creativity, in areas such as business environment and innovation.

THE SOCIAL SYSTEM

The Jordanian economic status has impacted the social field, making the latter face a number of challenges that affect the access of youth to the knowledge society.

The present economic situation in Jordan raised the poverty rate to 14% in 2009, compared with 13.3% in 2008. On the family level, the poverty line reached JOD 3,876 annually or JOD 323 a month. Moreover, the abject poverty line for a family with 5.7 members amounted to JOD 138.7 per month. The food poverty line hit JOD 292 annually or JOD 24.3 a month per individual. However, Jordan managed to achieve the first millennium development goal pertaining to the elimination of hunger seven years ahead of schedule. At present, the abject poverty rate recorded is 1.9% of the total population, while the target is 3.3% in 2015.

Given the unfair distribution of the development efforts and gains to all citizens, the poverty rate differs from one governorate to another. Al Mafrq Governorate had the highest rate (31.9%), followed by Ma'an (24.2%), then Tafila (21.1%). But, the lowest poverty rate was recorded in the Capital Governorate (8.3%) followed by Zarka (11.2%), then

Aqaba (11.8%), (Department of Statistics-DOS, 2010).

In the water field, Jordan is considered among the ten poorest countries in the world that suffers from water scarcity. The individual share of water amounts to 145 cubic metres annually for all usages, which is much lower than the water poverty line of 1,000 cubic metres. In addition, water shortage increased due to lack of rain in 2009 (UN and MOPIC, 2010b).

Eradicating poverty requires developing economic capital through discretion and rational management. It further entails promoting the human capital by improving education conditions and enhancing access to knowledge, as well as preparing young human resources and providing them with job opportunities. Poverty elimination also requires the improvement of social capital by addressing the conditions of fair distribution of economic development gains. All this will lead to comprehensive development and the eradication of poverty, in addition to equality and justice between citizens (DOS, 2010).

As for the unemployment rate it reached 13% in 2010.²⁰ This rate primarily included university graduates, since 31% of bachelor degree holders are unemployed. Moreover, 88.4% of the jobless fall under the 15-39 age-group.²¹ Jordanians also face major challenges in the labour market, the most important of which includes fierce competition from foreign labour.

Poverty and unemployment are considered a form of economic and social marginalisation as well as an attack on human dignity, especially for the youth and the future generation. This reflects directly on their integration into public life, restricts their freedom and reduces their options. It further leads to political and democratic marginalisation and lessens their participation in political life as well as their ability to determine their future.

As for the cost of living, prices rose by 17.77% from their level in 2007. Rising living costs have negatively affected a number of health indicators. A school health survey conducted in 2007/2008

suggested that 14.1% of students mostly go to school hungry due to the lack of food at their homes. In addition, they suffer from the problem of iron deficiency and anaemia (DOS, 2010). The cost of living also increases more due to the emergence of new spending channels. Such channels include the Jordanian family's desire to acquire technology, such as a computer, internet and mobile phones that are all considered an essential requirement to access the knowledge society.

It can be said that the rising unemployment rate reflects weak economic achievements and the inability to secure job opportunities for the youth. This has raised the poverty rate in Jordan, especially in areas outside the capital. The poverty and unemployment crisis is expected to heighten in the future because of retracting economic growth as a result of corruption and the global economic crisis. Moreover, the social care and protection services, such as Al- zakat, the national allowance, development and employment funds, still cover poor families. Such a situation will have an adverse effect on satisfying the needs of the youth and the future generation and will hinder their access to the knowledge society.

With regard to women's participation in political life and economic activities, there are still great challenges to gender equality and the promotion of women's status. Such challenges include the low enrolment rate of girls in vocational education as well as the low percentage of working women (the percentage of working women above 15

years of age is 16.1%). Another challenge is the increased unemployment rate, which is higher among females compared to males (the unemployment rate for females aged 15-24 years is 45.9% and of females holding a bachelor's degree is 50.8%).²² The challenges further include gender inequality in accessing and controlling resources as well as in reaching decision-making positions. These challenges will prevent a woman's broad involvement in public life as well as her preparation for the knowledge society. They will also reduce her contribution to preparing the upcoming generations.

Table 1-4-1 shows that women's involvement in several important issues is still weaker compared with men. However, such involvement is progressively increasing, though at a relatively slow pace.

THE HEALTH SITUATION AND ITS IMPACT

Health improvement has a fundamental importance in achieving the millennium development goals and enabling youth and the future generation to access the knowledge society. The public sector is the main entity that provides health care with the aim of reducing cases of inequality. Jordan has emphasised the principle of basic health care that includes vaccinations, providing areas with sanitary drainage services and providing safe drinking water. Such care further involves motherhood and childhood initiatives, such as reducing child mortality rates and caring for

Health improvement has a fundamental importance in achieving the millennium development goals and enabling youth and the future generation to access the knowledge society

TABLE 1-4-1

Woman's participation indices

Woman's participation index (%)	2000	2005	2008
In forms of local governance	4.4	10.0	27.4
In ministries	3.4	10.5	14.3
In diplomatic corps	3.8	9.8	17.2
In judiciary out of total judges	1.2	2.8	6.2
In syndicates	19.2	22.5	22.7
In labour unions	10.0	15.0	21.0

Source: UN and MOPIC, 2010.

Jordan has emphasised the principle of basic health care that includes vaccinations, providing areas with sanitary drainage services and providing safe drinking water

maternal health. Jordan has also focused on fighting HIV/AIDS that has taken several forms. Awareness programmes were conducted for youth or targeted the youth in order to advise them on the way the virus is transmitted and how to protect themselves against it. This issue was also included in academic books and curricula. All such efforts aim at securing a safe healthy environment that helps the future generations grow normally to prepare them for participation in the knowledge society.

Jordan has made progress in decreasing the mortality rate for children less than five years of age, as well as in achieving their welfare. The mortality rate dropped from 39 cases per 1,000 live births in 1990 to 28 cases per 1,000 live births in 2009. Nevertheless, Jordan still needs to exert more vigorous efforts to reduce the children's mortality rate by an annual level of 2.5 deaths per 1,000 live births so as to achieve the millennium development goal for 2015. If the annual reduction rate remains static, Jordan will not be able to realise this goal (UN and MOPIC, 2010).

Regarding the maternal mortality rate, it decreased from 48 cases per 100,000 live births in 1990 to 19 cases in 2009. Accordingly, Jordan will be able to achieve the millennium goal by 2015 or even exceed it, if the reduction rate remains stable.

Moreover, the percentage of women who give birth under qualified medical supervision in a medical facility rose from around 87% in 1990 to 99% in 2009. It is also noteworthy that 84% of women make six or more visits to receive pre-delivery health care and 81% of them take iron tablets and folic acid during pregnancy. In addition, the percentage of married girls under the age of 18 dropped from 10.6% in 1990 to 8.5% in 2009 (Previous source).

Moreover, vigorous efforts are also being made to eradicate the spread of HIV/AIDS by 2015. Jordan has made considerable achievements in combating the virus, whether by controlling it, protecting against it, or reducing the number of infections. This was done through implementing a national programme for youth that focused on protective procedures; especially as 70% of discovered infections were found in non-Jordanians. Moreover, the state offers medications to all people suffering from AIDS-related illness free of charge (UN and MOPIC, 2010).

Jordan is free from malaria and tuberculosis. Table 1-4-2 shows other health indicators for the period (2005-2009).

In the health care sector, the health insurance coverage rate increased, as the percentage of insured people rose from 77.8% in 2006 to 86.5% in 2009. In addition, the vaccination rate increased

TABLE 1-4-2

Health indicators for 2005/2009

Indicator	Years				
	2005	2006	2007	2008	2009
Net birth rate per 1,000 people	29	29.1	29.1	28	29.1
Population growth rate (%)	2.5	2.3	2.2	2.2	2.2
Total fertility rate	3.7	3.7	3.6	3.6	3.8
Life expectancy at birth/males	70.6	70.6	71.7	71.6	71.6
Life expectancy at birth/females	72.4	72.4	74.4	74.4	74.4
Infant mortality rate per 1,000 live births	22	22	19	19	23
Maternal mortality rate per 100,000 live births	40.3	41.0	30	19.2	19.2
Rate of physicians per 10,000 people	23.5	24.5	26.7	24.9	24.5
Rate of dentists per 10,000 people	7.6	8.2	8.5	8.7	7.3
Rate of nurses (forensic, associate, midwife, assistant) per 10,000 people	29.4	33	33.6	33.2	39.0

Source: UN and MOPIC, 2010B.

to include 98% of children in their first year of life. However, there is no comprehensive health insurance for all Jordanians (MOPIC, 2010B).

Several studies and reports, including the report on the millennium development goals in Jordan for 2010, emphasised that there are still several major challenges that will preclude the future generation's participation in the knowledge society as well as the achievement of the human development goals. The most prominent challenges include:

- Rising unemployment and economic dependency rates, lack of an overall national strategy for poverty, low rate of women in the labour market, the high prices of basic commodities, such as food and oil, in addition to the increasing accommodation costs.
- The necessity of improving physical learning environments, including buildings, school facilities, overcrowded classrooms and the shortage of male teachers.
- The low rate of female participation in vocational education and the labour market, and the rising unemployment rate among them in comparison to males, in addition to gender inequality that restricts women from holding decision-making positions, setting up policies as well as accessing and controlling resources.
- The necessity to maintain the annual reduction in the infant mortality rate which is currently 0.55 deaths per 1,000 live births.
- Low awareness of HIV/AIDS and the need for additional resources and cadres in order to reduce its social and economic impact, in addition to the society's stigmatisation of people affected by AIDS.
- The decreasing percentage of foreign trade and foreign direct investment (FDI) of GDP in 2009.
- Finally, the most important challenges faced by Jordan at present include limited natural resources as well as

the consecutive forced migrations following wars with Israel, Iraq's two wars and the global financial crisis in 2008.

THE POLITICAL SYSTEM AND GOOD GOVERNANCE

A democratic political system and good governance are considered basics for acquiring, applying and producing knowledge as well as preparing the future generation. They are also regarded as the driving factors for achieving development in its broadest sense. This cannot occur except by giving the young generation the freedom to express their opinions as well as respect their rights under a strong, coherent and effective civil society with an independent judicial authority.

Applying the principles of good governance will create a free and open society in which all citizens can pursue their hopes and aspirations. It will also facilitate establishing strong, open, and trustworthy economies. In the field of political participation, Jordan held position 111 out of 130 countries in 2009, compared with position 108 among 130 countries in 2008. The field of good governance involves election, follow up and replacement of governments, the government's ability to design and implement valid and effective policies, as well as the respect of citizens and state for the institutions governing the economic and social interactions. Jordan's position in the main dimensions of the Governance Indicator among 212 participating countries and organisations was 155 for Accountability, 141 for Political Stability, 74 for Government Effectiveness, 80 for Regulatory Awareness, 75 for the Rule of Law and 71 for Control of Corruption (MOPIC, Jordan's position in international indices, 2010C).

In the Press Freedom Index, Jordan ranked 120 out of 178 countries in 2010.²³

In the Democracy Index that is based on five sub categories, namely, Electoral Process and Pluralism, Civil Liberties, Functioning

A democratic political system and good governance are considered basics for acquiring, applying and producing knowledge as well as preparing the future generation

of Government, Political Participation and Political Culture, Jordan was placed 117 out of 167 independent states (Economist Intelligence Unit, 2010). In the Corruption Perceptions Index (CPI), Jordan was placed 50 out of 178 countries in 2010.²⁴

FREEDOMS AND PREPARATION OF THE FUTURE GENERATION

Freedom is considered the foundation of the knowledge society, whether political freedom or the freedom of opinion and expression, as well as the media which is witnessing a breakthrough in Jordan.

The issue of freedom overlaps with a number of issues that affect the knowledge society, such as the internet, as the principal cause of the changes in freedoms and media in Jordan. Such issues also include scientific research the expenditures of which do not exceed 0.34%²⁵ of GDP, despite its importance in developing highly valuable knowledge products.

The knowledge society will not be accessed unless the public and private sectors join hands with civil society institutions in order to perform their social responsibilities that serve as enabling environments for preparing the future generation. Below is a review of the status of freedoms in Jordan.

POLITICAL FREEDOMS

The status of political freedoms in Jordan reflects negatively on the citizens' involvement in decision-making as well as their integration into political life. This is evident in the findings of a survey on democracy conducted in Jordan, since only 4% of the respondents said they are members of a civil or political structure, while less than 1% admitted being affiliated with political parties (Centre for Strategic Studies (CSS) 2009). There are a number of reasons that preclude access to a knowledge society that depend on effective participation of citizens which is based on producing, circulating and

using information as well as respecting its producers and users. Such reasons can be summarised as follows:

LEGISLATIVE AND LEGAL ENVIRONMENT

Legislatures serve as an important factor in enabling the future generation to access the knowledge society and significantly contribute to expanding their freedom and options. A set of Jordanian laws regulates political life and includes articles that impede reform and political development. The most prominent is the Public Meetings Law No.7 of 2004, some provisions of which explicitly violate the standards stipulated in the international agreements to which Jordan has conformed. This law restricts the work of activists, politicians and parties and limits public freedoms. The National Centre for Human Rights observed the Ministry of Interior's (MOI) rejection of requests submitted by political parties to hold public speaking meetings, marches, strikes, gatherings and photo galleries during 2009 (the National Centre for Human Rights (NCHR), 2010).

In addition, the Parties Law has created a number of obstacles for the development of the political and parties' life. Such obstacles include increasing the number of founders to 500 members from five governorates as well as linking parties to MOI, though there is a political development ministry. Since the law was put into force, the number of parties has diminished from 34 to 15 parties.

Finally, there is the temporary Election Law according to which the parliamentary elections were conducted in 2010. The government held talks with the political players, including parties, civil society's institutions and intellectual leaders with the purpose of agreeing on a modern democratic election law. However, the government issued the law exclusively and did not take into account the proposals and opinions presented to it, especially

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with regard to the one-person one-vote system. The government insisted on holding the elections on this principle, despite public demands to change it and replace it with other wording (temporary Election Law, 2010). One of the flaws of this law is that it divides constituencies into smaller ones for unclear reasons that do not observe demographic ratios in terms of population rate, geography and development dimension. Furthermore, the law does not take into consideration some marginalised societal sections, such as the illiterate, since the voting mechanism adopted by the law does not guarantee them a secret ballot. This is also the case with the visually impaired, where the law does not provide the necessary arrangements to guarantee their votes as confidential. Despite the development and spread of the internet, the law does not publish the voters' lists on the web or by any other means. Notwithstanding those negative aspects of the Election Law, it does include a number of articles that enable citizens to exercise their right of election and candidacy according to international standards. The law promotes women's involvement by doubling their quota. It also stipulates severe penalties for election crimes, particularly the sale and purchase of votes that affect the voters' will. The government also issued a statute under the Parties Law through which it contributes to funding and supporting parties.

CITIZENS' CONCEPTIONS OF THE CONSEQUENCES OF POLITICAL PARTICIPATION

Jordan underwent a period of martial laws that ended in 1989 with the start of the democratic transformation period. However, some practices that were prevalent in the martial law period have left negative ideas and impressions in citizens' minds, and kept them away from participation in political life. A survey carried out in 2010 showed that 69% of the respondents feared public criticism of the government

on the belief that this will cause them great security and life penalties. In addition, 1.1% of the respondents were subjected to such measures due to their public criticism of the government or participation in peaceful opposition activities (CSS, 2010). This emphasises that abstention from participation is associated with established beliefs. It also stresses that democratic transformation has not succeeded in convincing citizens yet that the suppressive practices were part of the past. It further underlines that the successive governments have not, despite their political assurances, managed to persuade citizens that such participation will not expose them to trouble and penalties. In spite of these negative aspects that hinder political development, considered a component of the knowledge society, Jordan is currently²⁶ witnessing numerous changes and incentives that are expected to help broaden the scope of public involvement.

FREEDOM OF OPINION, PRESS AND MEDIA

Over the past five years, Jordan has witnessed development in the media industry through permission of the private sector to license radio and television stations. Today, Jordan has around thirty operating radio and five private television stations. Although such stations were expected to achieve a qualitative leap, they are still unable to disseminate, produce and apply knowledge in all areas of society.

A review of such stations' content showed that most of them depend mainly on entertainment programmes. In addition, they suffer from weak financial, technological and professional capabilities in the field of knowledge and culture production.

LAW TO GUARANTEE ACCESS TO INFORMATION

The right to access information is considered a significant pillar to reach the knowledge

Over the past five years, Jordan has witnessed development in the media industry through permission of the private sector to license radio and television stations.

Government interference in the media is regarded as one of the causes that impede progress in freedom. If we track the reports of media freedom in Jordan from 2004 until 2009, we will notice increasing interference of the successive governments in the media, despite their regular claim about supporting media independence.

society. Three years ago, Jordan released the Law on Guarantee of Access to Information which was the first of its kind in the Arab world. Although three years have passed since the adoption of this law, it has not facilitated the flow of information to citizens as desired. In this regard, we can capitalise on the sixth NCHR report from 2009, which tackled the continued complaints of citizens and journalists regarding government institutions and ministries not furnishing them with the required information, but instead being furnished with very little information. The report further stated that governmental entities and ministries have not yet completed indexing and sorting the available information and documents in a way that makes it easy to deal with the law's requirements.

THE STATUS OF MEDIA FREEDOM

During the past three years, Jordan's position has retreated in the field of media freedom, since it ranked 120th out of 178 countries in the annual report of 'Reporters Without Borders'.²⁷ Moreover, Jordan was categorised as a 'Not Free' country in the 'Freedom in the World 2011' report that was released by the Freedom House Organisation, though it was counted among the 'Partly Free' countries in 2008/2009.²⁸

On the level of external surveys, we can rely on the report of 'Media Freedom Status in Jordan 2009', which reflected a decline in media freedom indicators. Only 2% of the respondents described the media freedom status as excellent, the same percentage dropped back to 4.8% in 2008, while 19.9% described it as low compared with 9.3% in 2008 (Centre for Defending Freedom of Journalists, CDFJ, 2009).

There is also an increase in the complaints documented and monitored by CDFJ on the problems, interferences, pressures and violations that journalists face during their work. Such complaints included work suspension, physical attacks,

and verbal insults, in addition to threats. The number of complaints reached 250 during 2009.

The laws and legislations that did not witness radical changes in 2009, are the main reasons for a restricted media freedom, since 34% of journalists think that laws place restrictions on media freedom. The State Security Court Law is considered the most restrictive, followed by the Press and Publications Law, Penal Code and finally the Journalists' Association Law.

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Finally, we can speak about the interference from advertisers that negatively affect media freedom. Such interferences reached 91% in 2009 (CDFJ, 2009).

It can be said that the country has taken, in early 2010, positive steps to support media freedom, since it amended the Press and Publications Law. It has limited consideration of publication cases to the regular judiciary, provided that the first instance court will be responsible for investigating the crimes of internal and external state security set forth in the penal code, if such crime is committed by any audio, visual or written media. Furthermore, the amendment explicitly states that detention is not permissible in those crimes, whether perpetrated by a journalist or any other citizen.

However, it is still necessary to amend the articles of some of the previously mentioned laws that regulate press freedom in order to support freedom of speech.

THE INTERNET, MEDIA AND THE KNOWLEDGE SOCIETY

The internet is considered the true opportunity and source of power in Jordan

to move towards the knowledge society. In this context, it is noteworthy that 200 per 1,000 Jordanians use the internet which offers them an unprecedented opportunity to obtain and disseminate information. In addition, they play a role in producing and developing such information.²⁹

The internet is the primary cause of the changes in freedom and media. Such changes occurred either through social networking websites that allow the citizen to produce and spread knowledge, or through the more than 100 websites which gave rise to problematic, and formed social and political movement in Jordan.

In this regard, we can refer to the findings of the annual study conducted by the Ipsos Company for 2009/2010. Such findings showed that the internet has the most growth in the media field with a percentage of 7.7%. The findings also revealed that the internet has now become one of the most important media sources for Jordanians, used by 42.3% of citizens.

In discussing the internet and the knowledge society, we should refer to the experience of websites that have spread widely in Jordan. These give citizens the opportunity to voice their opinions and participate in promoting and producing information, particularly through posting comments. Such experience raises the question of the citizen's readiness to join the knowledge society. A content analysis study was carried out by the 'Maraya' website publisher on citizens' comments on Jordanian websites. The study indicated that only 5% of comments discussed the idea or content of an article or news item, while 95% were published under false names which attacked and insulted people. As a result of such problems and the practices of some of the websites owners and administrators who are mostly non-professionals, these websites have become a means for influential people, politicians and business people to implement their own agendas. It may be said that some of these websites have figuratively assassinated people and fuelled strife

and societal divisions. They have further downgraded the press language to an unacceptable level, especially through the comments that may be posted by websites' operators to cause controversy.

The government seized the opportunity to adopt the temporary Information Systems Crime Law in 2010.³⁰ This law has escalated confrontation between the government and websites that regard the law as a deadly blow to the future press. However, such a law has shortcomings since it includes some non-detailed provisions and uses vague concepts to define crimes together with inappropriate penalties. This gives the government the opportunity for arbitrary interpretation of the law to its own interests. In addition, Article 13 of the law gives the police the right to search the offices and computers of website operators without a prior consent of the Prosecutor General.

The adoption of this law coincided with the government's decision to block around fifty websites, most of which publish local news on civil servants. This decision came as a reaction to the escalating procedures taken by websites against the Information Systems Crime Law. But, the government recently backtracked on the decision

Finally, we must address blogs since they are also considered a means of producing and disseminating knowledge. It may be said that blogs in general in Jordan have nothing to do with political issues. In addition, they lack information in the sense that most of them depend on personal ideas; except for a few of them. Some analysts attributed this quiet state of blogging in Jordan to the immature parties' experience that has not produced a conscious generation of bloggers who are capable of presenting fully formed political views.

This quiet state is not limited to bloggers but also browsers. An unpublished study undertaken by the Strategic Company for Research and Studies showed that only 4% of internet users visited blogs.³¹ Blogging in Jordan may be described as a digital

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The government has formed a national team that represents most political and media factions to review the laws regulating political life and media freedoms in Jordan.

phenomenon that is not accompanied by qualitative development. It is also noticeable that female bloggers are rare and depend on pseudonyms except for a few of them.

In this regard, it is worth mentioning that the government lately reversed several procedures taken against the press and journalists and the electronic press in particular. The government has formed a national team that represents most political and media factions to review the laws regulating political life and media freedoms in Jordan.

The above analysis demonstrate that Jordan has achieved remarkable progress in numerous fields, especially with the maternal and child health care, as well as fighting HIV/AIDS. Despite some advancement in the field of combating poverty and unemployment, especially eradicating abject poverty, there remain steps that should be taken in this domain. As for all forms of freedom, they still maintain their levels, notwithstanding the progress made in the press and publications field. In the economic field, some components witnessed some progress, while others showed a clear decline due to the global economic crisis that has affected economic performance in general and reflected negatively on Jordanian citizens' living conditions. This is evident in the high prices of consumer goods. The current situation of the economic system and political freedoms does not give hope that it is possible to provide the appropriate conditions for youth to access the knowledge society and achieve sustainable human development.



PREPAREDNESS OF THE FUTURE GENERATION TO ACCESS THE KNOWLEDGE SOCIETY IN JORDAN: FIELD SURVEY RESULTS

This chapter discusses the readiness of the future generation to join the knowledge society. It focuses on studying and analysing the findings of tests and surveys conducted in the context of preparing the case study of Jordan with a sample of the youth who have completed the eleventh grade in the capital of Amman. These tests and surveys were carried out with the purpose of measuring the students' possession of the skills and values that enable them to access the knowledge society, as well as being aware of their surrounding environments, and their conception of such environments. The sample was selected from the age group 17-18 years, since it represents the upper section of future generation (18 years and below) which was adopted in the Arab Knowledge Report 2010/2011. This section represents approximately 46% of the Jordanian population. Moreover, the chapter tackles the findings of the survey that polled the opinions of the teachers of the students who took part in the surveys and tests. This is to explore their attitudes in addition to their perception of the students' enabling environments as well as teaching practices and methodology, and their positions on the issues which may help prepare future generations to participate in the knowledge society. The chapter further presents the views of a group of experts and decision-makers in Jordan on the same issues.

SAMPLES OF FIELD STUDIES

In line with the general method of the

report's field studies (see introduction in the general report) which depends on reviewing students and teachers' opinions, the focus was on three categories of society: the first category included students, in order to understand their skills, values and opinions of the surrounding enabling environments. This category represents the central sample. The second category comprised the teachers of the sample students in order to understand their views of the students' level, in addition to their surrounding enabling environments and education situations. This category represents the central sample. The third category involved experts, academics, decision-makers and stakeholders as representatives of other segments of Jordanian society.

RANDOM SAMPLE OF STUDENTS

Using a widely recognised general methodology for case studies that were covered in chapter 5 of the general report the random representative sample section was drawn from twelfth grade students (who completed eleven years of schooling) in the schools of Jordan's capital Amman. The sample was as follows:

The sample was chosen according to the adapted data sent by the Jordanian MOE. Such data shows the number of students and their educational specialties in the capital Amman. It included 276 schools (public, private, defence and Awqaf), four specialisations (scientific, literary, ICT and vocational) and 29,319 students in the 12th grade. The

These tests and surveys were carried out with the purpose of measuring the students' possession of the skills and values that enable them to access the knowledge society, as well as being aware of their surrounding environments, and their conception of such environments

Given the pioneering nature of the case studies as well as the general method adopted it was limited, for methodological purposes, to twelfth grade students in the schools of Amman

study was limited to Jordanian students.

Given the pioneering nature of the case studies as well as the general method adopted it was limited, for methodological purposes, to twelfth grade students in the schools of Amman. In future studies, it is expected to extend the application of these surveys and studies to other urban and rural areas of Jordan.

The sample comprised of the students of public, private and defence schools. It further included all educational specialisations in Jordan.

DESCRIPTION OF STUDENT SAMPLE

The sample covered 29 schools in Amman.³² The number of students in the sample was 1,742 students with 855 male students and 887 female students from all educational specialties.

The field survey was conducted in the period from the October 3-7, 2010.

TEACHERS SAMPLE

A random sample was selected from the teachers of the sample students and from the latter's schools, taking into consideration that the sample should include all specialties. The sample involved 103 teachers.

EXPERTS AND DECISION-MAKERS' OPINIONS

A workshop was organised on the July 21, 2010, which included 35 relevant experts and specialists belonging to different educational and knowledge specialisations in the public and private sectors as well as civil society organisations. This workshop

was aimed at discovering their perceptions about the most important issues that pertain to the preparation of the future generation for effective participation in the knowledge society. The workshop further intended to discover the shortcomings that according to them hinder such a pursuit and the recommended methods to overcome them.³³

FIELD STUDY RESULTS

SKILLS

Students' skills were investigated through a special test designed to measure their possession of cognitive, conative, and social skills. Students' scores in the sub skills were calculated on the basis of 25 points for each sub-skill (lowest score=0 and highest score is 25). So, the students were required to score 12.5 out of 25 to indicate their possession of any of the sub skills.

The aggregate cognitive skills that consist of four sub-skills were rated on a scale from 0 to 100 points. Therefore, the students were supposed to score a minimum 50 out of 100 points to refer to their possession of the aggregate skill. Since the conative and social composite skills involve three sub-skills each, each composite skill was measured on a scale from 0 to 75 points. For this, 37.5 out of 75 points was the minimum score that indicated the existence of the aggregate conative or social skills.

COGNITIVE SKILLS

The cognitive skills adopted in the report are divided into the skills of

TABLE 1-5-1

Results of aggregate cognitive skills Total score of values ranges from 0 to 100

Average (Arithmetic mean) ³⁴ (score)			Standard deviation ³⁵		Standard deviation ³⁶	Lowest score	Highest score	Statistical differences between males and females ³⁷
Males	Females	Total	Males	Females				
31.49	36.96	34.06	3.59	3.28	12.02	1.19	72.94	In favour of females

information searching and processing, written communication, problem solving and the use of technology. Below is an analytical review of the most important results of the students' skills.

Table 1-5-1 shows the weak level of students in the aggregate cognitive skills. The arithmetic mean occurs at the beginning of the second third of the points scale (34.06), 15.94 points lower than the required minimum score of 50. It is also noted that no student obtained full marks (100 points), as the highest mark was around 73 points. Furthermore, the results suggest that females outperformed males with a statistically significant difference, but

the female level remains weak. In addition, clustering of all the sample variables is emphasised by the standard deviation value (12.02) that does not exceed 50% of the total arithmetic mean value.

The detailed results of the cognitive skills show that all students demonstrate a low level in the targeted skills. None reached beyond the required minimum score (12.5 points). In comparing the arithmetic mean in each of the cognitive skills, we notice statistically significant differences between them. The analysis refers to a real difference in the skill possession levels. The performance of the students is weak but such weakness differs in degree. The lowest

TABLE 1-5-2

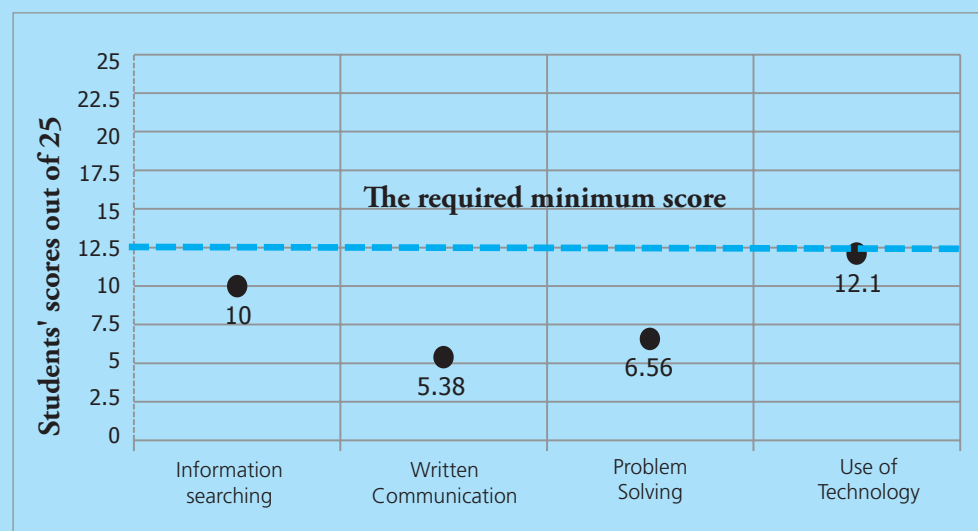
Detailed results of cognitive skills
Total score of values ranges from 0 to 25

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Information searching	9.16	10.95	10	3.59	3.28	3.59	0	20.24	In favour of females
Written communication	3.7	7.18	5.38	5.21	6.91	6.34	0	25	In favour of females
Problem solving	6.51	6.63	6.56	4.03	3.97	4.01	0	22.22	No difference
Use of technology	12.11	12.18	12.10	4.05	3.69	3.89	0	21.72	No difference

The detailed results of the cognitive skills show that all students demonstrate a low level in the targeted skills. None reached beyond the required minimum score (12.5 points)

FIGURE 1-5-1

**Comparing average (arithmetic means) of cognitive skills for total sample
(males and females)**



scores were in written communication followed by problem solving, and then information searching and processing. The use of technology was the strongest skill.

Figure 1-5-1 shows the use of technology skills was very close to the minimum required score with an arithmetic mean of 12.1 points, the written communication skill was the weakest since its arithmetic mean was 7.12 points lower than the minimum required score. Nearly a third of students scored zero on this skill. Some students scored zero in all skills, and no student obtained full marks (25 points) in any skill except for written communication. Such a result reflects great variation in this skill. This is emphasised by the standard deviation value (6.34) that exceeds the arithmetic mean. Furthermore, the results show that males did not outperform females in any skill. Males and females demonstrated no statistically significant difference, as in problem solving and use of technology skills, but females demonstrated superiority in information searches and written communication skills. However, this superiority does not mean that

females demonstrated considerable levels in those skills.

Figure 1-5-2 shows that 23.9% of the students do not have the minimum level of aggregate cognitive skill. In addition, 65.9% are still at the beginning of knowledge acquisition. In the upper half of the points scale, only 10.2% of students are 'nearly ready'. None of the sample students are 'ready'.

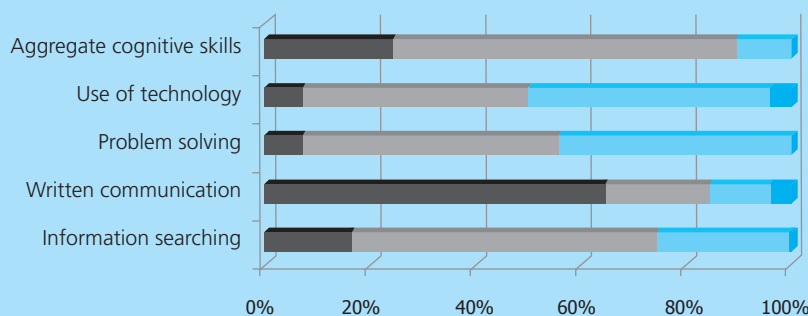
With regard to the results of the four cognitive skills, it is noted that the position of the use of technology and information searching and processing skills is marginally better than the position of the problem solving and written communication skills. In the last two skills, it is noted that 84.8% of the students are in the first half of the points scale in written communication skills, while 92.6% hold the same position in problem solving skills.

The number of students who fall in the 'Not Ready' category in all skills amounted to 41 students, i.e. 2.4% of the sample students. No student reached the fourth level in all skills.

With regard to the results of the four cognitive skills, it is noted that the position of the use of technology and information searching and processing skills is marginally better than the position of the problem solving and written communication skills

FIGURE 1-5-2

Readiness of students in terms of cognitive skills (%)



	Information searching	Written communication	Problem solving	Use of technology	Aggregate cognitive skills
Not ready (less than 25% of total score)	16.6	65.3	56.1	7.6	23.9
In early stages of being ready (25% to 50% of the score)	58.3	19.5	36.5	42.8	65.9
In the process of being ready (50% to 75% of the score)	24.5	9.7	7.2	46.2	10.2
Ready (75% or more of the score)	0.6	5.5	0.2	3.4	0

Discussion of students' results in cognitive skills

The Jordanian education system has witnessed quantitative achievements. However, the weak results of students in all the cognitive skills stress that the education quality that prepares future generations to integrate into the knowledge society has not yet reached the level of quantitative achievements. One of the flaws of the Jordanian education system in general is that it is not strongly based on the principle of life-long education or the sound and robust principle of managing, employing and producing knowledge. This contrasts with the general policies and objectives of education that clearly state the necessity to help students possess cognitive skills. Such skills include research, organisation and processing, in addition to problem solving and all forms of communication.

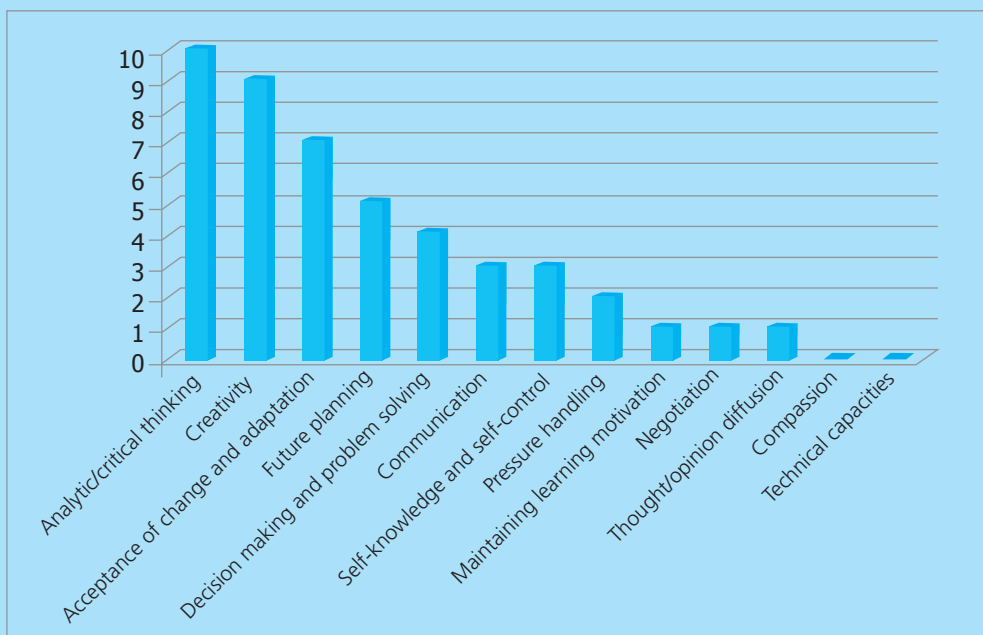
The problem solving skill is closely associated with the research skill and depends on it as a prerequisite and primary step. The low performance in problem solving makes it clear that the education system has been

unable to translate these two skills into a practical reality in the form of suitable methods, materials and exercises in the academic books and curricula in Jordan. The textbook is the only reference for students and also the only source of information, facts and concepts to which students can adhere. This weakens the use of the products of the high-speed knowledge explosion. It further limits information searching and thinking to the point of view of the book's author. What further complicates the matter is the spread of school books summaries in the local markets and their wide circulation among students. Such summaries abridge the information included in textbooks and offer answers to the questions and exercises in these books. Thus, the student's role will be confined to memorising information, in addition to the answers to questions and exercises in order to recall them in tests; this has become the main focus for students and families. Moreover, the teaching practices used are still limited to instruction methods and reject methods of problem solving as well as critical and creative thinking. Such practices mainly

The problem solving skill is closely associated with the research skill and depends on it as a prerequisite and primary step

FIGURE 1-5-3

Views of workshop participants on weak skills



The relatively good results of students in the use of technology skills compared with the other three cognitive skills can be attributed to the efforts made in Jordan to provide a basic structure for using technology and applying it in education

measure lower mental processes, such as memory and recalling information. This was indicated by the NCHRD study that argued that the methods adopted by teachers still needed to focus on problem solving and stability. Another study (Al Fayoumi, 2008) also stated that only 20% of teachers used problem solving and research method in teaching. TIMSS findings in 2007 suggested that the performance level of students was below the international average in maths. It is noteworthy that performance in maths is strongly linked with the ability to collect information and solve problems.

Such findings are consistent with the opinion poll of experts that was performed in the context of preparing this report through a workshop held in Amman in 2010. The participants argued that students have deficiencies in creative and analytical thinking skills, together with decision-making and problem solving. They attribute these flaws to inadequate awareness and their low importance in public culture as well as weak curricula and traditional assessment methods.

As for the written communication skill it is expressed through the ability to convey ideas, opinions and feelings to others in proper language. The acquisition of such a skill depends on several factors, the most important of which is linguistic wealth, in addition to the availability, organisation and expression of information in a sequential order. Moreover, this skill is related to information collection and problem solving skills and is affected by them. The reason for poor results in this context may be that expressive subject matter in school books are limited to certain issues which do not give students the freedom to choose their favourite subjects. Furthermore, there is neither a curriculum nor classes for written expression, since it is studied within other Arabic language subjects. In addition, the student's dependence on textbooks makes his linguistic wealth limited to what is studied within them. The role of libraries and free reading have also retreated due to the use of technology, such as the

internet and mobile phones in written communication and the consequent use of a particular language.

On the other hand, the relatively good results of students in the use of technology skills compared with the other three cognitive skills can be attributed to the efforts made in Jordan to provide a basic structure for using technology and applying it in education. A curriculum and school book was designed for teaching computer skills from the seventh to the twelfth grade, two classes per week in which the student learns computer skills along with simple computer maintenance skills. In addition, schools were provided with computer labs, and computer skills are taught from the first to sixth grade as a complementary component to other subjects. 85% of schools were linked via an intranet and teachers were trained to use computers for educational purposes. A number of training programmes were further adapted, such as ICDL and INTEL and programme certification was linked with granting teachers allowances.

This structure has enabled Jordan to obtain an intermediate value on the ICT Index. Also, the students' environments, especially at home and in cyber cafes serve as a strong motive to use technology. Moreover, the use of mobile phones increased with the phone lines outnumbering the population rate. These factors have somewhat contributed to creating a technological culture that has facilitated the use of technology to keep up with the age of globalisation and enable future generations to access the knowledge society.

The superiority of females in cognitive skills was also seen in the findings of TIMSS and PISA that showed that females outperform males in these tests. In addition, female results in the general secondary school examinations have been better than male results for several years. This is also the case with the results of the quality assurance tests conducted by MOE annually in a number of subjects. It

is noticed that all such studies, especially PISA, aimed at measuring the students' possession of the skills that are highly related to the knowledge society.

CONATIVE SKILLS

The conative skills that are adopted in the report are divided into self-esteem, learning motivation and future planning. The sample students' possession of aggregate and sub-conative skills was measured. The results were as follows:

In measuring the students' acquisition of the aggregate conative skill, the results showed that the level in this skill falls above the intermediate level, since the students' scores were only 6 points higher than the required minimum score (37.5 points). The standard deviation value also reflected clustering of students' scores since they occurred in the same intermediate level. Moreover, the analysis revealed that females outperformed males with statistically significant difference. However, no student scored full marks in those aggregate conative skills.

In view of the detailed results of the conative skills as shown in table 1-5-4, we

notice sharp differences between the skills of self-knowledge and learning motivation on the one hand, and future planning skills on the other hand. The students scored considerably in the skills of self-knowledge and learning motivation; this is evident in the high average of both skills and their low standard deviation value. Moreover, females statistically surpassed males in the self-esteem skill, while they demonstrated equal level in the skill of learning motivation. However, future planning skills are considered one of the weakest compared with cognitive, conative and social skills, since it recorded an average of around 5 points only. Notwithstanding the students' low level in this skill, it is noted that their scores were not clustered. Many students obtained very low scores, while a few students gained full marks. This is emphasised by the standard deviation value that is close to the arithmetic mean value. Females and males did not demonstrate a statistically significant difference in favour of females in such a skill.

Figure 1-5-5 shows that 5% of the students do not possess the minimum level of aggregate conative skill to help them join the knowledge society. The upper end of

The conative skills that are adopted in the report are divided into self-esteem, maintaining learning motivation and future planning

TABLE 1-5-3

Results of aggregate conative skills Total score of values ranges from 0 to 75

Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
41.68	44.87	43.17	12.52	9.73	11.45	0	69.94	In favour of females

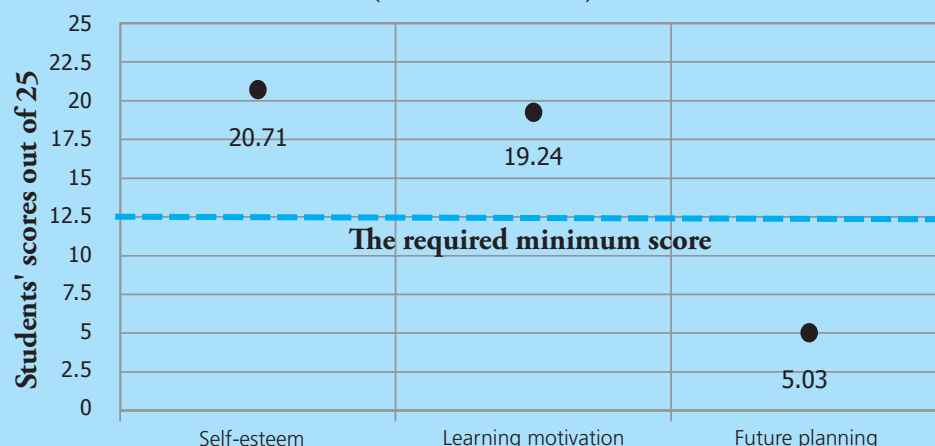
TABLE 1-5-4

Results of detailed conative skills Total score of values ranges from 0 to 25

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Self-esteem	20.50	20.94	20.71	3.27	2.49	2.93	2.68	25	In favour of females
Learning motivation	19.29	19.22	19.24	3.12	2.95	3.05	2.08	25	No difference
Future planning	4.37	5.72	5.03	3.61	4.31	4.03	0	25	In favour of females

FIGURE 1-5-4

Comparing average (arithmetic means) of conative skills for total samples (males and females)



The survey results showed that the students demonstrated relatively high levels of readiness in the self-knowledge and self-esteem skills.

the points scale includes a low percentage, 4.7% of students, who are fully 'ready' for it. However, the majority are 'nearly ready' (80%). Regarding the future planning skill, most students are either 'not ready' or still at the beginning. In self-esteem as well as maintaining learning motivation, the majority of students reached the upper half of the skill scale. So, they are either

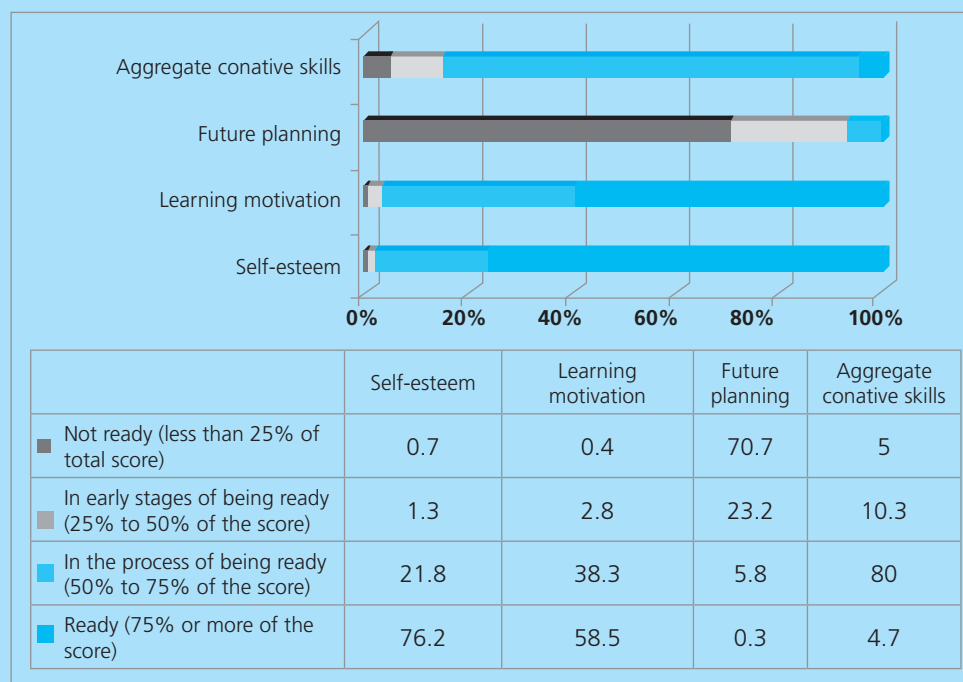
'nearly ready' or 'actually ready'.

Discussion of student results in conative skills

Conative skills are influenced by feelings, emotions and attitudes that reflect the human being's inner state. They are also the product of interaction between a

FIGURE 1-5-5

Readiness of students in terms of conative skills (%)



number of internal and external variables and factors that pertain to human beings and their formation as well as the natural environmental and social conditions.

The survey results showed that the students demonstrated relatively high levels of readiness in the self-esteem skills. This can be attributed to the age range of the future generation taking part in this survey that ranges from 17 to 18 years. They are now more capable to understand themselves and realise their developmental attributes. Moreover, their interests and tendencies have become clearer. In addition, they tend to accept and take more pride in themselves and, therefore, show more interest in their appearance and general behaviour than in previous development stages. The future generation's self-esteem develops as they grow. This trend is strengthened when they reach the end of their education. Thus, the Jordanian family is expected to exploit this potential and direct it to achieve development and progress, through using a positive upbringing method. In this stage, the

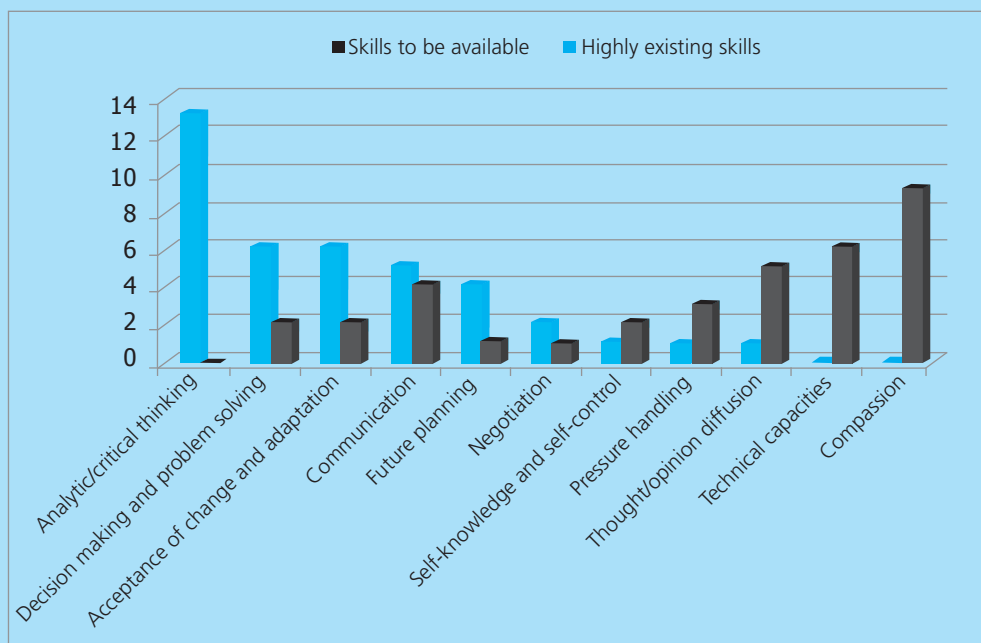
young generation becomes more mature and should be given more attention to meet their maximum potential. Therefore, attention should be given to their needs to meet their maximum potential. Furthermore, the school's perception of the young generation in this stage should not differ from that of the family, in the sense that they represent the fruit of the school's long years of preparation.

The good results in learning motivation skills may also be attributed to the fact that the future generation in this stage are at the threshold of graduation and are preparing to take the secondary school test to determine their future with regard to which university they will attend and which subject they will pursue. So, learning motivation reaches its peak at this stage, due to the students' desire to obtain high scores that satisfy their social and psychological needs and help them realise their future ambitions. One of the common customs among Jordanian families is to offer their children at the secondary education stage a range of conditions and capabilities which motivate

One of the common customs among Jordanian families is to offer their children at the secondary education stage a range of conditions and capabilities which motivate them to learn, and they encourage them to do their utmost to score high marks on the end of year test

FIGURE 1-5-6

Views of participants in the workshop about the importance of skills and their availability among the youth



Like conative skills, and contrary to cognitive skills, the results showed that students achieved high levels in the aggregate social skills

them to learn, and they encourage them to do their utmost to score high marks on the end of year test.

The school also offers additional educational programmes before and after the actual academic year, and increases communication with the family once their children face difficulties. Furthermore, the school provides, through its teachers, awareness programmes for students on the methods of study, review and time organisation. It also instructs them on the nature of the test and how to deal with it. Furthermore, the Jordanian society's institutions support students and families at this stage by avoiding any action that may disturb students, lower their concentration or distract their attention. The media also plays an effective role in advising parents and students via television and radio interviews using specialists who deliver messages that stimulate and assure students and make them less tense.

Students' weak performance in the future planning skill may be attributed to the fact that students, families and schools focus only on improving the student's academic achievements. Thinking in other future areas, such as work, is postponed because such areas depend on the student's graduation and the awarding of a university certificate.

The weakness of this skill may be also attributed to its close relation to cognitive skills that require collecting, analysing and evaluating information. Thus, the future planning sub skills have a knowledge dimension. As we noticed, the students demonstrated a remarkably low performance in this domain (see table 1-5-2). Such results are partly consistent with the

views of the decision-makers and experts who participated in workshops where they argued that future planning is one of the weakest skills of the next generation.

It is notable that females outperformed males in conative skills. This can be attributed to their attainment of a conative maturity level. Females are also more able to realise and understand the details of their needs. Moreover, their learning motivation is greater than that of males. This may be one of the factors that explain their excellence in the results of international studies, exams and national tests, due to their desire to prove themselves and quickly fill the gap between males in economic, political and social fields.

SOCIAL SKILLS

The sample students' possession of a number of social skills was tested. Such skills included communication with others, team work and public participation.

Like conative skills, and contrary to cognitive skills, the results showed that students achieved high levels in the aggregate social skills. In addition, females notably excelled males in those skills, since the arithmetic mean recorded 47.47 points for females and 41.81 for males, the biggest difference between females and males in all skills. Moreover, students obtained high marks on this skill with some of them scoring around 73 out of 75 points.

The detailed results of social skills show that the students' scores are close in the three skills. The skill of communication with others ranks first, while that of public participation came

TABLE 1-5-5

Results of aggregate social skills								
Total score of values ranges from 0 to 75								
Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
41.81	47.47	44.43	17.15	15.05	16.54	0	72.81	In favour of females

TABLE 1-5-6

Results of detailed social skills
Total score of values ranges from 0 to 25

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Communication with others	16.86	18.27	17.58	5.92	5.3	5.66	0	25	In favour of females
Team work	14.16	16.65	15.36	6.42	5.33	6.07	0	23.68	In favour of females
Participation in public life	13.79	14.3	14.01	7.15	6.4	6.79	0	25	No difference

last with an arithmetic mean of 14.01; around 1.5 points higher than the required minimum score. In addition, the students' scores in each skill are close and clustered as reflected by standard deviation values of the three skills. A comparison of female and male results demonstrates statistically significant differences in favour of females in communication with others and team work skills. But, there was no difference in public participation skill.

In respect of the level of students' readiness in the aggregate social skill, it is noticed that the majority occur in the upper half of the points scale. They are either 'ready' for integration into the knowledge

society (24.5%) or 'nearly ready' (49.9%). But, the lowest percentage falls in the 'not ready' category (8.6%).

With regard to the three social skills, it is clear that most students appear in the third and fourth levels of readiness. They are either 'ready' or 'nearly ready'. Moreover, the 'ready' students' category recorded its highest rate in the communication with others skill, followed by teamwork and then public participation skill.

On the other hand, the percentage of 'not Ready' students was small, as 142 students were 'ready' in all skills against 5 'not Ready' students.

With regard to the three social skills, it is clear that most students appear in the third and fourth levels of readiness. They are either 'ready' or 'nearly ready'

FIGURE 1-5-7

**Comparison of average (arithmetic means) of social skills for total samples
(males and females)**

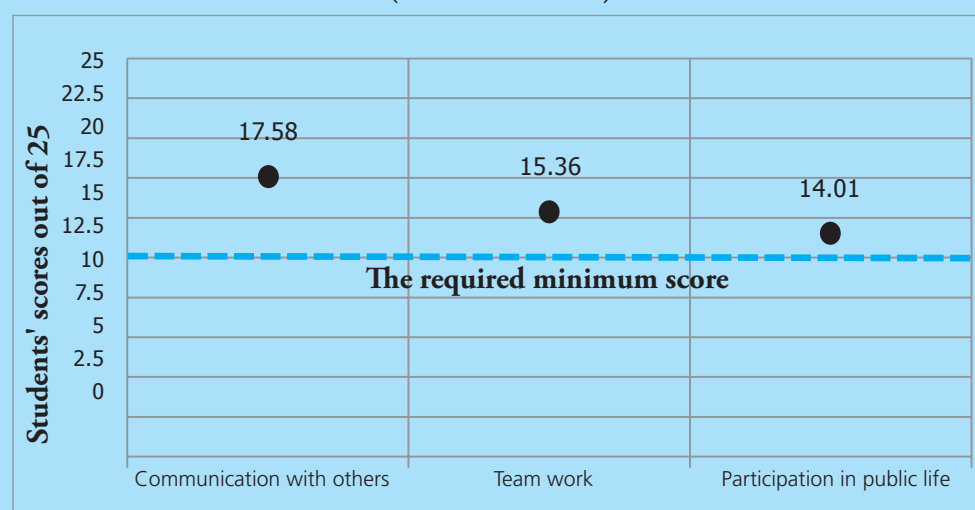
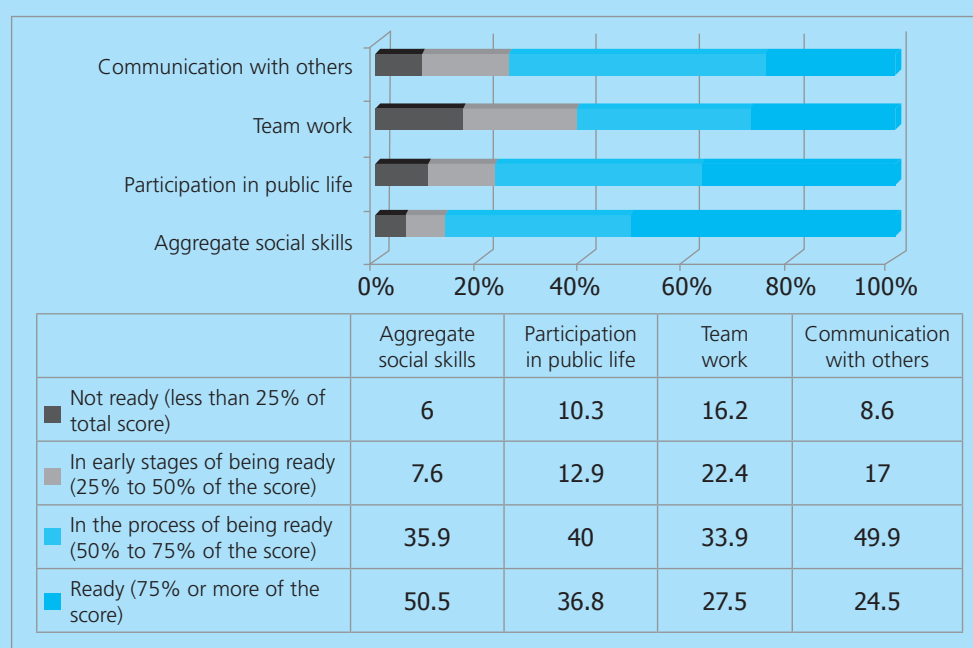


FIGURE 1-5-8

Readiness of students in terms of social skills



Young people tend to associate with a certain group with the same mannerisms and behaviours and integrate into this group according to an implicit system

Discussion of student results in social skills

Social skills may be regarded as a set of responses and interactions resulting from the environment, whether at school, with friends, or in society as a whole and leading to realising socially acceptable goals.

This concept emphasises the results of the regression analysis for the student's enabling environments. Such results show that there are three variables that affect the possession of the social skills. These variables are the pattern of upbringing in the family, educational welfare in the local environment and educational welfare at school. But, such variables alone do not involve all the factors that impact students' performance in the social skills (See table m1-16 in the appendix). There is an important variable which is the social development characteristics of the age group of respondents (17-18 years).

Regarding the skill of communication with others, the future generation at this stage builds more social relationships and becomes more communicative with others.

Young people tend to associate with a certain group with the same mannerisms and behaviours and integrate into this group according to an implicit system. The interrelations of the group's members are very strong, and belonging to a group helps the future generation acquire some interests and attitudes and young people learn how to exchange feelings, problems and ideas. In addition, the future generation at this stage demonstrates a desire to understand what is happening and attempts to fix errors by proposing ideas or taking part in correcting improper situations. The Jordanian family also still maintains its inner structure, notwithstanding the growing globalisation trends and their reflections on the local society. Family members are closely interrelated and there is still strong presence for extended families. The students' good results in this skill are also attributed to the spread of multiple means of telecommunication, such as the internet and mobile phones and the consequent use of social networking websites, such as Facebook, Twitter and SMS text messaging. Most teachers have stated that they use the discussion method with

students in their teaching methodology. This means that there is a school environment that encourages expression and dialogue as well as an exchange and respect of ideas and opinions (see table m1-3 in the appendix).

Jordanian schools offer programmes and activities that support school curricula, including scouts, girl guides, and debate clubs in addition to student councils and parliaments, which ultimately aim at promoting dialogue as well as helping express opinions and respect for the opinions of others. Moreover, some secondary school curricula include subjects for communication skills.

The satisfactory results of the students in the teamwork skill can be attributed to the nature of the extended Jordanian family in which the future generation lives. The family's members are relatively interconnected in order to preserve the family's structure and continuity. The conditions and challenges faced by the family require positive interaction between its members within a framework of shared responsibility. This is considered a daily teamwork exercise for the future generation.

The dominant upbringing systems endorse teamwork. Jordanian schools use a lot of educational activities that complement the curriculum. Such activities are performed in teams and groups to enhance teamwork skills of future generations; they include scouts, girl guides, school parliaments, volunteer work, and traffic awareness and team sports. Furthermore, curricula and teacher guides include teamwork strategy. The application of this skill becomes clearer in science and computer labs due to the nature of these subjects and the limited equipment. This is emphasised by the teachers who stated in their answers that they organised their students into small work groups for work (see table m1-3 in the appendix).

The wide use of the internet by the future generation has perhaps helped them learn teamwork. Since the internet contains a great deal of information, the

student finds it difficult to search all lists alone, thus he or she resorts to teamwork. This means every student searches a certain list and then collects the information for discussion.

Such results may be due to the nature of youth at this age. At this stage, they tend to work with the group that they belong to that appreciates their efforts and shares the same behaviours. They give more attention to issues that require teamwork.

The results of students in the public participation skill can be attributed to the fact that the future generation at this age shows an interest in what is taking place in the society around them and demonstrates a desire to preserve the surrounding environment. They show positive feelings towards others, especially the disadvantaged and poor and sympathise strongly with people that are oppressed.

This is compatible with the findings of the workshop that was held in Amman for intellectuals, academics and decision-makers. The findings indicated that the strongest skills of the future generation included the skill of sympathy and what it means to listen and understand others' needs and surrounding circumstances. Such skills further include cooperation, teamwork, and discipline, respect of others' opinions and different attitudes, as well as dissemination of ideas or opinions and the establishment of public

The findings indicated that the strongest skills of the future generation included the skill of sympathy and what it means to listen and understand others' needs and surrounding circumstances

BOX 1-5-1

Jordanian initiatives to serve young generation: Children's Museum

The museum was inaugurated in Jordan in 2007. It is a non-profit educational institution that offers children an alternative informal educational environment. This environment uses entertaining methods that offer children experience, interaction and learning through playing, whether they visit the museum with their parents or schools. The museum was designed to complement the formal educational process at schools. Its interactive exhibits and different programmes focus on four educational areas: early learning, sciences and technology, technical and

aesthetic development, and life skills and civil awareness.

Over the past two years, the museum received approximately 370,000 visitors (200,000 in 2010 and 170,000 in 2009). In 2010, 40% of visitors went to the museum within special programmes that were sponsored by certain entities, and some categories (including public schools students) managed to enter the museum at minimal fees or for free. Since its opening in 2007, the museum's visitors reached 600,000 people.

The superiority of females in the social skills can be attributed to the fact that females are more inclined than males to establish friendships and a social relationship network

TABLE 1-5-7

Results of aggregate values								
Total score of values ranges from 1 to 5								
Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
3.71	3.9	3.8	0.36	0.3	0.34	2.33	4.72	In favour of females

relations networks. The participants attributed such strong skills of the future generation to the availability of effective means of communication, good upbringing, religious values and the awareness programmes of educational institutions (see figure 1-5-6).

The educational policy in Jordan adopts programmes and activities that promote students' public participation. Civic education was included in the curriculum. The policy encourages conducting annual activities at schools with the aim of consolidating schools with public life. Such activities include holding elections when forming parliaments, clubs, and school committees to look into environment conservation, public health, social work and traffic awareness, among others.

The reason behind these results is the recently held local and parliamentary elections in Jordan which contributed to informing the future generation on public issues. Students also took part in electoral campaigns by distributing flyers and stickers of candidates. Moreover, the means of communication, such as satellite channels and the internet played a strong role in raising the future generation's awareness of public issues.

The superiority of females in the

social skills can be attributed to the fact that females are more inclined than males to establish friendships and a social relationship network. They seek to expand and maintain this network through opening communication channels between them. In addition, females tend more than males to work in a group and they show cooperativeness among them whether at home or school. That might be attributed to family socialisation and dominant social customs which believes the existence of girls within a group protects them against expected risks.

VALUES

Theoretically, the students' scores on the aggregate values range from 1-5 points, and the default average is 3 points, which is the minimum required level for the possession of the aggregate values. The Table 1-5-7 shows that the students' scores on the aggregate values ranged from 2.33 to 4.72 points. This means that no student obtained full marks. The arithmetic mean was 3.8 which is 0.8 points higher than the default average. This indicates that the students showed high levels of the aggregate values, and that most of them possess those values. Furthermore, the

TABLE 1-5-8

Results of detailed values									
Total score of values ranges from 1 to 5									
	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Cognitive values	3.87	4.01	3.94	0.49	0.43	0.47	2.05	5	In favour of females
Conative values	3.81	4.06	3.94	0.46	0.4	0.45	2	5	In favour of females
Social values	3.53	3.56	3.55	0.4	0.36	0.38	2.17	4.72	No difference
Universal values	3.67	3.99	3.83	0.46	0.42	0.47	2.21	5	In favour of females

standard deviation value shows that the students' scores are strongly clustered. The table further reveals that the arithmetic mean of females is greater than that of males. Comparison of the mean reflects statistically significant differences in favour of females.

The detailed results reveal that the cognitive and social values recorded the highest scores, followed by the universal

values and social values with statistically significant differences. The results also show the strong presence of values within the sample students that evidenced in the high average scores for all values. In addition, the students' scores are clustered. This is emphasised by the standard deviation sub-values for all values. It's noted that females outperformed males in all values, except for the conative values in

FIGURE 1-5-9

Comparison of average (arithmetic means) of values for total sample (males and females)

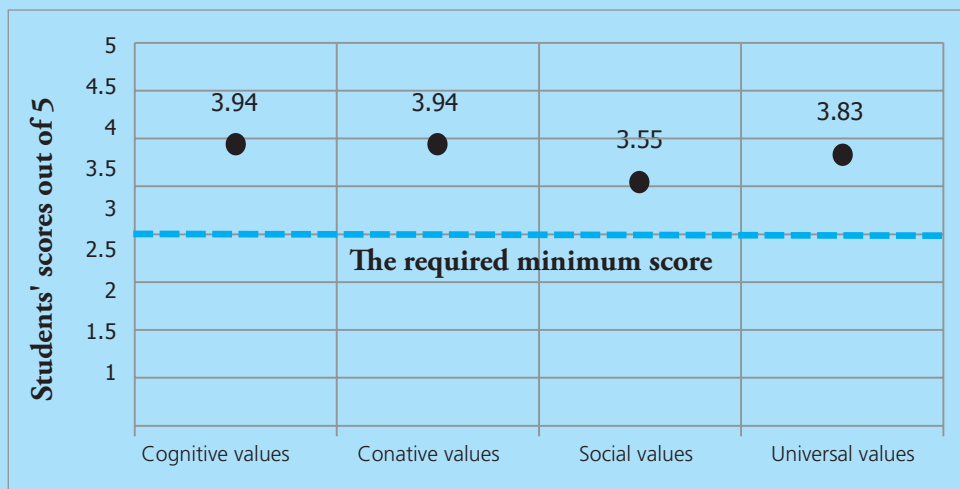
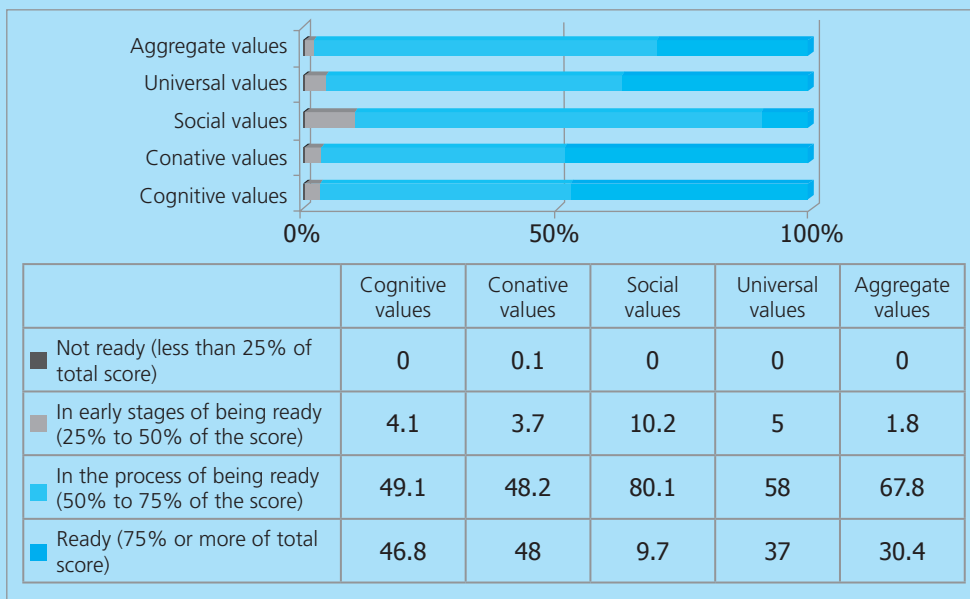


FIGURE 1-5-10

Readiness of students in terms of values



Values are considered a significant foundation in preparing the future generation towards the knowledge society and in building any society so as to achieve integration between its social, economic and human structures

which they demonstrate equal levels (see table 1-5-8).

Figure 1-5-10 shows that the majority of the students occur in the third and fourth levels of the points scale in terms of the aggregate values, since they are either 'ready' or 'nearly ready'. No student falls in the 'not ready' level. It is also notable that most students occur in the third and fourth levels of the points scale in the four detailed values. This indicates that they are either 'ready' or 'nearly ready'. However, a few of them remain in the first and second levels. With regard to the readiness level, it is noticed that the students are more ready in the aggregate values than conative and cognitive values. These are followed by the universal values and social values. Moreover, it is notable that 73 students, i.e. 4.2% of the sample students reached the fourth level in all values.

DISCUSSION OF THE STUDENT RESULTS IN VALUES

Values are considered an important foundation in preparing the future generation towards the knowledge society and in building any society so as to achieve integration between its social, economic and human structures. In addition, values have a basic function in directing the behaviours and interaction of the society's members.

The regression analysis has shown that there are five variables that have a significant effect on the possession of the cognitive values (see table m1-16 in the appendix). These variables are the family's method of upbringing, educational welfare in the local environment together with the family's interest in the student's study and educational welfare at school. The Jordanian family is eager to encourage its children to pursue learning and knowledge. The family allocates a substantial portion of their resources to fulfil the ambitions of their children, which agree with the family's own ambitions of helping them achieve the best future through obtaining the highest academic degrees. It motivates

them to resume their education that is considered their true capital. Moreover, the educational programmes and curricula are rich in cognitive values in all the education stages. They further support meaningful educational initiatives and innovations, such as the Educational Innovation Fund, which provides financial and technical support to student initiatives in the fields of management, sciences and technology. There is also the Thinking Criteria Project that helps students develop a sense of creativity and independent thinking. The school adopts many educational activities and competitions on the district level that support curricula in the innovative technical, scientific and literary fields. It also offers awards to the winning distinguished students. Moreover, other competitions are launched on the school district level in this field. There are also societal academic institutions that embrace innovation, such as the King Hussein Foundation (KHF), King Abdullah II schools of excellence and pioneer centres.

Such results are supported by the teachers' views that students possess strong cognitive values, such as a passion for learning and knowledge, openness to all that is new, in addition to diligence and persistence.

In terms of the conative values, the regression analysis revealed that there are three variables which have a significant impact on the possession of the conative values (see table m1-16 in the appendix). Such variables involve the family's method of upbringing, educational welfare within the local environment and educational welfare at school. The Jordanian family tends to secure a safe family atmosphere for the psychological stability and personal balance of children. Furthermore, it seeks to enhance the children's self-confidence in an atmosphere of love and parental affection. It also promotes the children's sense of responsibility and self-control of all their behaviour patterns. Its role in this stage becomes limited to general supervision and remote

following up. Moreover, curricula are abundant in conative values that enhance the students' dignity and develop their self-esteem. There are educational efforts that endorse the curricula objectives through participation in many activities, such as scouts and girl guides that aim at fostering self-dependence and achieving the integrated development of students as well as cultivating the value of truthfulness and honesty. These results are interpreted by the teachers' opinions that students demonstrate good levels of these values (See table 1-15 in the appendix). It is clear that the students' results in the conative values are compatible with their results in the conative skills. As for the social values, the regression analysis revealed that there are five variables that have a significant effect on the possession of social values: the family's upbringing pattern, education welfare in the local environment, the family's interest in the student's study, in addition to educational welfare at school and family's financial welfare (See table m1-16 in the appendix).

The Jordanian family is the first upbringing system and the most eager

for its children to conform to the society's different standards and values, whether they have their origin in religion or social customs and traditions. The family teaches its children how to show modesty in dealing with others, especially older people. The family also helps its children have this sense of solidarity, especially with relatives and neighbours and encourages them to help others, particularly the underprivileged. This manifests itself in the future generation's participation in campaigns that target various sectors of society.

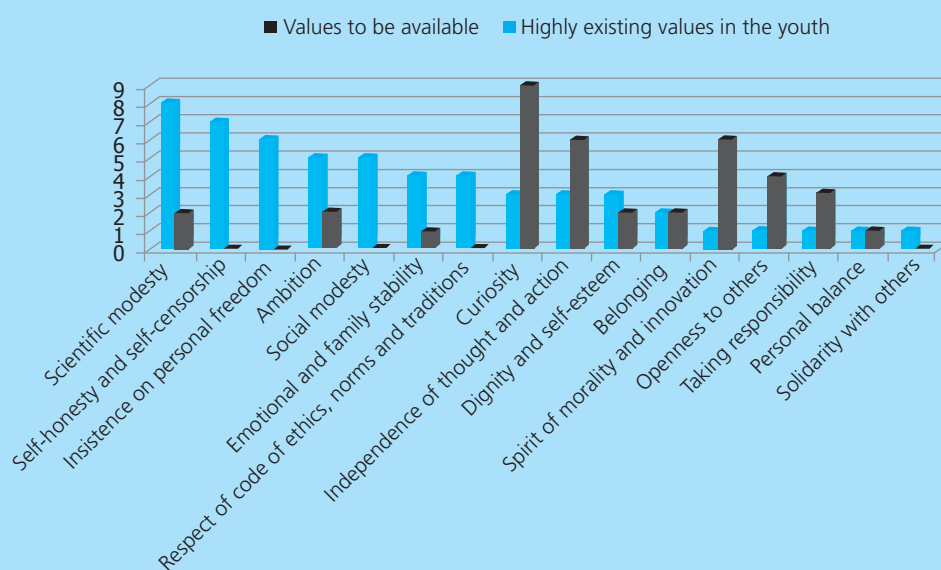
The curricula also include a lot of social values, such as tolerance, moderation and avoiding extremism; the same values which the 'Amman Message' called for. Curricula also foster the students' ability to hold dialogue and discussion with others as well as respecting other people's opinions. In addition, school activities strengthen this by conducting activities, such as student forums, school parliaments and projects that encourage cooperation and solidarity with others.

Jordan has many active councils and institutions that are concerned with the

The Jordanian family is the first upbringing system and the most eager for its children to conform to the society's different standards and values, whether they have their origin in religion or social customs and traditions

FIGURE 1-5-11

Views of participants in the workshop on the importance of values and their availability among the youth



The superiority of females can be attributed to the fact that they show more conformity than males to the prevalent values in the social system

future generation, such as the Higher Council of Youth (HCY) which sets up and implements strategies and plans with the purpose of preparing a generation which possesses the values of tolerance, moderation and respect for others' opinions and beliefs, as well as intellectual, political and social attitudes.

These results are supported by the teachers' opinions that students possess such values (see table m1-15 in the appendix).

As regards the universal values, the regression analysis showed that there are two variables that have an significant impact on their possession. These variables are the family's upbringing pattern and educational welfare at school (See table m1-16 in the appendix).

These results can be interpreted by the family's role in raising their children and encouraging them to adhere to good morals that are derived from the dominant social culture. It also helps them develop the value of conservation of their environment by providing a safe environment at home, whether it's ensuring food safety or the cleanliness of the home. Children also learn respect for rights, justice and equality between men and women through watching their parent's behaviour which is characterised by justice, equality and lack of indiscrimination between children, regardless of their gender or age.

General education policy and its objectives explicitly state the necessity to respect human rights and achieve justice-based international peace. Such values are included in school books and are practiced through educational activities.

The students' attitudes towards this values system are partly emphasised by the findings of the workshop of academics and experts in Jordan. The findings indicated that the future generation's strongest skills include cognitive skills, which include a passion for learning and reading as well as creativity.

The superiority of females can be attributed to the fact that they show more conformity than males to the prevalent

values in the social system. They are more interactive with family's and school's social upbringing patterns. The reason is that one of the criteria of judging females and evaluating their performance is their understanding and adherence to the dominant systems.

On the other hand, males are more rebellious and unwilling to abide by the society's standards, rules and laws. They often have a negative attitude towards such laws, since they believe they restrict their freedom and hinder their initiatives, talents and innovations.

Moreover, females are more diligent and persistent in family, school and public life in general as well as in the pursuit of learning and knowledge. They are also more concerned with environmental and conservation issues. Furthermore, women exert great efforts to achieve equality with men in many societal institutions, such as women's committees and unions that are popular in Jordan. What enhances the social and conative values is that the school's educational activities focus on females in these fields in order to compensate for their low participation in sports activities.

ENABLING ENVIRONMENTS

IMPACT OF ENABLING ENVIRONMENTS ON STUDENT SKILLS AND VALUES

Based on the student survey, the enabling environments were summarised in the following variables:

- Family structure: an integrated family (father, mother and children), or divided family (absence of father or mother due to divorce, death or migration).
- Father's education level.
- Mother's education level.
- Family's interest in students' study.
- Family's material welfare.
- Educational welfare at home.
- Educational welfare in local environment.
- Educational welfare at school.
- Family's upbringing pattern.

The analysis revealed that there are two principal variables: the family's upbringing pattern and educational welfare at school which affect all skills and values, whether cognitive, conative, social or universal. This stresses the fact that the family and school are the basic factors that influence the future generation. The findings also refer to the impact of educational welfare in the local environment on many skills and values. This stresses the necessity to give attention to the surrounding environment in preparing the future generation, because this factor has become very effective. The family and school are no longer the only effective factors in socialisation. The table (m1-16 in the appendix) further reveals that the family's material welfare has an adverse effect on both cognitive and social values as emphasised by many educational theories.

Such variables alone do not explain the state of skills and values of students, since their effect ranges from 5.1% to 11.5% only. This directs our attention to the other enabling factors that may impact the students' skills and values and consequently affect the preparation of the future generation to integrate into the knowledge society.

VIEWS OF STUDENTS, TEACHERS AND PARTICIPANTS IN THE WORKSHOP ABOUT THE ENABLING ENVIRONMENT

The enabling environments of students were examined through investigating the opinion of students and teachers as well as participants of Jordan's workshop.

We surveyed the students' opinions and those of the teachers as well as participants in a workshop held in Jordan on the surrounding school environment, school relationships and the health services provided by the school both in and out of the classroom. The poll also included their thoughts on the broader societal environment, the climate of freedom and activities or laws that support knowledge.

The school environment

The students' answers demonstrated a positive attitude in their relationship with the school and studying. The answers of most students on the prevalent relationships at school were either 'agree' or 'somewhat agree'. These results are explained by the concern of the school's administration and teachers to provide a safe environment for their students in general, especially for those in the second grade of secondary education. This also facilitates their motivation to help them pass the secondary education test since they are on the threshold of school graduation. These results are supported by the teachers' views that they maintain respectful relations with students and that the school is significantly free of violence (See table m1-8 in the appendix).

Students did not decisively agree on the availability of health services at school. For example, the percentage of students who completely agree that the school provides them with periodical medical check-ups did not exceed 37% as shown in table 1-5-10.

The reason for such results may be that students are unaware of the availability of some of these services or they are rarely provided, such as the educational guidance services which are available in all secondary schools as well as free health insurance. However, the negative side of these evaluations is especially important in all cases since it reveals that such services are not accessible to those who need them.

As for periodical medical check-ups, they are limited to basic education students but do not cover secondary stage students. In addition, the low capabilities are an obstacle to providing schools with medical clinics.

Societal environment

The students' perceptions of the societal environment were investigated through measuring their desire for political

The students' answers demonstrated a positive attitude in their relationship with the school and studying. The answers of most students on the prevalent relationships at school were either 'agree' or 'somewhat agree'

The students' perceptions of the societal environment were investigated through measuring their desire for political participation and learning their views on available freedoms

participation and learning their views on available freedoms, especially in the academic field and their private life. Their opinion on the societal environment was also investigated through their views on the

enabling legal and social environments and how far they help establish the knowledge society, in addition to their perceptions of the government run and non-governmental run affiliated media and their credibility.

TABLE 1-5-9

Views of students about the school and their relations to its components (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. I can easily understand school subjects	30.9	60.8	5.8	2.5
B. My school strengthens my desire for learning and excellence	39.7	41.5	11.3	7.5
C. I feel secured and comfortable at school	45.7	35.2	12.3	6.8
D. I have good relations with my teachers (mutual respect)	63	28.3	4.4	4.3
E. I have good relations with my school friends	71.3	23.3	3.5	1.9
F. My school prepares me well for the future	52.1	32.5	9.8	5.6

TABLE 1-5-10

Views of students about the healthy enabling environments (%)

	Completely disagree	Disagree	Somewhat agree	Completely agree
A. The school offers periodical medical check-ups for students.	18.2	18.1	26.8	36.9
B. The school offers all students medications free of charge.	24.7	22.6	22.4	30.3
C. The school clinic is fully equipped (bed, examination equipment, primary medications).	25.7	14.7	20.3	39.3
D. The school organises health campaigns combating unexpected epidemics.	18.6	15.9	27.8	37.7
H. The school conducts awareness programmes about dangerous diseases.	12.3	13.3	30	44.4
I. The school has a social worker that helps students solve their social problems.	9.4	8.2	24.5	57.9
J. The school has an educational guide/psychologist to help students settle their psychological problems.	14	11.3	23.1	51.6
K. We study issues related to health education.	17	19.6	27.9	35.5

FIGURE 1-5-12

Views of students on political participation (%)

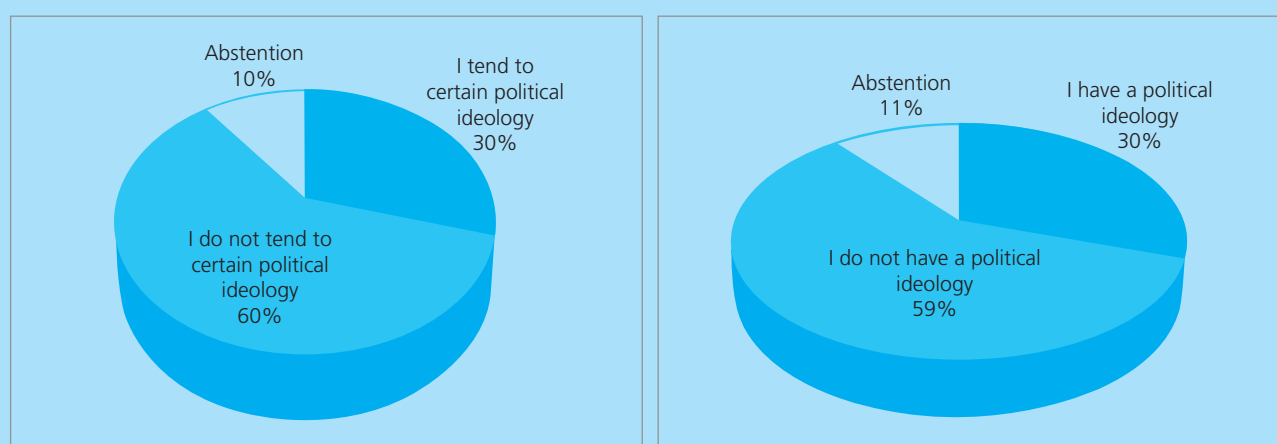


TABLE 1-5-11

Views of students about the available freedom for choosing (%)

	Much freedom	Moderate freedom	Little freedom	No freedom
A. Personal options	66.5	29.5	2.7	1.3
B. Scientific options	55.7	36.8	5.8	1.7
C. Intellectual options	63.9	27.1	6.2	2.8

TABLE 1-5-12

Students' perceptions of legal and social enabling environments (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Strict laws exist in schools that restore rights to their owners.	2.6	4.5	11	35.5	46.4
B. Strict laws exist in society as a whole that restore rights to their owners.	3.4	7	15.2	42	32.4
C. Because of the school laws, the student thinks carefully before violating the code of ethics.	2.8	6.2	15.3	35.9	39.8
D. Because of society's laws, the person thinks carefully before violating the code of ethics	4.4	8.1	15.9	36.9	34.7
E. Law is applicable to all people in school, regardless of their capacity or position.	6.3	9.8	12.8	31.3	39.8
F. Law is applicable to all people in society, regardless of their capacity or position.	6.6	13.1	16.6	30.5	33.2
G. Those that have money have better opportunities for education.	2.7	6.7	11.5	21.6	57.5
H. Jobs are occupied according to candidates' efficiency and no other considerations (intermediation for example).	6.5	17.8	19.6	26.3	29.8
I. Job promotion does not depend on objectivity but personal views.	11.6	6.5	15.9	35.5	30.5
J. Certification, employment, promotion and other privileges should be based on objective considerations and not intermediation and favouritism.	13.1	11.1	14.5	30.3	31

The results showed that most students are not inclined to a specific political thought and do not have the desire for political participation. Some of them preferred not to answer either question.

Such results may be attributed to the retreat of the party life as well as political participation in Jordan due to some restrictive articles in the Parties Law as well as Public Meetings Law. Furthermore, the students' answers may have been affected by previous conceptions and impressions of citizens about the consequences of belonging to parties and political participation. The results may be also attributed to family encouragement of students to focus on their study at this age and not pay attention to other issues.

As for their views on the free choices available to them, most students said they have freedom of choice in personal,

practical and intellectual issues. The reason for this is that the family gives its children the freedom to organise their time and choose their friends as well as the type of study they prefer. The family's role in this domain becomes limited to guiding children. Besides, the multiple sources of regular and technological knowledge have increased options for students.

The students' opinions were polled on the surrounding public societal environments and the severity of the dominant laws and their ability to deter crime and guarantee social justice. The students also gave their views on the efficiency of the government run and non-government run media in communicating news honestly. The students' answers varied as shown in tables 1-5-12 through 1-5-14.

A high percentage of students consider that strict laws in school and society help return rights to their owners. The students are also convinced that those who have money have better opportunity for education

FIGURE 1-5-13

Views of participants in the workshop about the importance of enabling environments and their availability

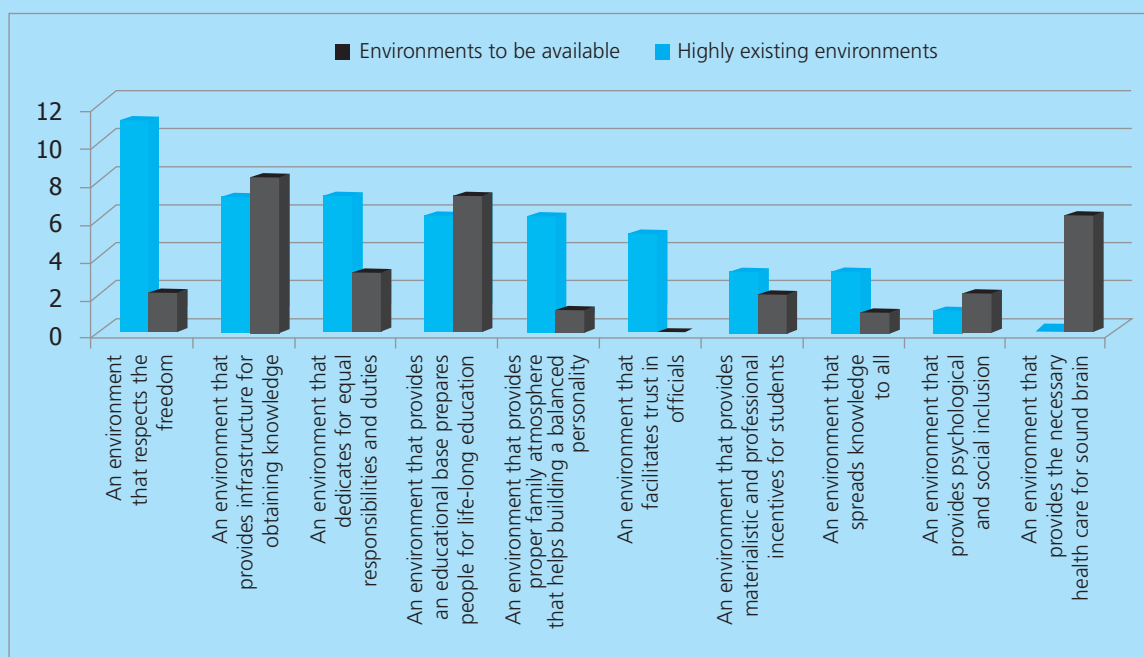


TABLE 1-5-13

Students' views on government-run media (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Audio visual media convey news honestly.	6.3	6.2	10.8	40.7	36
B. Audio visual media convey different views of society.	6	3.8	9	44.3	36.9

TABLE 1-5-14

Students' views on non-government run media (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Audio visual media convey news honestly.	8.2	5.6	12.5	41.2	32.5
B. Audio visual media convey different views of society.	7.8	4.9	10.5	40.5	36.3

A high percentage of students consider that strict laws in school and society help return rights to their owners. The students are also convinced that those who have money have better opportunity for education. But, what was striking was that only 30% of the sample students agreed that the attainment of jobs depends on the objective criteria and personal efficiency. This is a negative

result especially as it reflects the opinion of a young generation who are supposed to be confident that their personal efficiency is the way to succeed in life. It is also noted that the students have more trust in government-run media than non-government-run ones.

The general results of the enabling environments show that the way is somehow paved for establishing the knowledge society

in Jordan if such environments are used to enhance the future generation's capabilities and release their potential, and if the obstacles to this goal are removed.

CONCLUSION

It is clear that the students obtained the highest scores on questions relating to values. It was found that nearly one third of the students (30.4%) are ready for integration into the knowledge society. On the contrary, no student was ready for the knowledge society in terms of possessing the necessary cognitive skills. But, the social skills were close to values, since 24.4% of the students demonstrate readiness in this skill, while only 4.7% were ready on the level of cognitive skills. The detailed results show that future planning and written communication were the two weakest skills. The high scores of values compared with skills in general suggest that the students are convinced that they can access the knowledge society. However, such values have not been translated into skills that actually enable the future generation to join this society, although the findings referred to the availability of valuable environments that help access such a society. The reason may be that those environments are not well exploited or the students' abilities are not understood, whether in terms of fixing their deficiencies or utilising their potential.

The findings of the workshop conducted in Amman revealed that the most preferable environment for the future generation is an environment that provides the infrastructure required for obtaining knowledge



ACTION SYSTEM

This chapter presents the bases, methodology and mechanisms of moving towards the preparation of the future generation to build the knowledge society. It is a dynamic interrelated and interactive system that was established according to the data shown in the previous chapters. In addition, the chapter includes attempts to envision the future in light of the knowledge society's features.

THE WILLINGNESS TO ACT

Society's sectors, starting with the individual to the society as a whole, should be willing to effect, appreciate and accept modernisation and development. They should also be eager to set up a motivational system and encourage innovation. But determination and strong will are needed to attain that. Based on the preceding chapters, Jordan demonstrates a desire to prepare the future generation to access the knowledge society. There is much evidence that emphasises this desire in Jordanian society. The most important evidence includes the existence of top political will that has been translated into action programmes and executive projects that have had direct effects on a wide range of the targeted categories, in addition to the continued funding of education.

An increase in Jordan's motivation to realise the development goals following its achievement of generalising basic education by providing education opportunities to all children, was also noted.

This can be achieved through a steady periodical participation in international studies, such as TIMSS and PISA that

measure the education quality and output as well as the students' possession of knowledge economy skills. The Jordanian MOE is keen on an annual study to control education quality.

There's also a desire to preserve achievements in the field of health care. The Global Human Development Report indicates that the infant mortality rate dropped to 20 cases per 1,000 live births in 2008, and that the maternal mortality rate declined to 180 cases per 100,000 live births. Life expectancy at birth also increased to 73.1 years. This serves as an incentive to preserve these gains and try to maximise them.

The growing concern (was also observed) with the concept of innovation in pioneering and national competitiveness, which is a crucial factor in updating strategies for improving institutions' efficiency and performance. By this, the update will involve the technological methods as well as institutional methods used in the business sector among others. It further includes spreading flexible production methods, adapting products to the customer needs, in addition to adopting new patterns of quality control.

In addition, the political trends and developmental action programmes reveal that knowledge has been the basis and engine for such movements, especially in recent years. The concept of developing Jordanian human resources and enhancing their competitiveness has become the core of many basic Jordanian policies and initiatives. These include the 2006 National Agenda, the Executive Development Programme 2009-2013, and the 2002

The concept of developing Jordanian human resources and enhancing their competitiveness has become the core of many basic Jordanian policies and initiatives.

In light of the challenges and impediments revealed in the previous chapters, we will show the outstanding capabilities of Jordan that will help future generations join the knowledge society if they are properly invested in

Vision Forum for the Future of Education in Jordan as well as the education reform programmes for the first and second stages.

There is also a growing interest in youth and the young. This partly includes the establishment of councils and institutions, such as HCY and the 'We Are All Jordan' Youth Commission which adopts policies and action programmes that aim to improve the qualifications of the youth and enhance their knowledge, skills, values and morale. They also intend to empower the youth through youth based strategies that improve the methods used in developing and employing their latent potential.

In addition to giving more attention to establishing as well as enabling environments in the fields of scientific research and education, such as NCHRD, the Jordan Society for Scientific Research (JSSR), SRF for research projects, QRTA, and the National Testing Centre.

THE ABILITY TO ACT

This means knowing the extent of readiness by exploring the available financial and human capabilities, in addition to the obstacles and the cultural, legislative, or political determinants that may suppress or reduce such efforts. Readiness is also established by discovering societal abilities that can prepare the future generation. In light of the challenges and impediments revealed in the previous chapters, we will show the outstanding capabilities of Jordan that can help future generations join the knowledge society if they are properly invested in.

On top of these capabilities is the availability of qualified human resources and an emerging population opportunity that will raise the percentage of the workforce in the age group 15-64 years to 69%. Such an opportunity involves a lot of incentives and positive effects if it is properly managed and invested. It will further improve the living conditions of people in general. The experience of Southeast Asian societies has revealed that

the population opportunity led to positive economic and social changes. Such changes were the growing numbers in the workforce in addition to the availability of increased resources to fund investment projects.

In addition to the availability of a vision and a plan to develop education towards knowledge economy for 2009-2013. The aim of this plan is to continue to provide education for students and improve the education quality. It also aims at improving the education system's efficiency and activating the involvement of women in educational policies and programmes. Furthermore, it seeks to enable talented and excellent students as well as disabled students to gain the necessary knowledge and develop vocational education programmes, especially those targeting females; along with the availability of an appropriate environment that attracts investments in the ICT sector. Projects are often being developed for holding partnerships between the public sector and the local and international private sectors in order to increase Jordan infiltration in the ICT domain.

The existence of policies that depend on ICT as a basis for improving the education programmes and plans were also noted. Universities and schools are being provided with computer labs, and schools are linked via intranet. E-government programmes have been set up and electronic communication services have been extended. Besides the existence of higher education institutions that are concerned with preparing human resources and investing in human capital with the aim of achieving sustainable development. The number of public and private universities amounted to 28 universities with 52 intermediate colleges (MOPIC, 2010a).

Furthermore the availability of an acceptable standard for the cultural infrastructures that care for the youth and future generations, such as cultural centres and authorities, public libraries, publishing houses, in addition to theatres and the

Preparing the youth for the job market programme

This project is implemented by Jordan River Foundation (JRF) in conjunction with the International Business Leaders Forum (IBLF). This is an educational programme in which a group of international hotels provide 6-month training programmes for young people who have completed secondary education or are drop-outs from poor families.

The goal of this programme is to help the

youth take conscious career decisions, and improve their job opportunities as well as their social and economic opportunities in the long run.

The programme offers practical training in different hotel departments, in addition to computer training, English and life skills to prepare young people for the labour market. Upon successful completion of the training period, they are employed in local hotels.

Children's Museum. These institutions contribute to providing a suitable climate for innovation and achieving the cultural development which is a part of overall development.

Several printed and audio-visual media outlets that allow the dissemination, circulation and production of knowledge, such as radio and television stations, newspapers, magazines and the internet were also accessible. These have contributed to increasing social communication between the youth and future generations as well as designing websites that exceeded 100.

It is important to highlight the significance of a suitable legislative environment that regulates citizens' lives, increases freedoms and creates competitive environments and motivational systems for encouraging innovation and freedom of opinion. In addition, there is a system for protecting the underprivileged.

The work and the duties of the Jordanian councils, agencies and unions that are interested in human rights, women and children, such as the National Council for Human rights (NCHR), the Jordanian National Commission for Women (JNCW) and the National Council for Family Affairs (NCFA) should be mentioned. These all work towards creating a safe and enabling environment for preparing the future generation and empowering women.

If all these factors were amplified, they can improve Jordan's ability to move toward preparing the future generation for the knowledge society, especially that as indicated by the field studies the future

generations possess follow conative and social skills as well as a value system to qualify accessing the knowledge society.

HOW TO ACT

This means discovering the methods of building skills, cultivating values as well as creating an enabling environment. It also refers to finding alternatives for action according to the available opportunities or capabilities and using vocational and training methods along with educational reforms. Among possible action procedures is dealing with human development components, since the development of one component will enhance the possibility of developing the other components. Human development should be regarded as a social project that should be implemented by formal and national entities as well as civil society institutions.

Due to the direct effect of the problems of poverty and unemployment on the processes of preparing future generations, a national strategy needs to be formulated to solve these problems, according to clear specific goals and performance indicators that measure the progress of such goals as well as extending social care and protection services to cover the underprivileged in all areas. Along with that a national strategy that attracts the best students to the vocational and technological education and improving their programmes with a focus on females can be adopted. In addition to increasing efforts to alert the

Human development should be regarded as a social project that should be implemented by formal and national entities as well as civil society institutions

The action requirements are considered a basic and significant element for participation in the knowledge society

society about the importance of women's participation in all fields along with men, and in occupying leading positions and establishing policies, in addition to removing obstacles to gender equality and justice.

Action should also include improving the performance of the health system by extending full health insurance coverage, improving health care services for mothers and children, as well as intensifying efforts to afford and promote contraceptives and reduce the reproduction rate.

Moreover designing a national programme that guarantees public participation to educate people about sexually transmitted diseases especially HIV/AIDS together with their causes. This includes ways of caring for those affected by the disease and changing negative attitudes towards them.

Among the significant factors is the importance of expanding the use of ICT and its applications in all sectors and making it available for all with the purpose of bridging the digital gap and utilising technology in developing the national infrastructures, especially the education projects.

It is important to continue supporting the trend to enhance democracy of knowledge by increasing the opportunities of acquiring and disseminating knowledge as well as establishing virtual communities, especially with the spread of ICT and media.

Continuing the education reform programmes and providing opportunities for development through re-establishing a knowledge-based society and focusing on knowledge capital as a new factor for economic competitiveness as well as achieving economic growth rates.

This context include working towards political development, increasing participation, promoting the concept of citizenship, and reconsolidating the citizen-state relationship, as well as focusing on the role of the youth and the concepts of change, leadership, innovation, political and media freedoms, decentralisation and human rights.

Many studies revealed that moving from a model that is based on the principle of mass production and business and institutional hierarchy to a model that is based on teamwork, innovation and knowledge exchange and wide use. Such transformations require education, training and qualification systems which focus on reaching as many individuals as possible to help them gain a certain type of knowledge, skills and values which enable them to apply and produce knowledge.

We focus on the importance of expanding the provision of innovation incubators, supporting scientific research with its legislative environments along with its financial and human resources, as well as enhancing coordination between its institutions and raising awareness of the importance of localising and producing knowledge and human development in general.

It is recommended to make use of the successful international experiences that have enabled countries to access the knowledge society, particularly Southeast Asian countries and seeking to localise such experiences in a way that fits Jordanian society.

ACTION REQUIREMENTS

The action requirements are considered a basic and significant element for participation in the knowledge society. Laws, policies, organisational structures, strategies and plans are prerequisites for any movement. The most significant action requirements in Jordan for achieving sustainable development are:

- Establishing an organisational structure of institutions and behaviours which help move from the model or culture of power, command and control to a model of mutual effect, networking and partnerships, and from a model that is based on planning and control to a model based on shared power. On the level of organisational behaviour, movement will be towards decentralisation, business

ethics, commitment, gaining people's support and continued improvement for excellence.

- Improving legislatures that govern social, political, cultural and media environments and allow citizens to exercise their individual freedoms and political rights according to the principles of human rights with no prejudice against freedoms of others or of the society. These laws should also ensure equality and social justice between all people on the basis of efficiency and excellence. They should further provide a modern, critical and balanced knowledge content that harmonises with an era that disseminates knowledge across the world.

- Supporting educational policies that promote a culture of productivity, achievement, quality, accountability, information and decision-making based on the reliable knowledge of all education stakeholders, including students.

- Ensuring the preparation and activation of advanced educational programmes and curricula as well as modern teaching and assessment methodology to help students gain knowledge and develop their higher mental abilities by focusing on the type of knowledge and skills needed to meet the requirements of the knowledge economy and participate effectively in it.

- The adoption of policies that contribute to broadening the scope of knowledge content as well as optimising the use of available technologies within a strategic perspective that agrees with sustainable development goals. These policies should also support initiatives on the Arab, regional and international levels to help build and support the components of the knowledge society and economy.

- Adopting a strategy for the advancement of innovation and research to achieve added values for the economic sector. The strategy should also include imported developments, localise sound technologies and participate in their production. It should be based on the sustainable development goals

and guarantee funding and enabling environments that promote innovation and scientific research.

- Setting and applying overall higher education plans that balance the number of specialised students in all specialties and the requirements of the internal and external labour market, as well as the number of students and that of the qualified teaching staff. Such plans help conduct research and participate in scientific life at local and international levels.

- Drafting laws that achieve gender equality and make it easy for woman to participate in public life, occupy leading positions and take part in formulating policies. Such laws should also motivate the private sector to provide job opportunities for women with flexible working hours and encourage the work-from-home principle.

- Adopting a national strategy for combating poverty that has clear objectives and seeks to realise certain results within a specific timeline. It should be subject to control and evaluation.

- Establishing a new innovative plan that attracts the best students to vocational and technological education, and improves their programmes according to the labour market's needs.

- Setting and activating a national dynamic and interactive information system for all fields that is established according to the requirements of the knowledge society and the sustainable human development goals. This system should be accessible in order to help prepare future programmes and plans.

- Providing a funding to implement policies, strategies and plans as well as a political and social will to prepare laws and necessary enabling environments.

To sum up, the previous data shows that Jordan has a true desire to move towards the knowledge society which is evident in its achievements. Additionally, it is able to move in this direction, especially as it has qualified human resources. However, there are some material and legislative obstacles

Jordan is able to acquire the necessary mechanisms to achieve its goals, if it adheres to the methodologies related to the human development goals

that prevent access to the knowledge society. Jordan is able to acquire the necessary mechanisms to achieve its goals, if they comply with systematic approaches that are linked to the human development goals. If we exclude the financial aspect, it can be said that all the requirements of preparing the next generation are generally available.

End Notes

- ¹ World population projections website, dated 1 February 2010 <http://esa.un.org/wpp/unpp>
- ² UNDP website dated 20 April 2011 www.Hdr.undp.org
- ³ The innovation index is a component of the Knowledge Economy Index (KEI) of the World Bank's KAM. The Innovation Index is the product of three indicators: The proceeds of intellectual property rights, the patents accepted by the United States Patent and Trademark Office (USPTO) and the number of scientific and technological publications. The index value falls on a scale of 0-10 and it reflects the country's relative position in comparison with all other countries for which the index is calculated. The low index value of a country does not necessarily mean the low value of the index indicators. However, it may result from the increase of such indicators by percentages lower than those of the country's competitors among world countries.
- ⁴ The World Bank's database (KAM) dated 23 May 2011 www.worldbank.org
- ⁵ The World Bank's database (KAM) dated 23 May 2011 www.worldbank.org
- ⁶ Website of Jordan's Technology Incubator (iPARK) dated 15 April, 2011, www.ipark.jo/statistics.htm
- ⁷ KEI developed by the World Bank's KAM. The index is calculated from the data of twelve indicators, each three representing one of four pillars: economic incentives and the institutional regime, innovation, education and human resources, ICT. The index value falls on a scale of 0-10 and it reflects the country's relative position in comparison with all countries for which the index is calculated. The low index value of a country does not necessarily mean the low value of the index indicators. However, it may result from the increase of such indicators by percentages lower than those of the country's competitors among world countries.
- ⁸ www.census.gov/ipc April 2011
- ⁹ See for example frames (1-2-1), (1-2-2), (1-5-3), (1-6-1)
- ¹⁰ The report submitted by Canadian experts to MOE in 2008 (unpublished) – case study of Jordan. Co-writer, Fawaz Jaradat
- ¹¹ MOE, the opinions of teachers and students on the advanced curricula (unpublished study), 2006 – case study of Jordan. Co-writer, Fawaz Jaradat
- ¹² For more information on e-curricula of Arabic, Math and Sciences, see MOE website www.moe.elearning.gov.jo
- ¹³ For more information on 'Towards a Safe School Environment' campaign launched by the Jordanian MOE, see the MOE website www.moe.gov.jo
- ¹⁴ (MOE, 2006), unpublished – case study of Jordan co-writer, Fawaz Jaradat
- ¹⁵ www.naqabat.net, www.dos.gov.jo May 2011
- ¹⁶ www.arabstat.org May 2011
- ¹⁷ www.heritage.org/index May 2011
- ¹⁸ In 2010 out of 134
- ¹⁹ <http://globalization.kof.ethz.ch/> May 2011
- ²⁰ www.imf.org May 2011
- ²¹ 48.8% of the total unemployed people fall under the 15-24 age group and 39.6% fall under the 25-39 age group.
- ²² DOS, Hashemite Kingdom of Jordan www.dos.gov.jo
- ²³ Website of Reporters Without Borders Organisation, www.rsf.org 23 May 2011
- ²⁴ Website of Transparency International Organisation (TI), 23 May 2011 <http://www.transparency.org>
- ²⁵ The World Bank's database (KAM) dated 23 May 2011 www.worldbank.org
- ²⁶ This report was completed at the beginning of August 2011
- ²⁷ Website of Reporters Without Borders Organization, 23 May 2011 www.rsf.org
- ²⁸ Website of Freedom House Organization, 23 May 2011 www.freedomhouse.org
- ²⁹ The World Bank's database (KAM) dated 23 May 2011 www.worldbank.org
- ³⁰ A study prepared by IREX Organisation in 2009 as a part of the USAID funded Jordan Media Strengthening Programme (JMSP) (case study of Jordan co-writer, Fawaz Jaradat).
- ³¹ Case study of Jordan co-writer, Fawaz Jaradat
- ³² See the appendix including the names of sample participant schools at the end of the Jordan case study.
- ³³ See the appendix for the names of the participants in the workshop at the end of the Jordan case study
- ³⁴ Total scores of students divided by their number
- ³⁵ Used when conducting statistical tests
- ³⁶ It refers to the degree of data dispersion.
- ³⁷ Significant level = 0.05.

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APPENDIX



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Mr. Maher Areef
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LIST OF NAMES OF SCHOOLS PARTICIPATING IN JORDAN'S CASE STUDY

School name	School name
Ain Jallout Secondary Comprehensive School /Girls	Modern Systems School II/boys, Tila' Al Ali
Al Quds Secondary School /Girls	Lamis Bent Amr Secondary School/ Girls
Queen Rania School/ Girls	Ibn Al Nafees Industrial School/ Boys
Rosary Sisters Mixed School	Al Sharif Hussein Secondary School/ Boys
Omareyah School/Boys	Sahhab Secondary School/Boys
Omar Ibn Al Khattab Comprehensive School/ Boys	Hay Nazzal Comprehensive School for Girls
Al Jawhara School/Boys	Sokina Bint Al Hussein Secondary School/Girls
Ahmed Tukan Secondary Vocational School/Boys	Al Nozha Secondary Comprehensive School for Girls
Abu Bakr Al Razi Secondary Comprehensive School/Boys	Islamic Educational College/Girls
Hunain Secondary School/ Boys	Al-Zubaidieh Secondary Comprehensive School/ Girls
Quataiba Ibn Muslim Secondary School/ Boys	Al Dur Al Manthour Mixed School
Sands National Academy	Modern Systems School I/Girls, Tila' Al Ali
Jordan Hotel Mixed School	Martyr Faisal II College/Boys
Universal School II/Mixed, Airport road	Abou Alia Secondary School/ Girls
Al Orouba School/Boys	



JORDAN SURVEY RESULTS

Table m1-1: Teachers' views on curricula (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. The educational programmes and curricula prepare students to overcome future challenges.	27	59	13	1
B. The educational programmes and curricula help acquire the necessary skills.	27	60	12	1
C. The educational programmes and curricula help prepare efficient students who are up to external competition.	19	54	26	1
D. The educational programmes and curricula contribute to promoting the value of citizenship and civilised behaviour.	44	48	8	0
E. The educational programmes and curricula prepare students to cope with problems in everyday life.	21.2	55.6	19.2	4
F. The educational programmes and curricula provide training that takes into account knowledge and emotional dimensions.	28	58	12	2
G. The educational programmes and curricula provide training that keeps up with scientific development.	24	61	13	2

Table m1-2: Teachers' evaluation of their abilities to enable students to acquire a number of skills (%)

	Limited ability	Intermediate ability	Great ability	Do not know
A. Varied information analysis	8.9	49.5	39.6	2
B. Critical thinking	16.2	51.5	29.3	3
C. Taking initiatives	12.2	56.1	31.7	0
D. Accomplishing research	17	39	44	0
E. Solving problems	11.3	48.5	39.2	1
F. Using their knowledge in different situations.	12.2	40.4	43.4	4
G. Memorising rules and laws of scientific material	8.1	33.3	56.6	2
H. Working independently	16.2	52.5	28.3	3
I. Memorising lessons	14	47	37	2
J. Life-long education	22.2	42.4	26.3	9.1
K. Teamwork	5	38	57	0
L. Future planning	19.2	37.4	39.4	4

Table m1-3: Level of practicing teaching activities and methodology (%)

	In all classes	In most classes	In some classes	No practice
A. Participating in educational/learning activities with students	43	47	10	0
B. Training students on problem solving	18.4	51	30.6	0
C. Explaining theoretical concepts	61.2	28.6	9.2	1
D. Writing lessons on the board	52	17	18	13
E. Discussing the concepts of the lessons with students.	80.4	17.5	2.1	0
F. Discussing student achievement relating to the concept of the lessons	11.2	31.2	56.6	1
G. Assessment of student achievement (tests, exams)	13.1	37.4	47.5	2
H. Helping students accomplish scientific/practical experiments	8.8	16.5	53.8	20.9
I. Organising the work of students in small groups	19.2	50.5	30.3	0
J. Linking educational material with the requirements of everyday life	62	34	4	0
K. Keeping silence in the classroom and deterring troublemakers	84.2	15.8	0	0

Table m1-4: Opinions of teachers on the importance of teaching practices (%)

	Not necessary	Somewhat necessary	Very necessary	Do not know
A. Training students on analysing varied information	2	23.7	73.3	1
B. Training students on critical thinking	5	18.8	75.2	1
C. Encouraging students to work independently and take initiatives	2.9	26.5	69.6	1
D. Helping students conduct research	3	33.6	63.4	0
E. Training students on problem solving	1	15.7	83.3	0
F. Helping students memorise rules and laws of scientific material	4.9	39.2	54.9	1
G. Motivating students to interact with the teacher	1	7.8	91.2	0
H. Following students step by step in all their assigned activities	17	53	30	0
J. Training students on self-evaluation practices	1	30.4	68.6	0
K. Training students on team work	1	21.8	77.2	0
L. Teaching students on social principles and values	5.9	23.5	70.6	0
M. Requiring students to memorise lessons	29.4	49	20.6	1

Table m1-5: Educational beliefs of teachers (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. It is necessary to focus on strengthening the memorisation ability of students to succeed in their study	12.1	61.6	18.2	8.1
B. All students can learn and succeed if they are taught by efficient teachers	43	43	12	2
C. Successful teachers are those who can accomplish their curriculum tasks in the specified manner and timeline	60.6	32.3	6.1	1
D. Giving teachers the chance for initiative or innovation harms the education system	17.2	9.1	41.4	32.3
E. Teachers are not required to know all teaching methodologies but it is enough to master one of them	8.2	19.4	52	20.4
F. Tests and exams are the best way of encouraging students to concentrate and learn	6.1	28.2	58.6	7.1
G. The best way to improve the ability of the students to learn is to adopt a qualitative evaluation system (without grades) for the levels of pupils	15	47	30	8
H. Consulting and coordinating with the parents of the students is part of the teachers' duties	46	41	11	2
I. Educational reform processes pressure teachers and decrease their output	12.1	31.3	45.5	11.1
J. It is sufficient for teachers to be experts in their specialities in order to succeed in their mission	15	36	41	8
K. It is the mission of teachers to help their students have a passion for learning and knowledge	77.8	19.2	3	0
L. The important feature of successful teachers is their ability to communicate information related to their speciality	29	43	25	3
M. It is necessary for teachers to be familiar with other subjects' features to be able to teach their own subjects	38	52	10	0

Table m1-6: Teachers' views on curricula (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. The school has a minor role in providing students with information and knowledge	11.8	38.2	36.3	13.7
B. The teaching methods adopted by schools does not encourage knowledge in students	10.9	42.6	35.6	10.9

Table m1-7: The importance of the following assessment methods for teachers (%)

	No importance	Little importance	Intermediate importance	Much importance
A. Regular school attendance (no absence)	4	1	8.9	86.1
B. Effort exerted in homework	1	3	36.4	59.6
C. Steady improvement of results	2	2	13.8	82.2
D. Good conduct inside and outside classroom	3	0	14	83
E. Effective classroom participation	3	0	9.9	87.1
F. The ability to innovate	0	2	36	62
G. The ability to think and question	0	1	25.7	73.3
H. Taking the initiative	1	2	41.6	55.4
I. Correct answers on the exam paper	2	0	24	74

Table m1-8: Teachers' views on school environment (%)

	Always	Sometimes	Rarely	Never
A. Violence occurs in school between teachers	0	1	14.9	84.1
B. Violence occurs in school between students and teaching and administrative staff	1	5	28	66
C. Violence occurs in school between students	0	21.8	46.5	31.7

Table m1-9: Educational facilities available for teachers at home (%)

	Yes	No
A. Computer	100	0
B. Internet subscription	98	2
C. Encyclopaedia	74.2	25.8
D. Educational magazine subscription	23	77
E. Dictionary	87.8	12.2
F. Library	88	12

Table m1-10: Teachers' opinions on the state of the facilities available at school and their state (%)

	In a good state	In a bad state	Not available
A. Science labs	92.2	5.6	2.2
B. Language labs	35.2	2.3	62.5
C. School library	84.5	14.5	1
D. Computer for every teacher	26.8	16.5	56.7
E. Educational software programmes	35.6	12.2	52.2
F. Internet connection	69.1	20.6	10.3
G. Subscription to a useful website	41.8	8.2	50
H. Printers and copiers	71.1	25.8	3.1
I. Tools for teaching respective specialty	52.6	28.9	18.5

Table m1-11: Teacher's ability to use technology (%)

Weak	Intermediate	Good	Advanced
1	14.9	48.5	35.6

Table m1-12: Using technologies for educational purposes (%)

Yes	No
96	4

Table m1-13: Teachers' opinions on the support available to them (%)

	Always	Sometimes	Rarely	Never
A. School has a system for regular evaluation of teachers by students	36	41	8	15
B. School has a system for regular evaluation of teachers by management	89.1	5.9	3	2
C. School helps teachers develop their abilities and skills by providing them with regular training courses	44.1	44.1	9.8	2
D. Teacher meetings are held in school for consultation and coordination of educational activities	63.7	24.5	10.8	1

Table m1-14: Teachers' perceptions of the teaching profession and their relation to it (%)

	Completely apply	Somewhat apply	Do not apply	Do not apply at all
A. I will leave teaching if I find a job with the same salary and conditions	20.2	15.2	39.4	25.2
B. I will leave teaching if I find a job that generates a higher income	33.3	21.6	29.4	15.7
C. The teaching profession salary does not make me feel self-sufficient	49	37.3	10.8	2.9
D. The teaching profession makes me feel I have a mission to fulfil	82.3	14.7	2	1

Table m1-15: Teachers' perceptions of the value level of students

Values	Cognitive values	Conative values	Social values	Universal values
Arithmetic mean	2.12	2.71	2.69	2.71
Standard deviation	0.60	0.57	0.72	0.72
Minimum	1	1.44	1.11	1.40
Maximum	4	4	4	4

Table m1-16: Effect of available enabling environments on student skills and values

Enabling environments Skills and values	Family's method of upbringing	Family's interest in students' study	Family's material welfare	Educational welfare at home	Educational welfare in local environment	Father's education level	Educational welfare at school	Explanatory ability of model (%)**
Cognitive skills	0.099*	0.083		0.122		0.088	0.075	7.5
Conative skills	0.125	0.064			0.078		0.087	5.1
Social skills	0.185				0.108		0.088	7.9
Cognitive values	0.280	0.064	-0.062		0.092		0.067	11.5
Social values	0.213	0.064	-0.062		0.067		0.079	7.4
Conative values	0.234				0.074		0.080	8.5
Universal values	0.248						0.120	9

* Standardised regression coefficients

** Measurement of the ability of independent variables to explain the changes of variable

ARAB KNOWLEDGE REPORT 2010/2011

EVALUATING THE READINESS OF FUTURE GENERATIONS FOR INTEGRATING INTO THE KNOWLEDGE SOCIETY

UAE CASE STUDY



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The Arab Knowledge Report 2010/2011 deals with the issue of preparing the future generation of the Arab youth, which is considered one of the most important issues in the process of establishing the aspired knowledge society. The United Arab Emirates (UAE) was chosen as one of the four case studies in the report which investigates in depth the knowledge status in the Arab region in general and the UAE in particular. In addition, efforts made to enable the future generation to become involved in the knowledge society will also be examined.

The UAE case study in Chapter 1 begins with an analytical review on the status of human development, as this represents the overall aim of establishing the knowledge society, based on the relationship between human development and the efforts made to prepare the future generation. Chapter 2 of the case study focuses on education in the UAE as an important source of preparing the future generation for the knowledge society. To widen the research base, Chapter 3 sheds light on other preparation institutions that contribute to forming the essence, contents and purposes of the future generation's knowledge. Chapter 4 investigates the enabling environments and to what extent they enhance the efforts of society in preparing the future generation for involvement in the knowledge society. Based on comprehensive empirical field research Chapter 5 provides a scientific evaluation of the youth capabilities and the values that constitute the framework for their behaviour. In addition, Chapter 5 examines the opinions of the youth on their environments by using a survey. It also explores the results obtained from another survey completed by the teachers of these young people, along with the opinions of a selected group of experts on the efforts made for preparing the Emirati future generation to access the knowledge society. Finally, the report in the last chapter proposes a system for action that would contribute to achieving the main goal, i.e. successful preparation of the future generation for meaningful integration in the knowledge society.



INTRODUCTION

There are several definitions of the term ‘knowledge society’, as it is still relatively new. However, knowledge may be seen as the mental outcome or the total output of realisation, learning and thinking processes. ‘Knowledge’ is a main component of all human activities, whether economic, social or cultural, as it forms, during all stages of human development, a main input and output mechanism for all human processes. However, over the years, the importance of ‘knowledge’ has increased greatly and has now become an integral part of a society’s capital, creating a new concept known as the ‘knowledge society’, whose success has become a standard for the development of a nation or society.

Huge and rapid developments in technology, particularly in information and communications technology have helped to accelerate the development of knowledge societies. This has changed many concepts, such as ‘land borders’, as technology has broken down these borders to open up the whole world, without restricting people to the same places to exchange knowledge and benefit from its outcomes. The current available technology allows more capability to share, keep and improve knowledge. Knowledge becomes one of the most important components of capital in this era, therefore, the development of any society is linked mainly to the ability to use and generate knowledge.

The United Arab Emirates has worked to provide the elements of the knowledge society model in terms of social, economic and cultural building and structure. Great achievements have been made in this direction, the most prominent of which is

the considerable progress in information and communications technology. More efforts are being made to achieve the desired goals, especially those related to preparing the Emirati future generation for effective and positive involvement in the process of establishing the knowledge society in the UAE. This would contribute to establishing a prosperous Emirati society with a strong social and economic system that provides social wellbeing and ensures prosperity for the current and new generations.

STATUS OF KNOWLEDGE IN THE UAE

HUMAN DEVELOPMENT: THE BROADER FRAMEWORK OF THE KNOWLEDGE SOCIETY

Human development represents a broad framework for establishing the desired knowledge society. The United Nations Development Programme adopts the concept of ‘human development’ as the way to increase the opportunities of the individual to choose the decent life he or she desires. Human development leads to an increase in the options and opportunities available for individuals to obtain education, jobs and health care and to live in a safe and clean environment, fully participate in decisions and enjoy human, economic and political freedoms.

The UNDP also adopts the Human Development Index to measure the development level, which includes indicators such as the ability to enjoy a long and healthy life, to live at an acceptable

The United Arab Emirates has worked to provide the elements of the knowledge society model in terms of social, economic and cultural building and structure. Great achievements have been made in this direction, the most prominent of which is the considerable progress in information and communications technology

TABLE 2-1-1

The most important indicators of human development in the UAE 2010

Indicator	value
Human Development Index	0.815
life expectancy at birth (year)	77.7
GDP per capita (purchasing power equivalent to USD 2008)	56,485
Gross enrolment rate for both genders (%)	71.4
Adult reading rate (above 15 years) (%)	90
Combined poverty index	0.002
Infant mortality rate, under five years (for each one thousand new-borns)	8
Youth unemployment (15-24 years) (%) 2005*	8
Percentage of population using an approved water source *(%)	100

Source: UNDP database <http://hdrstats.undp.org>*Millennium Development Goals database <http://mdgs.un.org> on 17/5/2011

The country's education strategy is based on encouraging the future generation to participate in the country's path of development, and its educational policy document works to achieve a knowledge society with its main intellectual approaches

economic level, the ability to access knowledge, and be able to read and write, which in turn represents one of the pillars of the knowledge society. According to the Human Development Index 2010, the UAE is classified among the countries with a very high level of human development; it ranked first among Arab countries and came 32nd internationally. The UAE has achieved great progress in human development. In the period 1980-2010, the value of the Human Development Index for the UAE increased from 0.627 to 0.815, i.e. approximately 20%.¹ Generally, the Human Development Index clearly indicates that UAE citizens enjoy basic rights such as health, education and a decent life. Table 2-1-1 illustrates some of the most important indicators of human development in the UAE.

Despite data indicating that Emirati citizens enjoy a high level of human development, more effort must be made for the society to exploit these outcomes and access the knowledge society. First, there must be awareness and conviction of the importance of transforming to the knowledge society, in addition to youth self-awareness of the challenges that hamper their gaining the required skills and abilities. It is necessary here to shed light on the status of knowledge within the UAE and the available potential that

would result, should it be correctly used, in effective integration in the knowledge society.

ACHIEVING EDUCATION FOR ALL

The UAE has succeeded in providing education for a high percentage of Emirati children; this percentage covered almost all children at schooling age. The net primary enrolment rate reached 91% in 2007, while there were only 5,000 children out of school. 100% of primary school students completed their study to the final year of primary education; compared to 90% in 1990. The gross secondary enrolment rate reached 92% in 2007 with a gender parity index of 1.03, indicating that the enrolment rate of females was higher than that of males. The UAE has considerably reduced the percentage of its illiteracy rate. The literacy rate during 1985-1994 was 71% with a gender parity rate of 0.95; this rate increased to 90% during 2000-2007 with a gender parity rate of 1.02 (UNESCO, in English, 2010). The country controls its education system; it is mandatory and free within public schools for UAE citizens. The country's education strategy is based on encouraging the future generation to participate in the country's path of development, and its

educational policy document works to achieve a knowledge society with its main intellectual approaches. These include considering education a main factor for achieving national stability and security, confirming its role in developing human energy with abilities that can cope with current changes within the regional and international society in order to achieve an integrated knowledge society, achieving a higher level of education appropriate to social and national needs, especially issues related to linking education to economic, social and cultural development needs and finally enhancing cultural affiliation and confirming learners' civilisation identity.

TECHNOLOGY AND HUMAN RESOURCES

There is a close relationship between human resources and the prevailing technology status in the society. It is known that technology transfer requires basic conditions, including the availability of human and material resources, as well as the availability of raw materials required for manufacturing new technology and opening the markets required for distributing the products. These main components shall be studied, not only for transferring technology, but also for localising and producing it.

Human development resources are one of the fundamental issues in social and economic development. In fact, the country's realisation of human wealth is the main incentive for caring about education and training, in addition to thinking about the effective means that provide the best education and training opportunities for society's individuals according to their abilities and capabilities. It provides each individual within the society with his or her share of various types of education, training and professional preparation in order to develop human wealth and this is a main pillar for the knowledge society (UNDP in Abu Dhabi and the Ministry of Economy, 2007).

The UAE has made progress in using

modern technologies in management and production, including the application of the e-government concept which saves time and effort for the country and its citizens and leads to an increase in production efficiency, as well as the wide use of the internet in the country. The number of phone lines reached 2,090 per one thousand people during 2007, and the number of computers reached 330 per one thousand people, while the number of internet users reached 520 per one thousand people. The UAE spends 5% of GDP on information and communications technology and 1% on education as well as buildings, books, stationary and electronic devices, according to the 2007 data.² Broadening the knowledge scope and expanding electronic linking led to a considerable increase in the use of modern technology. The main issue in the preparation of the future generation for the knowledge society will be based upon the extent of the contribution of this technology and modern means of developing skills and knowledge required for individuals in society.

INNOVATION

The United Arab Emirates pays great attention to innovation, especially for the youth. This was clearly proven in many achievements, such as patents certified by the US Patent and Trademark Office, which remarkably increased in number during the last two decades; 67 patents were registered during the period 1997-2010, while the maximum number before 1997 did not exceed 18.³ The volume of high technology exports reached 1% of the total manufactured exports in 2007.⁴ Many institutions, either governmental or local, have been established to sponsor innovation and inventors in education, literature and the arts, concentrating on young people with distinguished talents and abilities. Sheikh Mohammed bin Rashid Al Maktoum's Foundation, which made several initiatives to support innovation

Many institutions, either governmental or local, have been established to sponsor innovation and inventors in education, literature and the arts, concentrating on young people with distinguished talents and abilities

Despite the existence of various institutions and initiatives, the production of scientific research in the country does not match the range and number of initiatives and incentive awards

not only in the UAE but also all over the Arab world, was one of the most important institutions. Dubai Media Association also sponsors media talent in the press, radio, and television, and the same is done by the Media Training Centre which is associated with the Radio and Television association in Sharjah. Many institutions and centers, including the Emirate Foundation, Emirate Foundation for Innovation, Dubai Foundation for Quality, Centre for Creative Thinking, and Presidential Affairs, and the Sheikh Mohammed bin Khaled Al Nahyan Centre's Prize for Childhood and Innovation, the Centre of Childhood and Youth in Sharjah, and others which sponsor inventors and contribute to caring for talented and highly skilled individuals through several innovative programmes. A number of prizes have been introduced in the UAE aimed at supporting talented youth and inventors, such as the Sheikhha Latifa Award for Childhood Innovation.

SCIENTIFIC RESEARCH

There are many governmental and national institutions that sponsor and encourage scientific research within the UAE. The country established the Ministry of Higher Education and Scientific Research which, in cooperation with other ministries and institutions, such as the Ministry of Education and the Ministry of Social Affairs, contribute to sponsoring and producing many scientific studies. Supporting scientific research is not limited to government efforts, as there are some civil society institutions which also encourage scientific research. Many initiatives and awards have appeared, such as the Rashid bin Humaid Award for Culture and Sciences, the first award dedicated to the youth, the Al Owais Award for Scientific Research. The Zayed Centre for Strategic Studies and Research represents an important point in supporting and encouraging scientific research, in addition to the specialised research centres within some governmental

and private universities such as the United Arab Emirates University, Zayed University, Higher Colleges of Technology and Ajman University for Sciences and Culture.

Despite the existence of various institutions and initiatives, the production of scientific research in the country does not match the range and number of initiatives and incentive awards. Participation in scientific magazines, applied research and inventions in the sciences, medicine, engineering and mathematics are still under the required level, referring to a lack of awareness of the importance of scientific research as a requirement for the knowledge society. According to the most recent data available, the number of published scientific articles reached 55.86 per one million people, of which 58.77% was published jointly with foreign authors.⁵

On the other hand, the country has focused on the establishment of public and private libraries, including the public library in Dubai, which is one of the first libraries established in Dubai, followed by the public library in Sharjah and the Zayed Public Library in Al Ain. The UAE encourages its people to study and gain educational qualifications from both the university and beyond through scholarships provided to those young people who desire education. These scholarships are internationally open to all subjects.

The country and the Emirati society have provided various financial requirements to support innovation and scientific research. There are many plans that indicate awareness of the importance of establishing a knowledge society. However, setting plans and dedicating resources, even establishing facilities and providing requirements, are not sufficient for establishing the knowledge society. All these efforts will never be successful unless the youth benefit from them. This would see their available potential being used to its full capacity and the Emirati youth gaining the skills and capabilities required to cope with the era of science and technological progress to become involved in the knowledge society

TABLE 2-1-2

Knowledge Economy Index for the UAE based on the World Bank's methodology

Index	Index value among 146 countries internationally	Rank among 15 Arab countries	Rank among 146 countries internationally
Economic Incentives and Institutional Regime	6.75	3	47
Innovation Regime	6.69	1	46
Education and Human Resources	4.9	6	79
Information and Communications Technology	8.59	1	21
Knowledge Economy Index (KEI)	6.73	2	45

Source: The World Bank's database (KAM) <http://www.worldbank.org>

where acquiring skills and values in proper enabling environments is a must.

KNOWLEDGE ECONOMIES IN LIGHT OF INTERNATIONAL INDICES

The World Bank adopts a methodology to measure the extent of achieving a knowledge economy based on 4 pillars: economic incentives and institutional regime, education, human resources, innovation and ICT. A knowledge economy is measured by a digital index.⁶ The value of each index is between 0 and 10, indicating the relative position of the country compared to all countries included in the index.⁷

The UAE is ranked second among Arab countries on the Knowledge Economy Index (6.73) and the 45th internationally. This may be attributed to the remarkable rise in the value of the ICT Index (8.59), where the UAE came first among Arab countries and the 21st internationally. It also achieved a percentage higher than the average in the economic incentives and institutional regime index (6.75) and innovation index (6.69). However, the value of the education and human resources index (4.9), is below the acceptable level; the UAE is ranked 79th out of 146 countries. At the same time, there is a huge difference with a value of 3.69 points in the country's progress

in ICT education and human resources. This indicates that education in the UAE is not coping well with technological and information development in the country. These indicators cause problems for the Emirati plan, particularly with regard to the appropriateness of the educational system and whether it meets the requirements of establishing the knowledge society within the country. Based on the integration among the four cognitive pillars for achieving a knowledge economy and knowledge society, a balance should be achieved among these pillars, as the failure of any is an obstacle to the others.

Based on what has been mentioned, it is clear that the UAE has achieved great progress in the field of human development, especially regarding the technological and economic development indicators. This progress forms a proper environment for cognitive performance and provides fertile ground for the future generation in the UAE to become involved in the knowledge society. This progress is also consistent with the developmental goals, as well as the objectives of a proper world for children in terms of education. The major challenge in establishing the knowledge society within the UAE is the improvement of educational conditions and raising the quality within schools and universities, as well as changing the view of education as a means for getting a job which ends once employed.

Based on what has been mentioned, it is clear that the UAE has achieved great progress in the field of human development, especially regarding the technological and economic development indicators

PREPARING FUTURE GENERATIONS: INTRODUCTION TO ESTABLISHING THE KNOWLEDGE SOCIETY

Values are what we wish to be instilled in the minds of the future generation in order to prepare them for dealing effectively with the knowledge society

The Arab Knowledge Report 2010/2011 shows that preparing the future generation represents a primary step in the process of establishing the knowledge society. In this case study, in addition to studies based on available data and information, we rely largely on the outcomes of the research and field surveys that were conducted in Dubai and Abu Dhabi for assessing the skills, values and enabling environments of the Emirati youth, and which the reports suggest shall be approximated at the time of preparing the future generation for the knowledge society. Skills are the mental capabilities related mainly to the ability to learn, to think critically/analytically, innovate, making decisions, problem solving and technical skills. This is in addition to capabilities related to the characteristics of an individual's personality, such as skills of self-awareness, controlling performance, dealing with pressure, adaptation and future planning, as well as social skills related to dealing with others, i.e. communicating, negotiating, being compassionate and spreading ideas. Values are what we wish to be instilled in the minds of the future generation in order to prepare them for dealing

effectively with the knowledge society. This contributes to achieving the ultimate goal, which is adapting knowledge for achieving sustainable human development. This includes values related to attitude control, such as affiliation, self-esteem and adherence to freedom, as well as values related to learning, such as striving, perseverance, desire for knowledge and values related to dealing with others, such as respect, accepting differences, respecting moral promises and the willingness to participate in public life. We treat values according to the idea that they are a precise system inseparable from skills and capabilities, as they are specified for the actions, decisions and attitudes of individuals.

Studying enabling environments helps us to measure readiness of the political, economic and social environments and the prevailing social norms within the UAE in preparing the future generation to effectively contribute in the aspired knowledge society. The report will depend upon a number of administrative studies on the readiness of these environments in the UAE. Field research, it will examine in depth the direct enabling environment of the concerned students. Through direct observation and by surveying students and teachers opinions. It will explore the capabilities of schools and the conditions in which students live.



THE EDUCATIONAL SYSTEM AND PREPARING THE FUTURE GENERATION FOR THE KNOWLEDGE SOCIETY IN THE UAE

INTRODUCTION

Education is the first pillar on which political, cultural, social and economic development depends. At the same time, education is the gateway to development and for preparing the future generation for the knowledge society. It also greatly contributes to human development, as it represents, along with a package of other factors, such as training, scientific research activities, development and innovation, a power that influences development (Hamed Ammar 1999). This chapter sheds light on the reality of education within the UAE in terms of quantity and quality, educational policies, the country's efforts towards educational reform and the challenges it faces. Changing society for the better - and towards the knowledge society - begins with school and education development, since education is considered the environment responsible, to a great extent, for developing scientific and critical thinking, innovation and the ability to adapt to development (Mohammad Bin Fatima, background paper for the report). All these matters are related to the ability of the educational system within the UAE to prepare the future generation with the skills, capabilities and freedoms that would enable them to access the knowledge society.

Some suggest that education began in the UAE before 1900, as there was an irregular type of education provided by the teachers of 'Katateeb' or 'Al Mutawaah', which is a traditional learning method in which a sheikh helps children to memorise the Holy Quran and provides some initial skills in reading and writing. This method lasted even after the establishment of schools by charities and traders who immigrated from nearby places, such as

Hijaz, and settled along the Gulf coast due to the thriving diamond trade there. The first school, Al Tamimiya Al Mahmoodiah School, was founded in 1907. This was followed by the foundation of schools throughout the Emirates. However, these schools were affected by the degradation of the pearl trade in the 1930s, after which many were closed. In the 1950s and after freedom movements in the Arab countries, especially Egypt, the first school, Al Qasimiyah was founded in the UAE in Sharjah and was sponsored and supported by Kuwait. This was followed by several missions from Kuwait, Qatar and Egypt, and many primary and secondary schools were founded for males and females. With independence and the establishment of the Emirates Federation in 1971, there was an expansion in the number of schools and university educational institutions.⁸

PRE-UNIVERSITY EDUCATION

GOVERNMENTAL EDUCATION

The pre-university scheme in the UAE consists of four levels lasting fourteen years, starting from the pre-school stage. It is not considered to be a formal educational stage, but a high percentage of children are enrolled in kindergarten at the age of 4-6 years. 90% of Emirati children are enrolled in kindergarten (First Report on Care and Early Childhood Education, Knowledge and Human Development Authority, Dubai, February 2011). After kindergarten, students move to primary school (the first stage in primary/basic education), which lasts for five years with students ending this stage at 11 years old.

Changing society for the better - and towards the knowledge society - begins with school and education development, since education is considered the environment responsible, to a great extent, for developing scientific and critical thinking, innovation and the ability to adapt to development

From the very beginning, the Emirati educational system focused on female education, which it continues to do, and considerable progress has been made towards gender parity

Then, students move to the second stage, which lasts four years. Later, students study for three years in secondary school. In the 10th year of school, students are divided into two sections: scientific and literary, where they study the 11th and 12th years. Students finish the secondary stage in the UAE when they are 17 or 18 years old according to the age when enrolled in school. At the end of the secondary stage, they receive a certificate of secondary stage completion that is necessary to enter the university stage. From the very beginning, the Emirati educational system focused on female education, which it continues to do, and considerable progress has been made towards gender parity, as female education reached 100% in 2007 (UN and Arab League 2010).

Since its establishment in 1972, the Emirati Ministry of Education has focused on technical education, as it is very important to prepare the workforce to be qualified to deal with modern technology to achieve social and economic development in the UAE. Technical education started in 1958 under the supervision of the Trucial States Development Office. Since 1972, the perspective on technical education has changed and has come under the supervision of the Ministry of Education. Later, the Ministry established technical schools (commercial, industrial, agricultural) with special curricula to enable graduates to work in the public and private sectors in the country to fulfil the renewed needs of the national economy and positively participate in economic prosperity based on sound principles. The technical schools accept students who successfully complete the 9th grade (third preparatory year). After three years in school, they receive certificates for different levels: secondary school diploma (commercial, industrial, agricultural) and the secondary certificate for applied technology.

In 2003, the Ministries Council issued its resolution for phasing out commercial and agricultural education and transferring industrial education to Higher Colleges of Technology supervised by the Ministry of

Higher Education and Scientific Research. A law was issued for the establishment of the Sharjah Institute of Technology. In 2005/2006, the industrial schools were transformed to the Institute of Applied Technology established to provide students with academic, technological, social and professional skills that enable them to face the challenges of market requirements in the 21st century.

PRIVATE EDUCATION

With approximately 88% of the UAE's residents either non-native Emiratis or expatriates,⁹ private education has become as important as public education. According to the statistics provided by the Ministry of Education for 2009, there are 723 public schools and 467 private schools in the UAE (Ministry of Education 2009 A). Although all private schools are under the direct supervision of the Ministry of Education, their curricula differ from the Ministry's curricula in all subjects, except for Islamic Education, Arabic language and National Education, as the schools with more than 50% of Arab students are committed to teaching these subjects in Arabic or English according to the Ministry's books. There may be private schools that adopt the curricula of the Ministry in all subjects, but these schools often follow the curricula of their native countries. For example, Indian schools adopt the Indian curriculum, while English ones adopt the British curriculum, etc. Seventeen curricula have been adopted in private schools within the UAE until 2009.

This diversity of schools, curricula and communities may encourage the youth to take advantage of this cultural and educational environment, thereby contributing to gaining skills and knowledge, which could later enable them to establish the knowledge society. However, this diversity requires greater efforts for achieving harmony among these individuals for reaching the aspired goals through drafting a clear plan, in which

roles are integrated between different types of educational institutions and other society institutions.

The Ministry of Education has established a department dedicated to monitoring private schools to ensure they are committed to standards of performance and instruction, as well as to the policies of the Ministry. Private education is attracting an increasing number of Emirati, Arab and foreign students, and goes in parallel with public education. Private education has achieved remarkable development and attained a position that steadily increases in terms of the number of schools, technical and management institutions and students.

Most of the schools in the UAE are public, i.e. 61%, compared to 39% private schools. Abu Dhabi City contains approximately 25% of all schools in the UAE followed by Sharjah, which contains 10%. 42% percent of the total number of students in UAE receive education in public schools; Emirati children represent the vast majority of the total number of public schools students (81%), compared to children of expatriate Arabs who represent 19%. On the other hand, private schools provide education for 58% of the total number of students in the UAE; 22% Emirati students, compared to 48% of students from the Indian sub-continent, 20% from Arab countries and less than 10% from Western countries.

RELIGIOUS EDUCATION

This type of education accepts students who wish to move into it from the preparatory stage. This was established to provide religious guidance elements and open the way for university specialisations in Islamic studies. There were 29 religious classes in Ajman, Dubai and Al Ain, which included 600 students in 2010/2011.¹⁰

UNIVERSITY EDUCATION

The first public university in UAE was established in 1977 in Al Ain City. This

university provides educational, scientific and literary programmes in different specialities: humanities, social sciences, education, sciences, law, economy, commerce, nutrition, agriculture, engineering, medical and health sciences and information technology. 90% of university students are Emirati students, and 10% are expatriates. Universities provide free education for all students, along with university housing for males and females from outside Al Ain City. In 2010, the number of university students reached 12,457, of which 24% were males and 76% females.¹¹

In 1988, the Higher Colleges of Technology (HCT) were established to provide educational services for approximately 16,000 students. The HCT opened branches in all areas of the UAE and assigned buildings for male and female students. The HCT provide 80 educational programmes in technical specialities at the diploma and Bachelor's degree levels. Females represent 62% of HCT students while males represent 38%.¹²

The third governmental university is Zayed University, which was founded in 1998 with branches in Abu Dhabi and Dubai. It provides programmes through five colleges: Sciences and Literature, Sciences of Commerce, Communication and Media, IT and Education. In contrary to those UAE universities that accept resident students meeting certain standards and conditions, Zayed University and HCT only accept Emirati students.¹³

It is worth mentioning that establishing a free pre-university educational system in the UAE, in addition to three governmental institutions for university education that provide free services for citizens, gives the country an integrated educational system that is considered to be a cornerstone for progress and a strong base for the establishment of the Knowledge Society in the UAE.

Whereas the rate of residents in the UAE is 88% of its population, private university education has become very important for this category. Up to 2011, 72 private

The Ministry of Education has established a department dedicated to monitoring private schools to ensure they are committed to standards of performance and instruction, as well as to the policies of the Ministry.

By establishing centres for eliminating illiteracy and providing adult education, the UAE strives to decrease the illiteracy of both genders

educational institutions at university level have been founded within the UAE, which are licensed by the Ministry of Higher Education and Scientific Research.¹⁴ These institutions provide educational services for residents and citizens. In 1988, Ajman College for Sciences and Technologies was the first university college founded in Ajman, followed by the establishment of the American University in Dubai in 1995, the American University of Sharjah in 1997, Abu Dhabi University in 2003, Dubai British University in 2004 and Al Hosn and Al Ain University for Sciences and Technologies in 2005. Later, branches for foreign universities, colleges and institutes were opened.

The Knowledge Village, which houses branches of prominent international universities, training centres and research institutions, was founded in Dubai. In 2007, the Knowledge Village hosted sixteen partners from international universities, such as Saint Petersburg University for Economics and Engineering, Wollongong University, Mahatma Gandhi University and Manchester College of Commerce (Ali Ibrahim, in English, 2010). Most specialities provided at these universities, colleges and institutes are scientific and technical, which the future generation need for the knowledge society.

ELIMINATION OF ILLITERACY AND ADULT EDUCATION

By establishing centres for eliminating illiteracy and providing adult education, the UAE strives to decrease the illiteracy of both genders, as there was a discrepancy between male and female illiteracy rates at the beginning of the 1970s. Currently, we see that the number of literate females is higher than males, as the percentage of illiterate females fell to 8.5% in 2005 while among males, it was 10.5%.¹⁵ This indicates that the country cared about providing educational opportunities for all without discrimination between both genders.

From 1992/1993 to 2001/2002, more than 28,000 society members became literate, of which 6,367 had completed illiteracy elimination programmes, approximately 11,000 had completed primary education and 10,000 had completed secondary education by 2008/2009 (the Ministry of Education, 2009 B).¹⁶

The UAE was able to decrease its illiteracy rate, as adult illiteracy (above 15 years of age) decreased from 27.7% in 1985, to 10% in 2010, and the literacy rate doubled over the last three decades approximately three times.¹⁷

QUANTITATIVE DEVELOPMENT OF PRE-UNIVERSITY EDUCATION

The number of schools, students and teachers for public education throughout the UAE in 1972/1973 reached 157 schools, 40,627 students and 1,160 teachers. The number kept on increasing, reaching 723 schools, 265,431 students and 23,946 teachers in 2009/2010. The case was the same for private education, as it increased from 18 schools, 2,977 students and 138 teachers in 1972/1973, to 467 schools, 487,861 students and 30,205 teachers in 2008/2009. Based on these statistics, it is obvious that there has been great increase in the number of private and public schools. Quantitative expansion in education continues as the country strives to provide education for all groups in all regions (The Ministry of Education, 2009B).

Regarding the quantitative development of study days and hours in government and public schools, the number of school days increased from 176 to 180 days each year. The number of learning hours during the last five years increased from 840 hours to 927 hours, with an increase of 87 hours. But, this increase does not correspond to the number of study days and hours in private schools within the country, where students in public schools end their daily school hours early, compared to private schools. This certainly affects the time

available for students in public schools regarding their interaction with their teachers. In the second and third stages (grades 6 to 12), focus has been made on increasing the teaching hours dedicated to teaching science.

With all these reforms, the UAE is still below the international average in terms of the number of teaching days and teaching hours, as the number of daily school classes is limited to seven with 45 minutes for each class; the educational strategy for 2010-2020 calls for increasing the number of hours to 90 per week to come in line with the international hours rate (The Ministry of Education, 2009A).

The general budget of the UAE in 2010 was approximately Dh43.6 billion, i.e. \$11.880 billion, of which Dh9.8 billion was dedicated to the social development sector, specifically to education (approximately \$2.24 billion), equal to 22.5% of the annual budget.¹⁸ This means that the educational budget for 2000, which was approximately Dh3.6 billion greatly increased in ten years.

There was also an increase in the expenditure rate with the increase in the number of students and schools, as the rate of expenditure from the educational budget doubled from 16.35% in 2000 to more than 33% in 2008. The financial cost of each student also increased more than a third during 2000-2008, which resulted in the advancement of school grades, in a way that suits the requirements and inputs of each educational stage (The Ministry of Education 2010B).

In addition to the central educational budget, which is the responsibility of the Ministry in six emirates, Abu Dhabi is in charge of the central educational budget in the emirate after the establishment of the Abu Dhabi Education Council (ADEC) in 2006. The emirate also provides Dh100,000 (\$27,248) annually to each school in the country to be used for different school activities. Similarly, the Ministry of Education dedicates a special budget to each school in Dubai and the Northern Emirates based on the stage. A budget of Dh40,000

is paid to primary schools each term, and Dh45,000 is paid each term to preparatory schools (grades 10 to 12). In the event that the school has two stages, it allocated the budget for the higher stage. Secondary schools get Dh50,000 for each term, while the typical schools get Dh5,000 for each student registered in return for additional services and activities. This budget does not include employee salaries or maintenance expenses, which are the responsibility of the Ministry of Public Works (The Ministry of Education, 2008/2009).

YOUTH SKILLS BUILDING SYSTEM AND PREPARING THEM FOR THE KNOWLEDGE SOCIETY

In the next section, we will discuss the skills building system for the future generation and preparing them for the knowledge society. We will explore the issue of curricula and teaching methods development, from the traditional approach to the current learner-participation approach; stimulating learner's motivation and thinking. We will also look at developing teachers' abilities and training them, developing assessment systems from traditional exams that measure students' ability to memorise to structural exams, which are based on students' activity and problem solving, and connecting all these issues with the skills required for the knowledge society.

CURRICULA

Curricula play an important role in building abilities and skills in terms of understanding, analysing, structuring, building and developing the innovative thinking of the future generation. Revisions of the curricula in the UAE have been consistent with the requirements of skills and capabilities development, aimed at achieving the goals of the strategic plan set by the Ministry of Education by 2020.

The Ministry of Education has worked continuously on the revision of its

The UAE is still below the international average in terms of the number of teaching days and teaching hours

Curricula play an important role in building abilities and skills in terms of understanding, analysing, structuring, building and developing the innovative thinking of the future generation

educational curricula, in order to develop the content and teaching methods to be consistent with the requirements of the knowledge era. It has also worked to make the curricula, in essence, a national industry that takes into account the main dimensions on which the Ministry concentrates, and creates an educational subject that cares for students and their needs, keeping in mind their characteristics and seeing them as the main goal of education. The strategy of the Ministry of Education for 2010-2020 considered the curricula as one of the strategic axes to be constantly developed. Therefore, the Ministry continuously revises educational subjects and curricula and sets the skills and values that should be gained by students at each educational stage. The Ministry also takes care of the preparation of curricula according to international standards and benefits from the international curricula series in English, sciences and maths after they are translated and adapted to fit the Emirati environment. Arabic language and Islamic Education curricula have also been updated.

The Ministry's decision regarding the formation of a temporary committee for developing a national curriculum for the Arabic language, Islamic Education and National Education, issued in 2008, was one of the important resolutions made to cope with the knowledge era, with skills related directly to this age. The resolution provided for adding modern concepts to the national curriculum, such as the concepts of human rights, citizen rights and environmental protection, working on modifying the national curriculum in the way that meets the needs of the country and community and instilling tolerant and modest values and openness with other cultures, based on feeling pride for the national identity, Arabic and Islamic values, as well as Emirati traditions and habits (The Ministry of Education, 2009A).

The teachers' sample participating in the field study conducted in the context of this case study, which consisted of 138

teachers working in Abu Dhabi and Dubai, said the curriculum provided for youth was consistent with the requirements of the knowledge society. In the survey, 28% 'totally agreed' that curricula help in gaining the required skills, while 55.3% 'somewhat agree' with that statement. Their answers about the consistency of education with educational and technological development were consistent with this result (28% 'totally agreed', and 53.8% 'somewhat agree'); the same results were found with preparing new emerging curricula to face future challenges (25.8% 'totally agreed', and 51.5% 'somewhat agree'). Setting curricular, social, conative and cognitive dimensions will also be taken into consideration (See Table m2-1 in the Appendix). These results indicate a relative but not complete satisfaction of teachers about the curriculum in the UAE and their role in preparing the future generation for the knowledge society. Comparing these results with student levels in knowledge, skills and values (see chapter 5), it was found that any issues may not lie fully with the curricula, but may be attributed to other factors that are related to education and learning culture, practices and environments inside and outside the school.

TEACHING METHODS

The Ministry of Education in the UAE has made efforts to develop the teaching process using methods that concentrate on self-education to increase innovative thinking and avoid memorising and repetition.

The results of the teacher's survey on the teaching methods used indicated that a move towards modern methods had not begun in all schools yet. Results revealed that teachers do not use a certain approach in their teaching methods and that their educational practices interfere with modern methods and techniques. This resulted from a lack of understanding in connecting the educational subject, achieving the targeted goals. Based on teachers' responses in the context of the

field survey, 50% of teachers use these modern techniques in “all classes”, and 39% in most classes. Also, 65.2% of teachers use discussions of the lesson concepts in “all classes” and 23.9% in most classes. Traditional techniques, such as maintaining silence in the class and punishing disobedience, are used by 79% of teachers in “all classes” and 15.2% in most classes, while writing the lesson on the blackboard is used by 53.3% of teachers in “all classes” and 20.4% in most classes. This may also refer to the many sources from which the teaching techniques are derived, or depending only on the cleverness and skills of the teacher (See Table m2-2 in the Appendix).

Teachers’ educational trends tend to the traditional ways more than the modern ones. 88.9% of teachers agreed totally or partially (40.4% ‘totally agreed’ and 48.5% ‘somewhat agree’) that, “we must focus on the memorising characteristic of students to achieve success in their studies.” Many participating teachers showed a conservative attitude towards the idea of development, most of them agreed totally or partially (35.3% ‘totally agreed’ and 40.6% ‘somewhat agree’) that, “the educational reform processes put teachers under stress and decrease their ability to teach”. On the bright side, a large percentage of them (67.2% ‘totally agreed’ and 28.4% ‘somewhat’) that, “the task of the teachers is to instil a love of education and knowledge in the future generation”, and that all students have the tendency to learn and succeed if they were taught by highly qualified teachers (44.8% ‘totally agreed’ and 35.1% ‘somewhat agree’), (See Table m2-3 in the Appendix).

We can say here that teachers need awareness and to nurture the attitudes that support creating the knowledge society. These include changing the belief that they have the ability to teach without benefiting from modern educational approaches, and the need to adopt new forms of teaching and assessments, and viewing educational development as a

requirement to activate and not burden the teacher, especially if this development is linked to the knowledge society and leads to the development of social, conative and cognitive skills in the future generation.

ASSESSMENT AND EXAMS

The concept of measuring student achievement in the UAE has developed over the past few years. The end of year exam had been the primary determinant of student achievement but the Ministry introduced methods for constructive assessment throughout the year, making them, along with students’ school activities, an integral part of the assessment until the 12th grade. This development has begun to yield benefits. In 2010, ADEC created a national test, External Measurement of Student Achievement (EMSA), to determine the achievement level in school subjects, register the strengths and weaknesses of the development of student performance, define the effectiveness of the applied programmes, and to provide decision-makers within the Ministry with information about the quality of education. Results indicated the strengths and weaknesses of the students’ performance.¹⁹

In 2007, Dubai participated in the fourth round of the international TIMSS tests which compares countries on student achievement in science and maths for the fourth and eighth grades within the category ‘measuring achievement’ throughout the cities. Dubai achieved 460 and 444 respectively in sciences and maths for the 4th grade. It also achieved 489 and 461 respectively in sciences and maths for the 8th grade, registering a level higher than the Arab average, but lower than the international one (UNDP 2007).

The Knowledge and Human Resources Development Authority, being the direct supervisor for public and private education in Dubai, in coordination with the Federal Ministry of Education, assessed school curricula throughout the Emirates by the school monitoring system. Results

Teachers need awareness and to nurture the attitudes that support creating the knowledge society

indicated that public school curricula are more comprehensive and more efficient to achieve the development of skills and capabilities, especially, since they are directly related to the Emirati community, in particular to matters related to the social and conative skills and all types of values. Of course, there is a difference between the content of the curricula and the way of transferring them to learners. If taught correctly, the study subjects may partly obtain the development of skills and capabilities. Figure 2-2-1 illustrates the development in school performance within Dubai schools through the previous two years.

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Despite efforts, the majority of assessment practices are traditional, while referring sometimes to using modern assessment methods that are linked to measuring skills and capabilities. Results of the teachers survey in the field research sample indicated that they still mix between modern assessment methods in their understanding, practices and attitudes, such as assessment based on exerted efforts in doing homework, steady improvement in results, effective participation in classes,

ability to innovate and invent, as well as the ability to think and ask. This is compared to the traditional approach, such as attendance, good behaviour inside and outside the class and the right answer on the exam paper (See Table m2-4 in the Appendix). This refers to the necessity of addressing the issues of preparing and training teachers as they are on the front lines in preparing the future generation.

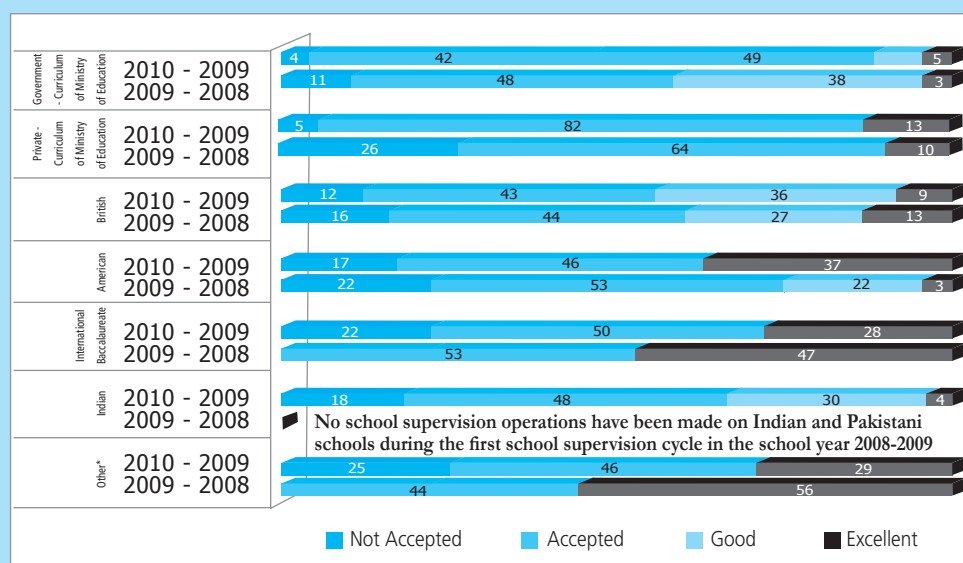
VALUES BUILDING SYSTEM FOR THE YOUTH AND PREPARING THEM FOR THE KNOWLEDGE SOCIETY

Some studies have focused on the values building system for Emirati students in secondary schools within the UAE by measuring their attitudes towards some general values, along with values related to the adolescent stage. They also tried to define the vision of that group of youths regarding the issue of work and the values related to it which affects the process of future development.

The study found that moral values were at the highest level for the study

FIGURE 2-2-1

Development of education quality according to curricula in Dubai schools



Source: (Knowledge and Human Resources Development Authority, 2009/2010)

sample, especially for issues related to the adolescent stage, such as truth and tolerance. Religious values were also found to be a main source of morals. Social values were important after moral and religious values. The study also indicated their attitudes towards independence values (achievement, independence and individuality). It was clear that individuals with high innovative performance received high degrees in values such as achievement, independence, truth and social esteem, compared to the group that achieved lower degrees of innovative performance.

Entertainment and materialistic values came last on the values scale, supporting the idea that secondary students in the UAE are not interested in these values. It is certain that the change in the methods and techniques of entertainment in the communication and information technology era is the reason for the entertainment value degradation in its traditional meaning on the values scale within a community where all modern technological equipment is available.

Regarding values related to work for secondary students in the UAE, the results of the same study suggest that the dominant values in this field are those related to the status of work itself, such as mastering work and the security it will provide in the future, followed by the social values of work, the values of self-fulfilment of work, such as social position or leadership and the innovation opportunities it provides, while work commitment value and earnings received the lowest degree in the values system in all samples. The study confirmed the importance of including, within the content of school curricula, especially in the first stages of life, subjects that focus on moderate positive religious and moral values, achievement and independence and providing the opportunity for the future generation to express itself through activities and programmes parallel to educational programmes, confirming grouping activities that aim at developing a spirit of collaboration and choosing

teachers to be the good example or the model that should be imitated by the new future generation, with the necessity of educating the Emirati family with its role towards the new future generation of youth (Yousef Al Hassan 2004).

Another study tried to define the values instilled by the school curricula, teachers and the school climate of students through a survey on a random sample of secondary stage teachers and students from all over the Emirates. The study indicated the presence of many values that may help the educational system access the knowledge society. 64.92% of students agreed that the educational system motivates their desire to know and learn, develops their feeling of responsibility (60.15% agreed), and enables knowledge-networking by students with other societies (54.92% agreed) and other values related to educational methodology, such as determination, perseverance (63.69% agreed) and self-esteem (60.15% agreed), in addition to other general human values. Regarding how the educational system enhances freedom values, the average was low as 48.46% agreed that the educational system gives students freedom of expression. Teachers participating in the study did not see that the educational system in the Emirates satisfactorily appreciates them morally and materially, as only 40.45% agreed on this point. 31.46% of teachers agreed that the educational system deals with the teacher as a partner in setting plans and educational programmes. While 42.7% saw that the educational system provides a climate that is professionally satisfactory, another 78.5% believe in the importance of the role played by teachers in creating the generation (Maryem Lotah, background paper for the report).

Another study on the availability of the student's moral contents in Arabic books provided for the first three grades in the primary stage found that despite the fact that these curricula contain some values related to the knowledge society, such as the love of education, there are

The study found that moral values were at the highest level for the study sample, especially for issues related to the adolescent stage, such as truth and tolerance

The UAE is working to make school buildings reach the highest level and which are consistent with international standards

many values required by the knowledge society which did not appear clearly in the curricula taught within the UAE. This may have resulted from focusing on values of human relationships, love, affinity and compassion, which express the culture of the community and tend towards enhancing these values. Curricula must include the main and important values that children must learn to be able to use in the framework of efforts to enter the knowledge society with all its contents (Hassan Jaafar Al-Khalifah, in Arabic, 2008).

AVAILABLE ENABLING SYSTEMS FOR THE YOUTH THROUGH EDUCATION

The UAE worked on providing the enabling environments that allow the future generation to continuously learn through all educational stages. It focused on building and equipping schools in the best way possible. This was clearly obvious in the spread of many schools in different areas and communities within the UAE in order to provide education for all Emirati future generations. Enabling environments appeared in many forms from the material, such as school buildings and equipment to the spiritual; awards and incentives in various forms.

SCHOOL BUILDINGS

The Ministry of Education has focused greatly on school buildings and developed them as an integral part of the Ministry's development processes. The UAE is working to make school buildings reach the highest level and which are consistent with international standards. It is taking into consideration all components of good school buildings with proper services, utilities, clear drinking water and electricity. It has also decreased the number of students in classes to acceptable rates in 2008 with an average of 23 students per class.²⁰ However, there are some school

buildings that still need maintenance and refurbishment. The Ministry of Education seeks to achieve qualitative movement in some schools, especially in the Northern Emirates, including Sharjah, Ras Al Khaimah, Ajman and Al Fujairah, where education started in the 1960s. In addition, the lack of schools in some villages has led to a relative increase in the number of students in each class within Dubai and Abu Dhabi.

AVAILABLE EQUIPMENTS IN SCHOOLS

The UAE seeks to furnish schools properly, focusing on standards of design and construction as well as security, health and aesthetic specifications, in addition to providing equipment, instruments, and technologies that are consistent with advanced curricular requirements that focus on the student as the main part of the educational process. The Ministry also established computer and science laboratories in approximately 70% of schools, as well as libraries and clubs for student activities. However, the availability of such environments is not sufficient for preparing the future generation unless these environments are activated and correctly used in order to help students achieve knowledge and develop a love for education and reading.

INFORMATION AND COMMUNICATIONS TECHNOLOGY

The UAE has provided schools with computers and a package of assistant technological programmes for educational development, including an enrolment and acceptance system, as well as an assessment and exam system. The Ministry also approved the e-education project, which will be pilot tested in 11 secondary schools and will ask the Ministry to provide 3,200 e-education content versions of the Ministry's curricula. All UAE schools are connected through the

internet. The Ministry's electronic portal was developed, and many educational services have become available, such as communication with students and teachers, disseminating exam examples and inquiry about the marks/grades of students. According to the strategic plan, work is underway to implement a Help Desk project for providing equipment and networks maintenance services for all UAE schools. Ministry programmes oblige teachers to learn ICDL, which is mandatory and a standard requirement for appointment and promotion. With the provision of these technologies in schools, an important role must be played by teachers in helping learners using such technologies in teaching and teacher training on integrating the technology into the teaching process.

According to the field surveys conducted in the preparation of this report, 82.4% of the teachers asked said they have good or advanced ability to use technology.

The results showed that 88.9% of teachers surveyed use technological methods to search for educational subjects. 80.4% of the sample believes that it helps in preparing lessons or in communicating with students (72.9%). This is a positive thing because searching for knowledge from several sources, especially by using technology, opens horizons for teachers to broaden their understanding and students' understanding, cultures and awareness and develop their cognitive skills. This is what the knowledge society aspires to. The agreement by a large percentage of teachers on the purpose of using technology does not necessarily mean they use it, although 68% of teachers said that they benefitted from using the computer for educational purposes (See Tables m2-5 and m2-6 in the Appendix).

MOTIVATION BY AWARDS

The availability of motivating and supporting environments, through providing motivation awards, supports the Knowledge Society.

Educational awards are considered to be a factor that may contribute effectively in raising the efficiency of the educational system and in bringing about a distinguished change in the educational process, for its goals and mechanisms aim at supporting educational work, on the condition of benefiting from them and directing youth to participate in it. A survey of the number of awards throughout the UAE indicated that there are more than 126 awards dedicated to youth, children, women, family and researchers. The most prominent of them are the Khalifa bin Zayed Award for Teachers, Hamadan bin Rashid Al Maktoum Award for Distinguished Educational Performance, Sheikh Khalid bin Saqr Al Qasimi Award for Collaboration and Student Excellence, Awards of the Sons of Sheikh Hazaa bin Zayed Al Nahyan for Arab Child Culture, Sheikh Rashid bin Humaid Award for Culture and Sciences, Sheikha Latifa Bint Mohammed bin Rashid Al Maktoum Award for Childhood Innovation, Sheikh Khalid bin Mohammed Al Nahyan Award for Future Generations, Sultan bin Ali Al Owais Award, Al Fahim Award for the top students in the secondary stage and the Sharjah Award for Educational Performance. This is in addition to a set of competitions for students, such as the Emirati Red Crescent competition and student councils competition at the Humaid bin Rashid Foundation for Development and Human Growth.

Some people may ask about the real impact of awards and their benefits for the future generation in motivating and supporting them, as well as in developing their skills and capabilities to be able to become involved in the knowledge society with its requirements, including the availability of enabling environments, sharing the future generation in defining their trends, desires and capabilities and working to achieve them. Most answers focused on the necessity of conducting a survey study about the impact of educational awards on the future generation. It is certain that this case needs an enhancing and supporting educational

The availability of motivating and supporting environments, through providing motivation awards, supports the Knowledge Society

partnership that combines the roles of all participants in the educational process, including the government, private sector, parents, students, teachers, family, society, media and civil society institutions, so that education becomes a social responsibility shared by all (Amna Khalifa, in Arabic, 2007).

TEACHER PREPARATION

Preparing and training teachers is an urgent need in the era of the knowledge society, as the perspective has changed about education which relies on school books. The UAE seeks to provide professional development opportunities for teachers and workers on different levels, with a variety of courses from the general ones that suit the needs of workers in the educational field and specialised courses according to school grades. These courses were organised before the teacher entered the educational field and during their service (central level, educational departments level, school level), with the investment in available training opportunities in different foreign bodies through training inside and outside the country. Training includes programmes for developing the leadership performance of school principals and providing them with the leadership skills that enable them to lead their schools within the knowledge society. Despite these efforts and the trend of putting the student at the centre of the educational process in the UAE and developing curricula to cope with the development of knowledge, there was no intensive qualitative and quantitative training to change teachers' trends, their teaching methods or the performance of school principals. Conditions still do not allow teachers to move towards the knowledge society. To see the impact of these efforts, a teacher survey was conducted during the preparation of this case study to explore teaching approaches and the available conditions of teachers

to cope with the requirements of the knowledge society. The results indicated that more of the teacher's time is dedicated to activities related to their daily work than to activities that can improve their educational performance. Results indicated that 41.9% of teachers do not dedicate any time to participating in any activities with students (such as clubs and support lessons), while 50.4% of them do not dedicate any time to participate in any educational production, such as developing educational programmes or participating in assessments (See Table m2-7 in the Appendix). This means that teachers do not have enough time for activities and programmes that develop students' skills and abilities; they only focus on administrative issues and lesson preparation. Concerning the available equipment of teachers in their homes, 95.6% said that they have computers, and only 67.4% of them have an internet subscription. This means that a third of teachers participating in the study are not connected to the internet, at a time when this has become one of the main pillars of the knowledge society. 74.8% of teachers indicated that they have a library inside their homes while a small percentage of them (12.2%) acknowledged that they subscribe to educational magazines. This may mean that teachers are aware of the value and importance of these magazines for reviewing the most current studies and research in the field of education and teaching methods, or that teachers may do without that by subscribing to the internet, or teachers may tend to use common traditional methods in dealing with students and teaching methods (See Table m2-8 in the Appendix).

Through this questionnaire, teachers arranged their potential in providing various skills to students. The highest potential was in lesson memorisation (49.3% of teachers believe they have a 'high potential' to provide that to students), 46.2% believe they can train students to memorise educational rules

Preparing and training teachers is an urgent need in the era of the knowledge society, as the perspective has changed about education which relies on school books

and laws and 38.9% was in favour of teamwork. On the other hand, the rate of teachers who believe they have the ability to enable students to acquire the required skills for the knowledge society was low: for life-long education (26.6%), research completion (27.5%), planning for the future (29.5%), critical thinking (22.7%), and information analysis (25.8%) (See Table m2-9 in the Appendix). The data suggest that teachers, for many reasons that may be attributed to them, or to the educational system, students, or reasons outside school, are unable to instil skills that cope with the knowledge society but can build memorisation capabilities.

We conclude that the way to the knowledge society for the future generation still needs more effort, be it on the level of curricula or teaching methods or in teacher performance. However, the issue has some optimistic aspects: the results of the survey also indicated that teachers are aware of the importance of educational practices supporting the knowledge society, such as encouraging students to interact with teachers and training them on problem solving. 83.3% of teachers think that this educational practice is 'very important'. 20.6% of teachers consider that making students memorise lessons is an essential teaching method and monitoring students step by step in all their activities are less important practices (See Table m2-10 in the Appendix). By analysing the data, we see that what is proposed by teachers has a great importance in developing cognitive, social and conative skills. It also refers to the fact that the teachers are aware of the necessary practices they must perform to help the future generation enter into the knowledge society, especially if the teacher is able to interpret these proposals into programmes and activities applied in the real world.

Regarding teachers' satisfaction with the professional preparation they receive, they said the school helps them to develop their capabilities, even if not on a regular basis (42.5% of teachers said that the

school does this always, while 35.8% said that school does this sometimes), (See Table m2-11 in the Appendix). 15.7% of teachers completely agreed that there are many opportunities for training during service for improving educational level, while 54.4% 'somewhat agree'. Teachers may face some difficulties in obtaining training, such as the training centre's remoteness, while 68.5% of teachers stated that there are no training centres near the schools where they work. For the enabling environments that are available to teachers, 82.1% of teachers agreed that there are no systems or bodies that protect their rights, while about 79% of teachers sampled, either native citizens or foreign residents, said their salaries do not guarantee them a decent life. They are the basic and important factors enabling teachers to perform their role in the educational process that helps to prepare the future generation for the knowledge society (See Table m2-12 in the Appendix).

On the other hand, teachers' answers were positive regarding their ability to express themselves, as 63.7% stated so (See Table m2-13 in the Appendix). This feeling is of great importance, as opinion sharing among teachers plays an important role in developing education, and is a feature of the education society. It is hoped that teachers can transfer this feeling to their students to practise it.

For their view of the education profession and professional satisfaction level of teachers, taking into account that most of the participating teachers were non-Emirati (as is the case in most Emirati schools), 44.4% of the participating teachers said that they would completely leave the education profession if they found other work that provided them with the same income and conditions. 18% of teachers said that they may think about this. While 50.8% of teachers confirmed they would leave the teaching field if they entered another profession with a higher income, 21.2% of them said that this

Teachers may face some difficulties in obtaining training, such as the training centre's remoteness, while 68.5% of teachers stated that there are no training centres near the schools where they work

Teachers' answers expressed their reality, as there is no high social esteem for the teaching profession, and it is not viewed as a profession one aspires to

applies to them 'to some extent'. This trend may be attributed to the low respect for the teaching profession and to teachers' low income level; this was confirmed by the teachers' answers, as 60% completely agreed that 'the teaching income is not enough for self-sufficiency'. It is also a good sign that most teachers (more than 70%), (See Table m2-14 in the Appendix) agreed that they 'have a mission', as no teacher answered otherwise. Teachers' answers expressed their reality, as there is no high social esteem for the teaching profession, and it is not viewed as a profession one aspires to. Also, those who work in the field of teaching do not enjoy high social status, compared to other professions. In addition, they have low salaries. A large percentage of teachers (69.2%) supported this trend, as they felt low respect and esteem by society and students (73.7%), (See Table m2-15 in the Appendix). This is a large percentage that deserves to be given more consideration: Is this attributed to the view of the society to teachers, the non-appreciation by the educational institution in which they are working? Or is it because students do not appreciate the educational role performed by teachers in society, or because teachers, as a result of the low income compared to other professions, do not receive the proper respect? Or are there other reasons? This may be explained by the fact that many Emirati citizens, particularly males, are not inclined to the teaching profession, but seek other professions that bring better income and higher social status.

In brief, the government should do more to prepare teachers and provide the proper infrastructure in schools to enable them to practice their jobs to achieve the goal of preparing the future generation for the knowledge society. Many efforts still need to be made to raise teachers' self-esteem and to promote job satisfaction, in addition to supporting the efforts made for preparing the teacher academically for their assigned job.

POLICIES AND STRATEGIES OF REFORM AND EDUCATIONAL DEVELOPMENT

The educational development and reform policies were drafted in the mid-1990s in the light of a vision that motivates modernity and is consistent with the developmental requirements of the UAE. The educational policy for 1995 included six main principles: strong Islamic upbringing, education for enhancing national affiliation, education for instilling social responsibility, education for beneficial work and comprehensive development, education for preparing for the advanced changeable future and education for continuous learning (The Ministry of Education, 1995).

The educational vision for 2020 represents the main reference and the thought framework for the development of education for the preparation of students equipped with knowledge, skills and attitudes necessary for national development. It also includes advanced curricula that enhance thinking skills and behavioural values, teachers that are educationally and scientifically qualified, school management with the leadership characteristics and a multi-channelled educational system providing an educational environment that develops an ability to innovate. The vision's goals were drafted to include the development of secondary education, converting it to mandatory education, making a radical change to the concepts, techniques and practices of education and providing integrated student welfare programmes, along with achieving the principle of 'education is a right for all' and translating this right into equal educational opportunities for males and females (The Ministry of Education, 2004).

The strategic educational plan for 2008-2010 embodies the country's interest in developing and reforming education and providing the financial and human resources required for the achievement of

a comprehensive educational renaissance consistent with this era. It also seeks to interact with the latest developments of the 21st century to transfer educational output of the Emirati students to an international level in terms of preparation, qualification, competition and gaining technical skills, which are all strongly required in the marketplace. In this regard, the project confirms that the targeted development will meet the UAE's aspirations in achieving a diverse economy and fully contributing to the technological revolution witnessed by the 21st century. This is to be accomplished through developing educational standards based on educational foundations, moving to an advanced educational environment that concentrates on the students and puts them in the centre of the educational process, adopting a modern system for educational buildings, preparing the educational environment and providing it with the proper infrastructure; internet and IT, adopting a special cadre of teachers and employees in the field of education, raising the social status of teachers and comprehensively developing the private education sector according to legal frameworks. Application of the strategic plan resulted in developing a set of programmes and projects that were clearly obvious in the development of schools and in establishing schools with specifications that suit the nature of the educational process and equipping them with laboratories.

The strategic educational plan for 2010-2020 was introduced as a document that describes the educational initiatives and projects for the state's future education. This strategy aims at achieving an educational model focusing on the student. It is based on four pillars: student educational achievement, student school environment, equal education opportunities for students and instilling values of citizenship in the student (The Ministry of Education, 2009 A).

EDUCATIONAL BOARDS IN THE UAE

Various boards in the UAE are granted more power in each emirate to oversee some educational affairs. Some boards and bodies have developed special strategies based on studying the reality of education in each emirate in accordance with the available budget for each council. The education boards help the Ministry of Education to advance educational development and achieve schools upgrading at the highest levels. These boards were established from around 2005/2006 in most of the emirates, as is the case in Abu Dhabi, Dubai, Sharjah and Al Fujairah. With the establishment of various boards of education, the overall vision must be clear and should be able to bear the developmental responsibility towards teachers. There shall be a unified strategic plan throughout the UAE with a clear methodology that focuses on developing skills for critical thinking, analysis, composition, deduction, application and employing information and students' knowledge.

Below, we will illustrate the most important achievements made by these boards in Abu Dhabi and Dubai, in which the case study was conducted in the Arab Knowledge Report 2010/2011.

ABU DHABI EDUCATION COUNCIL

The ADEC was established in 2005 to develop education and educational institutions, and to provide technical consultation for the development of educational policies and services applied within the emirate. It concerns education in schools in different stages within Abu Dhabi, in line with a vision that aims at promoting education at an international level. Within the general plan of education it aims to develop educational, training and professional programmes that secure the marketplace needs from excellent human efficiencies in the emirate (ADEC, 2008).

There shall be a unified strategic plan throughout the UAE with a clear methodology that focuses on developing skills for critical thinking, analysis, composition, deduction, application and employing information and students' knowledge

The Knowledge and Human Development Authority was established as a successor to the Dubai Education Council in 2006, to work on developing the knowledge and human resource sectors, as well as the quality of education and learning

The ADEC's ten-year strategic plan (2009-2018) aims at developing the educational system and achieving educational output in Abu Dhabi at the highest level, achieving the economic vision of Abu Dhabi by 2030, and achieving qualitative change throughout education and promoting it to the highest international levels, in order to provide students with the skills required for the knowledge economy. The ten-year strategic plan includes six main components: raising student performance to international levels, providing educational opportunities for all, providing excellent private education choices, enhancing cultural inheritance affiliation, success in the marketplace and building institutional capabilities, in addition to the participation of all parties in the educational process (Abu Dhabi Education Council, 2009).

THE KNOWLEDGE AND HUMAN DEVELOPMENT AUTHORITY IN DUBAI

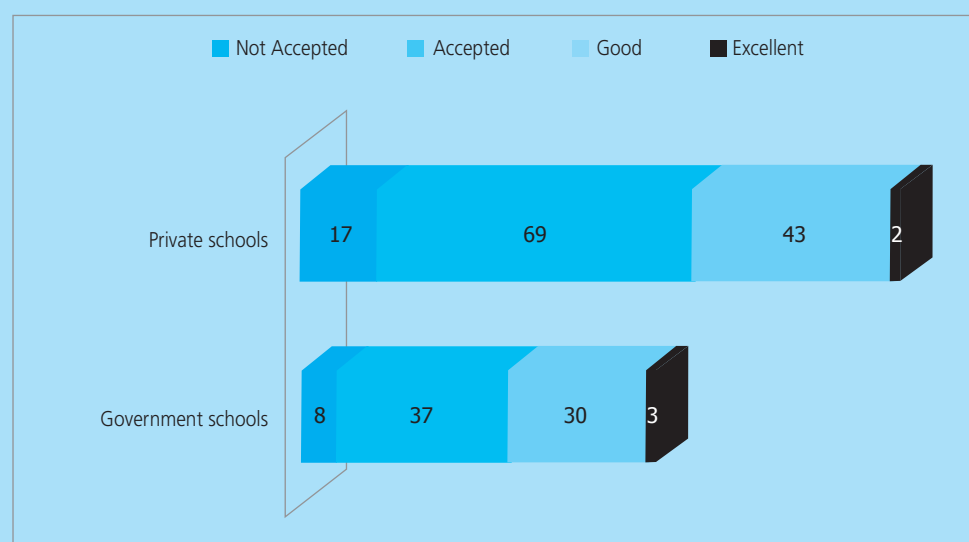
The Knowledge and Human Development Authority was established as a successor to the Dubai Education Council in 2006, to work on developing the knowledge and

human resource sectors, as well as the quality of education and learning. It is responsible for managing public schools in Dubai through the School Educational Institution founded in 2007 for developing a school education sector at all stages (Knowledge and Human Development Authority, 2010).

The school monitoring body within the authority is responsible for improving the quality of the output of the educational process. It has developed a framework for monitoring, appropriate for Dubai schools, and is based on international experience that depends mainly on evaluating the educational outcomes of schools, which are: level of student achievement, compared to international standards in the five main subjects: Islamic Education, Arabic language, English language, sciences and maths, and the level of student progress in these subjects, in addition to evaluating student attitudes, behaviours and social development. Monitoring processes also evaluate the quality of school performance in four main aspects: education, learning, educational curriculum quality and the quality of support and protection which the school provides for its students, as well

FIGURE 2-2-2

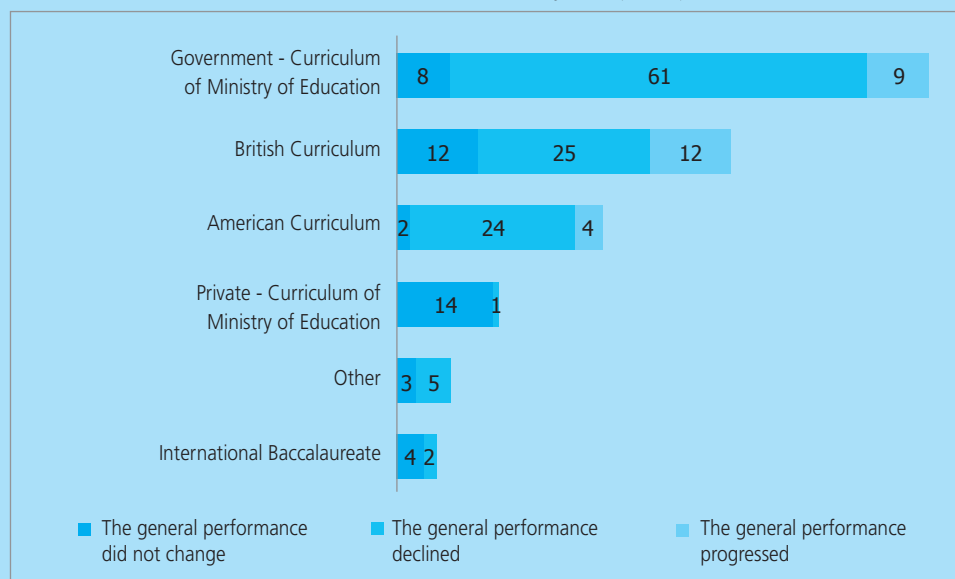
Schools monitoring results in Dubai schools 2009-2010



Source: (Knowledge and Human Resources Development Authority, 2010)

FIGURE 2-2-3

Number of Schools in Dubai that achieved development since the last school year (2009)



Source: Knowledge and Human Resources Development Authority, 2010

as the quality level of school leadership and management.

The first annual report on school monitoring, which was issued in 2009, showed a sharp decrease in the level of school achievement in the Arabic language in many private schools, as well as a decrease in the level of Islamic education. In addition, public school students in Dubai need to improve their skills in conversation, reading and writing in English. The report also showed a decrease in the level of school achievement of male students in the second education phase (6th to 9th grade). The report also stated that schools must help their students with developing self-education skills through providing major opportunities for the execution of a wide range of the projects and tasks that depend upon research, and teaching them how to use research technology in constructive and innovative ways. The school must also make more investments in the process of professional development to improve teachers' experience and performance, which positively affects student performance and meets all students' needs.

NEW SCHOOLS INITIATIVES

The UAE has issued a set of initiatives to improve the quality of education, including establishing new schools, each with certain features trying to achieve the best vision that must be provided for the society's future generation.

The model schools appeared as an ambitious and well researched experiment based on a number of educational experiments which proved its excellence in many developed countries. These schools aim at qualitative change in the status of education. It is based on comprehensive development of the learner's personality, flexibility, educational uniqueness, and emphasises partnership between the family and the school and teaching students in a manner that suits their development.

Work started, according to the Al Ghad Schools Initiative, during the 2007/2008 academic year. The idea of these schools is based on approving the educational standards as a basis for choosing the content of curricula from various resources, without depending on ready-made curricula, in addition to enabling

The model schools appeared as an ambitious and well researched experiment based on a number of educational experiments which proved its excellence in many developed countries

students to learn in English (The Ministry of Education, 2008 B).

Public-private schools are one of the most important initiatives implemented by the ADEC with 176 schools until 2009/2010. The private educational sector manages and operates public schools under the supervision of the council according to the main performance indicators that are consistent with the required educational outcomes. These schools teach the English language, maths, sciences and IT for the advanced curricula of the ADEC, and teach the remaining subjects according to the curricula of the Ministry of Education (The Ministry of Education, 2008 C).

The student council experiment was an important exercise for training students in electing, expressing opinion, dialogue participation, discussion, and being socially responsible

INITIATIVES

Abu Dhabi commenced with the initiative of maintaining the percentage of students to teachers in secondary schools, which reached 10.7 students for each teacher generally. The percentage was higher for public schools, i.e. 10.4, than private schools (11.4). An improvement was made in 2005, compared to 2001 with 11.2 students for each teacher (ADEC, 2009).

The student council experiment was an important exercise for training students in electing, expressing opinion, dialogue participation, discussion, and being socially responsible, which is the focal point for achieving the targeted development in the future generation to live in the Knowledge Society. Student councils have been formed in many schools since 1997, from the fourth grade throughout schools and regions. Systems allow these councils to consider issues the student is interested in, as well as educational issues and management, and file their requests to the Ministry. Despite student councils being considered important beacons that enable sharpening students' thoughts and improvement of their skills in dialogue and discussion, which are required skills for the youth in the Knowledge era, it is obvious that the work is done traditionally

and ineffectively most of the time. There is also lack of awareness in the goals and roles of these councils by students or employees in the education field.

Parents boards began to be formed within all schools and educational regions in the country in 1996, as these boards were founded in 454 schools, i.e. 92% of the country's schools (The Ministry of Education, 2010A). These boards allow parents to participate in extra-curricular activities. They also helped in relatively increasing the number of parents attending schools, compared to previous years, with a clear interest in following their children's progress inside and outside school. Parents attended schools without being requested to do so, their interest in discussing student issues increased and they held sessions in schools to find solutions.

CHALLENGES FACING THE EDUCATIONAL SYSTEM AND THE PREPARATION OF THE FUTURE GENERATION

The weak educational output and graduating students who are not qualified for higher educational institutions without passing a preparation year, are among the challenges that face the educational system in the UAE. This lack of educational output may be attributed to many factors, including teachers and schools' weak ability to motivate students, a lack of interest in instilling the skill of thinking for the future, and a weakness in instilling self-fulfilment, either in school, in the family or in other social and media institutions. The continuous use of traditional methods in teaching may be one of the reasons for the lack of educational output. This calls for developing the current study curricula to one based on competencies not on content, and on application not memorising. This also requires changing the educational process according to the methodology of competencies and providing teachers with training and required materials to implement and successfully use the new

methodologies. Among the necessities are avoiding repetition, memorising and recitation, along with adopting modern teaching techniques, developing skills connected to critical thinking, the ability to innovate, solve problems, make proper decisions, have self-realisation and self-control, accept others, and be able to communicate, negotiate and convince others, in addition to other skills.

The educational system in the UAE is still suffering from high rates of pupils leaving school early; the percentage in the country reached 2.2% for males and 1.1% for females. More than 10,000 students (most of which are Emirati students) out of 120,000 registered students at this stage in public schools, with the majority in the secondary stage, leave school to pursue other routes due to professional interests or due to social conditions. Male and female secondary school leavers reached 8.4%, while males reached 9.7%. This represents an increase compared to female students, whose drop-out percentage is 7.2%, which is a source of concern. Hence, the Ministry conducted two studies on this phenomenon to define its dimensions and how to overcome it in collaboration with the Centre for Research & Strategic Studies in Abu Dhabi and the Department of Research and Statistics in the Ministry (Ali Mihad, 2010). The Emirati Foundation for Social Development financed research projects that examined educational development and limiting early school leavers (Emirati Foundation for Social Development, Abu Dhabi, 2010), especially in the context of the advanced educational strategies approved recently by the country. The strategic plan of the Ministry includes appointing academic guides in all schools to define the types of students, communicate with students and follow up with their educational performance, understand the student-teacher relationship and recognise the most prominent obstacles that the student faces at school. The effects of leaving school are clearly apparent in unemployment, the

social effects on marriage, living standards and social behaviour, such as crime and civil misdemeanours.

Continuous change in educational policies represents one of the challenges that face the educational system in the UAE. In investigating the educational system, one realises that educational policy changes when the Minister of Education changes, i.e. there is no continuity of educational policies. So, education has become an experimental field, depending on importing educational policies from outside that sometimes succeed but sometimes fail. Over the decades, the Ministry has depended upon employing foreign experts to draft and supervise the implementation of educational policies. After years of applying such policies, the results of school and student performance assessment are often below par. Hence, it is important for an educational policy plan to have clear goals and depend upon a set of constant objectives in the mid-term, so policies do not change when Ministry of Education officers do.

Methods of measuring educational quality and its adequacy for a society are among the challenges that face the educational system. This necessitates the existence of better methods for measuring educational quality in a manner that does not eliminate its privacy, including the reasons for changing policies, changing educational goals and objectives, setting real standards for assessing the educational process and assisting the direction of developmental efforts.

The concept of educational reform may be among the challenges that face education, as reform concentrates on form and not content. Making reforms on buildings and equipment is not considered as development in the educational system, although this is very important. Reform process is an integrated process, regardless of the educational subjects, curricula, training teachers and teaching methods. Despite challenges that face the educational system, the social, economic, health and

The effects of leaving school are clearly apparent in unemployment, the social effects on marriage, living standards and social behaviour, such as crime and civil misdemeanours

cultural status in the UAE has resulted in a positive climate through which policies and strategies related to the educational system can be activated, revised and developed to cope with the science and technology age. It can also allow opportunities for defining points of strength and weakness in the educational system, as well as challenges that needs to be addressed. This will secure an educational system for the youth that allows for the acquisition of various skills and the exploration of capabilities towards employing them in realising comprehensive and sustainable development and that allows them to access the knowledge society.



PREPARATION INSTITUTIONS AND THEIR ROLE IN PREPARING THE FUTURE GENERATION

INTRODUCTION

This chapter discusses the status of the Emirati family, media, social culture, and the social and cultural roles that guide the future generation and empower them according to scientific and technological developments. It also discusses the influence brought by this reality, either positive or negative, on the future generation in terms of preparing and enabling them to gain access to the knowledge society.

THE FAMILY AND THE ROLE OF WOMEN

The UAE society, like other Gulf societies, has witnessed amazing structural changes not only as a result of modernisation and its culture, but also as a result of other internal factors such as urbanisation, oil exploration and the resulting economic changes. These changes have resulted in unprecedented family phenomena, some of which may be positive and others may be negative. These include relations between individuals, or the change in parent-child relations and the impact it has had on family consolidation or disintegration, as well as on the interaction and understanding among generations. All these things have impacted on the family's performance and its role in transferring the culture of the society to its members through social upbringing. Therefore, the family plays an important role in developing skills and values of young generations through the roles it plays in the process of social upbringing. The family takes into consideration changes that occur in the nature of the family and

its members from extended families to nuclear ones. The communication means, as an external effect, play a vital role in gaining some material values, producing behaviours that are inconsistent with the original values of the society (Abdullah Lo'lo' and Amna Khalifa, in Arabic, 1996).

The extended family in the Emirati society, from the early 20th century to the early 1970s, represented the basic social structure of society, around which other social structures emerged. Regarding the structure of the extended family in the Emirati society, we notice that it was not seen as an isolated formation unit, but as an integrated social, economic and cultural unit. The political, economic, and social conditions witnessed by the Emirati society played an important part in enhancing the role of the family in maintaining identity and the consistency of the social relations among its different structures and forms in the absence of a central political system at that time.

The Emirati family has been known as an extended and parental family, in which the pattern of internal marriage prevails. It is known that the extended family has positive effects on children's upbringing and provides them with many values and traditions that are practised by elders, such as bearing responsibility, cordiality, affinity and sacrifice, especially from unemployed elder relatives from whom children may gain behaviours that they could not gain from their mothers and fathers. Typically, the young individuals who live in extended families with solid social and economic relations enjoy psychological and spiritual balance and stability that enable them to

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benefit from their achievement and to develop a set of scientific, technological, and social values.

After oil exploration in the 1960s, UAE society witnessed many changes and converted from the pattern of Bedouin and rural production, simple fishing, poor distribution of works or specialisation and self-sufficiency, to an urban and capitalist pattern with accelerated global changes, especially in the fields of technology and urbanisation. These changes have had positive effects represented in the establishment of infrastructure and the emergence of modern governmental and private institutions. This is in addition to the appearance of public and higher educational institutions, such as universities and technological institutes, and a decrease in illiteracy, an increase in individual income and family income, as well as the availability of medical care and social welfare in general. This also resulted in the appearance of the nuclear family in the early 1980s and the degradation of the pattern of the extended family, in accordance with the nature of life in the society, and the job opportunities available for young people which sometimes forced them to work away from the extended family and build new, smaller families.

As a result of change in the economic conditions of citizens and the increase in their income, the culture of marriage started to change and the material and consumer approaches started to prevail in society (Hend Al Kassem, in Arabic, 1998). This resulted in polygamy, expensive dowries, and the rise in the rate of divorce; UAE has the highest percentage of divorce among Gulf Arab countries; it has reached 40% (General Women's Union, Abu Dhabi, 2009/2010). All these changes have had a negative effect on the social structure of Emirati society, such as family disintegration and juvenile delinquency. These negative changes do not provide a stable environment dominated by a stable family atmosphere, or a proper environment in which young people

grow up and develop their abilities and creations. The child is negatively affected by several family problems, which results in a negative effect on their personality, thinking, attitudes and values.

The political leadership in the UAE confirms that the comprehensive development process, in which both men and women participate, is the only way to raise society status and reach an advanced position. It is clear that women's rights in contributing to different economic activities are the basis for sustainable development, as well as a necessity for social development and economic growth.

It was noticed that Emirati families tend to define the roles played by males and females as being in line with the society's culture and traditions. They encourage females to take up traditional roles, for instance, being a housewife, while going to work is the role of the male (Haifaa Jawad, in Arabic, 1998). Therefore, it is commonly allowed for males to be educated in any field they choose for his career, while girls are brought up to marry, which affects their educational path. However, this situation is not as severe as before, especially with economic advancement and in the urban cities, such as Dubai, where a higher number of women are working. But traditional male and female roles still prevail in society in general. The evidence of this was a study (Sara Sayed, in Arabic, 2004) which surveyed many male and female students at Zayed University, and showed that male students, despite their educational level, tend to think about females after graduation as only wives and not as equal to men in the workplace. They believe that education could be useful for women after marriage in bringing up and educating their children, but they never think that the education of women will lead to them working outside the home.

Another study (Ashencaen Crabtree, in English 2007) concluded that female students in the UAE community do not complete their education at university because they yearn for more knowledge, but a large number of them believe getting

a university degree is the final touch on preparing for marriage. So, it is normal that the percentage of females enrolled at the university in the UAE is many times more than the percentage of males, although a large percentage of them do not seek to work after graduation. The parity index between males and females reached 2.32 in higher education, i.e. the percentage of females enrolled in higher education was twice that of males (UNESCO, in English, 2010). This may be a result of the fact that some males after secondary school join security institutions and the army and then higher education, while others prefer working in general companies and especially petroleum companies. Also, a number of males travel to study abroad at the expense of the government. It is obvious that some males do not have the same reasons to be educated as females.

The UAE community, since independence, has witnessed social and economic advancements brought about by applying developmental plans that have resulted in a change in the demographic, social, economic and political characteristics of citizens. These developmental efforts contributed to the increase in the participation of women in human development in general. Providing equal opportunities for learning and increasing opportunities for work and economic activities were among the most important factors for enabling women and increasing their participation rate. Supporting the process of enabling women was also in the statements made by the highest leadership levels in the UAE. The UAE government took steps that decreased the gap between men and women within the labour market. It issued laws in the middle of the 1990s and adopted international treaties calling for women's rights for equal treatment to men (CEDAW Data). The UAE constitution also ensures equality among all citizens, and labour laws reject gender discrimination. In accordance with the constitution, women have the right to education, health, and social care as well

as the right to work just as men do and the right of inheritance and ownership according to Islamic Law. These efforts have had a major influence as the rate of women participating in paid work in the non-agricultural sector reached 20.1% in 2008. Despite opportunities available for women to work, the desire to work is still low, and the unemployment rates among females are higher than males as it reached 28.1% for females, compared to 7.8% for males in 2009.²¹

Despite quantitative efforts in developing the ability of Emirati women, especially in the field of education, they have not contributed largely to changing social situations and values. The greatest constraint on female participation in the field of work and development in general has been the cultural and social dimension. Despite calling for equality on several levels, culture and social customs stand in the way of achieving that. The UAE is still obvious as a male-dominated community, which overshadows women's achievements. Also, the participation of men in family life in terms of social upbringing is commonly low, and hence, women have to bear more responsibilities than men towards the family. Changing the stereotypical roles imposed on women by society social structure requires changing more attitudes in the responsibilities of public and private life and deepening the idea of equality between men and women inside and outside the home (Abdullah Lo'lo' and Amna Khalifa, in Arabic, 1996).

The gender parity index reached 1.03 in secondary education, i.e. the number of females enrolled in secondary education approximately equals the number of males and even exceeds it slightly (UNESCO, English, 2010). The number of females at the university was also more than the number of males (The gender parity index was between 2.32). Although women proved they are equal to men, society still sees some jobs and professions, especially political work and executive posts, are fields only for men in which women rarely have

Despite quantitative efforts in developing the ability of Emirati women, especially in the field of education, they have not contributed largely to changing social situations and values

There is a deeply rooted perspective that the Emirati woman lacks the experiences and skills required to work in leadership positions, or that she refuses to participate in these positions

a role. The increase in female participation in economic and political fields means more preparations for the knowledge society that is based on the participation of all members of society, especially male and female youths.

The discussion over women's affairs in the UAE is a difficult matter due to the imposed restrictions on women that are rooted in Islamic traditional explanations and the tribal culture of society (Hend Al Kassem, previous reference). There are no independent associations for human rights of women in the UAE that work on the issues of gender equality. There is the General Women's Union and associations in all emirates except Fujairah. This union contributes to caring for women and the family socially, culturally, and medically; it also plays a great role in issuing civil law.

The UAE occupies the second level among Arab countries according to the Gender Parity Index, developed by the UNDP, while it comes in 45th internationally in accordance with the Human Development Report 2010.²² The value of this Index reached 0.464, close to the global average 0.56,²³ referring to the fact that the gap between men and women in the field of human development is generally low in the UAE, especially in the field of rights relating to education, health, and a decent life. Women contributions to the National Federal Council (the Legislative council) reached 22.5% of the total seats in 2010.²⁴ Although this number may be seen as acceptable, there are some factors that decrease the level of female political representation, such as the cultural attitudes and the stereotypical concepts about the role of women in the process of enabling them to participate. Some sectors still believe that the role of women is limited to caring for their families and raising children; they also believe that they may work in some jobs that are considered complementary to their roles in care, such as teaching and nursing (the United Nations and Arab League, 2010). There is a deeply rooted

perspective that the Emirati woman lacks the experiences and skills required to work in leadership positions, or that she refuses to participate in these positions. However, there are some women who work in leadership positions in the UAE. Therefore, it is important that policies related to the increase in the participation of women politically include activities for building the capacities of women. The General Women's Union implemented some of these activities in the UAE for a number of women over the past few years.

We can say that although four decades have passed since the application of developmental plans in the UAE after independence in 1971, the Emirati woman still has much to do to be able to participate comprehensively in developmental processes, social participation and becoming involved in the knowledge society. If females, whose number is approximately twice that of males in university education, would prefer to stay at home and not work, or the family or husband prefers that, this will exclude a large percentage of females from becoming involved in the knowledge society.

There is another dimension that should be taken into consideration when dealing with the issue of women and the family. Emirati families, as a result of economic changes, have undergone changes in values. The Emirati woman, either as an employee or a housewife, prefers to depend mostly on servants inside the home, and this negatively affects the members of the family and decreases the time for communicating with children. This is especially so if the mother depends on servants for caring for and raising their children who are not often aware of the culture, customs, traditions, and language of the society. They are even often not qualified or not well-trained to deal with children at this age. This matter influences the mental, psychological, and social development of the child and threatens growth, especially in the fields of language and culture.

MEDIA AND PREVAILING VALUES OF THE FUTURE GENERATION

It is certain that the future generation is the fastest developing social group, and youth between 15 and 20 years old are half the population of developing countries. They not only represent the future, but also the present. As a consequence of globalisation and technological advancement, it is presumed that communication with them must increase, because their votes affect and are affected by achieving development and change.

The school has always been the first source of knowledge in the 20th century, and teachers are still the main sources for spreading knowledge. People depended on schools as a main source for knowledge about the world. Today, modern media has been developed, and its technology was advanced to the extent of making its own educational environment, declaring the end of an era in which educational institutions monopolised the spread of culture and knowledge. Most communities now witness strong and public competition between both educational and media systems. Educational studies conducted by UNESCO on the rates of watching TV among Arab children indicated that children before 18 years of age spend 22,000 hours watching TV compared to 14,000 hours the child spends in school during the same stage (Amani Tufaha and Lara Hussain, in Arabic, 2010). This results in many cultural, health, knowledge and social consequences. We cannot deny the role played by the media and the effect it has on forming society structure in different groups, especially youth. Therefore, media institutions have a responsibility which is of the same importance that of educational institutions, and maybe even more.

Emirati youth in the world of satellite channels and the internet, like all Arab youth, are subject to changes in culture, factors and changes that reflect their

thinking structure and approaches. A study (Ahmad Sulaiman Al Humadi and Abdulaziz Abdulfattah, in Arabic, 2008) concluded that Arab youth are living in a state of social and political expatriation, that is clearly apparent in their political attitudes, and in the frustrations they experience as a result of the political reality in Arab countries. The study found that the domination of the Western media is one of the main reasons for the state of expatriation experienced by youth. The Arab youth, including Emirati youth, obtain knowledge from a unilateral source, through depending on information broadcasted by the media, while at the same time ignoring reading as a source of knowledge. The study concluded that the technological aspect, like the internet and TV, is the dominant factor controlling the youth's daily life, as they dedicate the majority of their time to them, which emphasises the control of the media over the youth as a main source of knowledge. The most ominous conclusion of the study is the dominance of a foggy view towards the future of the nation and the Arab world, creating fear and psychological disturbance among the Arab youth. The major challenge faced by instructors is how to deal with the rapidly advancing production of media and how to benefit from these tremendous means in instilling moral values that create immunity in children, enabling them to differentiate between good and bad programmes. In this way, children can select the programmes that will develop their senses and capabilities and drive their energy. Using media for instilling values and searching for media substitutes directed at children, the future generation and youth within the framework of a strategic plan uniting the efforts of family, school, clubs and other institutions, is the strongest guarantee that will lead to protecting our generation from bad influences, taking into account the impact brought about by the surrounding sphere (Ali Al Rasheed, in Arabic, 2009).

Emirati youth in the world of satellite channels and the internet, like all Arab youth, are subject to changes in culture, factors and changes that reflect their thinking structure and approaches

SOCIETAL CULTURE AND PREPARING THE FUTURE GENERATION

The prevailing societal culture consists of several aspects, of which the most important in Arab and Islamic communities are religion, language, norms and values. Religion is a main source of values to community individuals with an interest in education and encouraging children and youth to join educational institutions. There was “*Al Kutab*”, “*Al Mutawea*” or “*Al Mutaweah*” in the past; where children were taught to memorise the Holy Quran and learn the community’s cultural habits and values by Al Mutaweah, as he is considered to be the best model for children and youth.

Language is the vessel through which the community’s cultural habits and values are transferred, and which exhibits its identity, maintaining the mother tongue which is Arabic in the UAE and maintaining the community’s identity and culture. Regarding the nature of the UAE community and its population structure, there has been an increase in the percentage of expatriates (approximately 88% of UAE residents) whose numbers exceed the number of native citizens. With the different nationalities and languages, the effect of these languages and cultures on the community’s own language and culture must be taken into account. Maintaining the Arabic language has become a political and social requirement to avoid total dependence on other languages which would weaken the original language and consequently the community’s culture. This is especially so when children start to learn different cultures that are reflected in their behaviours, taking into consideration that the UAE is open to the world economically and culturally and has attracted many foreign companies and corporations, particularly in Abu Dhabi and Dubai. This can also be emphasised by the necessity of learning other languages for individuals, especially the

young, to enable them to communicate with others and learn the cultures of the world particularly at a time when English is considered the language of the knowledge society. Some studies indicate that the concept of national identity has witnessed a crisis among the Emirati youth as a result of changes and challenges in the social, cultural and economic world. It can be summarised in the existence of a plurality of cultures, media openness and accelerated technological development in the real society within the UAE. The political government and political decision-makers became aware of the crisis of the national cultural identity in the country; hence they have worked on developing future programmes and plans aimed at maintaining the national identity among Emirati youth. Therefore, the Emirati Youth Forum, Arab Youth Forum, TV Programme for Youth, Youth Culture Forum, Shura Council of Youth were organised as examples of some activities and programmes implemented by youth and playing a great role in instilling local culture and national identity in the UAE. (Ahmad Sulaiman Al Humadi and Abdulaziz Abdulfattah, in Arabic, 2008).

CONCLUSION

From the previous analysis, it is obvious that the Emirati future generation is subject to many cultural and social factors that accompanied the oil breakthroughs and its consequences on the abundance of funds and changes in social and developmental structures. The atmosphere of openness and diversification prevailing in the UAE is a real opportunity for the Emirati future generation to be widely involved in the knowledge society if they are equipped with the proper skills and inherited values.

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EFFECTIVE ENABLING ENVIRONMENTS FOR PREPARING THE FUTURE GENERATION FOR THE KNOWLEDGE SOCIETY

INSTITUTIONAL STRUCTURE AND GOVERNANCE

The institutional system in the UAE enables UAE citizens to practice their political and social roles within a social framework that is based on transparency and objectivity. This is apparent in the rights enjoyed by citizens in the different social, economic, cultural and health fields, which strengthens their sense of affiliation and the way they care about, protect and defend their country. The UAE's constitution protects the rights of citizens and allows them the freedom of self-expression, political participation, freedom of establishing social and professional organisations and practicing different activities according to customs and traditions and rules recognised by the society.

CITIZENSHIP

The main element of the concept of citizenship is national affiliation, which can only be achieved when one feels that they are part of the society and entitled to guaranteed rights. To build this feeling of citizenship, the means of a decent life must be available to individuals within their society, their privacy must be respected and their rights and freedoms shall not be violated. The concepts of citizenship and the citizen seem to exist in the UAE as citizens enjoy all the rights that guarantee a decent life for them. Despite rights that are guaranteed for all, there is a slight difference among institutions regarding salaries paid

to employees, making some persons think that they do not have equal rights. For example, salaries paid to employees in the field of education, especially teachers, are not equal to salaries paid to employees in other sectors. The UAE constitution provided for equality, social justice, security and relief, equal opportunities for all citizens, consolidation, and compassion and trust (UAE constitution, 1971). Hence, their affiliation to their country rates highly, and this clearly indicates their love for home and desire for protecting it and maintaining its gains. This feeling of loyalty and affiliation is of great importance for the youth, because they will be members who participate and affect their society with love and a true desire for giving.

FREEDOM AND POLITICAL PARTICIPATION

Freedom and political participation in the UAE shall be considered in terms of two dimensions. The first is liberal democracy, i.e. the extent to which political freedoms are allowed by the political system, such as freedom of expressing political opinions in different ways and the freedom of forming political groups and participating in them. The second dimension is democratic rule, which includes the extent to which people can elect leaders and the extent of accountability of a government. Although the UAE does not have political parties or trade unions, the system permits the establishment of social, cultural and health organisations and associations. The Ministry of Social

Feeling of loyalty and affiliation is of great importance for the youth, because they will be members who participate and affect their society with love and a true desire for giving

Affairs also supervises NGOs, human rights associations and child protection agencies as well as various educational institutions. The UAE constitution guarantees a set of rights and freedoms, such as personal freedoms and the right of the individual to be protected from unlawful arrest, inspection or detention (Naji Sadik Sharab, in Arabic, 1983). The constitution also guarantees citizens freedom of expression and opinion, which are both important requirements for young people to be able to communicate, have self-esteem and the ability to be responsible, which are characteristics of the knowledge society.

National social work is of great importance within the UAE. As a community living in solidarity and cooperation, it continuously seeks to provide services and help communities and individuals

SOCIAL AND PROFESSIONAL ORGANISATIONS

National social work is of great importance within the UAE. As a community living in solidarity and cooperation, it continuously seeks to provide services and help communities and individuals. It also encourages the state to establish such organisations and associations, with the conviction of the role they play in providing support and social, health and cognitive care, which, in turn, supports the roles played by formal institutions. Civil society organisations are diverse in the UAE with up to 133 associations (The Ministry of Social Affairs, 2010). The nature of activities and programmes created by these associations varies. Some are interested in human, cultural, educational, professional, folklore, theatre, women or community affairs. On the other hand, there are many professional associations in the UAE that play different roles according to the nature of their field, such as socialists, lawyers, teachers and doctors, protection of the Arabic language association, friends of the environment and others.

However, the majority of these societies, in addition to dealing with charitable services, also deal with the issues of human development and the empowerment of youth and women in particular, which are important matters in preparing youth for the knowledge society. Such organisations also

give youth the opportunity to participate and express their minds freely and develop and strengthen their skills and capabilities in understanding the co-existence within society.

DEMOGRAPHIC ENVIRONMENT

According to population statistics (National Centre for Statistics, 2009), the UAE's population reached about 8.26 million in 2010. The Emirati society is considered a young society, as young people constitute a large percentage. In 2010, those under 25 made up 34.6% of the total population (nationals and expatriates). The percentage of young people to the total population of Emirati citizens only was 63.7%. Expatriates in the UAE make up approximately 88%²⁵ of the population.

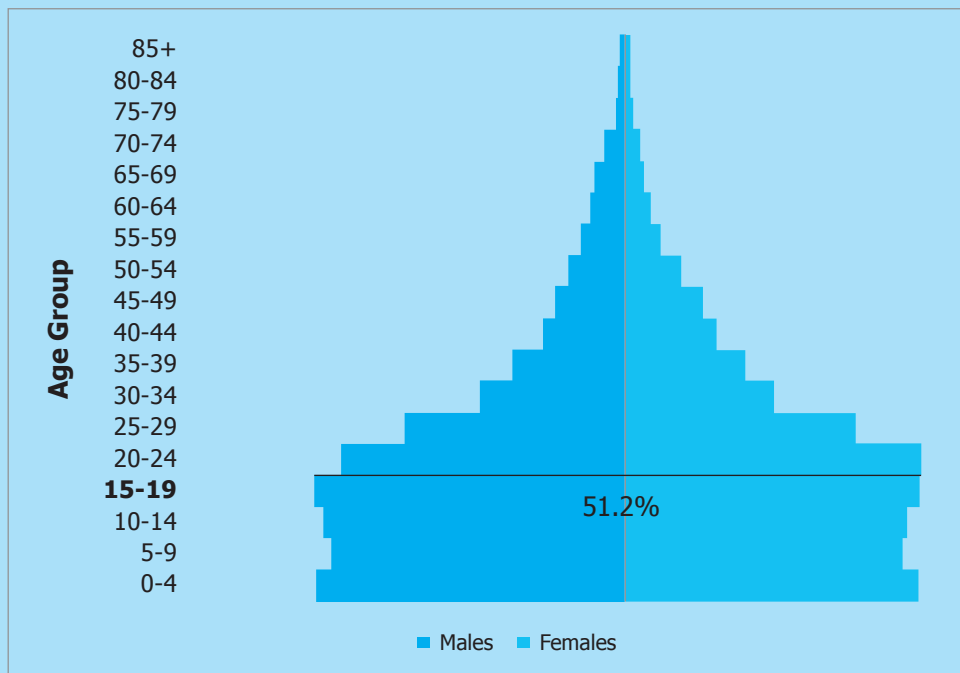
Despite the developmental roles played by expatriates in the society, the state began to think of balancing the population structure and relating it to the labour market. The state started 'Emiratisation' projects for jobs provided by private sectors for achieving social and economic developments. At the same time, this development was limited to a political framework that maintains the identity of the society while not harming the population structure.

LABOUR MARKET

Since the 1980s, UAE has witnessed a remarkable increase in foreign labour rates that form a large percentage of workers within the state (72.6% in 2004). However, over the last two decades, there has been an increase in the participation of Emirati citizens in the workforce, as the percentage increased from 20.7% in 1995, to 26% in 2005 (Gonzales and others, English, 2008). The factors that lead to such an increase of women's participation in the labour market. This increase is attributed to many factors; a change in social attitude

FIGURE 2-4-2

Population hierarchy in the UAE



Source: U.S. Census Bureau database (U.S. Census Bureau) <http://www.census.gov/ipc/www/idb/groups.php> dated May 30, 2011
 Source: The National Centre for Statistics, UAE, www.uaestatistics.gov.ae on May 30, 2011.

The government has made serious endeavours to organise the workforce and set legal controls that protect the labour market from great numbers that can affect the quality of the foreign workforce

to work, economic needs and the increase of women's participation in education. The government has made serious endeavours to organise the workforce and set legal controls that protect the labour market from great numbers that can affect the quality of the foreign workforce. This must be consistent with the stage of development the state undergoes.

An increase in the foreign workforce in the UAE may be due to the absence of educational and technical qualifications among Emirati citizens and from their reluctance to work in some fields, such as building and craft. Many Emirati citizens believe that they must work in certain fields, mostly in governmental institutions, where the majority of them (61%) work in management, defence, and social security, compared to 5.3% who work in productive sectors, such as mining, processing industries and agriculture (National Centre for Statistics, 2009B). This is a negative indicator towards accelerating community conversion to the knowledge society. The work of Emirati

citizens in government institutions only, limits the ability of future generations to get involved in certain economic areas they think do not have any value. Most ominous is the low number of Emirati citizens who are working in medicine, engineering, sciences, agriculture and industry. The percentage of those enrolling in engineering and scientific subjects was 20.93% in 2007.²⁶ Work related to science and maths is not motivating (Assunta Martin, 2003). All these matters have negative effects on all aspects of development and convert the society to a productive knowledge society instead of being a consumable one. This affects the ability of the future generation to move towards participation in the knowledge society.

RAISING THE STANDARD OF LIVING AND ERADICATING POVERTY

With the diversity in income resources, searching for alternatives, developing human

One of the most important pillars of the knowledge society is the presence of strong institutions and a solid network of communications that connects these institutions in order to concert efforts towards the proper environment for establishing the knowledge society

resources and transferring technology use, the UAE has accomplished much in maintaining the proper living standard for its native citizens and a large percent of expatriates. According to the Human Poverty Index, Emirati citizens enjoy better life opportunities than citizens in the rest of the Arab countries; the value of the multi dimensional poverty reached 0.002% in 2008.²⁷ This may in part result from focusing on implementing developmental projects by the government in social and educational care and health, and in part to the increase in the per capita income.

HEALTH SAFETY

The level of expenditures dedicated to health care are high, as it reached (8.7%) of total general governmental expenditures.²⁸ Everyone in the Emirates has access to an improved source of water. The state also established a wide network of hospitals and health centres that ensure comprehensive health care in all stages and specialisation throughout the country.

IMPROVEMENT IN MOTHERS' HEALTH

The state gives special attention to improving maternal health, as this issue has positive and effective return on the improvement of society as a whole, and in particular the health of children and adolescents from birth. Therefore, the country expanded the establishment of gynaecology and obstetrics departments within hospitals. According to the Millennium Development Goals of the UAE (2007), the maternal mortality rates have decreased since 2004 to 0%, while the delivery rate under physician supervision was 100%. Providing health security is one of the important and necessary indicators for maintaining the public health of the society and especially the future generation. This indicates the care of the country for its citizens and for providing them with a life free of disease and epidemics that can

put their lives at risk. It also confirms the country's desire to enable them to enter into the knowledge society.

INSTITUTIONS SUPPORTING THE PREPARATION OF THE FUTURE GENERATION FOR THE KNOWLEDGE SOCIETY

One of the most important pillars of the knowledge society is the presence of strong institutions and a solid network of communications that connects these institutions in order to concert efforts towards the proper environment for establishing the knowledge society and providing all possible means to the future generation to enable them to contribute effectively to that society. This appears in many institutions that are specialised in preparing the future generation.

The Ministry of Social Affairs is one of the ministries that have a direct relationship to providing services to the society and education, due to its close connection to providing specialised and multiple services for many categories within the society starting from childhood to old age. Also, the Ministry of Social Affairs is the formal body responsible for many categories, including centres for caring and rehabilitation of the physically challenged or people with disabilities. The Ministry provides specialised services in social security to achieve economic security to help the needy and provide proper living standards for them. The Ministry works to raise community awareness for social protection. It also prepares programmes to protect the youth from delinquency, treats delinquents, confronts juvenile social problems, as well as reforms individuals, helps released prisoners and provides care for orphans and neglected children. As an amalgamation of various women's societies, the Women's Federation aims to provide social services and activities and provide women the opportunity to play a role within the family and society. The Women's Federation and its societies hold

forums, lectures and competitions and organises exhibitions and celebrations, as well as exchange visits and trips. It also contributes to the educational and social activities concerned with motherhood and childhood within the state. Individual activities may be the prevailing characteristic of these societies that do not depend upon a strategic plan, throughout the country, and don't have a clear vision for roles and activities that must be conducted for achieving comprehensive and sustainable development for women and the family in the UAE that can lead them later to be participants in the international knowledge society.

Many public and private institutions and bodies have been constructed in the country for supporting, preparing and enabling the youth. The list also includes family development institutions that are concerned with all matters related to family development and care; it also includes a society development authority which works to transform the emirate of Dubai into a better place for living for the current and future generation through working on achieving sustainable social development. The Supreme Council for Family Affairs in Sharjah aims at promoting the sound and integrated building of the future generation's personality within the family and enabling the disabled and people with special needs to be involved in the knowledge society. Children and girls' centres work under the supervision of the Supreme Council for Family Affairs in Sharjah and are interested in developing children/girls and providing them with the proper climate for innovation and excellence in the cultural, educational, informative and technological fields. It also gives great attention to deepening and strengthening religious motives, supporting cultural identity and motivating elements of educational and critical thinking and developing skills and talents.

These centres care for the age category 12-18 years using an educational methodology based on attractive extra-

curricular activities, through which they aim at helping these children gain a set of life skills that are necessary and complementary to leadership and personality building. Their activities focus on skill and kinetic aspects; they also aim at achieving their desires and needs through providing attractive and developed programmes that take into consideration age requirements with the proper attitude. This process of discovering the skills and capabilities of talented and distinguished people is an important part of the centres' activities.

In confirming the integration of the different categories of community in the processes of preparing and enabling, the Zayed Higher Organisation for Humanitarian Care and the Sharjah Organisation for Humanitarian Services provided training, education and employment services for hundreds of disabled individuals and orphans of different ages. They did so by providing these services within different educational institutes and departments, as well as through education, culture and social services. This was done by communicating with the different sectors of society, such as local departments, hospitals and national societies.

The General Authority of Youth & Sports Welfare is the formal body for implementing the country's sports policy socially and culturally in accordance with Islamic religious principles, moral values and national goals. The authority generally focuses on fitness and sports. However, there are no specialised sports establishments for the sports federations. In addition, the sports establishments are not equally distributed throughout the country; the sports culture of the individual is fragile in society, and customs and traditions impose constraints on women participating in sports.

We conclude that the existence of different institutions that provide various programmes and projects is of great importance, as these institutions are considered enabling environments for

Many public and private institutions and bodies have been constructed in the country for supporting, preparing and enabling the youth

the individuals of the society, especially for the future generation. Consequently, they contribute to drafting the knowledge society. However, it is clear that they lack the comprehensive vision for establishing the knowledge society. Also, there is no single comprehensive approach for connecting the work of institutions; otherwise, there is some discrepancy in the events held either in terms of dates or the issues discussed, in addition to the inequality in the distribution of work and the allocated budgets of the geography of the UAE.

LEGAL AND LEGISLATIVE ENVIRONMENT

Law and legislation are the main elements for securing the required freedom to access the knowledge society, as knowledge can only be achieved with the guarantee of laws for the freedom of knowledge

Law and legislation are the main elements for securing the required freedom to access the knowledge society, as knowledge can only be achieved with the guarantee of laws for the freedom of knowledge. The UAE's constitution includes articles that emphasise the value of education and the responsibility of the country in this regard. The constitution contains important provisions that guarantee the free education of children. Article 17 of the constitution emphasises education as a main factor for the development of society. It is mandatory in the primary stage and free in all stages within the federation. Federal laws give the Ministry of Education the mission of spreading and providing education for all citizens, making it mandatory in the primary stage and free in all stages within the federation. It obliged the Ministry to develop educational plans, prepare school curricula, create exams and develop illiteracy elimination programmes, as well as establish and supervise schools and vocational, industrial, agricultural and university institutes. Ministerial decrees were also issued regarding the educational system and mandatory education within the country's schools. It is certain that the constitutions and countries laws, including articles, consider supporting and enabling environments to be important for all society's individuals to participate and

interact with the issues of the society, as well as integration into society's different aspects of life.

In the field of child care rights, the state generally focuses on protecting all children's rights, either for UAE nationals or for expatriates, based on Islamic legislation guidelines, Emirati society traditions and international laws. Laws and legislation were enacted to guarantee protection of child rights, fulfil all the main requirements of life and protect children against exploitation and violence in all forms, including trafficking, maltreatment and psychological and physical abuse. Severe penalties were imposed on anyone who committed such acts. The UAE takes pride in the success it has achieved in the elimination of all forms of discrimination against children, and females enjoy the same rights and legal and social protection as males (UAE constitution, 1971).

The UAE has made great advancements in establishing enabling environments. Prevailing laws and systems supports the process of preparing youth and confirms the necessity of achieving it, while current institutions, either governmental or national, provide the supporting institutional framework. Financial resources also allow action without material constraints. However, the question is to what extent these environments, whether on the institutional or organisational level, are effective in achieving the aspired goal of preparing the future generation for the knowledge society. This is especially important with the existence of various bodies, visions and activities without a plan to effectively organise or coordinate their activities. Reference must be made here to the biggest challenge, i.e. how to motivate the future generation to obtain the benefits provided by these environments.



FUTURE GENERATION READINESS FOR ACCESSING THE KNOWLEDGE SOCIETY: FIELD STUDY RESULTS

INTRODUCTION

This chapter provides an overview of the results of the field survey conducted in preparing the UAE case study. A sample of the future generation, under 17-18 years of age, who completed the eleventh grade in Abu Dhabi and Dubai was surveyed. These students represent the product of the educational process before university. They also represent the higher category of the 'future generation' group adapted in the Arab Knowledge Report 2010/2011, under the age of 18, which represents about half of the population in the UAE.

The field studies aimed to find to what extent the youth participating in the study possessed the talents and values related to the cognitive, conative and social dimensions of the personality, which are required for accessing to the knowledge society. The study also sought to collect the opinions of those students about their surrounding environments. This chapter also discusses the results of the survey of participating students' teachers and analyses their attitudes and opinions on enabling environments for students within the school. This chapter also examines educational practices and methods, as well as teachers' attitudes on the issues that may contribute to preparing youths to be involved in the knowledge society. The research was expanded to include a larger group of relevant stakeholders; hence this chapter offers the opinions of a group of specialists and decision-makers in the UAE on the same issues that were expressed in a workshop in which they participated.

FIELD STUDY SAMPLES

RANDOMLY SAMPLED STUDENTS

Random sampling of twelfth grade students

in Abu Dhabi and Dubai schools was used as the general methodology of the report (See Chapter Five of the general report). According to the nature of the leading case studies and taking on board what was implemented in other case study countries, a random sample of 1,375 male and female students meeting the following criteria was drawn:²⁹

- They had to be students in a secondary school in Abu Dhabi or Dubai.
- They had to have completed the eleventh grade and are now in the twelfth grade.
- The sample must cover the available study specialisations (scientific and literary streams).
- The selected sample shall consist of males and females.
- The members of the sample must be UAE citizens who study in private and public education.³⁰

DESCRIPTION OF SAMPLED STUDENTS

A sample of students was drawn according to the data approved by the Ministry of Education, with explanations about the number of students and their educational specialties.

The sample included 23 schools in Abu Dhabi and Dubai. The number of students sampled was 1,375, with 629 male students and 746 female students from the scientific and literary streams. 64% per cent of the female students and 73% of male students studied scientific subjects. This is consistent with the study community which tends to the scientific specialisation

The field studies aimed to find to what extent the youth participating in the study possessed the talents and values related to the knowledge, moral and social dimensions of the personality, which are required for accessing to the knowledge society.

more than the literature one.

TEACHERS SAMPLE

A random sample of Emirati and foreign teachers was taken. It consisted of 138 teachers working at the schools from which the sample of students was surveyed. They were asked about their opinions regarding the teaching profession, as well as to define their view on their surrounding environments and to what extent they support or hinder their efforts to prepare the future generation.

EXPERTS AND DECISION-MAKERS SAMPLE

A brainstorming workshop was organised that included approximately 41 experts selected from different scientific and cognitive specialisations from both the public and private sectors. The workshop was organised to discover their opinions and attitudes regarding the most important issues for preparing the future generation to effectively participate in the knowledge society, as well as to define the shortfalls they think hinder this goal and suggest ways for overcoming them (a list of the names of participants in the workshop is included in the appendix).

FIELD STUDY RESULTS

SKILLS

Students' skills were tested through measuring their cognitive, conative and

social skills. Each skill was measured according to a set of sub-skills with a score ranging between 0 and 25. Students were required to score 12.5 to indicate their possession of the sub-skills.

COGNITIVE SKILLS

Cognitive skills consist of four sub-skills: searching for and processing information, written communication skills, problem solving skills and use of technology skills. The maximum score for possessing the skill was 100, and the minimum score is 50. Below are the results for aggregate cognitive skills.

Table 2-5-1 shows that the total arithmetic mean of the cognitive skills is 32.91, which didn't exceed one third of the minimum score. The low value of standard deviation along with the low averages of males and females are indicators of the low levels of cognitive skills among males and females. The table also indicates that no student received a score higher than 72.5. Despite the fact that females outperformed males and the difference was statistically significant, they did not receive the required minimum score of 50 to possess aggregate cognitive skills. The weakness in these skills may be attributed to a shortfall in the educational system that is unable to prepare the environment that strengthens the ability to obtain the required cognitive skills to spread a knowledge culture among students and to deal with knowledge as a necessity of life. In other words, the reasons for this weakness may be attributed to the nature of the curricula and educational culture or the

TABLE 2-5-1

Results of aggregate cognitive skills (Total scores range from 0 to 100)

Average (Arithmetic mean) ³¹			Standard deviation ³²		Standard deviation ³³	Lowest score	Highest score	Statistical differences between males and females *
Males	Females	Total	Males	Females				
28.24	36.87	32.91	10.71	10.72	11.54	3.61	72.45	In favour of females

* At significant level 0.05

Despite the fact that females outperformed males and the difference was statistically significant, they did not receive the required minimum score of 50 to possess aggregate cognitive skills

TABLE 2-5-2

Results of detailed cognitive skills
(Total scores range from 0 to 25)

	Arithmetic mean			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Information searching	8.62	10.52	9.65	3.69	3.5	3.71	0	20.24	In favour of females
Written communication	2.91	6.77	5	4.05	5.74	5.39	0	25	In favour of females
Problem solving	5.15	6.9	6.09	3.75	3.67	3.814	0	22.22	In favour of females
Use of technology	11.55	12.16	12.15	4.3	3.47	3.92	0	22.13	In favour of females

methods and techniques used in education.

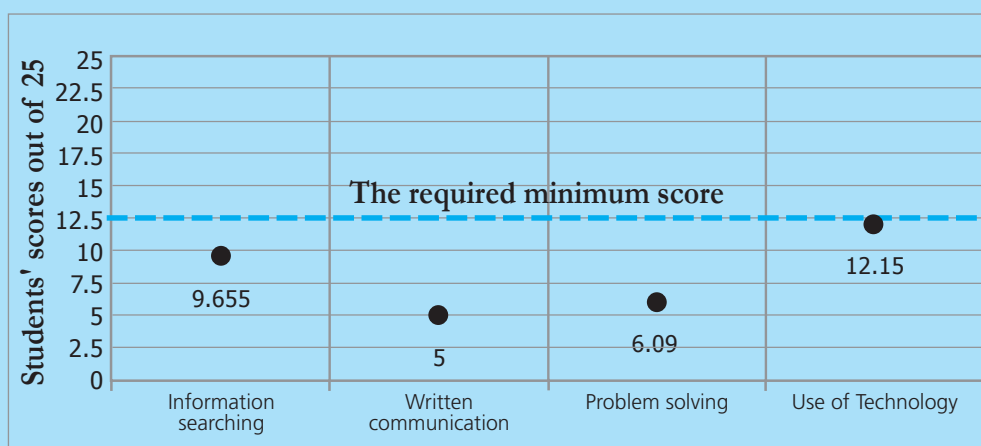
Figure 2-5-1 and Table 2-5-2 indicate that there are weaknesses in all cognitive skills, as the average of any cognitive skill did not exceed the required minimum score of 12.5. Results showed a genuine discrepancy in the levels of possession of these skills. The written communication skill was the weakest with an average score of 5, and about 20.7% of the students sampled did not receive any score in this skill. However, ironically, this skill is the only one for which students received a final score, even though the percentage was low, i.e. 0.4%. This indicated variation in students' scores. The same was confirmed by the standard deviation value that

exceeds the arithmetic mean value of this skill. Student performance was slightly higher in the problem solving skill (6.09), than in written communication. However, performance was still very low with homogeneity among students being weak in this skill. Performance in the problem solving skill increased by 3.5 marks to 9.65. As for the use of technology skill, it is the best skill among UAE students, as the average of this skill was approximately 12.15 of the required minimum score. Females outperformed males in all cognitive sub-skills with statistically indicative differences; the greatest differences were in written communication skills, as the average of males was (2.91) and females (6.77).

The written communication skill was the weakest with an average score of 5, and about 20.7% of the students sampled did not receive any score in this skill

FIGURE 2-5-1

Comparison of average (arithmetic means) of cognitive skills for total sample (males and females)



What happens outside school may greatly affect the level of the student's knowledge. Therefore, we should not limit ourselves to the skills of searching for information, written communication and problem-solving as those only gained in school

The weakness in students' cognitive skills is certainly related to the failure of the educational system that helps them acquire such skills. This has resulted from the fact that school curricula and activities are not prepared in such a way that allows students to gain such skills. Despite taking into consideration educational activities and research in assessing students' scores, particularly in the secondary educational stage, what is really happening is copying and pasting information or even asking for help from centres specialised in preparing research for students. It is worth mentioning that the development of curricula to activate such skills is confronted by the student's learning culture and teaching methods which are mostly traditional. It is still thought that the test score is the only measurement of learning. Therefore, the culture of repetition and memorisation prevails. Also, weakness in the written communication skill is a result of not paying enough attention to training students on various writing types, giving them the chance to select subjects related to the subject materials and instructing them to write about themselves and discuss their work with their classmates. This weakness may be also attributed to the volume of curricula that does not allow this, and it may also be attributed to the instructional educational system which is adopted by a large number of teachers. It is certain that the nature of teaching the Arabic language is another constraint, as Arabic language curricula use a classical language and vocabularies that students do not use in their daily lives, which makes using it in written communication very difficult. Thus, the mission of the teacher is often for students to memorise vocabularies and grammars for passing exams. Regarding problem-solving skills, they already exist in the curricula. However, their application is often not related to the problems the student encounters in life. So, students may be asked about a situation they have not faced before, and hence cannot give an answer except by asking a family member

who solves the problem on their behalf.

Students' preference to use technology skills other than cognitive skills confirms that the educational system provides the infrastructure required for obtaining knowledge by providing high quality learning tools consistent with the prevailing use of this technology in society by most individuals, either at the level of the family or society through computers or mobile phones. However, possession of this skill does not mean that students will be qualified enough for accessing the knowledge society because they may be consumers of knowledge products. There also should be integration between other cognitive skills in addition to the technology use skill.

What happens outside school may greatly affect the level of the student's knowledge. Therefore, we should not limit ourselves to the skills of searching for information, written communication and problem-solving as those only gained in school. The various enabling environments in the society such as institutions and bodies must collaborate to support the development of the young generation in these skills. The same was referred to previously when discussing the programmes and activities of institutions and bodies and their role as enabling environments.

Considering the scores of the female students participating in this study, the difference between their results and those of the male students gives an accurate description of the actual differences between females and males in UAE society. Females were more successful in all cognitive skills than males, especially in the skills of information processing and written communication, i.e. females are interested in and benefit from education more than males. The same was also emphasised by examining the results in the Ministry of Education, which indicated that females are more successful in education than males. This may also be clear through the increasing numbers of females joining university.

Students' readiness in terms of cognitive skills

We notice that most students fall into the second half of the readiness scale, i.e. their abilities are not sufficient to respond to the requirements of the knowledge society. Considering aggregate cognitive skills, we found that 26.8% of the surveyed students do not have the minimum score required to become involved in the knowledge society. 65.1% of students are in the early stages for gaining readiness, i.e. approximately 92% of students are below the required level. 8% of students are the only ones who fall in the top half of the readiness scale, they are in the process of gaining readiness potentials, which was not reached by any of the other examined students.

By comparing the levels of readiness among the four skills, we note that the position of the use of technology skill, followed by the skill of information processing, is relatively better than the problem-solving and written communication skills. For the

last two skills, we note that about 90% of students are still in the first half of the scale.

A closer investigation demonstrated that only 41 students, i.e. approximately 3%, fall in the category of 'not ready' in all skills, while no student reached the level of readiness in all skills at the same time.

CONATIVE SKILLS

Conative skills consist of three sub-skills, i.e. the skills of self-esteem, learning motivation and future planning. The maximum score was 75, and the supposed minimum score for skill possession was 37.5. Below is an illustration of the aggregate results of the conative skills.

Table 2-5-3 indicate that the situation of the conative skills is better than that of the cognitive skills, as students exceeded the minimum score for possessing the aggregate conative skill with 3.5 marks. The standard deviation value indicates that there is no variation in students' answers. Results also indicate that no student

The situation of the conative skills is better than that of the cognitive skills, as students exceeded the minimum score for possessing the aggregate conative skill with 3.5 marks

FIGURE 2-5-2

Students' readiness in terms of cognitive skills

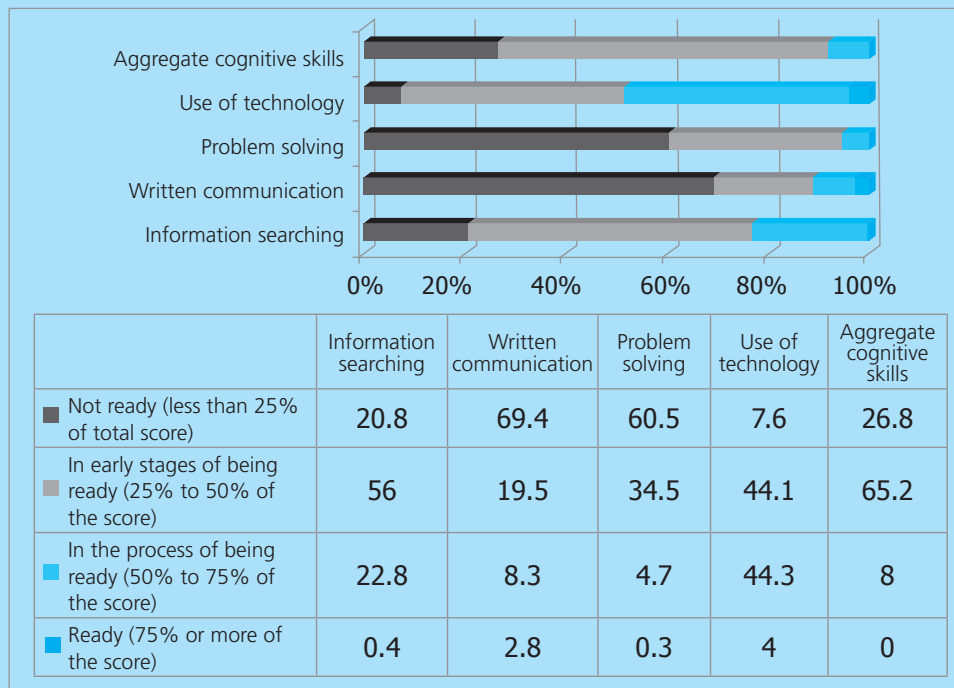


TABLE 2-5-3

Results of aggregate conative skills
(Total scores range from 0 to 75)

Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
38.91	42.96	41.1	15.10	11.89	13.6	0	66.77	In favour of females

received the full score, where the highest score was 66.77. As with the cognitive skills, we notice that females also were more successful than males in aggregate conative skills, and this difference was statistically significant.

Students' possession of conative skills may be attributed to three reasons: first is the culture of UAE society, which instils in the future generation a sense of pride in their national identity and the family, which raises students to have self-esteem. The second reason may be the fact that students feel that their future and rights as citizens will be secured by the government in terms of the availability of employment opportunities and a decent life. The third reason may be the efforts for developing such skills in students through various educational institutions.

By checking the results of the conative sub-skills, (Table 2-5-4 and Figure 2-5-3) we note that there is a statistically significant difference between the skills of self-esteem and learning motivation on one hand, and the skill of future planning on the other hand. The skills of self-esteem and learning motivation feature high scores for students, as the average score for both was 20.73 and 18.82

respectively. These skills are the highest sub-skills of all the cognitive, conative and social skills. The difference in both skills is also not statistically significant for males and females. On the contrary, we note that the skill of future planning is one of the weakest sub-skills not only at the level of conative skills, but also at the level of cognitive and social skills. 24.7% of the sampled students received a score of 0, which is a high percentage compared to the other sub-skills. Despite a similarity at the low levels, females achieved a statistically indicative difference over males in this skill. The reasons for positive self-esteem and educational motivation are attributed to social upbringing and the public culture within the UAE, which instils in the citizen a sense of pride in their identity and self-esteem. One of the major reasons for possessing these skills is that the Emirati student has no fear of the future. The country has made great efforts in securing the future of citizens and enhancing their self-esteem through national initiatives for youth employment in the various state sectors through 'Emiratisation', as well as through adopting some laws, procedures and initiatives for youth employment in the private sector. This is in addition to

The reasons for positive self-esteem and educational motivation are attributed to social upbringing and the public culture within the UAE, which instils in the citizen a sense of pride in their identity and self-esteem

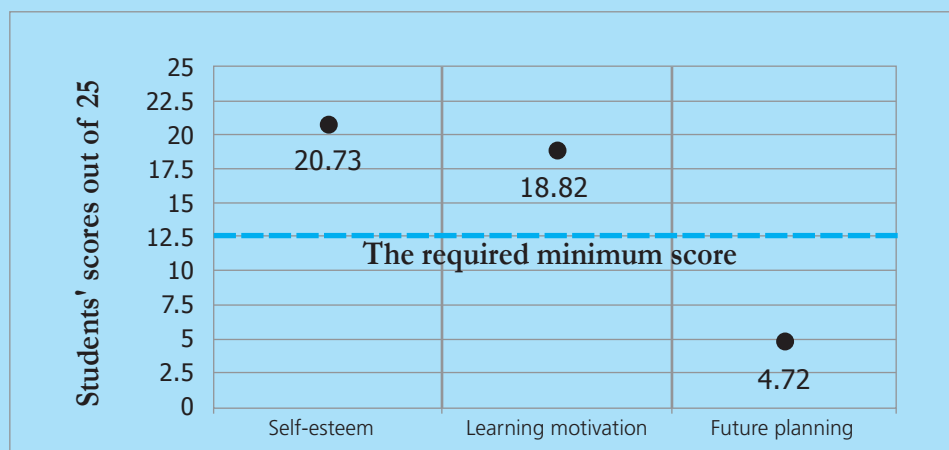
TABLE 2-5-4

Results of detailed conative skills
(Total scores range from 0 to 25)

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Self-esteem	20.63	20.81	20.73	3.2	2.67	2.91	3.57	25	No difference
Learning motivation	18.96	18.72	18.82	3.11	2.99	3.04	2.08	25	No difference
Future planning	3.91	5.40	4.72	3.78	4.73	4.38	0	25	In favour of females

FIGURE 2-5-3

Comparison of average (arithmetic means) of conative skills for total sample (males and females)



giving youth the opportunity to enlist in the police and army, which the youth consider a top priority as a future career. The possession of both skills may also be attributed to the educational system, which instils self-confidence, self-esteem and learning motivation in the future generation. However, this seems weak with their refusal, particularly by males, to complete their university education and higher education. The results of the learning motivation skill were opposite to those of the teachers' questionnaire. The results were shocking, as a great percentage of teachers believed that "the care of students for their study is decreasing day after day" (56.8% of them totally agree, while 34.1% of them somewhat agree), while no teacher refuted this statement. A great percentage of teachers (52.6% totally agree) also believe that "material values prevail over cognitive values for most students" (See Table m2-15 in the Appendix).

It seems that students' assurance of their future has positively influenced the skill of self-esteem and negatively influenced the skill of future planning. This has resulted in the future generation possessing a low level of this skill. We cannot exclude the failure of the educational system to instil such skills in students, as those graduating

from secondary schools have no idea about the faculty they will join. Therefore, transferring from one faculty to another in the first and second years is frequent. The educational system does not direct youth during the secondary stage to specific fields of study needed by the UAE, such as medicine, engineering and science. In some categories, a special culture prevails, which supports future women's work in teaching and other fields, where there is no direct dealing or interaction between the two genders. This results in a lack of interest in the family for planning the future of their daughters outside the framework of traditional women's jobs. The future of the girl is mostly already known in UAE society; she does not need to exert effort in planning her future as it is often associated with marriage. Work also comes later, but is not necessarily the main incentive for the girl's future. In addition, the decision for the girl to join the university is not often taken by the family as a result of several factors, such as believing that marriage is more important than study and the remoteness of the location of the university in the future.

Students' readiness in terms of conative skills

Considering the conative skill aggregate

It seems that students' assurance of their future has positively influenced the skill of self-esteem and negatively influenced the skill of future planning

results, we notice that 4.7% of students have the required conative skills, and that only 8.4% of the students surveyed do not have the minimum score for the conative skills that prepares them for involvement in the knowledge society. We also note that, except for the skill of future planning, the majority of students fall within the third and fourth levels of the readiness scale.

Referring specifically to 'readiness', we find that three quarters of the sample are 'ready' on the level of the self-esteem skill (75.9%), and approximately half of the sample are 'ready' on the level of the learning motivation skill (50.8%). Further investigation demonstrated that the number of students falling within the 'Not Ready' category in all conative skills and found only two students, while three of them reached the fourth level (full readiness level) in all the conative skills at the same time.

SOCIAL SKILLS

Social skills consist of three sub-skills: the skill of communication with others, the skill of team-work and the skill of participation in public life. The maximum score was 75, and the supposed minimum

score of skill possession was 37.5 scores.

The results for aggregate social skills were similar to that of the total conative skills, while they differed from the total cognitive skills. We found that the level of students in the social skills exceeded the supposed minimum score for the possession of these skills, in which the total average was 39.17. No student received the full score. Table 2-5-5 shows that there are no statistically significant differences between males and females.

Table 2-5-6 and Figure 2-5-5 show statistical differences between students' levels in these social sub-skills. The participation in public life skill is the weakest social sub-skill, as the arithmetic mean average was 11.57, which is 1 mark less than the supposed minimum limit. This is the only skill in all aggregate and sub-skills, in which males outperformed females to a statistically significant degree. As for the skill of communicating with others, it is similar to the skills of self-esteem and educational incentive with an average of 16.8. Females outperformed males in this skill. The teamwork skill is in the middle level between the two skills mentioned above with an average of 14.17. Females also outperformed males in this skill.

Referring specifically to 'readiness', we find that three quarters of the sample are 'ready' on the level of the self-esteem skill (75.9%)

FIGURE 2-5-4

Students' readiness in terms of conative skills

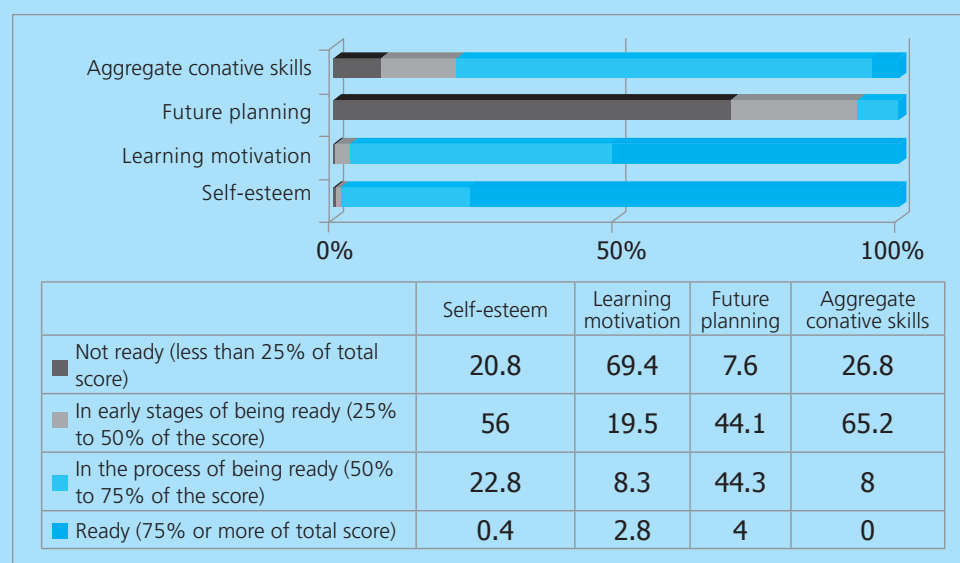


Table 2-5-5

**Results of aggregate social skills
(Total scores range from 0 to 75)**

Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
38.36	40.06	39.17	17.16	17.47	17.43	0	69.84	No difference

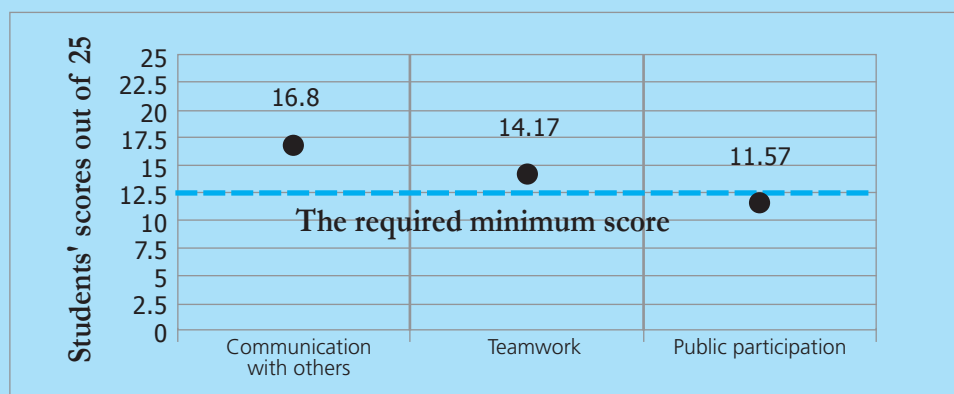
Table 2-5-6

**Results of detailed social skills
(Total scores range from 0 to 25)**

	Average (Arithmetic mean			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Communication with others	16.34	17.34	16.8	6.30	5.73	6.03	0	25	In favour of females
Teamwork	13.55	14.73	14.17	6.59	6.73	6.7	0	24.12	In favour of females
Participation in public life	12.06	11.10	11.57	7	6.50	6.74	0	25	In favour of males

FIGURE 2-5-5

**Comparison of average (arithmetic means) of social skills for total sample
(males and females)**



Whoever has both skills of communicating with others and social work is expected to have a good skill in participating in public life

Whoever has both skills of communicating with others and social work is expected to have a good skill in participating in public life. However, results showed that the participation of the future generation in public life was low. This may be attributed to the fact that public participation away from the family and relatives is not significant for the future generation, in addition to the fact that they have a low awareness of the value and importance of participating in public life

in society, such as participating in voluntary social work. This weakness in the skill of participating in public life and training to practice it within the UAE is consistent with the results of a study on the efficiency of indicators of civil society institutions in some Arab countries, including the UAE. It also showed a weakness in the participation of individuals in voluntary social work (Amna Khalifa, in Arabic, 2010).

Generally, the results of the future generation's possession of social skills

We can say that instilling the skill of communication with others is not limited to the educational system, as the student develops this skill in the family and the surrounding environment

were positive. The overall performance of the individuals sampled exceeded the required minimum level. The MOE implements educational and cultural visits for successful students, students with highly qualified skills and talented students to some Arab and foreign countries to gain an awareness of the most modern inventions in the field of the students' interest, knowledge and gaining skills and benefitting from the countries' experiments in these fields. We can say that instilling the skill of communication with others is not limited to the educational system, as the student develops this skill in the family and the surrounding environment. With the nature of Emirati society and the convergence of its families and tribes, the future generation can develop this skill. Possessing such skills may be attributed to the nature of UAE society outside the family, especially in Dubai and Abu Dhabi, as well as the existence of a multi-national workforce, allowing more communication.

This explanation also applies to the culture of teamwork. The UAE is a society where social relationships prevail among its individuals, which encourage communication and helping others, especially families and relatives. Students gain such skills through their families and the general culture. Also, a large group of foreign nationals, either Arabs or foreigners, work in UAE public schools, and this supports such skills. The most prominent thing is that some subjects, such as maths and science, aim at instilling such skills, especially since such subjects allow students to work together in teams inside and outside the classroom.

As for the gender variable, males are more successful in the skill of participating in public life than females, as a result of the conservative culture of the society.

Students' readiness in terms of social skills

We notice that 36.3% of students are still either 'not ready' or in the beginning

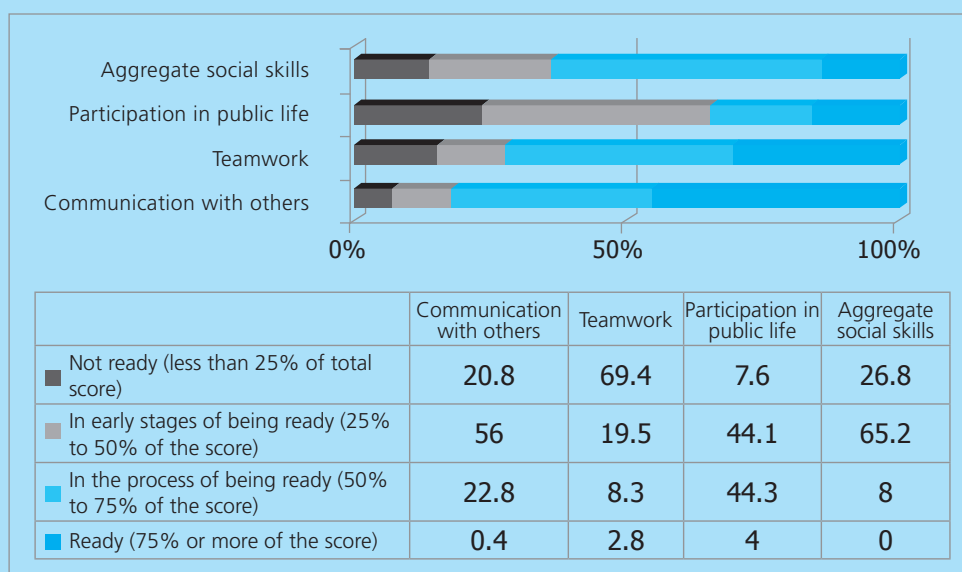
phase of gaining social skills required for accessing the knowledge society. On the other side of the scale, we notice that only 14.3% are in the 'ready' category. 50% of students possess skills that qualify them to be in the process of the readiness phase. This result is higher than that recorded for cognitive skills, but it is still lower than that recorded for conative skills. This means that students are more prepared at the level of conative skills than at the level of other skills.

At the level of social skills in detail, we notice that the majority of students fall in the third and fourth levels of the readiness scale for the skills of communication with others and teamwork, contrary to the skill of participating in public life. Focusing on the high category, it was clear that there is a discrepancy between the rates of ready students through various skills. The highest skill is communicating with others, and the lowest is the skill of participation in public life. With more research, we notice that 60 students (4.4%) fall within the 'readiness' category in all social skills compared to 5 not ready students (0.4%).

With high rates in social skills of the youth and their relation to youth readiness for the knowledge society, students scored relatively high in two skills, i.e. communication with others and teamwork, while they scored low in the skill of participation in public life. This may result from weak participation in educational institutions and the society as a whole. The high rates achieved in the readiness phase in social skills are 14.3%, compared to conative skills (4.7%) and cognitive skills (0%). This may be attributed to the social upbringing that concentrates on developing and enhancing the skills related to strengthening social relations within families, relatives and neighbours and to the nature of UAE society with its openness to many cultures represented by non-nationals. If we add the students who are about to be prepared to the category of 'ready' students, then the category of conative skills (77.9%) is above that of

FIGURE 2-5-6

Students' readiness in terms of social skills



Workshop participants confirmed that cognitive skills, including the skills of decision-making, problem solving and critical analytical thinking, are among the weakest skills for youth

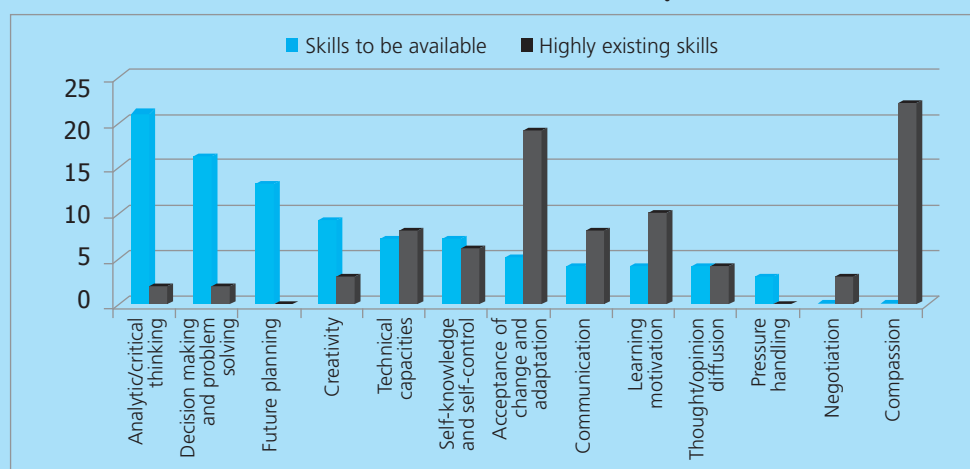
social skills (63.7%) and cognitive skills (8%). In both cases, the cognitive skill is very weak.

The results of the workshop, in which an elite group of academics, experts and decision-makers participated to discuss to what extent the future generation is ready to participate in the knowledge society, confirmed the results of the students' testing in such skills. Workshop participants confirmed that cognitive skills, including

the skills of decision-making, problem solving and critical analytical thinking, are among the weakest skills for youth. The results also confirm that the skill of future planning is one of the weakest skills for youth, and this is consistent with the test results. The reasons for weakness, according to participants in the workshop, are attributed to the educational system followed, the consumption culture, luxury, dependence on others and on foreigners,

FIGURE 2-5-7

Views of participants in the workshop about the importance of skills and their availability



The experts agree that the strongest skills of the future generation are related to compassion, acceptance of others, the ability to adapt and caring about educational incentives

the desire to gain money without effort and the style of social and family upbringing.

Most experts and decision-makers agree that these weak skills are also the most important 3 skills necessary for the youth to possess. We finally concluded that the size of the gap within the UAE is still large until the youth are ready for the knowledge society according to the views of experts and decision-makers.

The experts agree that the strongest skills of the future generation are related to compassion, acceptance of others, the ability to adapt and caring about educational incentives. This is also consistent with the results of student tests. Specialists participating in the workshop believe that these skills are strong as a result of the approach followed by the educational system, various cultures within UAE society, openness to others, technological development and family upbringing.

VALUES

The scale of values adapted by the study contained four groups. The first includes conative values (such as love of knowledge, having an open mind for accepting new

things, striving and persistence and interest in scientific inventions); the second includes conative values (such as self-confidence, social recognition, personal freedom, self-honesty); the third social values (such as respecting codes of ethics, customs and traditions, national affiliation, respecting others' opinions and thoughts, willingness to participate in public life). The fourth universal values (such as human rights, international peace, democracy, justice, and freedom of expression). Both aggregate and sub-values were measured on a scale from 1 to 5, so the supposed minimum limit of values possession is 3 marks.

Table 2-5-7 shows that the marks of students ranged between 2.41 and 4.66, i.e. no student received the full mark. Results also showed that students are strong in the aggregate values as the average of their marks was 3.77. This exceeded the supposed minimum limit by 0.77. The standard deviation also indicates that there was not any discrepancy in students' scores, and that their levels were close in general. By analysing the differences between males and females, it was found that females were more successful than

TABLE 2-5-7

Results of aggregate values (Total score of values ranges from 1 to 5)

Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
3.66	3.87	3.77	0.33	0.32	0.34	2.41	4.66	In favour of females

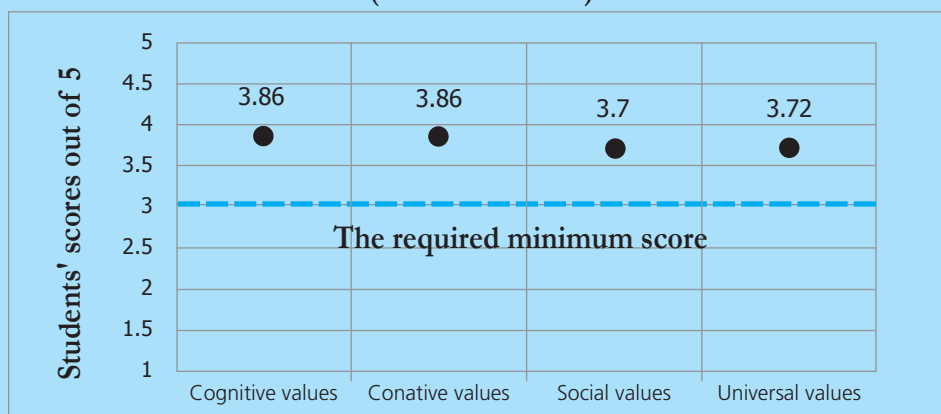
TABLE 2-5-8

Results of detailed value (Total scores range from 1 to 5)

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Cognitive values	3.78	3.92	3.86	0.46	0.43	0.45	1.84	4.89	In favour of females
Conative values	3.72	3.98	3.86	0.41	0.36	0.44	2.26	5	In favour of females
Social values	3.63	3.76	3.70	0.43	0.41	0.39	2.38	4.75	In favour of females
Universal values	3.55	3.86	3.72	0.40	0.41	0.43	1	4.85	In favour of females

FIGURE 2-5-8

**Comparison of average (arithmetic means) of values for total sample
(males and females)**



It could be said that students have a positive desire towards the different values, but they could not translate this approach to behaviours and practices in the real world.

males. The same was also true in the total cognitive and conative skills.

It is worth noting that when we talk about values, we quote students' statements which are indicators for their trends, but not necessarily for what they actually possess or practice.

Direct comparison between the studied value categories indicated the presence of two different groups (with statistically significant differences). The first category includes cognitive and conative values, while the second includes universal and social values. The first values are equal in the arithmetic mean (3.86), which exceeds the minimum limit supposed for possessing the values by 0.86. This indicates that they prevail in students. On the other hand, the degree of possessing universal and social values decreases, as their averages were 3.72 and 3.7 respectively. However, it is still higher than the supposed minimum limit for possessing values. Regarding the gender variable, females achieved statistically significant differences over males in all cognitive, conative, social and universal values.

We here indicate again that what students stated is the degree of possessing the four groups of values. Here, we find a contradiction, especially due to the fact that skills in general, and cognitive skills in particular, were weak while it was expected

that the values – at least the cognitive ones – would be weak. However, the results in Table 2-5-8 did not indicate so. Therefore, it could be said that students have a positive desire towards the different values, but they could not translate this approach to behaviours and practices in the real world. This also applies to social values; the results of the skills and workshop confirmed that values related to dealing with others, such as understanding, compassion and tolerance, were the dominating values. The same is also true for conative values. This is consistent with the results of the conative skills, which suggested that the educational system enhances values of self-esteem, trust, inspiration, dignity and respect.

STUDENTS' READINESS IN TERMS OF VALUES

The scores obtained by students allowed us to classify most of them into the two high levels in the readiness scale: 70.8% of them are in the process of being ready and 27.7% of them already ready. This situation differs from what we have recorded for the cognitive skills level, but still close to what has been recorded for the conative level.

Considering the category of 'ready' students, we find that students are more ready at the level of conative and cognitive values, followed by universal values and

The possession of different values by students – even if they were not translated into the real world – is an important and necessary indicator that should be taken into account by teachers, curriculum developers and educational departments

finally the social one. However, the situation is generally less bad than the status of skills because students, except for a small minority, possess the minimum limit of values that put them either near readiness/in the process of being ready or already ready.

By researching the number of students who reached the fourth level in all values (readiness), we found 79 students (5.7% of participating students in the study), while no student was still in the first level (not ready) in all values.

The possession of different values by students – even if they were not translated into the real world – is an important and necessary indicator that should be taken into account by teachers, curriculum developers and educational departments. The possession of these values helps greatly in enhancing and training in such values for transforming them later to a behaviour that produces skills gained and practiced by students.

For a more comprehensive view about students' readiness in terms of values, we conducted a survey on the opinions of teachers on values that students were asked about and to what extent it is important

that they have them. The teachers said they cared for all values equally, as the analysis found no statistically significant differences. In addition, all types of values, whether cognitive, conative, social or universal, showed no difference in importance according to the teachers' views, as teachers believe that these values are important and play a role in the preparation for the knowledge society (See table m2-16 in the Appendix).

Regarding teachers' opinions about the extent of students' possession of values, the analysis revealed that teachers believe that students have medium degrees of values, which were generally lower than the degrees believed by the students themselves, i.e. teachers provided lower estimates for the students' possession of values or students provided higher estimate for their possession of values. From the teachers' point of view, statistically significant differences appeared between their strength in students, except for conative and universal ones. Cognitive values were the weakest for students (See Table m2-17 in the Appendix).

Considering the results of the workshop that was held in the UAE with an elite

FIGURE 2-5-9

Students' readiness in terms of values

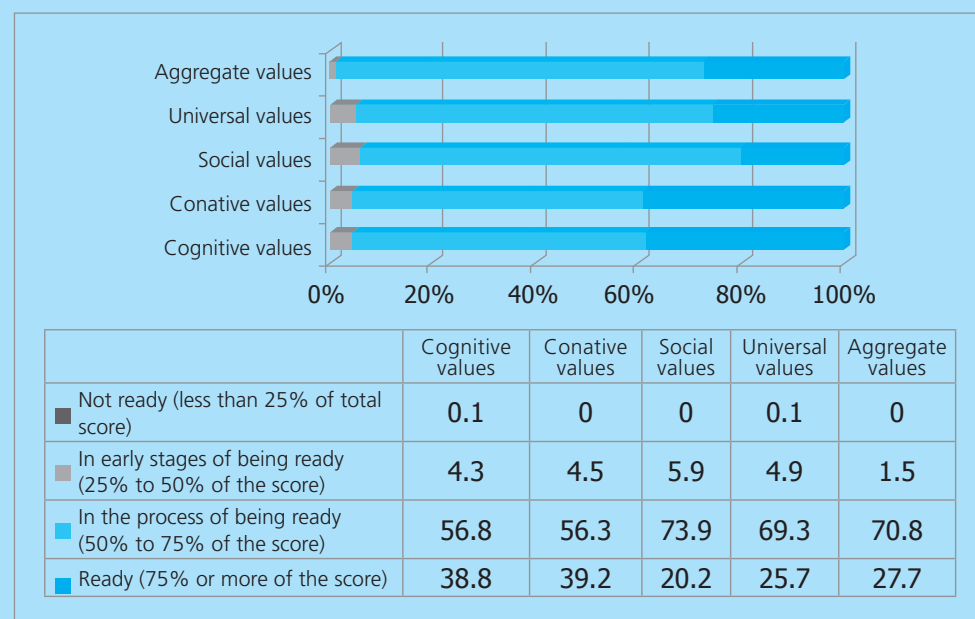
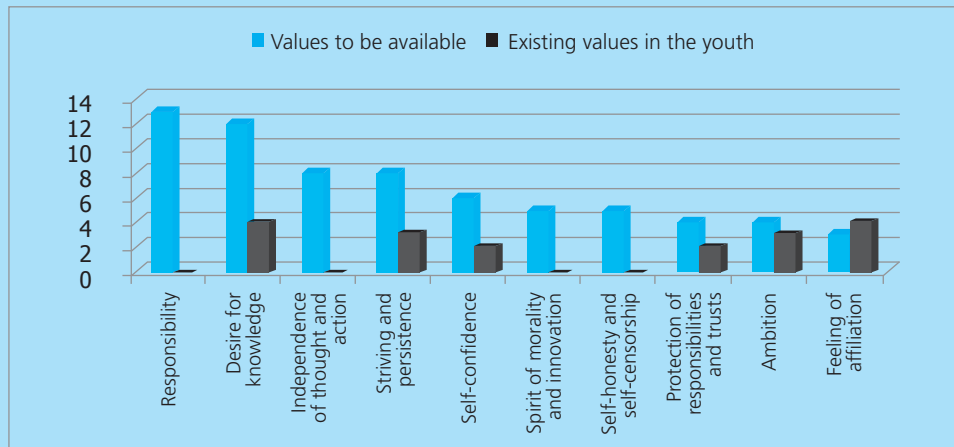


FIGURE 2-5-10

Views of participants in the workshop about the importance of values and their availability among the youth



group of academics, experts and decision-makers in the field of preparing the youth generation for the knowledge society, we found the values that participants believe the youth strongly possess are the desire for knowledge, understanding, compassion, tolerance, solidarity with others and openness to others. Considering these values, we see that they represent the values that are deeply rooted in students, and therefore, they translated them into behaviours and skills that clearly appear in positive results obtained by students in conative and social skills.

The experts attributed the reasons for the strength of these values in the future generation to the nature of society, religious upbringing, cultural diversity and the population structure, which are all factors that often enhance the values of compassion and tolerance to others. It is also attributed to the youth's enthusiasm, the desire to achieve their goals and coping with the real world.

By examining values, which the experts participating in the workshop believed were weak for the future generation but necessary for accessing the knowledge society, we note that most of these values are cognitive values that affect cognitive skills, which clearly appeared weak in the students' testing. The experts found that the

weakest future generation values are those related to responsibility, striving, persistence, independence of thought and spirit of morality and innovation, which are all related to knowledge and greatly affect cognitive skills. Experts attributed the reasons for weakness in these values to welfare, luxury, increased dependency on others, the traditional educational system, which failed to instil the spirit of striving, persistence and desiring education, in addition to the weak role of the family and media, the absence of the spirit of competition, initiative, as well as weakness in public activities.

ENABLING ENVIRONMENTS

THE IMPACT OF ENABLING ENVIRONMENTS ON SKILLS AND VALUES

Based on the student survey, the enabling environments were summarised by the following variables:

- Family structure: an integrated family (father, mother and children) or single-parent family (absence of father or mother due to divorce, death or migration)
- Father's educational level
- Mother's educational level
- Family's interest in student's study

The experts found that the weakest future generation values are those related to responsibility, striving, persistence, independence of thought and spirit of morality and innovation, which are all related to knowledge and greatly affect cognitive skills

- Family's financial welfare level
- Educational welfare at home
- Educational welfare in the local environment
- Educational welfare at school
- The family's method of upbringing

Skills

Regression analysis showed that among the above factors in the enabling environments, there are five that affect the youth's possession of cognitive skills by 8.7%. Three changes were found to significantly affect the possession of conative skills by 4.1%, while two changes indicatively affect the possession of social skills by 2.6% (See table m2-25 in the Appendix).

Considering the enabling environments that affect the future generation's possession of different skills, we found that the family's method of upbringing and the educational welfare at home positively affected the possession of the three skills. The family's care for the student and their education, the method of upbringing and the methods followed by parents for dealing with the student, in addition to providing what is required and some stories, books and tools, would certainly help the student to possess various skills. It was also clear that the financial welfare of the family negatively affected the student's possession of cognitive skills. This may mean that wealthy students are less interested in obtaining knowledge compared to their peers. Educational welfare at school also affected the conative skills of students, i.e. the more school is prepared as an attractive educational environment, the more students feel pride, self-esteem and, consequently, it increases the motivation to learn.

Values

Regression analysis showed that among the above enabling environments, there are three factors that affected possession of cognitive skills by 9.5% and one factor

that affected possession of social skills by 3.9%. In addition, there was one factor that affected possession of conative skills by 6.0%, while there are three factors that affected possession of universal skills by 8.3%.

The results indicate the great impact of the family's method of upbringing on the future generation's possession of various values. It is certain that possession of cognitive values is also affected by the school environment. Social values and conative values were not influenced by the school context or what is happening in the surrounding environment, as the influence of the family dominated the future generation's possession of two skills. It is also noted that the financial welfare level within the family again plays a negative role in the possession of universal values. This may result from the fact that wealthy individuals do not care for what is happening in the world or have the desire to possess universal values.

We note that most changes appearing in the models are closely related to the family and then to the school, which means that the family, with its educational and financial facilities, as well as the ability to monitor children, may play an important role in enabling them to gain the main skills and values. It is worth mentioning here that these changes do not explain all differences among students, i.e. they are not the only changes that define the degree of gaining skills and values, as their influence ranged between 2.6% and 9.5%, indicating that there are other factors that affect the process of enabling students (See table m2-26 in the Appendix).

It is worth mentioning here that the influence of educational welfare in local environments on the skills and values of the future generation disappeared, despite expenditures and efforts made by the state for supporting that side, which appeared in the availability of public and electronic libraries, book fairs, cultural festivals and other events. This refers to the benefit from these events by categories other

Considering the enabling environments that affect the future generation's possession of different skills, we found that the family's method of upbringing and the educational welfare at home positively affected the possession of the three skills

than youth, or to the fact that the future generation did not realise the importance of these events and did not want to attend them.

OPINIONS OF STUDENTS, TEACHERS AND EXPERTS ON ENABLING ENVIRONMENTS

A questionnaire was used to seek students' opinions on their surrounding school and social environments, and to the extent they are satisfied with them, as well as ascertaining whether the required proper environment that can participate effectively in accessing the knowledge society is available or not.

Students' opinions on the school environment

The questionnaire results indicated that the students' relationships within the school are good in general, as the majority of them 'totally agree' or 'somewhat agree' with the positive features mentioned above, either regarding the good environment for education in the school or the atmosphere of good relationships within the school.

The sample responses emphasised that students have a proper educational atmosphere and a good social life and good relationships with their teachers, as 71.4% of students completely agreed, and 75% completely agreed that they have

good relationships with their colleagues, and this allows them to understand school subjects easily and feel safe and secure within the school. Approximately 75% of teachers participating in the questionnaire completely agreed that there are good relationships and mutual respect between them and the students. This percentage increased to 82.8% who completely agreed that there is mutual respect between teachers and parents. The highest percentage, i.e. 91.9%, expressed complete agreement on mutual respect with other. This may seem reasonable in the work culture within the UAE, which is characterised by stability and respect for others. The most remarkable response was a lack of communication between teachers and parents, which is necessary for exchanging views about student issues, as 29.8% of teachers denied any periodical meetings (See Table m2-18 in the Appendix). This indicated that a large percentage of parents do not communicate with teachers as to the level of their children or try to participate in solving their problems.

We notice that students' opinions were positive towards the school as a healthy enabling environment; the majority of responses were 'completely agree' followed by 'somewhat agree'. The sample said that there are healthy environments inside the school for students, such as the availability of an equipped school clinic (61.1% completely

The sample responses emphasised that students have a proper educational atmosphere and a good social life and good relationships with their teachers

TABLE 2-5-9

Students' opinions on the school and their relation to its components (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. I can easily understand school subjects.	27.4	63.3	7.2	2.1
B. My school strengthens my desire for learning and excellence.	39.8	45.1	9.6	5.5
C. I feel safe and comfortable at school.	52.3	34.5	8.9	4.3
D. I have good relations with my teachers (mutual respect).	71.4	23.2	3.7	1.7
E. I have good relations with my school friends.	75	20.2	3.4	1.4
F. My school prepares me well for the future.	51.9	37	6.6	4.5

TABLE 2-5-10

Students' opinions on the healthy enabling environments (%)

	Completely disagree	Disagree	Somewhat agree	Completely agree
A. The school offers periodical medical check-ups for students.	3.2	6.2	34.8	55.8
B. The school offers all students medications free of charge.	3	7.5	30.2	59.3
C. The school clinic is fully equipped (bed, examination equipment, primary medications).	4	7.8	27.1	61.1
D. The school organises health campaigns combating unexpected epidemics.	5	11	32	52
H. The school conducts awareness programmes against dangerous diseases.	4.2	8.5	29.9	57.4
I. The school has a social worker who helps students solve their social problems.	7.7	12.3	27.7	52.3
J. The school has an educational guide/ psychologist to help students deal with their psychological problems.	11.6	13.4	27.5	47.5
K. We study issues related to health education.	9.7	15.6	34.3	40.4

Students' perspectives differ with those of the experts from the workshop who confirmed the weak presence of psychologists and social workers

agree) and (27.1% somewhat agree). Students' responses also ranged between (55.8% completely agree) and (34.8% somewhat agree) regarding the availability of medical check-ups. The sample showed an interest in the psychological and social care for students, as 52.3% of students completely agree on the availability of a social worker and 47.5% agree on the availability of a psychologist.

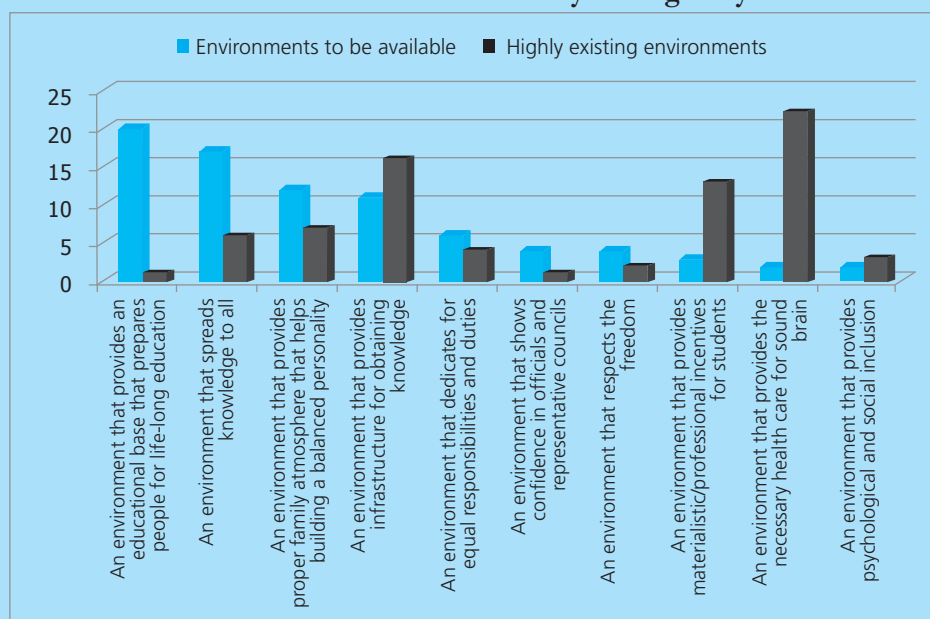
Students' perspectives differ with those of the experts from the workshop who confirmed the weak presence of psychologists and social workers. This is attributed to the lack of training centres and qualified human cadres to provide psychological and social advice for students. The opinion may be correct for psychologists, but there is a social worker in each school, and they play an important role. However, they have a large burden as usually, only one social worker is appointed for each school. The fact is that students in the secondary stage or in the state of physical and psychological change need a person who can understand their feelings, discuss their problems, help tackle their problems, answer their questions and instil in them the sense of dialogue, discussion and exchange of views in a practical and

organised way, thus qualifying them to be able to live within a society in which they have thinking skills, abilities and proper human values that suit the knowledge society.

Generally, the workshop participants indicated that there are infrastructure environments, such as the required proper health care, protection and treatment services provided by the Ministry of Health, the Health Authority Abu Dhabi, and Dubai Health Authority, and infrastructure for obtaining knowledge with the existence of a large number of public and private authorities and institutions that are interested in the technological aspects that can spread the culture of knowledge, and provide material and professional incentives for students who search for knowledge. This is done through giving the future generation the opportunity to receive free university education inside or outside the UAE through scholarships, as well as providing the technology required for searching for information. The availability of such enabling environments is due to the efforts made by the state and its material capabilities. The workshop participants indicated that the weakest environment are the psychological and social services

FIGURE 2-5-11

Views of participants in the workshop about the most important of environments and their availability among the youth



The workshop participants indicated that the weakest environment are the psychological and social services provided to students. They attributed this to family disintegration, an increase in wealth and divorce rates, economic factors and the fast social changes in UAE society

provided to students. They attributed this to family disintegration, an increase in wealth and divorce rates, economic factors and the fast social changes in UAE society.

Considering the opinions of decision-makers and experts who participated in the workshop and the opinions of students in the enabling environments, we can conclude that the infrastructure is friendly, but other enabling environments must be provided, such as advanced curricula, tools and teaching methods and educational and administrative authorities that can develop the future generation's skills. In other words, there should be harmony between the enabling environments and the infrastructure that provides an educational base that prepares people for life-long education and spreads knowledge to all who would help the youth access the knowledge society.

Teachers were asked their opinions on the enabling environments available for students within schools in terms of available educational tools and equipment in schools. 82.4% agreed that schools have scientific labs in good condition. The case is not the

same with language labs, as 65.3% pointed out that there are no labs for languages in their schools. This may be attributed to the attention to scientific subjects and neglect of languages, especially foreign languages. This is an issue that must be reconsidered when preparing the future generation for the knowledge society, as one of its main components is mastering languages, especially English. 72.9% of teachers emphasised the necessity of connecting schools to the internet; however, only 20% said that schools provide each teacher with a computer in good condition. It is known that such equipment and services are of great importance for developing different types of skills, and that the provision of instruments and equipment is one of the main requirements needed for accessing the knowledge society (See Table m2-19 in the Appendix).

42.1% of teachers believe that the school sometimes helps students with learning difficulties and provides encouraging incentives for 35.1% of distinguished students. There is a similarity between the opinions of workshop participants and

When schools cannot motivate students to learn, there will be a problem with their role as an enabling environment for the knowledge society

teachers regarding the lack of specialists, especially psychologists in schools, where 39% of teachers pointed out the rareness or absence of specialists, while 29.1% indicated that those specialists sometimes exist (See Table m2-20 in the Appendix).

50.4% said that they 'somewhat agree' that the role of the school has become a secondary one in providing students with science and knowledge, and it is no longer the place that provides them with what they need. This may be attributed to the decrease in the role of the school and availability of other competing resources for knowledge in society. We also cannot exclude the fact that the social culture and the future view of work play a major role in confirming such views. This may be boosted by the feeling of teachers to believe that the methods used in schools do not motivate students to obtain knowledge (21.4% of teachers completely agreed, while 46.6% somewhat agreed) (See Table m2-15 in the Appendix). This negative attitude may be due to the fact that teachers in most schools – except for model schools or public-private schools sometimes – are executors and not partners in preparing curricula and activities they receive from educational departments. When schools cannot motivate students to learn, there will be a problem with their role as an enabling environment for the knowledge society.

Students' opinions on surrounding enabling environments

Students' answers indicated that they enjoy a reasonable degree of freedom, as they have the freedom to choose and

personally decide within their families; a high percentage that exceeded 60%, as well as to think (58.2%), while the freedom of scientific choice was slightly lower (45.7%). This was mostly attributed to the fact that parents greatly interfere in the process of choosing the field of study or specialty for their children, believing that they will better choose the correct choice for them, especially for females.

Teachers declared that they have the freedom of choice, either absolute or major, in many fields, especially in personal choices (33.8%, absolute freedom, and 36.1% major freedom). The absolute freedom rate for scientific choices fell to 28.8%, while professional choices were 50.8% (15.2% absolute freedom, and 35.6% major freedom), (See Table m2-21 in the Appendix). This suggests that half of the participating teachers agreed that the range of professional freedom is low, which is certainly an expected result in the light of previous results that confirmed compliance of teachers with curricula, teaching methods and assessment techniques.

Considering public political life, students' answers indicated that they do not tend to participate, as more than half (57%) of the students sampled declared that they did not participate politically. Only 25% of students answered that they did.

This answer reflects a conviction of the youth that policy matters are limited to politicians and rulers who sponsor the interests of the country. We also cannot deny the family's efforts made in instilling this concepts in their children. It was noticed that the students' opinions regarding the social and legal enabling environments were positive, but with reservations, as 49.8%

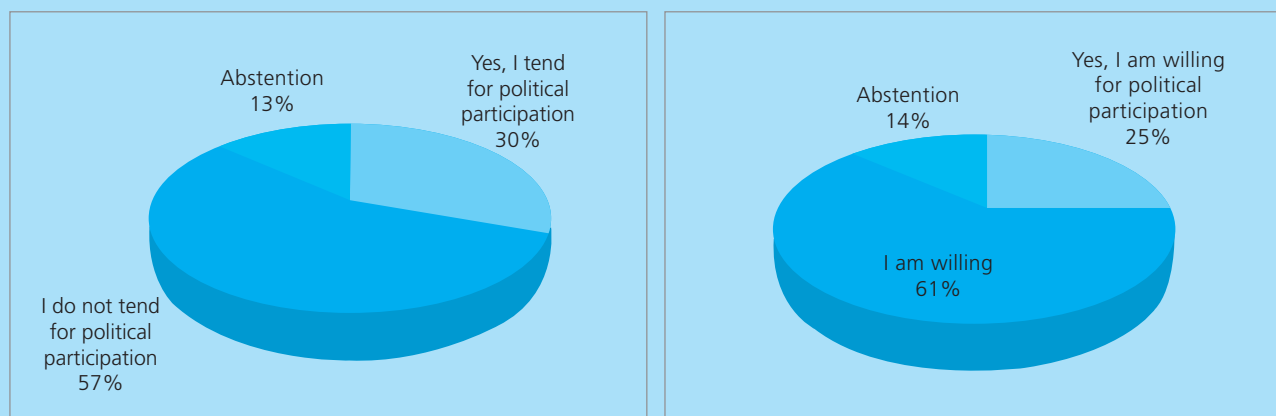
TABLE 2-5-11

Students' opinions on the freedom available for choosing (%)

	Much freedom	Moderate freedom	Little freedom	No freedom
A. Personal options	62.2	33.3	3.9	0.7
B. Scientific options	45.7	46.8	6.3	1.3
C. Intellectual options	58.2	33.7	6.5	1.6

FIGURE 2-5-12

Views of students about political participation



agreed that laws are applied within the school at a slightly lower degree, i.e. 45.4%, than within the community in general. More than a third of the sample 'somewhat agreed' that there are strict laws, either in school or the society, indicating that such laws are not ideally applied. Some students did not deny some problems in the society such as 'favouritism', albeit a small percentage (See Table m2-22 in the Appendix). It was also noted that the students have more trust in government-run media than non-government run media (See Tables m2-23 and m2-24 in the Appendix). This may be true, as the UAE has good media that is quietly open, featuring the professional spirit and transmitting various opinions clearly with an approach to rooting the identity of the community and acquisitions.

one is the skill for future planning, and the highest one is the skill for self-esteem and educational motivation; all are conative skills. Results also indicated that there is a clear weakness in the cognitive skills, despite the availability of educational and healthy environments inside and outside the school, as confirmed by students and teachers. This takes us again to the previous question regarding the effectiveness of such environments in preparing the future generation, in addition to another question: Will these environments remain a factor that does not affect the skills of students, or can they convert the students' convictions – appearing clearly in the values of their answers – to the cognitive skills required for accessing the knowledge society?

As for sub-skills, we found that the weakest one is the skill for future planning, and the highest one is the skill for self-esteem and educational motivation; all are conative skills

CONCLUSION

In light of previous results, we found that 'aggregate values' came first in terms of possession that enable students to be 'ready', as results showed that approximately 27.7% of students were ready to access the knowledge society, followed by 'aggregate social skills' with 14.3%, then 'aggregate conative skills' with 4.7%, and finally 'aggregate cognitive skills' for which no student was prepared. As for sub-skills, we found that the weakest



SYSTEM OF ACTION TOWARDS THE KNOWLEDGE SOCIETY

INTRODUCTION

The first four chapters of the UAE case study included a discussion of the development level in the UAE and a discussion of the system of upbringing, including educational institutions and other social upbringing institutions, such as the family, media and prevailing norms. In addition, the conditions of the enabling environments and their relationship to the future generation's readiness for accessing the knowledge society were surveyed. The field study in Chapter Five discussed the different dimensions of the levels of readiness of the future generation in terms of the knowledge, skills, values and enabling environments for such access.

In completing the research, this chapter provides a vision for the system of movement towards the preparation of the Emirati future generation to effectively participate in establishing the knowledge society. Chapter Six focuses on four main topics: the will of the Emirati community to move towards the knowledge society, readiness and ability of the society, especially the youth to progress, mechanisms of moving towards the positive involvement in the knowledge society and securing the requirements of this progression.

THE WILLINGNESS TO ACT

UAE society has realised the value of human resources. This was the main incentive for the special interest in building the capabilities of the Emirati future generation. This was clear in the great support provided to education and the dedication to enable development and establish the knowledge society. This was evident in the interest of

the state in establishing schools throughout the UAE and providing education to all school-aged children of Emirati citizens. The state also established public universities and a chain of colleges that provide education free of charge for UAE students. The UAE encourages its citizens to study abroad to acquire academic qualifications at university, as well as post-graduate studies through scholarships it provides for those young people willing to learn. The state has utilised information from international experiments, such as supporting decentralisation in the educational affairs department. It permits the establishment of different educational boards in each emirate, allowing good education management and local development. The state was not only interested in providing public education to its citizens, but also in establishing a private educational system parallel to the public one and in harmony with the demographic privacy of the state, in which many expatriates live and work in a large ratio that exceeded the number of Emirati citizens. The country implemented the private educational system by establishing the Knowledge Village, which is a destination for foreign and international universities, training centres, and human development centres in the Middle East region. It established a free zone in Dubai for universities and post-graduate education, assisting investors who are interested in the knowledge and science sectors in establishing university branches and centres. In other emirates, there are many international universities, development centres and human development centres in different fields (See Chapter Two of the UAE case study).

The UAE encourages its citizens to study abroad to acquire academic qualifications at university, as well as post-graduate studies through scholarships it provides for those young people willing to learn

There is no doubt that the current developments in the media system and the spread of many Emirati satellite channels are an outlet for providing knowledge and participation in formulating the features of the future society

The UAE took major steps in modern technology and internet use in all state and community facilities and made it the means of communication for various facilities, which contributed to expanding the scope of knowledge and science to a wide range of individuals. This expansion, in addition to advanced communication services, led to the development of individual skills and knowledge.

The UAE was interested in innovation as a knowledge advancement indicator; therefore, many institutions that sponsored science, literature and artificial innovation were established. Many awards appeared throughout the state and in different emirates that sponsor innovation and innovators. The state is also interested in establishing public libraries in most emirates to spread the culture of reading and knowledge, including Dubai Public Library, Sharjah Public Library and Zayed Library in Al Ain.

The state also focuses on the media and openness to the world. There is no doubt that the current developments in the media system and the spread of many Emirati satellite channels are an outlet for providing knowledge and participation in formulating the features of the future society.

Different efforts made by state and society institutions reflect good intentions and confirm the willingness to cope with the developed states.

The UAE, with the efforts made over the last years, has provided youth with the proper environments that help them with effectively accessing the knowledge society and which ensures the general formal political and social desire for moving towards achieving that goal. However, the will of decision-makers and society institutions should be in line with a real desire from the future generation itself to move towards the knowledge society. This leads to an important issue within Emirati society that relates to motivating the future generation towards that goal. In that study characterised by material

abundance, we find that most youth (more than 70% of males for example) tend to become involved in governmental and administrative works of financial benefit, while they clearly avoid engaging in works directly related to the processes of establishing society and the knowledge economy, especially those related to production, technology, scientific research and innovation. The absence of the real incentive for youth and a concentration on consuming the outcomes of knowledge that are different goods without real involvement in knowledge production or the processes of dedicating such outcomes for development is a real challenge for society within the UAE.

READINESS AND THE ABILITY TO ACT

The results of the field study, conducted for preparing the UAE case study, emphasised that 26.8% of the examined students lacked the minimum cognitive skills (which include the skills of problem solving, information processing, written communication and technology use), which are among the main skills that prepare them to access the knowledge society. 65.1% of them are at the beginning of acquiring these skills, i.e. approximately 92% of students are below the level required for accessing the knowledge society. Only 8% of students were in the phase of acquiring these skills which no one in the examined group had achieved. This suggests that the system for upbringing in the UAE, whether educational or social, could not enable students to obtain the cognitive skills needed and required in this age. This confirms that a lot of attention should be paid to this system and to applying significant changes in curricula, teaching methods, evaluation methods, professional development for teachers and other issues related to the system of upbringing in the UAE community as a whole, in order to enable the UAE youth to acquire skills and values required for accessing the

knowledge society.

The results were slightly better in terms of the conative skills (such as self-esteem and maintaining learning motivation), and social skills (such as communicating with others and team work). Results of the field study confirmed that most students participating in the test were either in the process of being ready or ready (77.9% for conative skills and 63.7% for social skills). Results remarkably improved on the level of values, as the percentage of those who are ready or in the process of being ready was 98.5% of the total sample. However, stating these values and approaches by students does not necessarily mean they are reflected in their daily practices.

Considering these aggregate results, the gap appears very wide between the level of current cognitive skills in participating students and the knowledge requirements needed for accessing the knowledge society, contrary to the conative and social skills or even values. This necessitates reconsidering the quality of the educational system and trying to repair its directions, goals and practices towards building the knowledge society. This analysis seems correct as other studies emphasise that the educational level is lower than all other development indicators in the country. The Knowledge Economy Index of the World Bank suggested that the Education and Human Resources Index Value is 4.9 out of 10 which is considered to be below the accepted level, while the UAE achieved advanced levels according to the value of the Economic Incentives and Institutional System Index (6.75); the value of the ICT Index was 8.59, and the value of the Innovation System Index was 6.69. In addition to the fact that graduates of public higher educational institutions are unable to often enrol in the university directly, they often need a preparatory year in which they study the English language and computer. Hence, education in the UAE does not cope with the economic, technological and informational development in the country, which confirms that the system in the

country is not suitable for establishing an effective knowledge society.

Admitting that the educational system is still weak and that its output is unsuited to the knowledge age is the first step towards reform. Is this attributed to the prevailing traditional education and evaluation patterns? Or to some patterns that prevail in families, making the learner negligent regarding learning? Or to low motivation as a result of the economic welfare and future assurance? Or to all these factors together? The results of the workshop and the teachers' surveys conducted for preparing the UAE case study indicated that the system of education is often dominated by the pattern of traditional assessment based mostly on written exams that concentrate on memorising and memory. This relates to the traditional pattern of teaching, in which the learner is a passive receiver of information which he memorises for the day of the exam. The good teacher has become the one who can assist students to memorise the subject to remember it during the exam. The challenge of this pattern of education is that it became the prevailing pattern dedicated to the culture of negativity towards knowledge, silence and dependence on the teacher. Hence, the student remains the same throughout their schooling until graduation given information, memorising and restoring it until they lose the spirit of thinking and innovation.

The matter is not limited to the educational system. The results of the field study of the enabling environments showed that the financial welfare of the family negatively affects the students' possession of cognitive skills. This may mean that students living in luxury are less interested in obtaining knowledge compared to their peers. The family also plays an important role - maybe the most important role - in the possession of the future generation's various values, especially knowledge values. Therefore, what we need is to change the attitude of the family and the society towards the concept of acquiring education and

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The results of the field study and the results of other studies should not be a source of pessimism but rather should be an incentive to be aware of the reality, and make more serious decisions and set sufficient work strategies to achieve more positive results

knowledge as the real standard for social and economic development.

This situation sheds light on the gap between educational plans and strategies developed by the Ministry and education councils and on practices and results in the real world. General attitudes toward reform and written policies emphasise in the different forms that education focuses on the student, the development of their cognitive and social abilities which prepares them for the knowledge society. Regarding practical performance, the field study of the report suggested that the future generation is weak in these skills, particularly the cognitive skill, required for living in the knowledge society. Family and society institutions could not compensate for this deficiency. Therefore, attention should be given to resuming and implementing national strategies and plans for the successful execution of such plans in reality.

The results of the field study and the results of other studies should not be a source of pessimism but rather should be an incentive to be aware of the reality, and make more serious decisions and set sufficient work strategies to achieve more positive results.

METHOD AND MECHANISMS OF ACTION

Knowledge, freedom and development; none of them can prosper in the absence of the others. The freedom of thinking and expression represents the main component of the enabling environments that contribute to developing knowledge performance and development. Therefore, the effective action for establishing the knowledge society in the UAE - or in any other Arab country - should be based on three main pillars: broadening the freedom of thought and expression, openness and effective communication with the revolution of knowledge and technology and a better response to the developmental needs of the society

(UNDP and Mohammed bin Rashid Al Maktoum Foundation, 2009).

As for the method which can enable youth to effectively become involved in the knowledge society in the UAE, it consists of three main axes. The first axis is cognitive enablement; it is achieved through creating an educational environment which spreads the culture of establishing knowledge and a culture of education and life-long education for all, an environment that provides the necessary infrastructure for obtaining knowledge. The second axis is conative enablement, through creating an environment that provides a sound family atmosphere that helps to form a balanced personality, an environment that provides medical and psychological care necessary for a balanced and sound mind. The third axis is societal enablement, through creating an environment that respects the freedom of thought, opinion and belief, an environment that emphasises the principle of equality in rights and duties. In fact, it is very difficult to imagine working on one of these axes without the others, because the matter requires working on them all at the same time. As for cognitive enablement, the first point of action is the real knowledge of the awareness of the nature and style of education in the knowledge society. Education in the knowledge society creates learning communities in classes and schools between students and teachers (DuFour and Eker, English, 2008). It also allows students to learn individually or collectively in a way that helps them acquire the ability to generate and employ new knowledge. It is an education that cares for learning and obtains benefits more than concentrating on school achievement and getting grades on exams. This can only be achieved through research, surveying, and problem solving. This education can only be achieved through an educational environment that cares for fulfilling learners' needs for knowledge and considers the learner as a person who has the ability to learn, in addition to providing highly qualified teachers, modern curricula

developed in terms of content and teaching strategies that concentrate on the learner, effective evaluation methods that focus on improving learning and not for monitoring educational achievements, as well as modern facilities and equipment that fit the current age. This kind of education and learning can only be achieved through the availability of societal experiences for learners in all environments in which they live. The core of these experiences should be the culture of freedom, democracy, transparency, accountability on one hand, and modernisation, use of rational and scientific styles and cooperation on the other hand.

No doubt that the provision of highly qualified teachers who have the knowledge, skills and values that help students to possess them, is one of the mechanisms that help students to access the knowledge society. Should teachers in the country be unable to access the knowledge society and participate in it, they will never be able to teach their students to do so. Teachers of the knowledge society can practice thinking and self-criticism for defining their needs and then work to promote their level. They are teachers, they should consider their practices, and they should care about promoting their knowledge and skills continuously, and tend to work in teams and refuse isolation in teaching and work (Watkins, 2005). We are in need a new culture in which the teacher is seen as someone passing through various developmental phases, starting from preparation at the university until working in a school, to master their work when they can cope with all modernisation and when they can qualify their students to absorb the developments of this age and cope with them.

Conative enablement concentrates on providing a sound family and school atmosphere that helps build a balanced personality. Therefore, there should be education about the role of the family and its importance in building the personality of its members. By the family we do not

mean only the father, mother and brothers, but instead the extended family, including grandparents and relatives. There are important topics that should be discussed in UAE society that may negatively affect sons, such as early marriage, young fathers not having a lot of experience in educating their children, the rising rate of divorce, polygamy and its influence on children and dependence on servants who may play the roles of mothers while dealing with a lot of the children's needs. Attention should also be given to the emotional aspect at school. It is true that there is a social worker who contributes to discussing and solving the students' family problems, but the matter also requires a psychologist to be at school – following the pattern used by several countries – especially in the secondary school stage, as young men and women undergo the stage of adolescence and changes in behaviour and temper. The role of social workers is not limited to solving problems, but also helping teachers increase students' self-confidence, motivating them to learn and discussing their future.

Societal enablement can be achieved through creating an environment that respects freedom of thought, opinion and belief, an environment that emphasises the principle of equality in rights and duties. Societal enablement is achieved through the country's policies, institutions and different mass media. The country enacted laws that guarantee gender equality and decrease the gap between them at work. The Emirati constitution also guarantees gender equality, but the constraints against women's empowerment in society were brought about by socially inherited traditions, which still consider the role of the woman as a traditional one as a wife and mother. Therefore, there is a need for caring for the role of the woman in society, not only as she represents half the society and a main partner in preparing the future generation, but also as she has knowledge, skills and certificates (Gonzales, 2008), allowing her to perform new social,

Societal enablement can be achieved through creating an environment that respects freedom of thought, opinion and belief, an environment that emphasises the principle of equality in rights and duties

Emirati society contains great youth potential. The UAE must exploit and develop this youth power without underestimating its role in the establishment of the society

economic and political roles that fit her position.

The other side of societal enablement lies in the freedom of thought, expression, belief, acceptance of other opinions and thinking in a way that is different from the prevailing one. This point is related to the pillar of freedom. Feeling free in the ability to express opinions should prevail within the society. The media should play its role in establishing the knowledge society through specialised channels and programmes to spread the general culture, reading, discovery of talents, provision of technology, and concern for scientific research. The media should continue its role of enhancing the culture of tolerance, coexistence and prevent discrimination in all forms. A free media can tackle issues objectively and discuss important matters.

Emirati society contains great youth potential. The UAE must exploit and develop this youth power without underestimating its role in the establishment of the society. Listening to the youth, fulfilling their needs and making them a part of the development process must be taken into consideration. However, a large percentage suffers from low educational incentives. This is considered a major problem that must be discussed and solved. If the state provides public job opportunities and preserves jobs for its youth, it is unacceptable that the youth should depend on this and subsequently lose their desire for education, knowledge and learning.

SECURING ACTION REQUIREMENTS

After being aware of the method of involvement in the knowledge society and the mechanisms required for such a step, care must be taken to secure the requirements of action and accelerate and enhance the process of involving Emirati youth in the knowledge society. In light of the availability of financial resources and political will, compliance with the

UAE vision 2021 is a must. In its third element, it necessitates building a, “varied and flexible knowledge economy led by the skilled Emirati talents and enhanced by experience which ensures long-term prosperity for the UAE.”

It is necessary for the UAE to quickly implement and activate the 2010-2020 educational strategic plan that aims at “improving students’ educational achievement, preparing a proper school environment, developing citizenship spirit, developing curricula, improving performance of teachers, providing school needs, standardising assessment systems, including for the disabled, achieving high quality public education, activating participation of parents and building citizenship oriented capabilities in the field of education.” Expansion in teaching languages and ICT in schools and universities for helping youth with communication and openness is of great importance. It is also necessary for the UAE to expand participation in international assessments as references used for measuring the extent of developing students’ capabilities, compared to students of other countries. We cannot fail in this context to emphasise the need to link the educational system with the overall objectives for sustainable human development in order to improve people and society.

There are certain issues to be addressed regarding securing action requirements and maintaining sustainability of the knowledge society, such as education and obtaining knowledge as a lifestyle that lasts from birth to death and rooting such a concept in the expansion of pre-school programmes, adult education, public libraries and training and education centres. In this context, caring for youth is a top priority. This can be done through establishing and supporting governmental and private entities that address youth issues and strengthen the opportunities available for them to express themselves, their problems, their future and their aspirations.

Among the incentives of establishing the knowledge society is adopting national projects that encourage young and old to read and enhance their knowledge and broaden their intellectual horizons, not limiting them to reading school books. Another incentive is to spread the culture of scientific research in schools through adopting student projects as a component of evaluation. This also includes focusing on teacher training in terms of 'active research' that helps them solve the problems and shortcomings in their students' education, in addition to a wider net to encourage innovators and talented and distinguished persons and researchers who are considered the catalysts for development and advancement in the various thinking, cultural and economic fields of society. Last but not least, creating honorary and excellence awards should also be an incentive. As for the economy, it is not only important to concentrate on transferring knowledge and science, but also to employ such knowledge and science in the life of the youth, adopting them in society and continuously improving them.

It is also important to attend to other preparation institutions, such as the family, by developing and implementing a plan for the culture of UAE families to raise awareness of the importance of education and their roles in helping schools in preparing students to access the knowledge society. This is in addition to enhancing the role played by the media in society, developing a useful media policy that works to expand peoples' horizons, educate them and develop their understanding of the issues of development, human rights, democracy and knowledge. These efforts can succeed through the support of self-expression, freedom and deepening political, social, economic and cultural democracy in the society.

The positive action towards building and preparing the future generation for effective living in the knowledge society requires reconsidering, revising, and directing current practices in effective and positive directions. Late involvement in the knowledge society can be achieved because there is a political will, along with various enabling environments. The political will has shown determination to continue building a developed country. This will is also supported by large governmental and non-governmental institutions. Therefore, the UAE only lacks emphasising the goal, and directing all institutions towards building the knowledge society.

End Notes

- ¹ Arab Statistics Website, UNDP 2011 <http://www.arabstats.org/countryindicators.asp?cid=7on> 14/2/2011
- ² The World Bank (KAM)s database <http://www.worldbank.org> May 2011
- ³ US Patent and Trademark Office dated 23/5/2011 http://www.uspto.gov/web/offices/ac/ido/oeip/tof/cst_all.html
- ⁴ The World Bank (KAM)s database <http://www.worldbank.org> 18/5/2011
- ⁵ The World Bank (KAM)s database <http://www.worldbank.org> 18/5/2011
- ⁶ The Knowledge Economic Index (KAM) was developed by the World Bank. The index is calculated based on the data of twelve indicators of which each three indicators represent one of the four pillars which are: Economic incentives and institutional regime, innovation, education and human resources and ICT. The index value falls on 0-10 scale and it reflects the relative position in comparison with all other countries for which the index is calculated. However the low index value for a country does not necessarily mean the low value of the indicators, it may result from the increase of such indicators by percentages lower than those of the country's competitors among countries all over the world
- ⁷ The World Bank (KAM)s database <http://www.worldbank.org> May 2011
- ⁸ Investigating this issue:
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- ⁹ Estimates of mid October 2010, Data of National Bureau for Statistics on 31/3/2011 <http://www.uaestatistics.gov.ae>
- ¹⁰ Website of the Ministry of Education www.moe.gov.ae dated 12/6/2011
- ¹¹ UAE University 2010, facts and figures. http://www.uaeu.ac.ae/about/history/facts_and_figures.shtml
- ¹² Higher Colleges of Technology 2010. About Higher Colleges of Technology 2010 http://www.hct.ac.ae/misc/aspx/hct_at_a_glance.aspx
- ¹³ Zayed University 2010, Zayed University Programs 2009-2010. <http://www.zu.ac.ae/catalog/documents/pdf/zuCatalog2009.pdf>
- ¹⁴ The Ministry of Higher Education, 2011. Academic Approval Committee, licensed private educational institutions. <https://www.caa.ae/caaweb/DesktopModules/Institutions.aspx>
- ¹⁵ Database of UNESCO Institute for Statistics http://stats.uis.unesco.org/unesco/tableViewer/document.aspx?ReportId=143&IF_Language=eng Dated 15/2/2011
- ¹⁶ Statistics of the Ministry of Education 2008, Statistics and Documentation, UAE, www.moe.gov.ae
- ¹⁷ UNDP Database <http://hdr.undp.org/en/statistics/data> Dated 13/2/2011
- ¹⁸ Al Khaleej Newspaper Website 2009:
<http://www.alkhaleej.ae/portal/80d83bae-f6b0-4134-a264-dfddc3d10e55.aspx>
(USD = AED 3.67)
- ¹⁹ ADEC 2010. ADEC Conducts Standardised EMSA Testing, <http://gsec.abudhabi.ae/Sites/GSEC/Navigation/EN/MediaCentre/government-news,did=149476.html>
- ²⁰ Website of the National Center for Statistics. United Arab Emirates Dated 19/5/2011 <http://www.uaestatistics.gov.ae>
- ²¹ Millennium Development Goals Website, Dated 23/5/2011 <http://mdgs.un.org/unsd/mdg/Data.aspx>
- ²² UNDP database <http://hdrstats.undp.org> dated May 19, 2011
- ²³ The Gender Disparity Index is a compound index that measures inequality in achievements between males and females on 3 axes: Reproductive health, empowerment, and labor market. The value of the index ranges from zero, representing full equality, to one, representing inequality
- ²⁴ Millennium Development Goals Website, Dated 23/5/2011 <http://mdgs.un.org/unsd/mdg/Data.aspx>
- ²⁵ <http://www.census.gov> and the National Center for Statistics
- ²⁶ The World Bank's database (KAM) dated 19 May 2011 www.worldbank.org
- ²⁷ UNDP Human Development Report 2010
- ²⁸ UNDP website, statistics of the Arab countries on 19/5/2011 www.arabstats.org
- ²⁹ A Field surveys were conducted on a sample of individuals on October 6-7, 2010 in Dubai and on October 17-18, 2010 in Abu Dhabi
- ³⁰ Students studying educational curricula different from the curricula of the Ministry of Education were excluded.
- ³¹ A measurement for the value around which the data of the sample is concentrated (one of the central tendency measurements)
- ³² Used when conducting statistical tests
- ³³ It refers to the degree of data dispersion.

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UAE APPENDIX



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Mrs SamahWal	Dr. Abdullah Al-Shamsi
Mr Bankej Poul	Mrs Reem Ubaidat
Mr Sulaiman Deen	Mr Mohammad Ahmad Al Hamadi
Mrs Khawlah Mohammad Al-Abduli	Mr Essa Bin Haidar
Dr. Aeshah Saif Al-Shamsi	Dr. Awashah Ahmad Mohammad Al-Muhairi



LIST OF SCHOOLS PARTICIPATING IN UAE'S SURVEY

Dubai Schools	Abu Dhabi Schools
Al-Rashid Al-Saleh	Al-Wardiah Private School
El-Shorouq Private School	Al-Mashahael National school
New World School	Khalifah Bin Zayed School
Al Wahida School	Abdul-Qader Al-Jazaeri School
Al-Maaref School	Al Ittihad Model School
Al-Shaarawi School	Hamdan Bin Mohammed School
Al-Safa School	Al-Hesn School
Hamdan Bin Rashed School	Salamah Bint Buti School
Maria School	Um El Emirat School
Al-Sofouh School	Al-Samha School
Sakinah School	Al-Shahama School
Al-Rayah School	



UAE'S QUESTIONNAIRE REPORT

Table m2-1: Teachers' opinions of educational curricula and programmes (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. The educational programmes and curricula prepare students to overcome future challenges.	25.8	51.5	15.9	6.8
B. The educational programmes and curricula help students acquire necessary skills.	28	55.3	14.4	2.3
C. The educational programmes and curricula help prepare efficient students who can compete externally.	25.4	46.9	26.2	1.5
D. The educational programmes and curricula contribute to promoting the value of citizenship and civilised behaviour.	34.6	48.5	13.1	3.8
E. The educational programmes and curricula prepare students to cope with problems in everyday life.	23.8	43.8	26.2	6.2
F. The educational programmes and curricula provide training that takes into account knowledge and emotional dimensions.	22.9	46.6	25.2	5.3
G. The educational programmes and curricula provide training which keeps up with scientific developments.	28	53.8	15.2	3

Table m2-2: The extent of practicing the following educational activities and methods (%)

	In all classes	In most classes	In some classes	No practice
A. Participating in educational/learning activities with students	22.6	40.1	34.3	2.9
B. Training students on problem solving	18.2	47.4	32.2	2.2
C. Explaining theoretical concepts	65.4	24.3	8.8	1.5
D. Writing lessons on the board	53.3	20.4	16.1	10.2
E. Discussing the concepts of the lessons with students	65.2	23.9	10.2	0.7
F. Discussing student achievement relating to the concept of the lessons	12.3	28.3	51.4	8
G. Assessing student achievement (tests, exams)	27.9	39	32.4	0.7
H. Helping students accomplish scientific/practical experiments	11.3	16.5	42.9	29.3
I. Organising student work in small groups	14.7	24.3	42.6	18.4
J. Linking educational material to the requirements of everyday life	50	39	9.5	1.5
K. Keeping silence in the classroom and deterring troublemakers	79	15.2	4.4	1.4

Table m2-3: Educational trends of teachers (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. It is necessary to focus on strengthening the memorisation ability of students to succeed in their study.	40.4	48.5	10.4	0.7
B. All students can learn and succeed if they are taught by efficient teachers.	44.8	35.1	20.1	0
C. Successful teachers can accomplish their curriculum tasks in the specified manner and timeline.	59.8	28.8	6.9	4.5
D. Giving teachers the chance for initiative or innovation harms the educational system.	21.1	15	39.8	24.1
E. Teachers are not required to know all teaching methodologies, but it is enough to master one of them.	11.3	30.8	46.6	11.3
F. Tests and exams are the best way of encouraging students to concentrate and learn.	19.4	32.1	41	7.5
G. The best way to improve the ability of students to learn is to adopt a qualitative evaluation system (without grades) for the levels of pupils.	16.6	44.7	32.6	6.1
H. Consulting and coordinating with the parents of the students is part of the teachers' duties.	26.9	52.2	17.2	3.7
I. Educational reform processes pressure teachers and decrease their output.	35.3	40.6	20.3	3.8
J. It is sufficient for teachers to be experts in their specialties in order to succeed in their mission.	25.4	34.3	33.6	6.7
K. It is the mission of teachers to help the future generation have a passion for learning and knowledge.	67.2	28.4	3.7	0.7
L. The important feature of successful teachers is their ability to communicate information related to their specialty.	52.2	36.6	9.7	1.5
M. It is necessary for teachers to be familiar with other subjects' features to be able to teach their own subjects.	39.6	46.3	12.6	1.5

Table m2-4: To what extent are the following educational practices important? (%)

	No importance	Little importance	Moderate importance	Much importance
A. Regular school attendance (no absence)	2.2	2.9	12.3	82.6
B. Effort exerted in homework	2.9	1.5	29.2	66.4
C. Steady improvement of results	1.5	3.7	25.2	69.6
D. Good conduct inside and outside classroom	3	3	11.8	82.2
E. Effective classroom participation	2.2	1.5	21.8	74.5
F. The ability to innovate	2.2	6.6	41.6	49.6
G. The ability to think and question	0.7	5.1	33.2	61
H. Taking the initiative	1.5	10.9	38.7	48.9
I. Correct answers on the exam paper	1.5	2.9	24.1	71.5

Table m2-5: The ability of teachers to use technology (%)

Weak	Intermediate ability	Good	Advanced
2.2	15.4	55.9	26.5

Used for educational purposes? (%)

Yes	No
68.4	31.6

Table m2-6: Purposes for which teachers use technological tools (%)

	Yes	No
Searching for educational resources	88.9	11.1
Preparing lessons	80.4	19.6
Selecting exercises and activities	83	17
Consulting with other colleagues	58.7	41.3
Communicating with students	72.9	27.1

Table m2-7: Weekly time dedicated for the following activities (%)

	None	Less than one hour	From one to two hours	From 3 to 4 hours	More than 5 hours
A. Planning and preparing lessons	5.1	25.4	42.7	18.1	8.7
B. Correcting students' homework	5.1	18.8	34.8	22.5	18.8
C. Attending administrative meetings	9.4	39.9	38.4	8.7	3.6
D. Holding meetings with the students' parents	18.7	53	20.8	6	1.5
E. Meeting students (in clubs or private tuitions)	41.9	32.4	16.2	6.6	2.9
F. Undertaking activities for professional development (attending lectures, reading specialised journals, etc.)	17.9	33.6	32.8	8.2	7.5
G. Participating in an educational production (authoring books, setting up projects, taking part in an assessment, etc.)	50.4	24.4	12.6	5.2	7.4

Table m2-8: Educational facilities available for teachers at home (%)

	Yes	No
A. Computer	95.6	4.4
B. Internet subscription	67.4	32.6
C. Encyclopaedia	46.2	53.8
D. Educational magazine subscription	12.2	87.8
E. Dictionary	81.5	18.5
F. Library	74.8	25.2

Table m2-9: Teachers' evaluation of their abilities to enable students to acquire the following skills (%)

	Limited ability	Intermediate ability	Great ability	Do not know
A. Varied information analysis	14.3	57.6	25.8	2.3
B. Critical thinking	15.2	59.8	22.7	2.3
C. Taking initiatives	19.7	50.8	28	1.5
D. Accomplishing research	21.3	46.6	27.5	4.6
E. Solving problems	19.1	44.2	34.4	2.3
F. Using their knowledge in different situations	15.9	47	34.8	2.3
G. Memorising rules and laws of scientific material	6.8	44.7	46.2	2.3
H. Working independently	16.9	42.3	38.5	2.3
I. Memorising lessons	4.5	44.7	49.3	1.5
J. Life-long education	26.7	38.8	26.6	7.9
K. Team work	15.3	44.3	38.9	1.5
L. Future planning	22.7	41.7	29.5	6.1

Table m2-10: Opinions of teachers of the importance of the following educational practices (%)

	Not necessary	Somewhat necessary	Necessary	Do not know
A.Training students to analyse varied information	2	23.7	73.3%	1
B.Training students on critical thinking	5	18.8	75.2	1
C. Encouraging students to work independently and take initiatives	2.9	26.5	69.6	1
D. Helping students conduct research	3	33.6	63.4	0
E. Training students on problem solving	1	15.7	83.3	0
F. Helping students memorise rules and laws of scientific material	4.9	39.2	54.9	1
G. Motivating students to interact with the teacher	1	7.8	91.2	0
H. Following students step by step in all their assigned activities	17	53	30	0
J. Training students on self-evaluation practices	1	30.4	68.6	0
K. Training students on team work	1	21.8	77.2	0
L. Teaching students social principles and values	5.9	23.5	70.6	0
M. Requiring students to memorise lessons	29.4	49	20.6	1

Table m2-11: Teachers' opinions on the support available to them (%)

	Always	Sometimes	Rarely	Never
A. The school has a system for regular evaluation of teachers by students.	24.1	34.6	21.1	20.2
B. The school has a system for regular evaluation of teachers by management.	62.9	25.8	8.3	3
C. The school helps teachers develop their abilities and skills by providing them with regular training courses.	42.5	35.8	14.2	7.5
D. Teacher meetings are held at school for consultation and coordination of educational activities.	49.3	33.3	10.6	6.8

Table m2-12: Teachers' views on enabling environments (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. The educational system offers teachers facilities to resume their education during service.	20.7	33.1	37.7	8.5
B. Training centres for teachers exist near the school and I can join them when necessary.	13	18.5	39.8	28.7
C. The state offers incentives to highly efficient teachers.	13.6	31.2	28.8	26.4
D. The state provides several training opportunities during service to improve the level of education.	15.7	54.4	20.5	9.4
E. The state provides novice teachers with training courses.	40.9	48.8	6.4	3.9
F. The selection of candidates to the teaching profession is governed by strict criteria.	8.7	25.2	32.3	33.8
G. There is a gap between the training of teachers and the true requirements of the teaching profession.	31.2	46.9	16.4	5.5
H. The state offers teachers' salaries which guarantee them a good living standard.	5.5	15.6	22.6	56.3
I. There are laws and institutions that protect the rights of teachers.	6.5	11.4	20.3	61.8
J. The state provides teachers with in-service training upon request.	5.7	50	27.9	16.4

Table m2-13: Teachers' feeling of the ability to express opinions (%)

Yes	No
63.7	36.3

Table m2-14: Teachers' relationship to the teaching profession and its requirements, and to educational parties (%)

	Completely apply	Somewhat apply	Do not apply	Do not apply at all
A. I will leave teaching if I find a job with the same salary and conditions.	44.4	18	26.3	11.3
B. I will leave teaching if I find a job that generates a higher income.	50.8	21.2	18.9	9.1
C. The teaching profession salary does not make me feel self-sufficient.	60	27.4	11.1	1.5
D. The teaching profession makes me feel I have a mission to fulfil.	70.1	20.9	9	0
E. A job in education makes me feel psychologically comfortable.	28.4	34.3	20.9	16.4

Table m2-15: Teachers' views on students and school (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. The society no longer shows great respect to teachers.	69.2	26.2	2.3%	2.3%
B. Students generally show less respect to their teachers than in the past.	73.6	21.1	4.5	0.8
C. Student interest in study is decreasing day after day.	56.8	34.1	9.1	0
D. The current generation of students has a strong personality.	28.6	45.1	17.3	9
E. The preparation of the current generation of students is better than the preparation of previous generations.	9	27.1	38.3	25.6
F. The material values of most students surpass their knowledge values.	52.6	39.1	6.8	1.5
G. The school has a minor role in providing students with information and knowledge.	15.7	50.4	24.1	9.8
H. The teaching methods adopted by schools do not encourage students to seek knowledge.	21.4	46.6	26	6

Table m2-16: Teachers' views on the importance of values

Values	Cognitive values	Conative values	Social values	Universal values
Arithmetic mean	3.20	3.24	3.22	3.21
Standard deviation	0.74	0.70	0.77	0.78
Minimum	1	1	1	1
Maximum	4	4	4	4

Table m2-17: Teachers' views on students' possession of values

Values	Cognitive values	Conative values	Social values	Universal values
Arithmetic mean	2.11	2.42	2.30	2.43
Standard deviation	0.60	0.65	0.71	0.71
Minimum	1	1	1	1
Maximum	4	4	4	4

Table m2-18: Teachers' relationship to the teaching profession and its requirements, and to educational parties (%)

	Completely apply	Somewhat apply	Do not apply	Do not apply at all
A. The relationship between myself and students is based on mutual respect.	75.4	22.4	2.2	0
B. The relationship between myself and my colleagues is based on mutual respect.	91.9	7.4	0.7	0
C. The relationship between myself and students' parents is based on mutual respect.	82.8	14.9	1.4	0.7
D. The relationship between myself and the administrative department is based on mutual respect.	84.3	12.7	3	0
E. I meet parents periodically to exchange opinions regarding student issues.	19.4	50.8	23.1	6.7

Table m2-19: Educational facilities and equipment available to teachers in the school (%)

	In good condition	In bad condition	Not available
A. Science labs	82.4	14.5	3.1
B. Language labs	28.2	6.5	65.3
C. School library	84.8	9.1	6.1
D. Computer for every teacher	20	10	70
E. Educational software programmes	35.5	18.5	46
F. Internet connection	72.9	20.9	6.2
G. Subscription to useful websites	32.6	11.6	55.8
H. Printers and copiers	70.4	25.9	3.7
I. Tools for teaching respective specialty	55.3	21.2	23.5

Table m2-20: Teachers' opinions on the support available to them (%)

	Always	Sometimes	Rarely	Never
A. The school helps students with learning difficulties.	36.8	42.1	11.3	9.8
B. The school provides incentives to distinguished students.	38.8	35.1	20.9	5.2
C. The school has a system for substituting for absent teachers.	51.5	20.5	11.4	16.6
D. The school has specialists who help teachers deal with the material, psychological or social difficulties faced by students.	32.1	29.1	15.7	23.1

Table m2-21: Teachers' feeling of freedom of choice (%)

	Absolute freedom	Much freedom	Limited freedom	No freedom
A. Personal options	33.8	36.1	25.6	4.5
B. Scientific options	28.8	39.4	27.3	4.5
C. Intellectual options	29.5	33.3	31.8	5.4
D. Professional options	15.2	35.6	40.9	8.3

Table m2-22: Students' perceptions of legal and social enabling environments (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Strict laws exist in schools that restore rights to their owners.	2	2.5	9.2	36.5	49.8
B. Strict laws exist in society as a whole that restore rights to their owners.	2.4	2.1	8.7	41.4	45.4
C. The student thinks carefully before violating the code of ethics due to the school's laws.	4.1	3.8	14.1	39.4	38.6
D. The person thinks carefully before violating the code of ethics due to society's laws.	4.1	3.7	13.6	38.9	39.7
E. The law is applicable to all people at school, regardless of their capacity or position.	5	6.6	14.2	35.8	38.4
F. the Law is applicable to all people in society, regardless of their capacity or position.	5.4	7	14.5	34.2	38.9
G. Those who have money have better opportunities for education.	4.6	9.2	16.8	31.1	38.3
H. Jobs are occupied according to candidates' efficiency and no other considerations (intermediation for example).	6.5	9.2	13.2	36	35.1
I. Job promotion does not depend on objectivity but personal views.	10.4	3.3	13.2	37	36.1
J. Certification, employment, promotion and other privileges should be based on objective considerations and not intermediation and favouritism.	10.3	4	9.7	38.8	37.2

Table m2-23: Students' views on government-run media (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Audio-visual media convey news honestly.	3.2	2.7	6.9	36.5	50.7
B. Audio-visual media convey different views of society.	4.3	1.9	5.3	41.9	46.6

Table m2-24: Students' views on non-government-run media (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Audio-visual media convey news honestly.	6.8	4.4	11.2	38.8	38.8
B. Audio-visual media convey different views of society.	8	3.6	10.3	40.1	38

Table m2-25: Impact of Enabling environments on students' skills

	The family's method of upbringing	Educational welfare at home	Material welfare within family	Family's interest in student's study	Educational welfare at school	Explanation ability of the independent changes* (%)
Cognitive skills	0.177**	0.216	-0.178	0.080		8.7
Conative skills	0.144	0.064			0.090	4.1
Social skills	0.131	0.076				2.6

*Expresses the ability of the model to explain the change in the dependent variable

**The numbers in the table express the standardised regression coefficients.

Table m2-26: Impact of enabling environments on students' values

	The family's method of upbringing	Educational welfare at home	Family's material welfare	Educational welfare at school	Explanation ability of the independent changes (%)*
Cognitive values	**0.264	0.74		0.064	9.5
Social values	0.199				3.9
Conative values	0.246				6.0
Universal values	0.263	0.109	-0.160		8.3

*Expresses the ability of the model to explain the change in the dependent variable

**The numbers in the table express the standardised regression coefficients.

ARAB KNOWLEDGE REPORT 2010/2011

EVALUATING THE READINESS OF FUTURE GENERATIONS FOR INTEGRATING INTO THE KNOWLEDGE SOCIETY

MOROCCO CASE STUDY



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The aim of the second Arab Knowledge Report is to survey the knowledge capital of Arab youth in order to determine their readiness for active and positive engagement in the knowledge society. The knowledge society is a universal horizon that has caught the attention of all countries seeking to build a promising future. This can be achieved by removing the obstacles that can hinder progress and development.

Within this framework, Morocco was chosen to be one of the four selected Arab countries, together with Jordan, the United Arab Emirates and Yemen, to be case studies in assessing how prepared the youth in these countries are for integration into the knowledge society. Morocco is one Arab country which, during the last decade, has taken many initiatives in the field of human development to achieve prosperity and growth. Furthermore, as a country it holds a lot of potential and opportunities that should be further invested in for the benefit of the nation.

Through various studies and research that monitors human development in Morocco, and through field surveys on a sample of school students in their final year of secondary education, this report attempts to identify the basis and mechanisms for achieving the established goals of preparing future generations to build the knowledge society and to access its vast domains.

Through its theory and field work the report will establish the basic foundations required to direct and manage a development process that can build the capacity of the future generation. This foundation should also apply mechanisms that foster active and effective involvement in the new knowledge society that is powered by knowledge, with everything the concept holds from new power and authority, to expand human capabilities and broaden the horizon of their freedoms, managing change and achieving progress for the welfare and dignity of the Moroccan citizen.



GENERAL FRAMEWORKS OF THE STUDY

GENERAL INTRODUCTION

Over the past few decades, the world has undergone radical changes which have been a qualitative leap in the history of the development of human society. This has had a notable effect on several levels of the global economy and human culture in general. The features of this new universal social reality have not been clearly defined. However, its new features and varied future outlook indicate that profound changes have occurred in production methods, lifestyles and social relationship networks. This undoubtedly establishes new human and cultural principles that are founded primarily on knowledge factors.

The effect of the 'knowledge society', the term given to this new event, has been felt throughout the world. This society derives its existence and power from the knowledge technology revolution, which differs from previous technological transformations that accompanied the industrial revolution and were exclusively related to specific products or industrial sectors. In fact, this revolution cannot be confined to the knowledge technology revolution, as it also extends to include other aspects that form the concept of the knowledge society, namely technology, economy and knowledge. Thus, we find ourselves facing knowledge technology, a knowledge based economy, and a knowledge society'.¹

KNOWLEDGE AND THE KNOWLEDGE SOCIETY: CONCEPT AND CONTEXT

It is not easy to accurately define knowledge, however it can be referred to

as: a set of data, information, instructions and ideas, or a set of symbolic structures that are carried by individuals or acquired by society in a specific indicative and historical context. In addition, it is a tool for human behaviour on the individual and institutional levels in all fields of activity. Knowledge may be explicit or implicit, and its production is not limited to traditional forms of scientific research, but also includes myriad literary and artistic expressions and production belonging to national and international culture. Moreover, it should be emphasised that knowledge is a human state which means more than just obtaining information. Like wisdom, it requires a commitment to high moral values, such as freedom, justice and human dignity. Over the past two decades, the concept of knowledge has been linked to many other concepts which have become commonplace, especially that of 'society'. The meaning of the knowledge society is not completely clear, as it is still in an evolutionary phase. However, the ambiguity of such a concept does not prevent us from defining its basic features by saying: It is the society that those who took significant steps towards development and prosperity have already reached. Particularly, it is the society which depends on the dissemination, production and efficient investment of knowledge in all fields of social activity, including the economy, civil society, politics and private life, as knowledge plays an intensive role in the daily life of such a society's members and institutions, interacting with technology, the economy

Knowledge may be explicit or implicit, and its production is not limited to traditional forms of scientific research, but also includes myriad literary and artistic expressions and production belonging to national and international culture

and society. Such a society has enabling and encouraging environments which include legislations, institutions, openness, freedom, and global intercommunication via information technology and mass media. To sum up, the knowledge society should produce, share, and use knowledge to ensure the welfare and progress of its members.

THE TRIAD OF KNOWLEDGE, FREEDOM AND DEVELOPMENT

The Arab Knowledge Report 2009: 'Towards Productive Intercommunication for Knowledge' considers knowledge to be an uncontroversial human right that should be made more democratic and therefore available to all members of society. It further regards knowledge as both a tool and product of development.

In fact, knowledge acquisition is not an inherent right of human beings just because of their humanity, but it is also a method of human development across all its fields. Thus, knowledge is made by human beings who are its main target and core. However, acquiring knowledge is governed by the specificities of each society, namely history, culture and institutions, as well as the organisational context of its production and dissemination.

Development is associated, in all its aspects, with the human being. But, it is not achieved in circumstances that restrict human beings and their freedom in society and suppress creativity and innovation. This is because production will remain limited in a climate that hinders freedom of thought, work and production and one that discourages initiative. "Democracy in its broad sense cannot be separated from the democracy of knowledge which includes opportunities for involvement and communication in particular. The latter cannot be achieved independently from the former" (Arab Knowledge Report, 2009). Knowledge is considered a tool for expanding human beings' options

and abilities, achieving their freedom and welfare, as well as overcoming poverty and building prosperous societies. Moreover, it is the cornerstone for realising overall human development (Arab Human Development Report, 2003). The Arab Knowledge Report for the year 2009, points out that "knowledge means freedom and development, and no knowledge or development occurs without freedom, though such a link does not emphasise that they are mechanically interrelated." In this context, the same report indicates that "when we talk about the relation between human development and knowledge, we recall the teleological side that makes knowledge serve development. When we talk about freedom, we think of the social and political frameworks that help nurture knowledge and innovation, given the existing and creative interaction between expanding freedoms and building knowledge."

Based on these concepts, skilled human resources are required to achieve optimum exploitation of nature, capital management and mobility, and technological development for commodities production and commercial exchange all need skilful human resources in our world which is witnessing development in different fields. Integration into such a world requires development and progress, making it essential to acquire creative and innovative knowledge, which is the method of knowledge competition in a harmonious framework in all aspects of life. Knowledge cannot be separated from social development. Knowledge development in society cannot be isolated from achieving overall development as a whole.

Thus, preparing human resources equipped with knowledge and who can take creative initiatives should top the priorities of developmental policies and strategies. The human being is the most important factor for production which can contribute effectively to achieving economic, social and finally overall development.

Knowledge is considered a tool for expanding human beings' options and abilities, achieving their freedom and welfare, as well as overcoming poverty and building prosperous societies

THE SITUATION OF KNOWLEDGE IN MOROCCO

The relation of knowledge to society's environment, culture and heritage is multidimensional and controversial. Knowledge is a strong lever for development and improvement in life, and so any positive development in cognitive performance will reflect on development and its causes. The progress and development of any society in the present world is measured by its exposure to an environment which fosters knowledge, contributes to its production, and develops a creative and innovative foundation for enriching scientific research and generating solutions for the various issues that pose challenges for the human being's existence and welfare. If this is the case, what is Morocco's share in that? To what extent can it possess knowledge that is unmatched in the world today by any other power? What is its position on the global knowledge map? What is the nature of the incentives and obstacles that hinder its pursuit in this global competition?

The research undertaken by the Institute of Economic Analysis and Prospective Studies-IEAPS, (Al Akhawayn University 2004), showed that Morocco recorded a strong deficit in the field of knowledge. This is mainly attributed to the lack of accessing, producing, transferring and spreading knowledge in all forms, including education and training, illiteracy elimination, cultural production and scientific research. The indicators of the World Bank's Knowledge Assessment Methodology (KAM) showed that the Moroccan knowledge economy index for 2007 amounted to 3.54, while the information technology index for the same year reached 4.37. Moreover, the education and human resources index for that year recorded 1.95 (without measuring the level of development and change in the education and human resources field in general while monitoring the implementation of the Emergency Education Programme). The educational system is still suffering from several issues, such as students leaving

school early, low schooling rate of girls and children in rural areas, limited linguistic ability, mismatch of graduates and the labour market, and the low quality of basic education necessary for the development of abilities and skills.

These modest results occurred in spite of efforts and resources allocated for education and training, which constituted nearly 27.1% of the state's budget during the period 2002 – 2005 (United Nations Development Programme, Mohammed bin Rashid Al Maktoum Foundation, 2009). Such resources improved the literacy rate among citizens 10 years old and above, raising it from 45.6% in 1994, to 60.3% in 2009. Furthermore, the net schooling rate among children aged 6 to 11 rose from 52.4% to 97.5% on the national level and increased nearly three times in rural communities, and four times among girls of the same communities. Thus, the ratio of females to males in primary education increased from 66% to 96% (The Ministry of National Education and Directorate of Strategy, Statistics and Planning, 2011).

However, other channels of generating and transferring knowledge, such as scientific research and cultural production, have not formed a real priority for the state. Although the government authorities declare they are convinced that scientific research is the best method for overcoming the challenges of development, the budget allocated for it has not yet reached the level set forth in the National Charter for Education and Training, which is 1%. However, it increased from 0.3% in 1993 to 0.8% in 2005. Efforts were also made in structuring scientific research in universities, within 982 approved units that include research laboratories and research centres. 36% of research units are dedicated to the humanities and social sciences, 28% to the exact sciences, 29% to life and natural sciences and 10% to engineering sciences.² With all what has been mentioned, scientific research suffers from many shortcomings. Most of its projects are of an individual nature,

The progress and development of any society in the present world is measured by its exposure to an environment which fosters knowledge, contributes to its production, and develops a creative and innovative foundation for enriching scientific research and generating solutions for the various issues that pose challenges for the human being's existence and welfare

There are many scientific research institutions in Morocco, but they are not linked. Such institutions belong to different sectors, thereby exceeding university research institutions

and its output is not evaluated. A study submitted during the National Meeting for studying and evaluating the results of research in the field of the humanities revealed shocking results regarding the status of researchers. This will certainly have an effect on revising the scientific research policy in Moroccan universities, thus helping academics dedicate their efforts to scientific research as one of the most significant bases for development (Ministry of National Education, Higher Education, Professional Training and Scientific Research, in French, the National Meeting for correcting the findings of the assessment study for research in the field of humanities and social sciences in Morocco, 2009).

The Ministry of National Education, High Education, Professional Training and Scientific Research in Morocco conducted a two-phased national research project. The first phase addressed scientific research and production assessment in the field of sciences exactes, biology, geology and engineering. Its results were submitted in 2003; the second phase was related to scientific research and production assessment in the field of humanities and social sciences under the scientific supervision of the Moroccan Sociologist, Mohamed El-Sharqawy, it began in 2005 and ended in April 2009 in the overall assessment framework of the national research system approved by the Permanent Ministerial Committee for Scientific Research and Technological Development in its meeting on 16 July 2003. The above mentioned research provides an accurate vision about the scientific production since the independence of Morocco. It also addresses its general trends and subjective and objective institutional impediments as well as the characteristics of the university research and teaching staff through two approaches, the first is quantitative (bibliometric study for scientific production; national field research) and the second is qualitative (thematic meetings; and a national meeting for reviewing results).

In its final report, the Higher Council of Education recommended expanding the researchers' base to include Moroccan researchers in Morocco and abroad, participating in national projects, as well as encouraging creative initiatives in vital fields (biotechnology, energy, electronics, food industries and health). It further recommended establishing channels with international scientific research centres. In order to encourage scientific research, the state decided to grant tax exemptions of 18% to companies participating in scientific research. Such exemptions will reach 1% of the net domestic product at the end of the ten years in relation to the current rate of 0.8%. It is also expected to set up a national fund to support research and creativity. The fund will be financed by state donations, as well as by contributions from public and private contracting companies. It should issue an assessment report every two years under the auspices of the government authority concerned with scientific research and technological innovation.

There are many scientific research institutions in Morocco, but they are not linked. Such institutions belong to different sectors, exceeding university research institutions; which, and in according to Law 01-00 relating to university independence, which formulated an ambitious project for scientific research for each university over many years. This recorded a notable rise in the research projects conducted via partnerships (Higher Council of Education, 2008d). However, despite the efforts exerted in scientific production, Moroccan scientific research is still low on the international level, recorded as

BOX 3-1-1

The World Summit on the Information Society: Declaration of Principles, Geneva 2005

"We, representatives of the peoples of the world... declare our common desire and commitment to building a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilise and share information and knowledge, enabling individuals, communities and peoples to achieve

their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights."

Source: <http://www.itu.int/wsis/docs/geneva/official/dop.html>.

0.87% in 2004, compared to South Africa which recorded 3.49%, and Chile and Thailand which reached 2.07% and 1.65% respectively for the same year.³

Regarding integration into the world of information and communication technology (ICT), or what is known as 'the network society' - the most significant phenomenon of the knowledge society - Morocco has realised the importance of such facilities and the necessity to interact with other facilities and factors that constitute the knowledge society. This is intended to effect development and rapid growth with the purpose of achieving quality accomplishments and improving performance in administrative services. Thus, we find that Morocco seeks to enable younger generations to understand and master the use of such facilities at an early age; according to Article 10 of the National Charter of Education and Training (Mohammed Abu Tag El Din, in Arabic, 2007).

"We should realise that the use of the most advanced technologies is not a sign of prosperity for the world's poorest countries. However, it is such countries that should take great steps in this field."

Mahdi El Mandjra quotes Mohammed Abu Tag El Din, 2007.

In order to disseminate the benefits of using digital technology in different fields of life, Morocco is establishing a 'Digital Morocco' strategy for the digital economy and information society which extends from 2009 to 2013. This strategy is aimed at making digital communication technology one of the principal underpinnings of the economy and general management. Further, it intends to help citizens access the internet, encourage knowledge exchange, and facilitate access to management requirements. At the same time, the strategy aims to make such technologies an effective tool for socio-economic development, as well as a means of communication for some remote rural areas. It also intends them to be a means of communication

for commercial and industrial contracting companies inside and outside the country.⁴ Therefore, Morocco has allocated funds of MAD 5 billion and 200 million (USD 24,390,243).

Morocco is also preparing to launch services for government ministries, including e-government, which is expected to start operating as of 2013, with a budget of around MAD 2.2 billion. In this respect, the government will provide citizens with 89 projects and services remotely. These will include 15 model projects, which include updating civil status, online contracting and online invoice payment, in addition to other electronic services which help people's daily lives by improving administrative dealings and making them more transparent.⁵

Undoubtedly, the lack of knowledge in any society reflects negatively on human development, hinders economic modernisation and reduces the country's productivity, competitiveness and confrontation of globalisation challenges. Moreover, knowledge inadequacy stands as an obstacle to the spread of the values of modernisation, citizenship, openness and progress, as it reduces the citizens' involvement in basic public affairs.

Today's useful and efficient knowledge is not just a tool for reflection and interpretation of the world, but also a tool for changing the welfare of human beings. Thus, it relates and interacts with the political, social, economic and cultural aspects of life in society as well as its climate of freedom. Moreover, knowledge at present differs according to the nature of advanced technological equipment and channels that circulate it across the globe.

The new dynamic in Morocco in the first ten years of this millennium seeks to create an appropriate climate for achieving human development. This is done through providing a new definition of power, nationalism and citizenship, liberalising the national economy, and reforming the education and training system, in addition to establishing a new family code, fighting

In order to generalise the benefits of using digital technology in different fields of life, Morocco is establishing a 'Digital Morocco' strategy for the digital economy and information society which extends from 2009 to 2013.

illiteracy, rehabilitating political parties, and focusing on human rights. These are all basic mechanisms for realising human development and accessing the knowledge society, modernisation and democracy, that aims to prepare the youth in the best way possible.

THE REALITY OF HUMAN DEVELOPMENT IN THE MOROCCAN SOCIETY AND ITS IMPACT ON PREPARING THE FUTURE GENERATION FOR THE KNOWLEDGE SOCIETY

HUMAN DEVELOPMENT: BROADER FRAMEWORK OF THE KNOWLEDGE SOCIETY

The concept of human development is regarded as rich and distinguished, as it comprises theoretical and practical dimensions and components. For this, it has gained the attention of researchers

from many fields since its introduction in 1990. The concept was used by the economist and Nobel Laureate Amartya Sen in his studies related to human welfare.

The Arab Human Development Report for 2002 defines 'human development' as "the process of increasing options. Every day, people exercise many options, some of which are economic, while others are social, political and cultural. Since the human being is at the core of human development activities, such activities should be directed to broaden the scope of choices for human beings in all human fields to the benefit of all." The Human Development Report for 2010 defines human development as "expanding the true freedoms of the human being for him or her to live his or her desired life".⁶ The human development guide arising out of these concepts is made up of knowledge and health indicators, in addition to income indicators, which together form the determinants of human development.

The concept of human development is regarded as rich and distinguished, as it comprises theoretical and practical dimensions and components

TABLE 3-1-1

Human development indicators in Morocco

Indices	Value	Reference year
Life expectancy at birth (year)	67.9	1994
	72.9	2009
Infant mortality rate (per 1,000 live births)	57	1987-1991
	32.2 (+)	2008-2009
Maternal mortality rate (per 100,000 live births)	332	1985-1991
	132	2004-2009
Number of people per physician	2,933	1994
	1,611	2008
Fertility indicator (number of children per woman)	3.28	1994
	2.36	2008
Literacy rate among the population 10 years and above (%)	45.0	1994
	60.3	2009
Net schooling rate of children aged 6-11 years (%)	60.2	1994
	90.5	2009
Activity rate of the population aged 15 years and above (%)	51.3	2001
	49.9	2009
Unemployment rate (%)	12.5	2001
	9.1	2009
Percentage of households connected to an electricity network		
	National (%)	92.4
	Urban (%)	97.4
Urbanisation rate (%)	Rural (%)	83.9
		51.5
		57.3

Source: Ministry of Health and HCP, 2009 - 2010

Based on that, table 3-1-1 shows some of the most important indicators of human development in Morocco, as this is the broader framework of the knowledge society and one of the most significant approaches to forming the needed human capital. The table reveals the significant developments of these indicators during the last ten years, which are intended to develop the society and serve future generations.

PREPARING FUTURE GENERATIONS: THE BASIC APPROACH TO BUILDING AND EFFECTIVELY INTEGRATING INTO THE KNOWLEDGE SOCIETY

Effective knowledge is founded by preparing future generations and providing them with intellectual insight to enable them to participate effectively in building the knowledge society in terms of production and application. The knowledge society requires people who are capable of making clear-cut decisions and effectively penetrating new environments, which can only be done by preparing them appropriately. Future generations who are prepared for the knowledge society should be able to anticipate the future through rapid and successive changes. This requires enhancing their adaptive ability to enable them to plan for the future and respond to its requirements.

Neither the knowledge of the past helps in understanding the present, nor does today's knowledge help in anticipating the future. The present rapidly disappears, and so we have to prepare future generations in a way that enables them to calculate and anticipate the rate of change. We should further help them create successive images of the future, i.e. enable them to anticipate the types of professions and skills which will be needed in society in the next twenty or fifty years.

Ahmed Auzi, 2005

In the Arab Knowledge Report for 2010/2011, the building of the next

generation is regarded as the cornerstone of establishing the desired knowledge society. The report seeks to serve as a 'compass' which directs individuals and society with its different institutions to invest in the coming generations starting from an early age. The aim of this is to establish a strong base of human capital required by knowledge for technological, economic and social development, according to the developmental requirements of the country. This can be achieved by providing them with their various health, education, housing and social needs, in addition to the appropriate enabling environments. This will help them become productive citizens who are capable of adapting to innovations, especially as the learning capabilities of younger generations are greater than those of older ones; every child is regarded as an expected genius. It is to be noted that childhood in general opens a world of knowledge that should be accessed early by high quality education. Building the future generations' capacity is considered the true foundation of establishing and integrating into the knowledge society, especially as young people represent the majority in Arab societies.

THE TRIAD OF SKILLS, VALUES AND ENABLING

Today, the system of preparing future generations faces great challenges. Young people need to be equipped with skills and abilities, as well as personal and behavioural values, which enable them to make and generate ideas. This can only be done by freeing their thinking and developing it in a way that helps them to overcome new global challenges.

'The International Commission on Education for the Twenty-first Century,' report for 1996, highlighted four pillars that underlie the education requirements of the new millennium: 'learning to know,' 'learning to do,' 'learning to live' together and 'learning to be.' The commission further considered life-long education the

Today, the system of preparing future generations faces great challenges. Young people need to be equipped with skills and abilities, as well as personal and behavioural values, which enable them to make and generate ideas

key to the twenty-first century, because it reflects on the learning community which is the knowledge society (Jacques Delors, 1996, *Learning: The Treasure Within*, in French). The education and training system is considered a means of developing and changing society, but it also reflects, in many cases, the society's structures and institutions that can positively or negatively contribute to the formation of the system. This requires active and effective enabling environments that support the goals of growth and the societal development desired by the education and training system.

If such components of skills, values and environments are all essential to act in order to catch-up with progress and development, and step with confidence into the knowledge society, how far are such components available for our future generations? To what extent does the education and training system contribute to forming the knowledge capital of younger generations? What kind of knowledge has been acquired by secondary school graduates at the end of their education? To what extent do they develop the abilities and values necessary to facilitate their integration into the knowledge society? The following chapters from the Morocco case study will attempt to answer these questions. Chapter 2 provides an analysis of the education situation in Morocco, which is the cornerstone for preparing future

generations for the knowledge societies, while Chapter 3 tackles the general social situations and their role. Chapter 4 expands on the enabling environments which embrace all processes of forming the future generations. Chapter 5 includes a field study to learn more about the skills and values of the future generation in Morocco and how appropriate they are for the integration into the knowledge society. To that end, methodological tools were used to study a sample of students in the final year of secondary education from different scientific and academic specialties available in our educational institutions, whether public or private.⁷ Tests and questionnaires were administered to the students to assess the availability of their skills and values. Furthermore, a survey was conducted among the teachers working with the sample of students in order to understand their perception of themselves and their profession, as well as the available capabilities in the enabling environments provided to them and their students. Chapter 6 of the report presents a proposed vision of four mechanisms that pertain to the basic axis of action, including 'the ability to act', knowing 'how to act', dealing with the 'willingness to act' and securing 'the necessary requirements to act.' This is intended to prepare the future generation in Morocco for the desired knowledge society.



THE SYSTEM FOR PREPARING FUTURE GENERATIONS IN MOROCCAN SOCIETY

For the young generation to face the future and its various requirements they must be prepared in the best way possible. This can be done by exposing them to a set of upbringing and training systems which consider the educational and learning systems tackled in this chapter as one of its basic pillars.

PREVAILING EDUCATIONAL SYSTEMS

The attention given to education and training is a national strategic option from which stems the major directions for the educational system in Morocco. The National Charter of Education and Training is a reform document which aims at “making the educated person in general, and the child in particular, the core of thinking, interest and action during the education and training process. This is done by meeting the requirements and opening the way for Moroccan children to enhance their abilities in order to be open-minded, qualified and capable of life-long education.”

Achieving such goals requires dealing with many concepts and issues, including awareness of the children’s aspirations and their physical, emotional, psychological, cognitive and social needs. It further entails an educational behaviour in harmony with such awareness, in the family, daily life and school. The education and training system should perform its full duties towards individuals and society in order to offer individuals the opportunity to acquire the values, knowledge and skills which qualify them to integrate into the realities

of practical daily life, along with resuming their education if they meet the required conditions and skills. It should further give them the opportunity to demonstrate their excellence and gift whenever their skills and capabilities qualifies them to do so, to provide the society with qualified and efficient groups who can contribute to the sustainable building of their country at all levels. Moreover, society expects the educational system to provide it with the best scientists capable of achieving development via scientific, technological, economic and cultural progress.

These are some of the objectives defined by the National Charter of Education and Training which for preparing future generations for effective integration into the knowledge society. To what extent did authorities manage to achieve such objectives? Reviewing the different aspects of the education situation in Morocco through its accomplishments and deficiencies reveals an existing knowledge gap between the reality and the aspiration. This gap will be monitored by assessing the knowledge capital produced by the education and training system as well as the knowledge, skills and values given to future generations (see chapter 5 of Morocco case study).

THE MOROCCAN EDUCATION SYSTEM AND ITS OBJECTIVES

Following the country’s independence in 1956, the educational system in Morocco was deteriorating in terms of basic equipment, the number of students at school, educational and administrative groups and

For the young generation to face the future and its various requirements they must be prepared in the best way possible

The 'Committee of Education and Training' was formed, comprising of scientific, economic, social, union and political activities, with the purpose of studying the reform of the educational system across all levels, starting from pre-school education to higher education

funding. This made the system unable to respond to the increasing requirements of education with the rising developmental needs of the country. However, the country was able to achieve substantial progress during the early years after independence, when the enrolment rate in the primary stage rose from 17% in 1956-1957, to 46.7% in 1963-1964. Moreover, Morocco witnessed a series of multi-goal and multi-mechanism educational reforms. However, immediately after independence these efforts followed a sectarian movement with the slogan 'Moroccanisation, Generalisation, Unification and Arabisation'. Moreover, instability was a feature of all those who successively headed the Ministry of National Education. This post witnessed 38 consecutive ministers, state secretaries or deputy state secretaries from 1955 until 2005. The approach to education during this time was not always homogeneous (The Possible Morocco, Fiftieth Anniversary Report, 2006).

Due to the exacerbating defects of the educational system, there were intensive calls for urgent rescue for the school, and demands to address the "crisis" of education (whether on the level of syndicates, politics, academics, and the international organisations reports). Though the critical conditions of education were risky, they contributed to launching a dynamic reform programme that made good advances in the late 1990s. The peak of these efforts was drafting reference documents that define the coordinates guiding reform initiatives. Amid these movements, a movement was launched for a legal system update, institution development, pedagogy system reform, curricula review, and rationalisation of financial and human resources.

Source: Ahmed Edali, background paper of the report

EDUCATIONAL REFORM EFFORTS

THE NATIONAL CHARTER OF EDUCATION AND TRAINING (CNEF)

The problematic situation of the educational system, in the late 1990s, produced a unified

discourse in total across different political and academic establishments, together with some international institutions, which unanimously described it as a 'crisis'. This gave rise to radical reform in the late 1990s. The 'Committee of Education and Training' was formed, comprising of scientific, economic, social, union and political activities, with the purpose of studying the reform of the educational system across all levels, starting from pre-school education to higher education. The work of the commission resulted in the drafting of the 'National Charter of Education and Training' which aims at comprehensive reform based on a new philosophy to fill the gaps of previous reforms. The project started its activity gradually from the beginning of the academic year 2000/2001.

Thus, we find that for the first time the education and training sector has gained national accord and has become a societal project which requires true reform with contribution from many aspects of society. It has turned out to be an initiative of paramount importance, in terms of planning, accomplishment and assessment. The sector has gained the greatest attention of the state and local groups, along with educational and training institutions and all concerned partners. Thus, 2000/2009 was declared the national decade for education and training during which full attention would be given to public education, as well as overcoming the challenge of the rapid generalisation of education. In addition, special efforts would be made to encourage girls in rural communities to enrol in school, and improve the quality of education and its appropriateness for the requirements of the labour market, the reality of daily life and the new millennium. The important reform mechanisms for achieving high quality in the educational system include:

- Restructuring pre-primary, primary, secondary and higher education in a way that allows the latter to integrate general, or academic and professional structures and build bridges among

specialties;⁸

- Reviewing school programmes, curricula and school books, and setting up a permanent committee for programmes. Since the beginning of September 2003, higher education has undergone a thorough review of its curricula and goals in a way that achieves a high quality of content;
- Modifying the school timeline so that the academic year in primary, secondary and tertiary school includes at least 34 full weeks, or approximately 1,000 to 1,200 hours. This can be modified to match the characteristics of the educational institutions' region;
- Teaching the Arabic and Amazigh languages as well as mastering foreign languages. The status of the Amazigh language changed in the new constitution (2011), as it became an official language for the country, given that it is known by all Moroccan without any exception. A regulatory law determines the stages of effecting the official feature of the Amazigh language, and methods of integrating them in education as well as public life fields of priority, so as to be able to perform its future function as an official language (Chapter 5 of the Moroccan constitution, 2011).
- Using new information and communication technology (ICT);
- Encouraging excellence by setting up a comprehensive scheme which monitors high achieving students to reward and motivate them.⁹ The nurturing of distinguished and talented students is also evident in the establishment of new model institutions for secondary education. Despite the measures that accompanied effecting the National Charter For Education and Training, they have not in general gained their due attention in terms of coping with necessary quality infrastructures, so that the country can benefit from the human capital able to face current and future problems of the society. Along with approving the urgent programme

for accelerating the pace of the system, necessary resources were allocated for establishing an integrated project to encourage talent and excellency. In this context:

- Conducting a new accurate scientific study about the map of skilled students throughout the country, beginning from the primary education, with the aim of receiving them and coping with them through special structures;
- Establishing excellence secondary schools and reference secondary schools for receiving students with high qualifications to continue study in the qualifying secondary schools.
- Supporting and expanding the infrastructure for preparatory sections in high schools, as well as providing all conditions that provide people who attend these centres with the proper conditions for achievement and preparation for passing competitions for accessing the best high schools in Morocco and France.
- Establishing incentive dynamics that encourage excellence based on rewarding distinguished students in school exams and various competitions prepared by the Ministry in different cultural, artistic, and sport fields.
- Encouraging scientific and technological research and increasing public funds allocated for it to 1% of the gross domestic product at the end of 2009. A national fund is expected to be set up to support research and innovation. The fund will be financed by state aid, contributions from public and private contracting companies, donations from prominent people, and grants from international cooperation.

Undoubtedly, these new directions will reflect greatly on the educational reality, affecting the preparation of future generations for integration into the knowledge society. These reforms have covered several educational system levels and have been accompanied by other achievements in schools. Attention has

The nurturing of distinguished and talented students is also evident in the establishment of new model institutions for secondary education

Besides public efforts, there was also a national mobilisation to generalise schooling and overcome problems posed by it

been given to rural communities which have an extremely low enrolment rate, especially for girls. The school food network has been expanded to cover 46% of community schools with 1,135,107 students 556,527 of them females. Moreover, dry foodstuffs have been distributed to the families of students in order to encourage them to educate their girls. This comes within the 'Tayseer' programme whose beneficiaries rose from 74,000 families to 162,000 families in 2010. Also, school books and 4.04 millions bags have been recently given to the children of poor families across the kingdom. In addition, the school transport rate increased to more than 600% in terms of the number of students benefiting from it (Summary of education statistics, 2010/2011).

Besides public efforts, there was also a national mobilisation to generalise schooling and overcome problems posed by it. Different local authorities and groups, as well as a number of contracting companies contributed to the project's success (Abdullah Saef, 2005). Moreover, the number of scholarships granted to students by the Ministry of National Education, Higher Education, Professional Training and Scientific Research increased to 144,350 scholarships during the 2009/2010 academic year.¹⁰

Thanks to such reforms, the schooling rate of the category (6-11 years) in 2011, according to authorised statistics was 97.5% The importance attached by the state to the training and education sector is evident from the increasing funds allocated to it (table 3-2-1).

In order to support and structure educational reform efforts, a group of new institutions supporting the education

and training field were established. Below are considered the most important:

Mohammed VI Foundation for the Promotion of Social Works for Education and Training:

This is an establishment which seeks to set up programmes and take measures to correct the accumulative social deficiency for males and females in education.¹²

Mohammed V Foundation for Solidarity:

Among its activities, this institution encourages training and qualification as a means for the social integration of youth.

National Initiative for Human Development (NIHD):

This ambitious initiative aims to bridge social gaps and alleviate poverty and marginalisation, particularly in rural and Urban communities.

Higher Council of Education:

It was founded as part of efforts to foster and accelerate reform. It provides its opinion on education and training related issues. The council has also issued an assessment report on the education and training system. Furthermore, it has conducted several studies to evaluate students' education.

The Children's Parliament:

It was established to enhance citizenship and democratic practices, as well as create an appropriate climate for training future generations on positive citizenship and concern for public issues.

We have referred to the different reforms set up to renew the Moroccan school system and establish its foundation based on the 'National Charter of Education and Training', but what are the objectives of the education and training system regarding new curricula? What types of efficiencies, skills and human values does it seek to cultivate in the future generation? The first section of

TABLE 3-2-1

Budget allocated for the education and training sector.¹¹

Years	Allocated budget
2008	MAD 37.43 billions
2009	46 MAD billions
2010	Around MAD 49.5 billions

the ‘National Charter for Education and Training’ refers to the foundations of education and training, which are Islamic doctrine, constitutional monarchy, cultural diversity, devotion to originality and integration into the modern culture. The second section emphasises the major goals of reform, which include equipping future generations with the knowledge, skills and values that secure their integration into daily life. Such goals further include forming groups of the best scientists and improving efficiencies through supporting the ability for self-learning, communication, enhancing openness, encouraging creativity and disseminating its culture.

However, many questions remain unanswered. To what extent did these reforms help in achieving quality education matching the requirements of teachers and the labour market? How far did the educational and training system manage to equip students with the abilities, skills and values to prepare them for active integration and engagement in the knowledge society?

The current situation in the education and training system shows that it is still suffering from the effects of issues resulting from the problem of illiteracy among people aged 15 years and older, and the focus of efforts on providing educated people with a solid skills base. Deficiencies also resulted from the sustained problem of early school leavers, the limited knowledge and skill level of graduates and the mismatch of training for the requirements of the labour market. This paradox refers to a large gap in the nature of the knowledge capital. It further suggests the complex nature of the challenges faced by the Moroccan education system. In this case, the system has to overcome past challenges which have accumulated over decades, and the current challenges of meeting the requirements to move to the knowledge society. This makes the proposed tasks more complex and difficult (Abdullah Al Khiary, background paper for the report).

BOX 3-2-1

Training on human rights and citizenship in the educational and training system

“Responding to the transformations witnessed by Moroccan society and desiring to help future generations adapt to those transformations, it was necessary to review school programmes, curricula and books from the perspective of being open to critical understanding of the self, the other, as well as national and international changes, and preparing the citizen to possess the following values (school education sector, 2007):

- Defending human and citizen’s rights;

- Accepting cultural differences;
- Exercising critical and systematic thinking;
- Training on cooperation and responsibility;
- Solving and approaching issues from an international perspective;
- Mediation and amicable settlement of disputes;
- Active participation in political life;
- Changing lifestyles to protect the environment.

Source: Abdullah Al Khiary, background paper for the report

Despite opportunities provided by developments and radical transformations experienced by the world, Higher education also faces many pressures and challenges, on the quantitative or qualitative level.

THE EMERGENCY PROGRAMME AND REFORMING THE EDUCATION AND TRAINING SYSTEM

The Emergency Programme is based on the National Charter of Education and Training and aims at reviving reform and accelerating its pace. To this end, the Ministry of National Education, Higher Education, Professional Training and Scientific Research formulated this ambitious programme for a period of four years (2009-2012). Supported by senior decision-makers, the Ministry formulated the programme using multiple resources, including the “Fiftieth Anniversary Report” issued in 2006, and the first ‘National Report on the Status of the School and its Prospects’ issued by the Higher Council of Education in 2008. It also capitalised on the reports of the board of directors’ meetings held annually by academies and the assessment reports of ministries and academies.

According to ministerial documents, the Emergency Programme is founded on a fundamental principle: **“Making**

Despite opportunities provided by developments and radical transformations experienced by the world, Higher education also faces many pressures and challenges, on the quantitative or qualitative level

The National Charter of Education and Training has achieved many gains which aim at improving the education and training system, whether at the quantitative or qualitative level

the educated person at the core of the education and training system” by providing supporting elements through:

- Education that is based on the principle of knowledge and skills which allow the student opportunities for openness;
- Teachers working in convenient conditions and acquainted with the pedagogical methodology needed for performing their duties;
- The preparation of good quality educational institutions.

Conforming to the trends specified by the Higher Council of Education for 2008, the Emergency Programme for reforming education and training systems seeks to focus on four principal areas:

- Implementation of compulsory education until the age of 15;
- Encouraging initiatives and excellence in secondary schools and universities. This requires developing and encouraging performance in the qualifying secondary school, strengthening performance in higher education and preparing its graduates for the labour market, as well as enhancing the value of scientific research.
- Overcoming the problems of the educational system (supporting the qualification of its participants, rehabilitating the reputation of the teaching profession, resuming decentralisation and defining responsibilities, mastering languages and educational guidance);
- Providing the resources necessary for the programme's success.

The National Charter of Education and Training has achieved many gains which aim at improving the education and training system, whether at the quantitative or qualitative level. However, the positive results which it has achieved over the past ten years since its implementation, have not shielded it from criticism. These criticisms tackle the slow pace of action on the charter's different clauses, thereby precluding the achievement of its declared goals and intentions. In fact, if the reform

initiatives over the past decades have not influenced the authors of economic and social development plans to respond to orientations of the plans, then the reform plans face, in light of the Charter of Education and Training, some problems; the effect of some of its clauses is poor, other clauses have not activated, and its quantitative gains have not translated into qualitative achievements. Perhaps this is evident in the failures witnessed by the Emergency Programme and the many defects of its 6 projects. What it called 'a deep change of measure methods' and the adoption of a 'management system' to allow the rapid diagnosis of problems and reaction clearly reflects the volume of obstacles and difficulties. Therefore, the Emergency Programme is neither a new reform nor an indirect declaration of the death of the National Charter of Education and Training. However, it is a new attempt to achieve and activate the content of the latter.

Furthermore, it contributes to establishing the "project culture" i.e. approving definite goals and time frameworks, and active mechanisms for monitoring and assessment.

The Emergency Programme includes many projects, and the 'School of Success' is one it seeks to achieve. This effort was supervised by the Ministry of National Education in the 2009/2010 academic year which provided the school with all the resources needed to achieve productivity. It is a national school that keeps up with international innovations in science, technology, literature and art. It seeks to develop the education system and achieve a national Moroccan school that is capable of severing relations with the previous deteriorating status of primary education which does not provide students with the education specified in the curriculum. It also seeks to become a school based on activity, self-learning and dialogue, in addition to involvement, teamwork and cultivating positive values in the minds of students. Moreover, it intends to foster training on citizenship, as well as positive and effective

communication with oneself and others.

The ‘Second Chance School’, on the other hand, is a programme launched during the 1997/1998 academic year in order to give a second chance to children who have received little or no education or who left school early. It intends to eradicate illiteracy and secure the right to education, stipulated in the constitution of the Kingdom of Morocco, and is supported by the National Charter of Education and Training which considers illiteracy elimination and non-formal education its second pillar.

The number of pupils out of school in addition to not generalizing schooling, is approximately two million children aged 8-16 years in Morocco. Statistics show that 22% aged 8-16 years are not currently attending educational institutions. In addition, around 200,000 students leave school annually before completing their primary education (HCP, 2004). However, the dropout rate decreased significantly in recent years as it decreased from 5.7% in 2005/2006 to 3.1% in the year 2009/2010 in the primary schools, and from 13.6% to 10.8% in secondary and elementary schools.¹³ This worrying situation has given rise to non-formal education initiatives for such children who are not school students. They aim to integrate them into normal education or professional training, as well as enhance their involvement and mobilisation in civil society associations to realise the goal of education for all. The efforts and initiatives of non-formal

education according to this policy and strategy have achieved the results shown in table 3-2-2 on the quantitative level¹⁴ and in terms of the beneficiaries of non-formal education, it is noted that the difference was in favour of girls, who represent 51% of beneficiaries, and rural communities which constitute 56% of beneficiaries.¹⁵ The reason for this is because these two sectors of society are the most at risk in terms of leaving school early or not going altogether.

CARING FOR CHILDREN WITH SPECIAL NEEDS

Caring for children with special needs and promoting their rights is a multi-dimensional issue which should not be limited to a specific social sector. The issue concerns the health, education, training and recruitment sectors, as well as the transport and means which help them move and communicate with others. It is necessary to unite the efforts of the state and various other social components, especially local groups which can contribute greatly to mobilising society to take care of this special category of people. Disabled children with special needs in Moroccan society constitute 5.2% of the total population. On 11 March, 2010, draft law 62.09 was submitted to the government council. It contained legislation that upholds the human rights of people with special needs through accommodating most of them in specialised centres, and incorporating some in formal schools.

Caring for children with special needs and promoting their rights is a multi-dimensional issue which should not be limited to a specific social sector

TABLE 3-2-2

Results since the introduction of non-formal education (number of benefiting students)

Years	2008/ 2009	2007/ 2008	2006/ 2007	2005/ 2006	/2004 2005	/2003 2004	/2002 2003	/2001 2002	/2000 2001	/1999 2000	1998/ 1999	Total
Second school	33,177	32,419	36,518	34,294	34,950	23,822	26,229	46,754	29,676	34,859	35,855	368,553
Reducing dropouts rate	166,901	142,420	154,423	133,000	-	-	-	-	-	-	-	596,744

Source: Ministry of National Education, Higher Education, Professional Training & Scientific Research

The use of modern teaching methodologies in Morocco has created a lot of experiences which are worth reflecting on, especially in relation to building knowledge capital

For the advancement of disabled children and ensuring basic conditions for achieving the same on 1 April, 2006, a quadripartite agreement was signed by the Ministry of National Education, Higher Education, Professional Training and Scientific Research, Mohammed V foundation for solidarity, The Ministry of Health and the Department of family, childhood and disabled people. All these parties work in the framework of this agreement to provide appropriate educational conditions for ensuring integrated or specialised education for disabled children, the four parties also seek enhancing social and health services provided for them, through employing available material, human and institutional capabilities. Such trends were interpreted to 10 real procedures with the aim of facilitating the education of children with special needs in private and public schools.

Furthermore, the Urgent Programme 2009/2012 developed only for the Ministry of National Education, Higher Education, Professional Training and Scientific Research, was a special project for justifying children and groups with special needs to ensure equal access to the educational system. Among basic procedures taken for this project is conducting a study for counting types of disabilities and determining the special needs of each category.

The new constitution (2011) indicates clearly the importance of qualifying and re-qualifying this social category. Authorities develop and effectuate policies for these persons and categories with special needs. For this reason, it works hard for:

- Requalifying who suffer physical, kinetic or mental disability, and integrating them in the social and civil life as well as facilitating their enjoyment of recognised rights and liberties for all (The Moroccan Kingdom, 2011 constitution).

Moreover, the Ministry earmarked a sum of MAD 578,461,200 (about USD 68,054,258) to improve the requirements of disabled children's access to regular departments.¹⁶

TEACHING METHODOLOGY AND BUILDING STUDENTS' KNOWLEDGE CAPITAL

The use of modern teaching methodologies in Morocco has created a lot of experiences which are worth reflecting on, especially in relation to building knowledge capital. Regarding the teaching methodology and building the knowledge capital of students, the Genie 1 and Genie 2 programmes allowed the use of ICT in some basic subjects of the curriculum. The establishment of CITI (Centre for Innovation in Communication Technology) for human development in Al Akhawayn University was designed to contribute to strategies to integrate information and communication technology in education.¹⁷ The results of the field study conducted for this report showed that 88.6% of the respondent teachers possess the methods and means of using technology for educational and other purposes. Despite their recent generalisation to educational institutions, teachers manage to use these new technologies as a result of their training in this vital field (see table m3-1 in the appendix).

The time specified for teaching subjects helps us form an idea of the pedagogical distribution of the subjects which are most important for students, and other subjects which are complementary and less important for the knowledge, scientific and social formation of future generations. We see from the charts of the distribution of data for time allocated to teaching subjects for basic education in 2006, that Arabic language classes occupied 25% of the total time (compared with the Arab rate of 28.8% and international rate of 32% allocated for mother tongue languages in primary school), foreign languages occupied 19%, maths 18%, Islamic education 10%, science and technology 10%, arts 9%, social studies 5% and physical education 5% (Abdullah Al Khiary, background paper for the report). The educational criteria must be taken into consideration when formulating a timetable of subjects

which play to students' differences, and their strengths and weaknesses.

To sum up, the above information shows that there are many subjects and intensive educational contents which focus only on the quantitative side. The time allocated for science and technology is not sufficient; it is below the international rate and does not allow students to possess the principal scientific qualifications that help them continue with scientific subjects at university. We need also to point out that languages (national and foreign) occupy 44% of the total classes. This is a good rate, but the paradox is that this was not reflected in the students' command level of languages, which remained low and points to one of the basic problems of the education and training system (Abdullah Al Khiary, background paper for the report).

Regarding whether or not the educational system assists in developing the abilities and skills which help build the knowledge capital of students, the reality reflects an extremely low level of the quality of educational and acquired skills. Excluding some excellent institutions, the Moroccan school does not provide education which meets the required quality criteria. This results in approximately two hundred thousand early school leavers annually because of academic failure, with 17% repeated cases occurring in the first year of primary education. It is difficult to attribute this to personal factors that pertain to the child's mental abilities or the familial or social status (Higher Council of Education, 2008b). However, this does not mean that there are no exceptional cases of some excellent students. Such cases are not statistically indicative and are limited to certain sectors, such as private education, and certain specialties, such as mathematics (Abdullah Al Khiary, background paper for the report).

Thus, despite notable development, pedagogical methodology and tools suffer from severe shortcomings that affect the quality of education. This is evident in recent results in the international tests of

reading (PIRLS)¹⁸ and science and maths (TIMSS),¹⁹ (the Ministry of National Education, Higher Education, Professional Training and Scientific Research, 2008).

The low educational output can be attributed to the lack of a clear vision of the teaching methodology that is appropriate to the requirements of the knowledge society and difficulty of applying them. This is emphasised by the findings of the field study of the Arab Knowledge Report for 2010-2011 which includes a teacher survey. The survey showed that there is no definite trend towards teaching and its methodology among the respondent Moroccan teachers. It further indicated that teaching practices combine both traditional and modern methods. Traditional teaching methodology, such as depending on the explanation of theoretical concepts, is still widely practiced (55% in all classes, 21.7% in most classes). This is also the case with writing the lesson on the board (45.3% in all classes and 22.7% in most classes). However, this does not negate the use of modern pedagogical methodology, such as training students on problem solving (37.1% in all classes and 39.4% in most classes) and concept discussion with students (65.7% in all classes and 27% in most classes), (see table m3-2 in the appendix). However, the combination of traditional and modern methodologies may not be a negative practice if the teacher manages to employ them well to serve the aspired goal.

The educational system approved new pedagogical methodologies that were proved to be effective in developed educational systems and other systems similar to the Moroccan Education and Training System. In the framework of completing the approach, the integrating pedagogy was approved as a methodological framework for founding efficient approaches which contributed to instilling real dynamics and pedagogical dialogue inside educational institutions should be, and which encouraged and framed for explaining choices, although

The time allocated for science and technology is not sufficient; it is below the international rate and does not allow students to possess the principal scientific qualifications that help them continue with scientific subjects at university

Since the effectiveness of education and training is linked with the assessment conducted by teachers, most of them said that they combine both traditional and modern methods

such educational new methodologies in general almost cause a state of confusion for practitioners.

However, what leads to optimism is that a considerable number of the respondent teachers in the survey stated in all their answers that it was essential to equip students with the abilities, skills and learning methods necessary to integrate into the knowledge society. These include training students on critical thinking (79.3% say it is very necessary while 16.4% say it is 'somewhat' necessary). Regarding teaching social principles (83.2% see it is very necessary and 16.1% consider it 'somewhat' necessary) and also motivating students to interact with the teacher (87.1% see it is very necessary and 10.1% see it is 'somewhat' necessary), (see table m3-3 in the appendix). Furthermore, most teachers adopt the prevalent ideas of society, such as cultivating a passion for knowledge in the minds of the future generation (78.9% completely agree and 19.5% somewhat agree). They further realise the characteristics of this society as 91.6% stated that knowledge is the key to human development. However, 54.8% of the respondent teachers still focus on the technological features of society at the expense of human sciences (see tables m3-4 and m3-5 in the appendix).

Since the effectiveness of education and training is linked with the assessment conducted by teachers, most of them said that they combine both traditional and modern methods. 90.9% of them indicated that regular attendance is extremely important, and at the same time 88.4% stressed the great importance of active involvement in the classroom (see table m3-6 in the appendix). The limited efficiency levels of students can be interpreted as teachers not having enough time to develop their knowledge and upgrade their professional performance. 42.2% of teachers said that all their time is dedicated to activities pertaining to their daily work, such as correcting students' homework, while only 15.2% stated that

enough time (more than 5 hours weekly) is devoted to activities that raise their performance, such as reading specialised articles (see table m3-7 in the appendix).

PREPARING AND TRAINING TEACHERS IN THE EDUCATION AND TRAINING SYSTEM

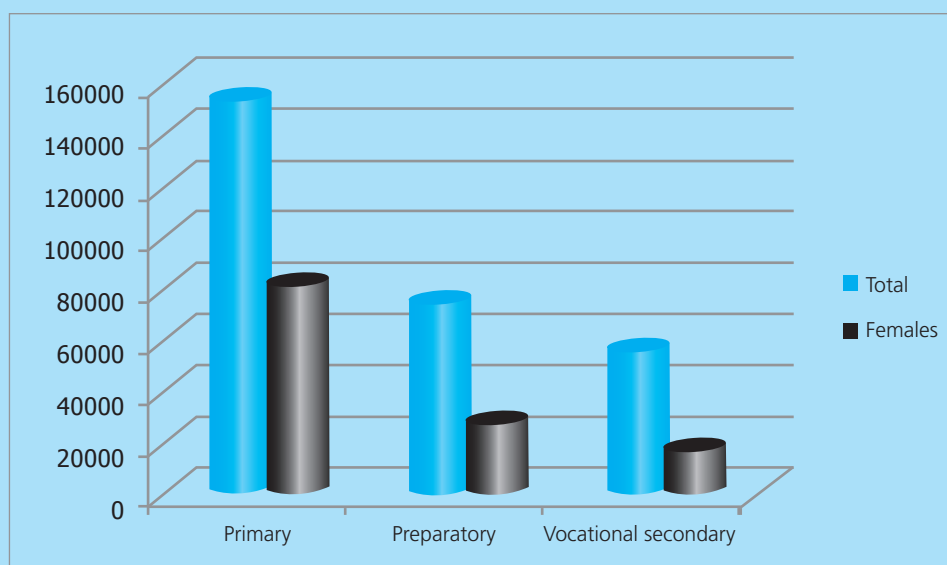
Efficient teachers are considered the true key to developing and modernising education. There is no doubt that highly qualified teachers possess effective pedagogical methods that enable them to influence their students and help them develop the abilities which provides them with a good education. From this end, the issue requires professionalising teaching to the level of other respected professions in society. It entails making the profession attractive for highly skilled and efficient young people who can modernise the teaching methodology, realise the developing and changing needs of society and keep up with international innovations with creative, analytical and critical thinking which make the students more capable individuals.

Teachers constitute the majority of the education sector's employees. The total number of teachers in the different stages of school education in 2011 was around 279,933 male teachers of which 120,724 female teachers (73,343 of which 26,966 female teachers in the preparatory and secondary stage, and 55,113 of them 16,483 female teachers in secondary vocational education, and 151,477 of which 77,275 female teachers in the primary stage (Summary of education statistics, 2010/2011). As for the number of higher education professors, this number reached approximately 9,867 in 2007, distributed between 15 Moroccan universities.

Regarding the educational and administrative framework,²⁰ it witnessed a kind of stability, as the number of students per teacher was between 20 students in the secondary vocational education, 25

FIGURE 3-2-1

Number of teachers in the profession



Source: Education statistics overview 2010/2011

students in the secondary and preparatory education, and 27 students in the primary education in the year 2010/2011. However, the administrative framework inside the educational institutions is not at the required level, as the number of students per each administrative employee was 260 students in the primary education, 104 students in the secondary and preparatory education, and 65 students in the secondary vocational education.

The teaching profession in Morocco faces many problems such as a low interest in the profession and teachers' preference for bright students, in addition to the insufficient criteria to allow detailed assessment of the pedagogical and communicative skills of candidates to help them integrate into training and teaching. Such problems further involve the lack of tools that help explore personal motives and incentives. Moreover, joining the teaching profession for different social sectors and generations is not based on the same qualifications, certificates and specialties. The concerned authorities made getting a licence a requirement for accessing these centres, in the new conception of regional training centre.

However the lack of attraction is not attributed to what has been said, but to low wages compared to those professions that require the same level of training.

BASIC TRAINING FOR TEACHERS

The total number of educational training centres is 55, of which 34 are for training primary education teachers, and 13 for preparatory education teachers, in addition to 8 high schools for training secondary vocational education teachers. These centres have managed to train a total of 273,237 teachers since the founding of the first training centre in Morocco in 1957 (Ministry of National Education, Higher Education, Professional Training and Scientific Research, in French 2008/2009). However, the teachers' basic training suffers from several imbalances and shortcomings, including the vague conditions of joining these educational training centres. These shortcomings further involve the lack of frames of reference for efficient training in the institutions, and the absence of clear and accurate professional references for the

The teaching profession in Morocco faces many problems such as a low interest in the profession and teachers' preference for bright students, in addition to the insufficient criteria to allow detailed assessment of the pedagogical and communicative skills of candidates to help them integrate into training and teaching

Despite the ambitious reform efforts, it can be said that the educators who lead the education process have not been given their due rights, whether on a financial or social level

teachers' specifications, tasks and functions to serve as a foundation of basic training. Furthermore, the training curricula are irrelevant to the professional reality and do not meet the teaching requirements. There are no tools or indicators to assess the skills acquired during training. The conditions of the teaching profession do not encourage teachers to fulfil their duties to the quality level required. The infrastructures are old and maintenance is not available. There are no educational tools or methods, or information or audio visual facilities. Moreover, several schools have overcrowded classrooms creating tense educational relationships as a result of tough working conditions, and the students' low level of determination and discipline. There is a lack of training of teachers to face these situations and these factors have caused a high rate of absence among teachers, especially since 2005, with a high percentage mainly in the preparatory stage. Table 3-2-3 shows the rates of unexplained absence for the period 2004-2007 by the number of days.

Working conditions in rural and remote areas are even more difficult. This creates a state of instability for teachers, thereby recording a considerable rate of absence as well as relocation requests. The reason for this is the fragile infrastructures of schools in rural areas as well as the lack of accommodation for teachers there; in addition to transportation difficulties and the absence of support needed to help teachers feel settled. These reasons in addition to others have discouraged

teachers from performing their required role in society which has resulted in a low regard for the profession. More than half of the teachers who participated in the field study conducted for this report said that they are no longer respected or held in high esteem (58.5% 'completely agree' and 33.8% 'somewhat agree'), and that today's students do not respect their teachers (56.3% 'completely agree' and 35.9% 'somewhat agree'), and that students continued to suffer from low interest in learning (see tables m3-8 and m3-9 in the appendix). Most of the teachers surveyed indicated that the teaching profession makes them feel that they have a social and human mission to achieve (86.5% 'completely agree' and 12.1% 'somewhat agree'). However, the field study results showed that nearly half of the sample teachers are ready to leave the teaching profession if they find other jobs which generate a higher income (26% 'agree completely' and 23.6% 'somewhat agree'), (see table m3-10 in the appendix).

These results reflect the disorder in the education and training system. Moroccan society has held a negative image of teachers who represent the cornerstone of the educational system, and whose image is partly associated with the deteriorating status of schools. Despite the ambitious reform efforts, it can be said that the educators who lead the education process have not been given their due rights, whether on a financial or social level. This has not helped improve their image in society or keep pace with the desired change. The

TABLE 3-2-3

Teachers' unexplained absence rate by number of days

Year	Primary	Preparatory	Secondary (vocational)	Total
2004	15,357	8,720	3,525	27,602
2005	21,344	11,326	5,776	38,446
2006	45,721	80,221	23,647	149,589
2007	12,921	85,224	27,517	125,662
Total	95,343	185,491	60,465	341,299

Source: Higher Council of Education, 2008 E

Emergency Education Programme seeks to correct this deficiency by enhancing the status and abilities of those involved in the education profession, and especially teachers, through the process of reform.

CONTINUOUS TRAINING

The year 2010 witnessed the highest rate of continuous training days that reached around 2.6²¹ million continuous training day for the benefit of teachers, headmasters, headmistresses and supervisors with the aim of effecting the projects of the urgent programme. However, there are some shortages in determining basic needs for beneficiaries in a way that the continuous training can achieve aspired goals.

The results of the teachers' survey stressed this shortage. Teachers stated that opportunities for them to resume their education and develop their academic skills and knowledge during their service were unavailable (14.3% 'completely agree' and 42.9% 'somewhat agree'). In addition, private training centres were rarely located close enough for them to attend them or make use of them as necessary. Although the respondents' answers were not identical, we can deduce that continued training and development of teachers in order to live up to students' expectations was not available as required (see table m3-11 in the appendix). This undoubtedly weakens the educational system.

The inability to improve the life of teachers renders them unable to enhance the level of their students. We should not be surprised then, by the low marks scored by students in the international assessments of some academic subjects as shown below.

INTERNATIONAL ASSESSMENT RESULTS

The results of the assessments in which Morocco participated, especially TIMSS (2007) and PIRLS (2006), reflected the limited cognitive performance of

Moroccan students in the assessed fields (the Higher Council of Education, 2008C). The most important results were as follows:

RESULTS OF MATHEMATICS AND SCIENCE ASSESSMENT (2007):

In primary education: The results of the fourth primary grade in the international TIMSS, 2007, placed Morocco 31 in mathematics and 34 in science out of 36 countries participating in the assessment. The average national performance was 159 points lower than the international average.

Comparing the results of Morocco with those of the other six participating Arab countries at this level shows that Moroccan students in the fourth primary grade ranked second after Algeria in mathematics and fourth in science.

Regarding performance development between the 2003 TIMSS and the 2007 TIMSS for the fourth grade students, we notice that Morocco's score decreased 6 points that is by 1.7%.

In secondary and preparatory education: The performance of eighth grade Moroccan students in mathematics was 119 points below the international average. Morocco was ranked eighth out of 13 Arab countries with an average performance lower than the Arab average.²²

READING AND COMPREHENSION ASSESSMENT (PIRLS 2006):

Moroccan students scored 323 points, lower than the international average (500 points). Moreover, 74% of Moroccan students did not achieve the PIRLS defined performance rate. The students' scores also differed according to their community. 363 points were recorded for urban communities, 334 points for semi-urban communities, and 296 points for rural communities.

These results placed Morocco 40th out

The inability to improve the life of teachers renders them unable to enhance the level of their students

of 45 countries in TIMSS, 2003, and 44th out of 45 countries in PIRLS of 2006. The students' results were below not only the international averages but also the Arab average (which are also lower than the international averages), (Abdullah Al Khiary, background paper for the report).

RESULTS OF THE EVALUATION STUDY OF THE NATIONAL PROGRAMME FOR ACADEMIC ACHIEVEMENT ASSESSMENT (2008)

The low scores of the international assessments raised questions about the output of the Moroccan education system, thereby creating discord among official, professional and media circles.

However, Morocco didn't hesitate to participate in international assessments and interact positively with these results and getting benefit from them.

In this context and as a response to the need for regular examination of students, as well as the adequacy of the acquired knowledge and skills for economic, social and professional needs, a national assessment study was conducted to measure the academic achievement of Moroccan students at the end of the 2007/2008 academic year.

The results of the academic achievement shown in Table 3-2-4 show that the programme's objectives are not achieved, [and] by a percentage of a third

or less than half at best. The data further indicates that the results are not clustered, especially in maths and science, as their results were slightly higher in the fourth and sixth primary grades but declined in the second and third preparatory grades. Regarding Arabic and French, their results revealed slight improvement in the two preparatory grades and decline in the primary grades. This may not reflect the true status of languages in Morocco.

One obstacle facing the Moroccan school is its inability to build high level competencies and enhance them in academic subjects through cross-curricular knowledge and contents (compétences transversales), and allowing the possibility of transferring them from one field to another. Moroccan education is still biased to the end of 'learn to know' at the expense of the other three ends: 'learn to do', 'learn to be' and 'learn to share with others'. Therefore, the challenge will be in the educational system's ability to adopt alternative pedagogical options which produce higher knowledge competencies. This is because such competencies are the tools of forming human resources capable of producing innovative information and knowledge used for overall development and the knowledge economy as well as international competition around governing knowledge production (Abdullah Al Khiary, background paper for the report).

In terms of the qualitative knowledge capital of age groups who can understand most of the requirements of the

The challenge will be in the educational system's ability to adopt alternative pedagogical options which produce higher knowledge competencies

TABLE 3-2-4

Total percentage of academic achievement by subject and school grade²³

Subjects	School grades			
	Fourth primary	Sixth primary	Second preparatory	Third preparatory
Arabic	27%	36%	42%	43%
French	35%	28%	31%	33%
Maths	34%	44%	25%	29%
Sciences	39%	46%	23%	29%
Physics and chemistry	-	-	34%	35%

Source: Higher Council of Education, 2008d

TABLE 3-2-5

Assessment of qualitative knowledge capital by age groups (2005)

Expected knowledge capital of children %	Knowledge capital of youth %	Knowledge capital of adults %	General average %
73	39	43	52

Source: United Nations Development Programme (UNDP) and Mohammed bin Rashid Al Maktoum Foundation, 2009.

knowledge society and are qualified to integrate into it in the short or medium term, we notice that the category of children is the most prepared. The reason for this is that children go through the education cycles which prepare them to gain basic knowledge after no less than nine years of schooling. Since this age group is nearing saturation level, they will have more opportunity to access the knowledge society than other age groups in Morocco, if we take into account the qualitative criterion (see table 3-2-5). As for the youth category upon which society usually depends on as an effective source for change related to innovation and modernity, their qualitative capital does not exceed 39% (UNDP and Mohammed bin Rashid Al Maktoum Foundation, 2009).

SYSTEMS FOR INSTILLING VALUES IN MOROCCAN SCHOOLS

Accessing the knowledge society does not only require gaining information, knowledge, competencies and applied skills, but also forming the future generation's personality and providing them with values that complement knowledge.

Values can be approached from angles related to learning, personality, social life and good manners. This requires monitoring the presence or absence of such values in their three forms in educational programmes and curricula. It also entails investigating the efforts made by the education and training system with the aim of consolidating such values in the minds of future generations. To that end, we will show the most significant activities and efforts in this field.

A. Reviewing school books: Responding to the changes witnessed by Moroccan society and desiring to help future generations adapt to such changes, school books were revised to meet the directives of the National Charter of Education and Training. The revision also takes into account that books should contain new ideas in the fields of human rights, citizenship and civil behaviour values. Thus, the new books stated the necessity of the critical understanding of the self and the other, as well as national and international changes which intend to produce a citizen equipped with the values of defending human rights, accepting differences, exercising critical thinking, solving problems, cooperating with others and settling disputes, as well as participating in political life and environmental protection (School Education Sector, 2007).

B. Establishing Values Committee within the Permanent Programme Committee: This committee was entrusted with examining curricula in terms of internationally recognised human rights values as well as national and cultural values (School Education Sector, 2007).

C. Intersection Committee: This was set up within the Textbook Evaluation and Certification Committee. This committee is responsible for checking all initially certified school books to see how far the specifications and standards of human rights values are met.

D. Introducing the subject of citizenship: The general objective of citizenship is building a conscious citizen who is able to

Responding to the changes witnessed by Moroccan society and desiring to help future generations adapt to such changes, school books were revised to meet the directives of the National Charter of Education and Training

exercise his or her rights and duties to him or herself and the group which he or she belongs to.

E. Integrating the values and principles of a new family code:

The school education sector deliberately incorporated into school books the values of change, justice, equality and restoring the respect of the Moroccan family which were included in the new family code. This code is helping Moroccan women achieve their ambitions in the field of gender equality in terms of family care, restricting the right of divorce, polygamy and the regulation of guardianship and spouse finances, in addition to other principles needed for the regulation of personal affairs. The education sector incorporated these values into school books and programmes which have a philosophical, religious and social dimension, with the aim of familiarising the future generation with the changes in social and legal status in Morocco.

F. Including principles of International Humanitarian Law:

Morocco initiated a pioneering experience of publishing and disseminating the principles of humanitarian law. It has prepared documents for this purpose entitled 'Exploring International Humanitarian Law' in a number of academies.

G. Values monitor: Its general objectives include enhancing the values of Islamic doctrine, promoting Moroccan cultural identity, strengthening the values of modernity, and integrating values into the educational institution. Its objectives also involve establishing values as the base of the educational system across all levels, and monitoring the educational institution in the course of its incorporation of values in its educational practices. The monitor will also watch and evaluate value related behaviours in school (School Education Sector, 2007).

H. Creating the Children's Parliament:

The parliament was founded to realise the

objectives of educating children about democratic practices. It further seeks to provide the conditions to train the future generation on positive citizenship and concern for public issues.

I. Education Equality Cells: These cells aim to support and promote a culture of human rights. In the context of the dynamism witnessed by Morocco in the late 1990s within the framework of the National Action Plan for Integrating Women in Development, cells for equality and justice education emerged to serve as a foundation for gender equality and development.

The previous achievements highlight the attention given to integrating a culture of values into curricula as well as the daily practices of students. The curriculum contents are varied and comprehensive and therefore help to build the students' personality with different intellectual dimensions. The field study conducted for the Morocco case study showed that the future generation possesses satisfactory levels of values, in terms of their readiness to integrate into the knowledge society. The survey showed that 47.2% of respondent students are 'ready' in respect of the required aggregate values. Additionally, 51.5% of the students are nearly 'ready' and no student is 'not ready' (see chapter 5 of Morocco case study).

TEACHING METHODOLOGY: BETWEEN REALITY AND EXPECTATIONS

There is no doubt that effective pedagogical methodology establishes a bridge of constructive communication with students. This methodology also enables them to build their competencies and abilities in a way that helps form their personalities and satisfies their needs to prepare them to integrate effectively into the desired knowledge society. Nevertheless, the education and training system is currently suffering from many gaps. The report of

The field study conducted for the Morocco case study showed that the future generation possesses satisfactory levels of values, in terms of their readiness to integrate into the knowledge society

the Higher Council of Education stated that, “as for pedagogical methodology, concrete procedures have been taken to establish the competency-based approach. However, such an option has not turned into a reality due to the lack of application measures and mechanisms on the level of defining and designing curricula as well as reviewing the assessment methodology. Moreover, teachers were not trained and prepared as required in order to effect such large-scale changes.” Thus, teaching methodologies are scattered and disparate, far from the concept of a competency-based approach as defined by the charter, (the Ministry of National Education, Higher Education, Professional Planning and Scientific Research, 2008).

The structural report of the Emergency Programme (2009-2012) emphasises the determination and resolution of official authorities to work towards developing the learning system as well as achieving scientific and technological development, and developing handicraft. The report also proposes adopting new pedagogical methodologies which focus on selecting the knowledge acquired by students as well as their scientific analysis and thinking methods, in addition to their adoption of critical scientific methods in analysing phenomena. This new approach will give them more opportunity to help develop their sense of experimentation, accountability and proof.

Most of the respondent teachers in the field study stressed the importance of teaching methodology in preparing future generations. They expressed, some emphatically, their relative satisfaction with the reality of dealing with this. The surveyed teachers considered the curriculum a tool that helps students acquire necessary skills (34.6% ‘completely agree’ and 51.5% ‘somewhat agree’). They also indicated that the curriculum prepares students to overcome future challenges (44.2% ‘completely agree’ and 38% ‘somewhat agree’). Moreover, they said that the educational programmes and curricula take

into account students’ training in terms of different sides of their personality, namely, their cognitive, conative and social sides (25.4% ‘completely agree’ and 53.1% ‘somewhat agree’), (See table m3-12 in the appendix).

ENABLING SYSTEMS AVAILABLE FOR FUTURE GENERATIONS THROUGH EDUCATION

Some students stated in a recent field study that the buildings of several public schools, “look like a prison.” They pointed out that such buildings should be harmonious, with beautiful structure which attract students and contain large areas including an information hall and green spaces. They should also be open to the community and institutions, and be provided with facilities and equipment that meet the requirements of the time, creating an atmosphere of comfort for students and motivating them to learn (Rashida Barada, in Arabic, 2009).

Regarding teachers, the study indicated that schools should have, “teachers who receive training, making them different from older, more rigid teachers who cannot be developed.” It also indicated that teachers, “should be close to their students, support them and provide them with knowledge and kindness.” According to the study, teachers “should also be highly competent and especially familiar with the field of education and guidance.”

As for the curricula, the study concluded that it does not satisfy the future generation’s needs or prepare them for the labour market as required. One student said: “Curricula neither meet the youth’s interests nor answer their queries or explain the phenomena which surround their society”. Today’s students require the developing of educational institutions including their buildings, curricula and human resources, in addition to architectural space and pedagogical facilities. Furthermore, they

Most of the respondent teachers in the field study stressed the importance of teaching methodology in preparing future generations

Today's schools must go beyond their traditional roles and duties to enliven their curricula and programmes. This requires drastic change in their activities to be able to adapt to the new situations of the modern era

express their need for curricula which enhance their intellectual faculties and enable their openness to the modern age (Rashida Barada, in Arabic, 2009).

Today's schools must go beyond their traditional roles and duties to enliven their curricula and programmes. This requires drastic change in their activities to be able to adapt to the new situations of the modern era. Hence, we find that the Ministry made efforts in developing curricula including:

- Re-division of the secondary education;
- Approving six input agreed upon on the national lever, which are education based on values, communication competencies, cultural competencies, self-development competencies, methodological competencies, technological competencies,
- Bridging similar divisions;
- Expanding schooling in technological, scientific and professional divisions;
- Organizing classes and educational pace in the vocational education;
- Founding the common roots
- Re-organizing educational assessment;
- Adopting new technologies for modernization of education.

One of the important procedures within the framework of equipping educational institutions and generalising ICT is the kick-start of "GENIE". This program is an embodiment to the national strategy for generalisation of ICT in

the field of training and education in all Moroccan schools, they are based in the heart of the reform of the educational system in the framework of the urgent programme under the name E1P10 (Integrating ICT and Renewal of the Educational Field). It has been already launched in 2006; However, for ensuring a good offer for the educational system, the strategy approved at the end of 2008 was updated and the programme was rescheduled for a period of 5 years (2009-2013). In this regard, focus was given to the preparation model and training, as well as priorities in acquiring digital resources for ensuring achieving 2 important goals:

- Improving the quality of education and professional development of teachers;
- Developing ICT-related skills among learners.

It is worth mentioning that the programmes 'Injaz' & 'Nateza' enabled approximately 15,000 students and 150,000 men and women working in the education field to benefit from the subsidy offered by the Telecommunication Infrastructure fund to cover parts of the costs of computer acquisition. The number of 'Injaz' programme beneficiaries is expected to reach 50,700 students by the end of 2014.²⁴

THE EFFORTS OF THE PRIVATE EDUCATION SECTOR IN DEVELOPING EDUCATION AND TRAINING SYSTEMS ACROSS DIFFERENT LEVELS

The contribution of the private education sector increased from 4.2% in 2000, to 7.1% in 2007, at a percentage of 8.4% in primary education and 4% and 6.3% in preparatory secondary and vocational secondary education respectively. But, the target contribution of 20% remains unattainable. It is also noted that this sector has no contribution in rural or unstable economic areas. This explains why Casablanca and Rabat represent 20% of the

In fact, the fast-paced changes which the world has witnessed recently make the educational content acquired by students useless in solving recent problems in real life. This has led the American psychologist Carl Rogers to say that it is ridiculous to ask what should be taught to future generations due to the fast pace of change taking place all over the world. He said that educational content does not benefit future generations after their school graduation. According to him, there remains only one useful thing – that is developing the creative thinking that equips the future generation with the skills and competencies which enable them to overcome new or existing problems they encounter in real life.

Ahmed Auzi, 2000

primary education level. “It seems that the private education contribution decreases as we move to a higher educational stage. Moreover, the contribution of the private vocational secondary education surpasses that of preparatory secondary education (the Higher Council of Education, 2008A). The field of higher education has witnessed the establishment of several training institutions, and more international universities were set up this year in some major Moroccan cities.²⁵

Private higher education managed to double its share of students over 7 years, receiving 6.4% of the total number of students in 2006/2007, against only 3.4% in 1999/2000. This sector’s dynamism is attributed to the diversification of its specialties, in addition to its adaptation to economic demand and the qualitative improvement of its curricula (the Higher Council of Education, 2008C).

CONCLUSION

The Moroccan education and training system faces major challenges. On one end, it is facing the long-standing problems of illiteracy and high rates of pupils leaving school early, in addition to the growing number of unemployed graduates whose education does not meet with the labour market’s requirements, as well as the need to reform and equip educational institutions. At the other end, the education and training system also faces the pressures of globalisation

and the international competitive market which necessitate providing students with efficient training that enables them to integrate into the knowledge society, meeting its needs and requirements as well as its scientific, knowledge and personal efficiency.

Projects in Morocco are carried out in different sectors related to economy, governance, education and training, health, housing, transportation, elimination of poverty and marginalisation, and gender equality, aiming to create a modern, democratic Moroccan society. This makes it necessary for the education and training system to improve its contents, methodology, conceptions, objectives and philosophy. This new philosophy will raise the Moroccan society’s hope to overcome weaknesses and difficulties and enable it to get out of this cultural crisis. Such opportunity will be enhanced if the educational system’s philosophy moves from the traditional to becoming rational, modern, serious and flexible. It should also be guided by the international human experience and be equipped with knowledge, technology, culture and appropriate humanitarian ethics. It should also entail cultural openness and possess the tools and skills of the modern era which underlie the culture of creativity and innovation of the future generation.



THE ROLE OF UPBRINGING INSTITUTIONS IN PREPARING FUTURE GENERATIONS

The upbringing process goes beyond school education and training to include an integrated system of institutions in Moroccan society which contribute to preparing the future generation for the desired knowledge society. The upbringing institutions in Morocco involve family, language, and general economic and social conditions, along with media, religion, customs and the dominant social culture. These are supported by civil society institutions as well as the status of public and private freedoms.

FAMILY CULTURE AND PREPARATION OF THE FUTURE GENERATION

The family is considered a vital intermediary between the child and society. In the family, children develop their personalities and acquire the cultural models of their society. Thus, the family is considered the most prominent social institution that is concerned with upbringing and preserving a society's culture. In fact, it is difficult to speak about the Moroccan family in a singular form, as there are urban and rural families each with different economic, social and cultural backgrounds which reflect on their upbringing methods. Moreover, we should refer to the demographic, social and cultural transformations which Moroccan society has undergone over the past fifty years, because these transformations have greatly changed family relations and their relevant values. It should also be noted that the family is regarded as the

school's partner in preparing children. It is the first educational institution which prepares children for life before joining school, and therefore teaches them a set of behaviours and ways to deal with others, in addition to other values which children need in everyday life.

When children join school, "they enter the classroom with everything they have learnt at home" (Georges Mauco). Therefore, the kind of life, interpersonal relations within the family as well as the dominant relationship climate (democratic, domineering...), especially between parents and children, plays a major role in providing the future generation with certain types of values and attitudes that determine and direct their behaviour in society.

The Moroccan family has developed in structure, as it became more diversified and tends to the nuclear family model. Data from national family research demonstrates that there are 282 kinds of families with compound structures, including 183 with at least three consecutive generations. These extended families are found more often in rural communities rather than urban ones (The Possible Morocco, Fiftieth Anniversary Report, 2006).

The attitudes and values related to learning, a passion for knowledge as well as diligence, persistence and openness to development are prominent issues in upbringing. This is attributed to increasing parental awareness of the importance of knowledge acquisition as a prerequisite for integration under the changes witnessed by, and the challenges facing Moroccan society. The higher the

The attitudes and values related to learning, a passion for knowledge as well as diligence, persistence and openness to development are prominent issues in upbringing

Families are no longer valued and honoured for the number of their children as much as the kind of education, scientific specialism and jobs secured by their children. Today, the 'successful family' is one whose children have succeeded both economically and socially

economic and education level of parents, the more interested they are in educating their children and encouraging them in hard work and persistence. In order to achieve this, parents exert tremendous efforts on material or moral levels. This is particularly reflected in their choice of suitable educational institutions, private tuition and learning facilities which help children achieve success and excellence (Kholoud Al Sebaie, background paper for the report).

Today, parents have become aware that knowledge increases human capabilities, enriches their imagination and develops their sense of innovation. In addition to the inherent value of knowledge itself, it performs an important and objective role in increasing other freedoms. Knowledge helps human beings protect their interests and defend against exploitation. It also raises their awareness of how to avoid threats to health and helps them live a longer life in good living conditions. Knowledge also enables people to secure a better job with a higher income. Parents who have not had an education appreciate the value of learning, as it helps their children avoid the hardships of life which their families have faced (UNDP, 2010).

Thus, families are no longer valued and honoured for the number of their children as much as the kind of education, scientific specialism and jobs secured by their children. Today, the 'successful family' is one whose children have succeeded both economically and socially. Parents now derive their social status from their children's achieved academic and professional development (Kholoud Al Sebaie, report background paper). Given the pressures of the new world of technology, a considerable number of middle and upper class parents do not only push their children to succeed but insist on them achieving excellence and high scores, qualifying them to join institutes that ensure more opportunity for professional growth.

ECONOMIC, SOCIAL AND CULTURAL SITUATIONS OF MOROCCAN FAMILIES AND THEIR EFFECT ON RAISING CHILDREN

The process of preparing the future generation and providing young people with suitable learning opportunities inside or outside school is linked with the general economic and social conditions of their families. The living standard of most Moroccan families is moderate. However, it has developed significantly from half a century ago as a result of changes in the general consumption pattern of households which has recorded an improvement in the spending level per individual. But, it should be noted that this level is especially affected by the proceeds of agricultural crops in rural communities. The HCP indicators show that the poverty indicator in Morocco has improved, dropping from 28.5% in 2004, to 11.1% in 2007.²⁶ The change in the consumption pattern of the Moroccan people, even with a relative percentage, was a significant indicator for the advancement in living conditions and lifestyle. However, other expenses related to acquiring equipment and entertainment doubled. The improved general living conditions which were accompanied by an increased schooling development have led, especially in cities, to a reliance on types of consumption. Furthermore, nutrition, health, clothing, transport, accommodation and other aspects of social life have undergone profound changes. This has been reflected in the family's increasing demand to educate their children and select schools which can guarantee them a high quality education and that can also take care of their health.

THE STATUS AND EMPOWERMENT OF WOMEN IN MOROCCAN SOCIETY

There is no doubt that women are considered the primary care-givers in

the family and society. They have a substantial effect on developing children's personalities which are guided in the early years by the family's educational system and culture, in which women and especially mothers play a principal role. Therefore, development and modernisation efforts in developing societies which aim to eliminate underdevelopment have sought to educate women and enhance their status, enabling them to be activists in the process of human development. "Society is like a bird which cannot fly without both wings. Paralyzing the wings of women is an obstacle to the progress of the entire society" (Abdel Hadi Bu Taleb, in Arabic, 2000).

- Men and Women enjoy equal civil, political, economic, social, cultural, and environmental rights and liberties, stipulated in this chapter of constitution, as well as in international pacts and conventions as approved by Morocco, and in the framework of the provisions of the constitution and principles and laws of the Kingdom.

- The state seeks to achieve the equality principle between men and women. For this end, it introduced an authority for equality and struggle against discrimination.

The Moroccan Constitution, Chapter 19, 2011

The Moroccan Constitution provides complete gender equality in social, economic and political rights. The fifth article of the Kingdom's Constitution which was amended in September 1996, enables gender equality at voting age. Additionally, the twelfth article of the modified Constitution stipulates that all citizens are entitled to apply for all public jobs under the same conditions. Moroccan law also guarantees gender equality in the right of work and pay, especially in public jobs. In pursuit of gender equality, the Moroccan Personal Status Law or 'Code' which was executed in the form of a decree in 1957 was revised in 1993. Moreover, Morocco has adopted many human rights-related international charters and laws. This has facilitated decisions which guarantee full rights for women in society (Khadija El Madamad, in French, 2000).

The issue of women imposes itself strongly in the Moroccan society which has witnessed enormous changes in various urbanisation fields, as well as in education and integration of women into different business sectors. The Moroccan woman has managed several achievements of empowerment. The state has also given great attention to women's societies which have set up many developmental social projects. Moreover, "the parliamentary elections held in 2007, saw a qualitative leap in female representation. Women have gained 35 seats in parliament out of 325 members. Thirty women joined the House of Representatives via national lists, while 5 women accessed it via local lists. Thus, female representation in parliament grew from 0.6% to 10.8% (this percentage placed Morocco 69th instead of 121st, thereby topping the Arab countries in terms of female representation in the legislature".²⁷ The percentage of Moroccan women holding high university degrees increased to 35%. Women further represent 28% of the active work force in society. They also constitute 30% of civil servants.²⁸ Despite these gains, the outlook for many women in Moroccan society is still bleak, and their status has not drastically changed. Thus, what has been achieved is only one step in a long journey.

Today, the Moroccan woman is generally more empowered than in previous decades. The progress in her status is expected to reflect her ability to contribute more effectively to preparing the future generation on a cultural and financial level. The improved economic conditions help women contribute more to funding better learning opportunities for the family's children. In addition, the high education and cultural level of women allows them to respond more effectively to social and global developments related to developing the future generation for accessing the modern and knowledge societies.

"Society is like a bird which cannot fly without both wings. Paralyzing the wings of women is an obstacle to the progress of the entire society"

LANGUAGE AND IDENTITY PROBLEMATIC IN MOROCCO

The relationship of language with identity poses several problems, whether in terms of its relationship with the system of education and values cultivation, or its relationship with authority in its different knowledge, political and economic aspects.

Language is considered the vessel of culture which reflects its contents and conveys its effects on conscience and feelings. This matter poses a problem for Morocco with its matrix of versatile languages. This matrix goes beyond the various daily dialects or languages spoken by the population, to languages which are used for communication in formal managerial dealings and the modern knowledge by students and young people.

Multilingualism in Morocco is not a product of the modern age, but has a long history. The strategic position of Morocco - close to Europe and overlooking the Mediterranean Sea, in addition to its African roots made it a target for many invaders. The Amazigh language of indigenous Moroccans was exposed to various cultures of different nations, in addition to the Arabic which came with the Islamic conquest. French colonisation has heightened the language issue in Morocco, due to its economic and cultural sovereignty, since it assumed protection over Morocco's interests. Thus, we have a linguistic scene in which different languages conflict with their cultural and civilisational contents.

“Colonisation has caused separation in the Moroccan linguistic field by using the French language in the fields of education, economy and management at the expense of the Arabic language, whose role has diminished and become limited to the production and reproduction of religious knowledge in Al-Qarawiyyin University and Al Yussufiyah University (Ben Youssef University). Arabic language teaching was also reduced to a large extent in colonial schools.

Source: Mohamed Fawbar, 2000.

Generally speaking, it is not possible to talk about bilingualism in Morocco which seemingly includes Arabic and Amazigh, as well as the common Arabic dialects (Al Hassania).²⁹ There is also formal, classical Arabic which is used in education as well as some administrative correspondences and the media. It is also the country's formal language as stipulated by the constitution. In addition, French has become the functional language in the field of economy and global openness, as well as the language of scientific specialisms at universities and institutes of higher learning. We should not also exclude other languages learnt by the future generation, such as English and Spanish among others.

Thus, we notice that the Arabic language in Morocco is not in a good position; the language is fraught with linguistic interference. The disjointed linguistic position as well as linguistic insecurity may reflect negatively on the individuals' latent potential, thereby reducing the level of human development (The Possible Morocco, Fiftieth Anniversary Report 2006). Given the importance of the Arabic language and its close relation with the culture, its position has become a focus for study and research. The Higher Council of Education has made it one of its major concerns which should be decisively acted upon, especially after the students' knowledge revealed a large deficiency in this field. In addition, students have low linguistic competence reflected in their daily communication by moving quickly from one language to another.

Language and identity

“It is possible to handcuff peoples, take their clothes off and muzzle them, but they will still be alive. It is possible also to steal their works and take their passport, dining tables and beds, but they will remain rich. Peoples are enslaved when their ancestors' language is eliminated and thereupon they will be lost forever”.

Source: Ignazio Buttitta (Sicilian poet)

Given the importance of the Arabic language and its close relation with the culture, its position has become a focus for study and research

MEDIA CULTURE

Law No. (77.03) on Audio-visual Communication and the recent decree issued by the High Authority of Audio-visual Communication (2002), are aimed at consolidating the principle of freedom of communication to serve society. They also intend to keep up with the political and social projects chosen by Morocco. Both also aim to disseminate its culture and be open to cultural diversity, and eliminate state monopolisation in this field. Several procedures have been implemented to develop public media in order to prepare them to overcome the competition challenges in the media sector.

Cultural and linguistic diversity has been a principal input of Moroccan social life since ancient times. This rich input is not only included in educational plans as stipulated by the National Charter of Education and Training, but is also supported by the media which is broadcast in local, national and foreign languages. Thus, the culture communicated by this media and absorbed by the future generation creates “a state of integration between diversity and unity, history and future prospects, as well as local, regional and universal elements”.³⁰

To sum up, the media contributes, via its various channels, to cultivating cultural diversity in the personality of the future generation and exposes it to multi-faceted creative human thought. This helps it exceed the country's local and cultural boundaries.

RELIGION AND CUSTOMS AND THEIR EFFECT ON THE PREPARATION OF THE FUTURE GENERATION

Religion to Muslims does not only mean spiritual saturation and piety which appears through practicing religious rituals, but also directs Muslims' life and behaviours and determines their identity, as well as acting as their cultural and social reference.

It may also extend to the political field and ideological mobilisation. Thus, religion is a social and political factor that affects and guides efficiency and daily behaviour. Where do Moroccan youth stand in terms of religious culture? How does it direct and structure their conduct and behaviour?

The relative mainstreaming of education has changed the social fabric. A considerable number of educated youths focus on religion compared to their parents after political independence. The youth have revised their parents' religious culture and concepts and tried to re-establish them on new bases and modern knowledge obtained through education and the media (The Possible Morocco, Fiftieth Anniversary Report, 2006). Generally, it may be said that the levels of the religious awareness of the youth differ according to their upbringing, as well as their social and family environment.

We would also not be wrong if we say that religious education lately has become the main focus of education and upbringing in general. This has been triggered by contemporary international changes and events in which religious awareness of some young people is accompanied by religious movements and organisations that threaten the international system. These movements seek to change systems and impose their opinions through so-called 'religious violence'. They have moved from individual behaviour to group behaviour with the aim of affecting political and social systems and threatening social security (Abeer Amin, in Arabic, 2006).

The general concern with regards to the religious aspect does not prevent us from saying that the problem of today's youth generation is the lack of sound religious education, as well as bewilderment between original religious affiliation and the developments of the knowledge societies. In such an atmosphere, the family neglected its role, especially families that ignored the effective role of religious and moral guidance, together with conscious following-up of their children, and left this

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role to the freedom of media consumption with its differing ideas and religious trends (Mariam Ayat Ahmed, background paper for the report).

The conclusion is that “Moroccan society’s relationship with religion is not immune from international impact, the increasing forms of universal extremism, as well as the effect of the free religious product market which includes books, audio tapes, websites and television programmes. Therefore, Moroccan religious policy and reference to religious tradition are no longer concerned only with the religious structuring of citizens. However, religion is being restructured and this is evident in the different concepts which are formed by certain interpretations of Islam” (The Possible Morocco, Fiftieth Anniversary Report, 2006). Interest in religious structuring is also clear in the meetings and training forums held occasionally by the Ministry of Endowments and Islamic Affairs with the purpose of increasing understanding and awareness of religious culture.

SOCIAL CULTURE

The upbringing process and its mechanisms in any society are considered the means by which the future generation develops a social self-esteem and turns them from mere biological beings into social beings capable of participating in new life situations which require constant interaction. This enables them to be active participants in a society which cooperates with its members and conforms to its standards. This is done through the components of social culture which are common among upbringing institutions that seek to develop such components in the future generation. This requires questioning the cultural roles of upbringing institutions and their agencies in Moroccan society to understand whether or not the culture they produce helps develop the future generation’s personality in a way that prepares them to positively integrate into the knowledge society.

Undoubtedly, human beings’ personalities are the product of interaction between their biological structures and the different cultural effects of diverse cultural upbringing institutions. These include formal institutions, such as the family and school, or informal institutions, such as the media, peers, religious establishments, political organisations and cultural clubs, among other large institutions in today’s world. Despite the apparent scarcity of field research in this area, and taking into account Morocco’s social, cultural and linguistic complexities, the thorough researcher cannot overlook the significant role these different social institutions play in forming the future generation’s personality and determining its features either on the individual or group level. This has led some researchers to talk about the distinguished Moroccan personality with its definite cultural, linguistic and religious identity.

SCHOOL CULTURE

School culture can be regarded as a system of values, standards, beliefs, principles and practices which are established through time as a result of the interaction of the school community, including the administration, teachers and students in order to solve the problems and challenges facing them. This system consists of expectations and values that shape the way people think, and their feelings and behaviours in school. Such effects form the school’s internal environment and make it an integrated unit with its objectives, structure, curricula, and educational system, as well as distinct programmes and activities. School culture also involves the beliefs of teachers, students and administrators who represent models of values, beliefs and traditions established through school’s history.

School culture is influenced by the general culture of society and an educational philosophy which originates from its educational objectives, as well as the goals defined by the authorities

concerned with the school's education and training issues. As previously indicated, the National Charter of Education and Training has determined the content and objectives of school culture in Moroccan society.

School culture is important because it is associated with the students' activities in terms of academic attainment, achievements, and teamwork, in addition to the democratic interaction between teachers and students and between administrators and teachers. A viable and stable school culture reflects on the achievements and motivation of teachers and students. School culture which Moroccan schools seek to instil into students' minds, according to the educational and training system, originates from school life, which is a microcosm of social life. This culture is concerned with the full upbringing of students through various interactive activities which are supervised by teaching staff and the administration and supported by different societal partners. According to this system, school life can be defined as the life students spend at school for the purpose of their education through the programmed religious, educational and training activities which take into account the knowledge, emotional and motor sensor aspects of the students' personalities. In this regard, active and effective participation of all stakeholders is needed (students, teachers, the administration, educational guidance groups, parents and institutional partners), (The Ministry of National Education, Higher Education, Professional Training and Scientific Research, 2008C).

CULTURE OF CIVIL SOCIETY ORGANISATIONS AND ASSOCIATIONS

The concept of civil society involves individuals as well as informal institutions which serve as active elements in most fields of education, economy, family, health, culture, charity and others. It is an

interwoven fabric of relations between society's members on the one hand and the state on the other. The cultural roles undertaken by civil society organisations and associations in developing countries, like Moroccan society, include adopting and promoting the principles of democracy and human rights. However, such roles cannot be performed unless the state establishes independent and just civil laws and institution-based governance regimes, in addition to true political pluralism and sound mechanisms of power transfer. These will help the sector grow and flourish given the freedom which will reflect its growth and development.

Promoting the society's culture and strengthening its foundation is not limited to the efforts of the state and its formal channels. This role is also performed by civil society organisations and associations which believe that public issues are not only confined to the state, but that they are also responsible for providing different, ready solutions to societal problems. They also believe that all parties should participate in social development. The development and modernisation of Moroccan society requires the engagement of civil society organisations in spreading the value of initiative, as well as consolidating the concept of cooperation and independence instead of relying on the government.

Morocco has an estimated 30,000 civil society associations and organisations. The foundation of these associations is regulated by Law No. 1.58.376, issued on 15 November, 1958, which was amended by Law No. 75.00.³¹ Over the past two decades, the number of associations has grown substantially. These associations undertake cultural development work and activities and contribute, along with the state's efforts, to eliminating illiteracy, informal education, and empowering women and enhancing their skills, in addition to organising cultural awareness activities. The NIHD has had a great effect on activating and developing the social work undertaken by civil societies

The concept of civil society involves individuals as well as informal institutions which serve as active elements in most fields of education, economy, family, health, culture, charity and others. It is an interwoven fabric of relations between society's members on the one hand and the state on the other

to defend against different aspects of marginalisation and exclusion of some social categories, especially women and children.

- Civil Organisations and NGOs shall be founded and practice their rights freely, within the framework of respect for the Constitution and Laws.
- These societies and organisations can't be dissolved or detained by general authorities, unless by a judicial decision".

The Moroccan Constitution, Chapter 12, 2011

There is a strong need for a culture which encourages development and not stagnation, so that young people can make use of science and technology while adhering to appropriate morals and values

The civil societies' efforts are not limited to the above mentioned cultural side. It has also implemented development projects in areas that suffer from a lack of electricity and potable water and medical services, supported by governmental sectors, international organisations, and donations and aid from Moroccan communities abroad. It is to be noted that such communities have had a remarkable role in development in recent years. They have helped strengthen the social fabric in many Moroccan regions and established partnerships and developmental projects with overseas institutions and groups. Thus, some Moroccan communities have gained support and cooperation from identical overseas communities established by Moroccan immigrants in several European countries, especially Spain, France and Belgium. Therefore, Moroccan communities abroad are not just a source of finance (their financial contributions represent 20% of the sources of hard currency for the public treasury, according to the Federal Union of Moroccan Workers and Traders abroad), but they also play an active role in realising social development by focusing their efforts on transnational networking in order to make use of institutional mechanisms based on partnerships and strategies. In addition to the financial support offered to communities by Moroccan communities abroad, they also play an important role in parallel transfers, such as the transfer of

knowledge, experience and skills to their homeland.³²

CONCLUSION

We cannot deny that there is a crisis in the dominant culture of Moroccan society within its institutions and structures, starting with differing models of familial culture. The first model adheres to long standing traditions and resistance to modernity, while the second adopts western culture to the extent of alienation. School culture also swings between tradition and modernity in content as well as in curricula and educational methods. Moreover, the media lacks original and distinguished cultural material, due to the absence of production methods of knowledge and the negligence of its role in today's world. Additionally, language is suffering from a crisis and its utilisation faces problems. Language is the vessel for culture and its primary tool. It is also a natural approach to cultural development and a catalyst for developmental trends. This requires developing language in order to understand changes along with defining language options relating to the Arab and Islamic cultural identity under the conflict of economic interests and a clash of civilisations.

The concepts and definitions of culture vary according to its various institutions and channels. However, culture can generally be defined as "the accumulated knowledge and a depository of a society's values, customs, rules and prevalent concepts which affect all society members, the educated and ignorant, the elderly and children, and men and women by different degrees according to their level of understanding. Therefore, culture plays a prominent role in determining an individual's behaviour, reactions and ways of thinking (the Arab League Educational, Cultural and Scientific Organisation -ALECSO, 2005). It is necessary to establish a comprehensive cultural strategy which aims at the overall development

of Moroccan society, especially the future generation who have a greater ability for absorbing culture. This will not be achieved unless conscious and purposeful plans and programmes are set up and roles are rationally distributed within the family, school and media with a special focus on the culture that helps develop a normal, integrated and creative personality. There is a strong need for a culture which encourages development and not stagnation, so that young people can make use of science and technology while adhering to appropriate morals and values. This entails reconsidering education systems as well as media messages and content, and keeping pace with global changes. This also requires preparing the future generation in a way that allows them to achieve independence and enhances their ability for innovation and self-development. They should be provided with the facilities that enable them to benefit from the knowledge revolution and steadily growing technology to meet the knowledge society's requirements.



ENABLING ENVIRONMENTS AFFECTING THE PREPARATION OF THE FUTURE GENERATION FOR THE KNOWLEDGE SOCIETY

Enabling human beings means enhancing their ability for constructive work and positive change in themselves as well as their surrounding environment. Therefore, enabling is linked with human development which depends on “giving people more freedom to help them live a long life of health and innovation, seek to realise their desired goals and take part in defining developmental tracks on the basis of justice and sustainability for the planet” (UNDP, 2010). How far do the enabling environments in Morocco create an enabling climate for the next generation?

POLITICAL FREEDOMS

Since the 1990s, Morocco has entered a stage of political openness through constitutional amendments in 1992 and 1996, and the subsequent installation of the so-called ‘Alternation Government’.³³ This stage was described as a ‘democratic transition’, in which a number of reforms were made with the strategic aim of moving from an authoritative political system which clashes with political parties to a system which seeks to integrate into a modern democratic project (Al Hassan Bou Kentar, background paper for the report).

The Moroccan constitution seeks to establish a state based on political democracy according to the principle of social justice. In addition, the supreme authority of the state expressed its determination to leave the past behind. To this end, the Equity and Reconciliation Commission was established on December 15th, 2003, at the

recommendation of the Advisory Council on Human Rights, and it was approved by the king. This required making constitutional and legislative amendments which state the dominance of the International Human Rights Law over domestic laws, as well as the right to a fair trial (Previous Source).

In any case, Morocco still lives in a stage of political transition, which like all transitional stages, has its ups and downs. However, Morocco, which has international commitments and which has integrated into a modern democratic project, can no longer be allowed to relapse. Morocco has no option but to promote democracy to develop a state of rights and laws whose governance depends on the power of law and institutions.

Following the events witnessed by the Arab world, Morocco has managed to enhance its democratic gains by declaring constitutional reform which responds to the requirements of political development, answers all the questions of national and progressive forces and aims to modernise the state’s structures.³⁴ The constitution will be revised in order to motivate the process of comprehensive reform. For this purpose, the king has installed an ad-hoc committee to listen to and consult with parties, syndicates, youth organisations, social workers and qualified intellectuals.³⁵ The reform is based on the following fundamental issues:

Dedicating the constitution to the diversity of the unified Moroccan identity, strengthening the rights and institutions, giving more individual and political freedom

The Moroccan constitution seeks to establish a state based on political democracy according to the principle of social justice. In addition, the supreme authority of the state expressed its determination to leave the past behind

and guaranteeing its practice, in addition to promoting the human rights system, making the judiciary an independent authority, promoting the principle of separation and balance of powers, enhancing institutional democracy, modernisation and rationalism, and constitutionalising good governance of institutions.³⁶

FREEDOM OF OPINION AND EXPRESSION

The freedom of the press has been recognised in Morocco since the Press Code was enacted in 1958. Despite the state's interference in restructuring the media sector, the printed press has accompanied the political scene as multiple forces and therefore it expressed multiplicity and contributed to informing readers about public issues. Since its independence, Morocco has not seen an informative speech on one political trend. "The media has gained substantial freedom and become a guiding force for the authority and the parties needed for democratic transition" (The Possible Morocco, Fiftieth Anniversary Report, 2006).

The media scene in Morocco has been widened by the establishment of six television channels, with some specialising in sports, education and religion. In addition, a new channel was founded to broadcast programmes in Amazigh. As for regional radio stations, nearly every city has its own station. The media landscape was boosted by the establishment of an independent specialised entity, the High Authority of Audio-visual Communication (Previous Source).

ECONOMIC FREEDOMS

On the economic level, Morocco undertook several reforms between 1993 and 2005 to liberalise the economy and open it up to international trade. This was done through entering into free trade exchange agreements with the EU, the USA and some Arab countries. Morocco also carried out banking and collection reforms, and formulated new laws for anonymous major companies. Moreover, the Hassan II Fund for Economic and Social Development was a public tool which allocated a share of privatisation proceeds for setting up projects that provide job opportunities and develop the national economy. The fund has become a major player in the country's development. The total investments in such programmes are estimated at MAD 150 billion, and they have created 450,000 job opportunities.³⁷ The fund serves as a catalyst for the national economy, directing public and private partners towards its projects, thereby increasing the volume of investments (The Possible Morocco, Fiftieth Anniversary Report, 2006). Additionally, Morocco has started a free trade exchange with Europe, according to an agreement concluded in 1996 which has placed it in an "advanced position" with Europe. Morocco also ratified a free trade agreement with the US, as well as some Mediterranean countries such as Turkey and Egypt, together with other countries such as the UAE and Jordan.

Economic liberalisation, as well as the different incentives adopted by the country, has led to the emergence of a national industry on the regional level

"The media has gained substantial freedom and become a guiding force for the authority and the parties needed for democratic transition"

TABLE 3-4-1

Fluctuations in economic growth

Growth rate (%)	Years
2.9%	1960- 1966
5.7%	1967-1974
2.7%	1988 -1995
4%	1996 -2003

Source: The Possible Morocco, Fiftieth Anniversary Report, 2006

which formed organising groups for Moroccan economic life.³⁸ Despite this, economic growth in Morocco has not seen much stability over the last half century, as indicated in the following figures (table 3-4-1).

ACCOUNTABILITY AND RESPONSIBILITY

In the early decades following independence, public planning and policy did not involve a systematic method for assessment and accountability. This did not help direct reform in different sectors. Several unproductive educational reforms may have been reoriented and re-established, if they had been assessed in time. Therefore, citizens who follow events feel that there is neither follow-up nor accountability. “Since independence, citizens have never felt that they have a social contract with the administration. If they have duties as citizens, they also have rights which include demanding public officials be called to account” (The Possible Morocco, Fiftieth Anniversary Report, 2006).

RATIONAL PLANNING AND MANAGEMENT THROUGH GOOD GOVERNANCE

The realisation of human development is conditioned by political contexts and practices, the limits of freedom, the belief in democratic principles and their practice, as well as public planning. Rational local and public planning under the rule of law requires adopting good governance, as well as the values of modernity and democracy. Morocco entered into several international agreements, and this necessitated making several reforms on different levels as well as activating mechanisms to eliminate bribery, corruption and social class differences. It also required formulating a policy based on modern planning and good governance in addition to adopting control and accountability. These will be implemented by Moroccan institutions,

such as the parliament, Council of Advisors and the Supreme Audit Council.

THE REALITY OF POLITICAL REFORM AND ITS MANIFESTATIONS; ASPECTS OF TRANSPARENCY AND GOOD GOVERNANCE

Human development cannot be realised unless there is a climate which provides the necessary enabling environment in order to grow and flourish. Undoubtedly, freedom and democracy release the potential of a society’s members who are the tools and products of development. Political orientation is responsible for the exercise of power in society, and its decisions are binding upon all society’s members and organisations. Integration into the knowledge society requires political, economic and cultural modernisation in order to define the major options and strategies which can build the society’s structures according to a clear and purposeful vision.

Thus, human development does not only entail fighting poverty and eliminating instability, or reducing social and economic differences and empowering women both socially and culturally, but also needs, above all, a political framework which defines the features and trends of social infrastructures.

Morocco has a royal, constitutional, democratic and social ruling system,³⁹ and the Moroccan constitution guarantees many basic freedoms in its chapters.⁴⁰ In 1990, the Advisory Council on Human Rights was founded and some modifications were introduced in 2002. This council has played an important role in investigating human rights violations, as well as making legislative reforms “for fair trials which guarantee the integrity of procedures to the interest of litigants. Its role further involves advising public authorities to enter into international agreements, in addition to training employees and educating people on human rights” (The

Human development does not only entail fighting poverty and eliminating instability, or reducing social and economic differences and empowering women both socially and culturally, but also needs, above all, a political framework which defines the features and trends of social infrastructures

The Moroccan governance system managed to guarantee and secure order and stability, but it still has a low ability as regards to making changes and adapting to transformations

Possible Morocco, Fiftieth Anniversary Report, 2006). In this context, Morocco also established a human rights ministry in 1993 which undertook many tasks in this regard. During the period 1999-2003, an arbitration and compensation committee was formed, assigned to process the complaints of victims of human rights violations.

In the field of decentralisation and regionalisation, Morocco undertook several experiments, most of which recorded no success. This drove the state's supreme authority to set up a national advisory committee for broad regionalisation.⁴¹

These different reforms were accompanied by attempts to restructure the political field through a new concept of authority, adopt true political pluralism which allows all actors to perform their role and at the same time keep the administration away from the interactions of other actors, especially political parties. In spite of the efforts made for good governance, some analysts believe that Morocco has not yet reached a high level of public responsibility and that it is still

fragile: The Moroccan governance system managed to guarantee and secure order and stability, but it still has a low ability as regards to making changes and adapting to transformations (Al Hassan Bou Kentar, background paper for the report). This has reflected negatively on several domains, especially the education and training field which has not achieved the required reform. This has led the country now to mobilise all its efforts to fill the gap in this field and focus on education and training to prepare the future generation for developing the country. The country regards education as the head of all national priorities after the territorial integrity issue.

REALITY OF ECONOMIC DEVELOPMENT AND ITS IMPACT ON ENABLING AND REFORM PLANS

Although the availability of economic capabilities and filling vital deficits are the prerequisites of human development, this aspect is not mechanical or one-sided. There are other factors, especially human

TABLE 3-4-2

Economic indices		
Economic indices	Value	Reference year
Gross Domestic Product (GDP) per capita (in USD)	1,099 2,811	1990 2009
Annual growth rate of GDP per capita %	1.1 3.6	1990-1999 2000-2009
Annual growth rate of final consumption %	2.4 4.5	1990-1999 2000-2009
Annual growth rate of consumption per capita %	0.7 3.8	1990-1999 2000-2009
Annual growth rate of available gross national income (GNI) (at current prices) %	6.5 6.5	1990-1999 2000-2009
Annual change of cost of living index (%)	4.5 1.9	1990-1999 2000-2009
Investment rate (% of GDP)	22.1 29.4	1990-1999 2000-2009
Total balance of treasury (% of GDP)	-2.7 -2.5	1990-1999 2000-2009

Source: Ministry of Health and HCP, 2009.

capital, which are considered the principal engine of development and production.

Since the 1960s, the Moroccan economy has seen stages of growth during which it alternates between uptrends and downtrends based on agriculture and the situation of the public sector which affects its movement either positively or negatively. This unstable situation did not help realise human development “especially in terms of its feature of inequality and the weak investments in important social sectors, such as education and health (Al Hassan Bou Kentar, background paper for the report). This led structural planning policy in Morocco to enliven the economic sector in order to serve its development goals for modernising the economy and reducing social divides. This is reflected in the economic development indices in the ‘Millennium Development Goals Report’ for 2009 (HCP, 2009), which stressed the qualitative change from the past two decades.

The figures in table 3-4-2 reflect modest economic growth. Over the past ten years the Moroccan authorities reconsidered their calculations to adopt new policies and plans, and economic planning moved to a policy of privatisation which helped many sectors see substantial growth. The telecommunications sector has generated wealth and contributed 6% to the state’s budget (Al Hassan Bou Kentar, background paper for the report).

Moroccan authorities transformed their function to become a guide and leader of several sectors through a strategic plan. This helped achieve industrial development through a number of off-shoring jobs which output meet the international market’s needs. In agriculture, the ‘Green Plan’ which pertains to farming and food, was introduced. This plan ensures food security in good conditions as well as environmental conservation. In tourism, the aim was to attract 10 million tourists in 2012. In addition, adopting new technology, especially digital technology, was also taken into account. For this

purpose, a special programme, the ‘Digital Programme’ was set up in order to develop and disseminate technology. These distinct measures have contributed to improving some indices. Comparing the last two decades shows that the average economic growth went up from 2.2% to 4.4%. This growth rate, without the primary sector, moved from 0.3% to 8.4%. Moreover, domestic demand increased by an annual average of 1.5% instead of 4.2%. Additionally, the total investment rate moved from 8.24% to 6.32% in 2009. The unemployment rate decreased from 13.8% in 1999, to 9.1 % in 2009. Household consumption expenditures grew by 4.3% as an annual average. Furthermore, the household purchasing power recorded an annual increase of 2.4%, as the income per capita increased by 3.4% annually and consumption prices grew by 9.1% (HCP, 2009).

Although such results are modest, they helped set up numerous projects in social and educational fields. This will certainly have a positive effect on preparing the future generation and providing them with an enabling environment.

REALITY OF SOCIAL DEVELOPMENT AND ITS IMPACT ON THE POPULATION

The goal of economic and strategic planning is to achieve development, contribute to improving the lives of citizens and guaranteeing them social justice and equal opportunities. This raises the issue of social justice which is at the core of every human development process. In the past, policies lacked a comprehensive vision to secure social justice on all levels. This led to social instability with many aspects of social injustice whether at the territorial or gender level, or on the citizen’s involvement in overall economic development. Realisation of this fact was one of the most important advantages of the modern era, and a number of

The goal of economic and strategic planning is to achieve development, contribute to improving the lives of citizens and guaranteeing them social justice and equal opportunities

About 20 primary public health programmes contributed to improving the health indicators, especially the National Immunisation Programme (NIP) whose national coverage rate is now 90%

projects were carried out to limit social injustice and improve Morocco's position in the development index. The average income per capita does not exceed USD 2,827 annually. This is emphasised by the Human Development Index which ranked Morocco 126th among countries of moderate growth (UNDP, 2008). The Fiftieth Anniversary Report (The Possible Morocco, Fiftieth Anniversary, 2006) reached the same conclusion as it saw that the efforts and achievements made were not commensurate with the demographic transformations in a country whose population increased three-fold. In 2005, development initiatives were accelerated. Such initiatives included programmes of educational reform, compulsory medical insurance and retirement system reform. They further involved social housing projects and eliminating shanty-towns programmes, in addition to employment activation programmes as well as the NIHD.

Despite the improved human development indices of Morocco (which ranked 114 in 2010, according to the 'UNDP Human Development Report 2010'), and the funds allocated for the social sector in the state's budgets, the achievements were apparently insufficient.

The NIHD (National Initiative for Human Development), which aims to fuel efforts to raise development levels, reflects a method, thought and comprehensive practice. This initiative helped show the large insufficiencies in vital fields. Its overall vision is to modernise and develop different areas suffering from poverty and underdevelopment. The new development policy sought to eradicate all forms of poverty and illiteracy together with all social diseases. The NIHD helped construct many housing units to accommodate the shanty-towns population, in addition to several social, educational and health institutions. Again, this initiative resulted in some 16,000 projects which have benefited nearly 4 million people across Morocco.⁴² However, these positive efforts which

targeted the underprivileged and social sectors at risk did not increase the quality of life for Moroccan families that allocate the majority of their incomes to their basic needs. According to the qualitative indices published by HCP, Moroccan families allocate 46.1% of consumption expenditures to food and clothing, 25% to accommodation and 28% to health, transportation, education, culture and entertainment. This is considered a low percentage compared with the needs necessary for achieving citizens' empowerment and welfare.

THE STATUS OF HEALTH (INDICES AND THEIR RELATION WITH THE SITUATION OF THE FUTURE GENERATION)

The Moroccan health sector has greatly improved compared with the post-independence period. Public expenditures in the health sector rose from 0.9% of GDP in 1990, to 1.3% in 2009 (HCP, 2009). Morocco has generally achieved good progress in the domain of health, with life expectancy at birth increasing from 65.5 years in 1988 to 72.9 years in 2009 (HCP, 2010).

Despite the intensive efforts made in this sector, it is still suffering from deficiencies as well as the inability to reduce social and other disparities in accessing health services. After independence, rural communities were not focused upon and were only provided with primary health services in the 1990s.

Today, Morocco has more than 2,460 primary institutions treatment institutions compared with 394 in 1960. The number of physicians and other medical workers increased to 13,955 and 27,644 respectively in 2002. The rate of physicians per person was one physician per 12,120 people in 1967, one per 2,933 people in 1994 and one per 1,611 people in 2008 (Ministry of Health and HCP, 2009).

TABLE 3-4-3

Health and demographic indices

Indices	Value	Reference year
Investment rate (% of GDP)/ general health expenditures	0.9	1990
	1.3	2009
Average annual population growth rate %	1.75	1994
	1.1	2009
Life expectancy at birth (years)	72.9	2009
	65.5	1998
Fertility indicator (number of children per woman)	3.28	1994
	(+) 2.36	2009
Infant mortality rate (per 1,000 live births)	57	1991-1987
	32.2 (+)	2009 -2008
Number of people per physician	2,933	1994
	1,611	2008

Source: Ministry of Health and HCP, 2009.

About 20 primary public health programmes contributed to improving the health indicators, especially the National Immunisation Programme (NIP) whose national coverage rate is now 90% (The Possible Morocco, Fiftieth Anniversary Report, 2006). The child mortality rate decreased from 57 in the period between 1987 and 1991 to 32.2 between 2008 and 2009. The maternal mortality rate declined from 332 in the period between 1985 and 1991 to 132 between 2004 and 2009 (HCP, 2009).

Morocco was the first country in the region affiliated with the Eastern Mediterranean Regional Office to be certified for the elimination of tetanus among infants. In 2008, NIP managed to reach a coverage rate of 96% for the BCG vaccine, 94% for the measles vaccine and 94% for hepatitis vaccine. In the same manner, women were immunised thereby protecting 90% of new births. Furthermore, the Programme for Combating Diarrheal Diseases, as well as the National Programme for Fighting Malnutrition Diseases reduced the infant mortality rate to a great extent (HCP, 2009).

These health measures have affected the life of the future generation and helped them live in improved health conditions. Table 3-4-3 indicates some health indices.

THE MOST SIGNIFICANT DEVELOPMENTAL CHALLENGES IN MOROCCO AND ITS POSITION IN TERMS OF ACHIEVING THE MILLENNIUM DEVELOPMENT GOALS AND THE WORLD FIT FOR CHILDREN GOALS

It is not easy to define the developmental challenges in Moroccan society due to the number of factors involved and complicated elements. However, an observer cannot deny the many reform projects which Morocco has initiated since the beginning of the millennium in order to overcome the obstacles which impede its development on political, economic, social, cultural and democratic levels. Thus, the goal of such reform projects is overcoming challenges, establishing large-scale projects, and renewing and updating social projects to achieve human development which is aspired to by any society suffering from the effects of colonisation. If we return to the achievements of Morocco since its independence to understand its rich history, vital culture, diverse identities and varied human capabilities, we will notice transformations and accomplishments in all fields. But, if we measure its general position according to new general international conditions, or if we compare its level with

If we return to the achievements of Morocco since its independence to understand its rich history, vital culture, diverse identities and varied human capabilities, we will notice transformations and accomplishments in all fields

Despite these difficulties, Morocco could overcome many of its challenges, starting with profound economic transformation to a change in family structure

that reached by some countries which have the same or almost the same capabilities, it can be said that its rhythm of action in the past has not met society's aspirations. This is attributed to complicated factors full of contradictions which have hindered Morocco's use of appropriate methods. Such factors accumulated deficiencies and deficits which now require even more effort to bridge the gaps which impede the desired human development.

Despite these difficulties, Morocco could overcome many of its challenges, starting with profound economic transformation to a change in family structure. The new legislative framework which regulates families has played a significant role in changing the status of women, as well as the family's way of life. Since 2004, the Moroccan family has had a new "code which sets forth equal rights and duties for married couples and protects children" (The Possible Morocco, Fiftieth Anniversary Report, 2006). There also emerged new channels of expression, i.e. many communities now comprise local activists from youth and women's movements.

In 1998, Morocco underwent political change which gave rise to many reforms in the law, the press and the Public Freedom Law, in addition to harmonising national laws with the requirements of international agreements on human rights, the status of women and childhood protection. Morocco has had a national childhood plan called 'Inkaz' which extends to 2015. This is a national programme which aims at combating the phenomenon of child labour, especially the employment of young girls as housemaids. Several procedures were also taken to counter this phenomenon by activating the requirements of the national action plan 'Morocco Deserves its Children'. Figures show that the number of child labourers was 600,000 in 1999, but it has dropped to 170,000, i.e. 3.4% of the children aged 7-15 according to the HCP's latest data. However, this figure should decrease

further given the programmes launched to mainstream children's education and keep them in the educational system until the end of the compulsory schooling period (The Possible Morocco, Fiftieth Anniversary Report, 2006).

HCP stated in the national report of 2009, around the objectives of the Millennium Development Goals that Morocco is too close to approaching year 2015. It is noted that Morocco has managed to make significant achievements in the field of human development. The comparison of the past two decades reveals that the growth rate rose from 2.2% to 4.4%. The unemployment rate also declined from 13.8% in 1999, to 9.1% in 2009. Household final consumption expenditures increased by an annual average of 4.3% and 5.6% as of 2003 and household purchasing power recorded an annual increase of 2.4%, since the income per capita increased by an annual rate of 4.3%, and consumption prices grew by 1.9%. The report added that the provision of basic services to the population was moving fast. Electricity and water services are more common in urban communities, while their coverage rate in rural communities rose from 9.7% in 1994, to 83.9% in 2009 for electricity, and from 14% to 90% for potable water. In education, various schooling rates witnessed continuous improvement, due to efforts to make school more available, as well as various support procedures for keeping learners within the schooling system.

Enrolment rates of various age categories during the year 2010/2011 achieved the following results at the national level:

- 97.5% for the (6-11) age category children in general, 96.3% for females against 87.9% and 85.2% respectively in 2004-2005;
- 79.1% for the (12-14) age category children in general and 73.5% for females against 68.2% and 61.9% respectively in 2004-2005;
- 52.8% for the (15-17) age category children in general, and 48.2% for

TABLE 3-4-4

Development of Internal Output Indices

Educational Stage	Repetition rates		Average rates of School drop-out		Study completion rates in educational stages	
	Registered rate	Difference between the two academic years	Registered rate	Difference between the two academic years	Registered rate	Difference between the two academic years
Primary Education	12.3%	-0.3 points	4.6%	-0.8 points	76%	3 points
Secondary Preparatory Education	15.2%	-1.2 points	13.1%	-0.3	52%	4 points
Secondary Vocational Education	19.2%	+1.7 points	14.1%	-0.4 points	26%	2 points

Source: The Ministry of National Education, Higher Education, Professional Training and Scientific Research

females against 45% and 39.9% respectively in 2004-2005.

- In rural areas, the percentage of schooling for the (6-11) age category children reached 95.4% in general, and 93.6% for females against 82.8% and 77.8% respectively in 2004-2005; and 59.1% for the (12-14) age category children in general, and 49.6% for females against 49.3% and 39.3% respectively in 2004-2005; and 22.3% for the (15-17) age category children in general, and 14.9% for females against 17.6% and 11.3% respectively in 2004-2005. The net enrolment rate of children aged 6-11 years increased from 52.4% to 97.5% at the national level in 2010/2011.⁴³

The Emergency Programme approved by the government in this field is intended to reduce the school drop-out rate and improve access in pre-school education, thereby helping decrease the illiteracy rate especially in the rural community and consequently developing human resources.

The drop-out rate also relatively

decreased though not to aspirations. This is attributed to weak interest of children in schooling in rural areas and especially for girls, due to economical and social reasons, and as well as far schools in some cases. Study completion rate in the three educational stages significantly improved in the last 2 academic years, as it reached respectively 76%, 52% and 26%, i.e. 2% in the vocational secondary education, 3% in the primary education and 4% in the preparatory and secondary education.

The table (3-4-4) shows development of educational output indices:

The number of crowded classes in secondary preparatory education witnessed significant decrease by 6.8 points during the two academic years 2007-2008 and 2008-2009, while the number of crowded classes in elementary and vocational secondary education witnessed a slight increase by 0.2 points in elementary education and 0.3 points which requires exerting more efforts for introducing new facilities and extensions. Table (3-4-5) shows that.

The educational framework for students

Generally, study completion rate in the three educational stages significantly improved in the last 2 academic years

TABLE 3-4-5

Crowdedness rate

Educational stage	2007-2008	2008-2009	Difference between the 2 years
Primary Education	7.1%	7.3%	+ 0.2
Secondary preparatory education	23.4%	16.6%	-6.8
Vocational secondary education	18.7%	19 %	+ 0.3

Source: The Ministry of National Education, Higher Education, Professional Training and Scientific Research

also witnessed a kind of stability, as the rate of students per teacher reached between 20 students in vocational secondary education, 25 students in secondary preparatory education and 27 students in primary education.

However, the administrative framework for students inside institutional education is not up to the required level, the rate of students per each administrative employee reached 260 students in primary education, 104 students in secondary elementary education and 65 students in the vocational secondary education. The report indicates that all social categories got benefit variably from general improvement of income available for families, the relative poverty rate changed from 16.3% in 1998 to 8.8% in 2008. Morocco, for the first time in this decade, achieved the development goal in the interest of the poor and stability of total level of social class differences. The national report, “The Millennium Development Goals 2009”, assures that, according to the pace of such achievements and the projection based assessment method approved by UNDP, Morocco will manage to realise the Millennium Development Goals by 2015.⁴⁴

CONCLUSION

The previous data shows the current status of development in Moroccan society, and makes it clear that Morocco has ambitions to effectively integrate into the knowledge society. To this end, it has made education, training, governance, health services and the economy the basic pillars and mechanisms for achieving progress and development. If this is the case, how successful have Morocco’s efforts been in preparing the future generation for the knowledge society? To what extent has it managed to provide them with the appropriate enabling environments? The field survey results in the next chapter will address these questions.



ASSESSMENT OF THE READINESS OF THE MOROCCAN YOUTH TO PARTICIPATE IN THE KNOWLEDGE SOCIETY: FIELD SURVEY RESULTS

INTRODUCTION

This chapter outlines the methods and results of field surveys which aim at measuring the skills and values of the youth, represented in the study sample, and to explore their surrounding enabling environments in order to ascertain whether or not they possess the required skills to effectively participate in the knowledge society. In addition, the chapter presents the opinions of a sample of the students' teachers regarding their professional conditions and the extent to which these conditions support or obstruct their educational duties. The chapter further tackles the findings of a workshop attended by intellectuals and decision-makers, with the aim of exploring their views about the most important skills and values of the future generation.

MOROCCAN FIELD STUDY SAMPLES

In accordance with the objectives of this report, which explore the opinions of students, teachers and their surrounding environments, the focus is on three societal categories. The first category is comprised of students, representing the central sample. The second category is comprised of teachers from the sample students' schools, and the third category is comprised of experts, academics and decision-makers concerned with the education sector.

RANDOM SAMPLE OF STUDENTS

In line with the general methodology used with all other country case studies (chapter 5 of the general report), the stratified sample was drawn randomly from twelfth grade students in the schools of the capital Rabat. The characteristic of the sample was as follows:

The sample was selected according to approved data sent by the National Centre for Assessment and Examinations. This data shows the number of students and their specialist subjects. The data included 38 secondary schools, 11 specialist subjects and 9,011 students. The study was limited to Moroccan students only.

The study was also confined to twelfth grade students in the schools of the capital Rabat for methodological purposes.

The random sample included twelfth grade students from public and private schools, but did not involve students who are subject to an educational system which differs from the public education system.

The sample covered all educational streams in Morocco.

SAMPLE DESCRIPTION

The sample covered 28 secondary schools in the city of Rabat (see the appendix for school names). The number of randomly

In accordance with the general methods of the report's field studies, which are based on exploring the opinions of students, teachers and their surrounding environments, the focus is on three societal categories

Due to the pilot nature of the case studies, cognitive, conative and social skills were measured in order to gauge the students' skill levels and their ability to access the knowledge society

sampled students reached 1,574 (725 male and 849 female students) from all educational streams.

The field study was conducted on November 10th and 11th, 2010, under the supervision of, but without direct interference of, the National Centre for Assessment and Examinations.

SAMPLE OF TEACHERS

A random sample was drawn from the teachers of the sample students working in the same schools, and included all educational streams. The total number of teachers in the sample was 147.

EXPERTS AND DECISION-MAKERS

A brainstorming workshop was held on November 30th, 2010. The workshop was attended by a select group of experts, intellectuals and decision-makers with the aim of polling their opinions on relevant issues. The workshop was comprised of some 45 experts belonging to different areas of science and knowledge from both the public and private sectors. The aim of the workshop was to gauge their views on the most significant issues related to the preparation of the future generation for effective participation in the knowledge society. They were also required to identify the obstacles which, in their opinion, hinder this pursuit, and recommend ways to overcome them (a list of the names of workshop participants is included).

RESULTS OF THE FIELD STUDY

SKILLS

Due to the pilot nature of the case studies, cognitive, conative and social skills were measured in order to gauge the students' skill levels and their ability to access the knowledge society. As previously indicated in the fifth chapter of the general report, each skill consists of several sub-skills with a maximum of 25 points each; thus the student has to obtain an average of 12.5 points for any sub-skill. The cognitive skill was assessed through four sub-skills with an aggregate score of 100 points and students were required to obtain a minimum of 50 points to indicate skill acquisition. As for conative and social skills, they comprise three sub-skills each with an aggregate score of 75 points. Students needed to obtain a minimum of 37.5 points to indicate their possession of each skill.

COGNITIVE SKILLS

The skills of information research, written communication, problem solving and the use of technology were used as a pillar to cognitive skills. Below is a review and analysis of the aggregate and detailed results of these cognitive skills.

The data of table 3-5-1 reveals that the total level of the sample students' cognitive skills is still low and has not reached the minimum level required to access the knowledge society. The total arithmetic

TABLE 3-5-1								
Results of aggregate cognitive skills (Total score values range from 0 to 100)								
Average (Arithmetic mean) ⁴⁵			Standard deviation ⁴⁶		Standard deviation ⁴⁷	Lowest score	Highest score	Statistical differences between males and females*
Males	Females	Total	Males	Females				
36.37	36.30	36.33	10.78	10.94	10.86	0	71	No difference
* At significant level 0.05								

mean of the sample students' scores did not exceed 36.33 points. This means that the average score of the respondents is about 13.67 points lower than the minimum required score (50 points), reflecting a gap between both averages. It should be noted that such low skill levels were a trend among both male and female sample students, who obtained approximate scores with no statistically significant differences. There was a large gap between the performance level and the average level. The standard deviation value (10.86) emphasises this general weakness in the cognitive skills, as it does not reflect great variation.

Results of detailed cognitive skills

The comparison of the arithmetic mean of the cognitive skills shows statistically significant differences. Generally, students demonstrated low levels in all cognitive skills but to differing degrees. There are still fundamental differences in skill possession levels. Comparing the scores of the four skills shows that the written communication skill is the weakest, with an actual total arithmetic mean of 7.21 points, lower than the minimum required score to indicate such a skill has been acquired. Moreover, nearly a fifth of the

Students demonstrated low levels in all cognitive skills but to differing degrees

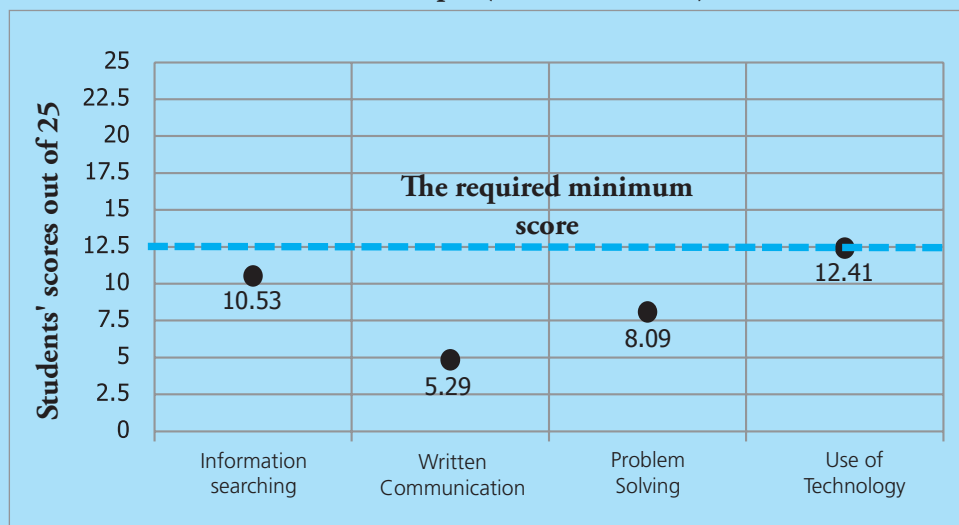
TABLE 3-5-2

Results of detailed cognitive skills (Total score values range from 0 to 25)

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Information searching	10.42	10.95	10.53	3.59	3.28	3.58	0	19.05	Females scored higher than males
Written communication	4.44	6.022	5.29	4.61	4.9	4.84	0	25	Females scored higher than males
Problem solving	8.202	8	8.09	4.84	4.62	4.72	0	25	No difference
Use of technology	13.3	11.65	12.41	3.58	3.47	3.62	0	20.90	Males scored better than females

FIGURE 3-5-1

Comparison of the average (arithmetic means) of cognitive skills for total sample (males and females)



If we compare the results of males and females in the four skills, we notice statistically indicative differences in favour of females in the information research and written communication skills

questioned students (19.6%) scored zero in this skill. Large variation is also evident in the scores of the sample students, who recorded different levels in the written communication skill (poor to excellent). This explains the standard deviation value of 4.84, close to the total arithmetic mean.

Regarding the problem solving skill, this skill appears to not be possessed by the sample students. Their general performance level was nearly 4.5 points lower than the minimum required level. Only 8.4% of the respondents reached the minimum required score of 12.5 or above. However, the standard deviation value does show a relative difference between the sample students' results.

The information research skill recorded an arithmetic mean of 10.53 points, about two points lower than the minimum required score (12.5). This placed it second in the cognitive skills of the respondents. However, this does not negate the fact that there is an overall weakness in this skill. This is emphasised by the standard deviation value which does not reflect

much dispersion in the students' scores.

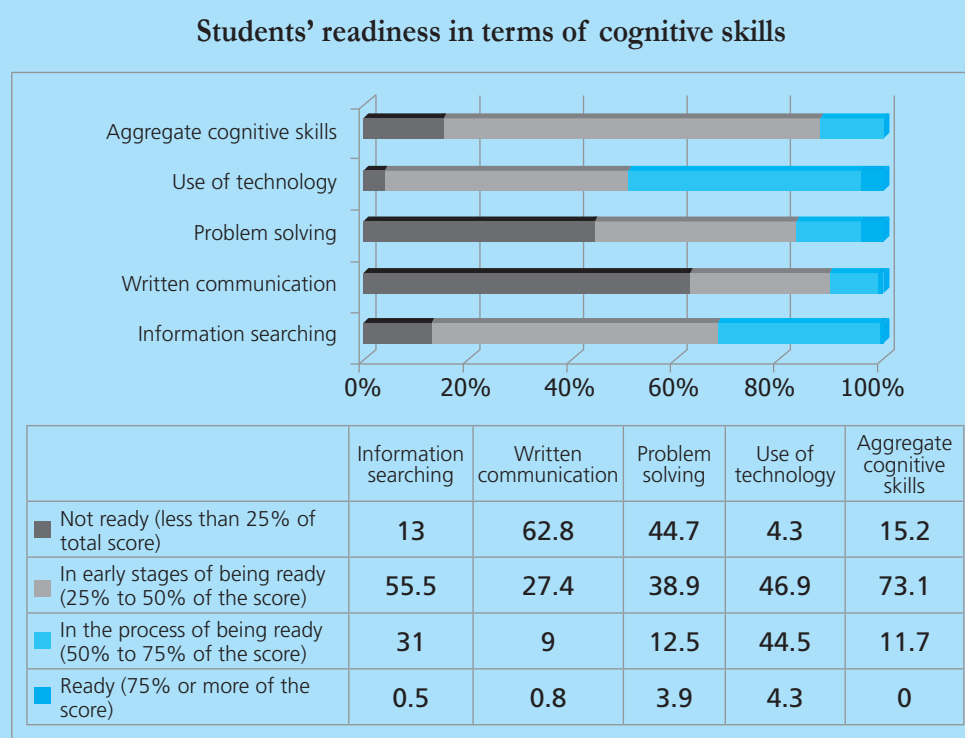
As for skills in the use of technology, the general performance level of the sample students was close to the required level, thereby denoting relative skill acquisition. The minimum required score for the skill was 12.5 out of 25 and approximately 58.8% of the respondents achieved or exceeded this score. The standard deviation value reveals the homogeneity between the sample members.

If we compare the results of males and females in the four skills, we notice statistically indicative differences in favour of females in the information research and written communication skills. Conversely, the results of the technology skill were in favour of males. In the problem solving skill, males exceeded females slightly but with no statistically significant differences.

Students' readiness in terms of cognitive skills

The overall results shown in figure 3-5-2 reveal that 15.2% of the respondents do

FIGURE 3-5-2



not have the minimum required skill levels that prepare them to access the knowledge society, while almost three quarters (73.1%) are only at the 'early stages of being ready' of such skill acquirement. 11.7% of the students are close to preparedness, but no student reached the level of full preparedness for the knowledge society, although it does seem to be an attainable target.

The detailed results emphasise the above mentioned conclusion, that the use of technology is the strongest skill, with 4.3% of the students reaching full preparedness. For further analysis, we totalled all the students who came under the 'not ready' category in all the cognitive skills and found that they constituted 12 students (0.8%). No student achieved total readiness in all skills at the same time.

General discussion of cognitive skills survey results

Accessing the knowledge society requires a comprehensive upbringing plan with new behavioural patterns and thinking methodologies and new approaches to the different facts. Thus, curricula should reflect an education philosophy that leads to growth and societal development. This requires severing relations with traditional teaching methods that rely on instruction and limit the learner. Traditional teaching methods reduce students to devices that merely save and store information "banking education",⁴⁸ dependent on one authority figure and finding only one answer to each question. They are not able to ask questions, criticise, analyse, compare or innovate using logical thinking which would enable them to judge and discuss different ideas and alternatives.

If we examine the reality of the training and education system in Morocco, we find that it has made a qualitative leap in terms of formulating a new educational policy that meets the requirements of this era and the knowledge society. This is evident in the 'National Charter of Education and

'Training' and the 'Emergency Programme'. Regardless of its flaws and shortcomings recorded in this effort, meeting the goals of these two programmes and gaining benefits from them requires a significant time period for reform, action and establishment of this new pedagogical methodology. This fact accounts for the skill deficiencies shown by the sample students.

The reason behind weak information research and problem solving skills could be that these are two skills which cannot be acquired under the traditional curricula, which depends on quantity rather than quality.

The analysis of the teachers' results regarding their ability to enable students to acquire the educational skills which prepare them for the knowledge society shows that they don't possess great abilities. 40.6% of respondents felt their greatest teaching ability was related to the skill of memorising the rules and laws of scientific materials. Following that was 32.1% who felt their greatest teaching ability was the skill of analysing various information (See table m3-13 in the appendix). This shows that teachers have limited abilities to help students gain the cognitive tools needed for integration into the knowledge society. Teachers are still preoccupied with memorisation methods of teaching. This is what new methods of reform are trying to avoid by adopting a competency-based approach to teaching, as well as activating the pedagogy of integration. Such reforms will help students make use of the benefits of their education and develop their competencies and employ them in everyday life. It should be noted that international assessments conducted on a sample of students emphasised deficiencies in cognitive skills.

Contrary to information processing and problem solving skills, the use of technology skill has a relative presence among the sample students. The reason is not only that Moroccan schools have introduced information access and application programmes, but also because

If we examine the reality of the training and education system in Morocco, we find that it has made a qualitative leap in terms of formulating a new educational policy that meets the requirements of this era and the knowledge society

Standard complex language has disappeared and has been replaced by a hybrid language resulting from a culture of speed and economy: the language of SMS text messages that are exchanged via mobile phone or during online chat sessions

the use of IT has become an important, dominant part of an electronic culture in the age of globalisation. Young people are deeply embedded in this culture outside the school gates, and it has attracted them to the use of IT for communication purposes.

It seems that electronic communication which is so common among young people today has had a negative effect on written communication skills. Standard complex language has disappeared and has been replaced by a hybrid language resulting from a culture of speed and economy: the language of SMS text messages that are exchanged via mobile phone or during online chat sessions. This new language does not develop writing and linguistic expression skills, since it uses mostly Latin letters to express Arabic words or meanings. We should also not overlook the impact of bilingualism and diglossia, which are common features of the Moroccan language. Thus, weak writing skills make it necessary to review the curricula in order to promote literacy skills and their teaching.

Comparing the results of males and females shows that females surpassed their male counterparts in the information processing and written communication skills. This may be attributed to females' ability to focus on analysing input. Furthermore, females outperformed males in written communication because they have more of a penchant for linguistic skills and verbal expression, as compared with males. With respect to the skill of problem-solving, there was no statistically significant difference between males

and females since it is associated with teaching methodology. However, males outperformed females in the technology skill because they have more opportunities to use technology outside school, which females do not have due to the culture and traditions of Moroccan society.

CONATIVE SKILLS

As previously mentioned, conative skills were evaluated through three sub-skills: the skill of self-awareness and self-esteem, the skill of maintaining learning motivation and the skill of future planning.

Table 3-5-3 illustrates that the students' scores ranged between 0 and 66.27 in the aggregate conative skills, but no student obtained the expected maximum points. In addition, 146 students (9.3%) scored (0). The total arithmetic mean was 37.33 out of 75 points. If we say that 37.5 is the minimum required points for indicating that the student has attained the lowest level of conative skills, we find that most respondents reached this level (73% of them scored 37.5 and above) in contrast with the cognitive skills. The standard deviation value shows that the students' scores are clustered, i.e. there was no great score dispersion. It was also revealed that the arithmetic mean of the female scores was higher than that of the male scores with a statistically significant difference.

Results of detailed conative skills

The detailed results emphasise what was mentioned in the general results.

TABLE 3-5-3

Results of aggregate conative skills (Total score values range from 0 to 75)

Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
36.11	38.34	37.33	17.6	16.03	16.8	0	66.27	Females scored higher than males

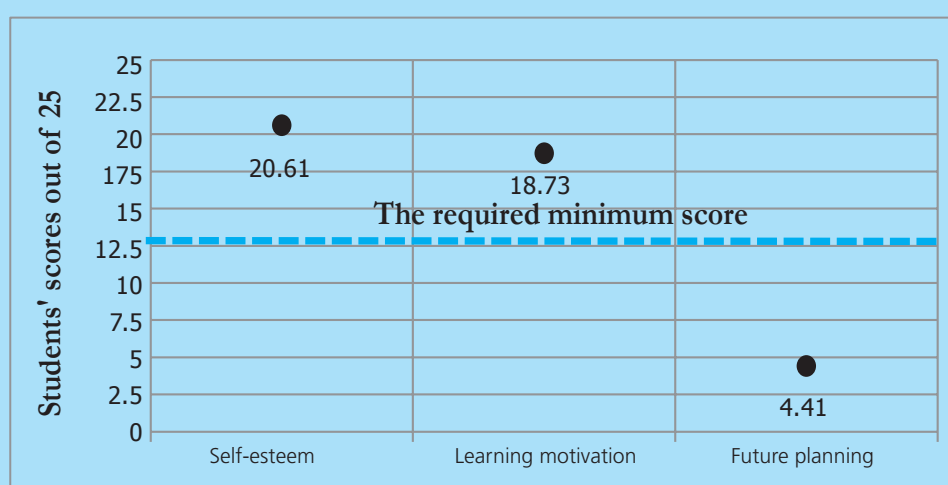
TABLE 3-5-4

Results of detailed conative skills
(Total score values range from 0 to 25)

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Self-esteem	20.48	20.72	20.61	2.91	2.87	2.89	2.68	25	No difference
Learning motivation	18.79	18.66	18.73	3.24	3.4	3.33	1.39	25	No difference
Future planning	4.42	4.39	4.41	3.64	3.65	3.65	0	17.86	No difference

FIGURE 3-5-3

Comparison of the average (arithmetic means) of conative skills for the total sample (males and females)



Students' performance differs from one skill to another: the future planning skill was the weakest, while the skills of self-knowledge and esteem, as well as maintaining learning motivation, were the strongest

There was a tangible progress in the self-knowledge and self-esteem skill acquisition (with total arithmetic mean 20.61) and the learning motivation skill (with a total arithmetic mean of 18.73). Moreover, the standard deviation value reveals that the respondents' scores in both skills are considerably clustered. By contrast, there was a clear deficiency in the future planning skill (with a total arithmetic mean of 4.44 with high variation in students' scores). Such results apply to both males and females, since they demonstrated no statistically significant differences across all the conative skills.

A comparison of the arithmetic means of the conative skills reflects statistically significant differences, since there were

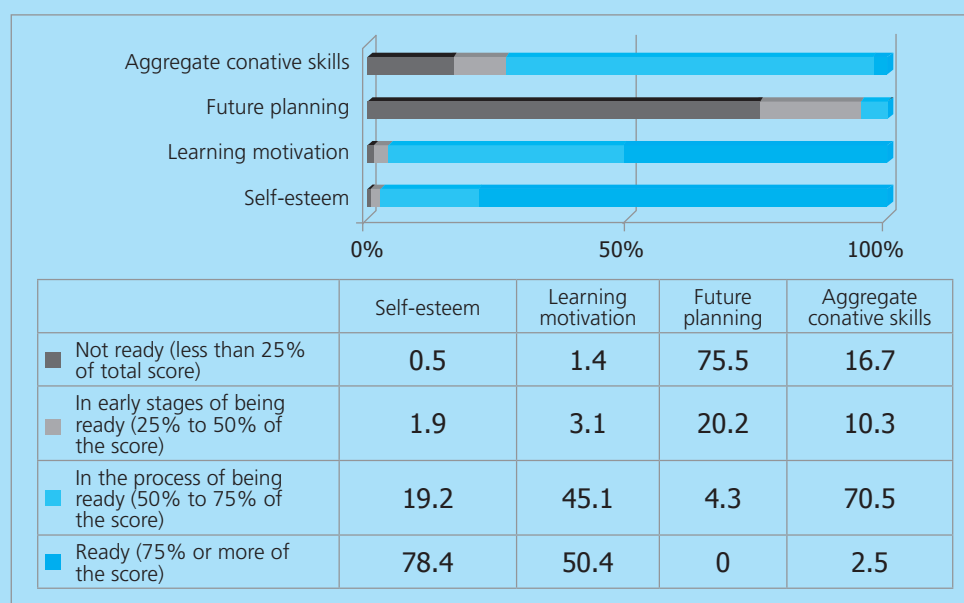
actual differences in the levels of skill possession. The students' performance differs from one skill to another: the future planning skill was the weakest, while the skills of self-knowledge and esteem, as well as learning motivation, were the strongest.

Students' readiness in terms of conative skills

It is noticeable that 16.7% of the questioned students do not possess the minimum level of the aggregate conative skills which help them access the knowledge society. On the other side of the points scale, we find that 2.5% of the students reached the readiness level. Moreover, in contrast with the cognitive

FIGURE 3-5-4

Students' readiness in terms of conative skills



With respect to the self-awareness and self-esteem skill, today's children represent a social value and they achieve a certain level of satisfaction from their parents

skills, most students (70.5%) attained the third level, i.e. they are 'nearly ready'.

Table 3-5-4 shows that, excluding the future planning skill, most respondents reached the third and fourth levels of the readiness scale. They recorded 78.4% in the self-esteem and self-awareness skill and a lower percentage (50.4%) in the maintaining learning motivation skill. This prepares them to meet the conative requirements for the knowledge society.

For further analysis, we totalled the number of students who fell in the 'not ready' category in all skills and found that this constituted only two students. No student reached the fourth level in all skills at the same time.

General discussion of the results of the three conative skills

The overall results of the three conative skills and the four readiness levels of each skill, self-knowledge and self-esteem scored 78.4%, the skill of learning motivation scored 50.4% and the future planning skill 0%. Thus, it is evident that the majority of the sample students are ready to meet the conative requirements of

the knowledge society, except in the case of the future planning skill, which is severely deficient. The reasons for this may be attributed to the upbringing pattern as well as the dominant culture which surrounds the future generation, i.e. family, society, and school culture, which will be discussed later.

With respect to the self-awareness and self-esteem skill, today's children represent a social value and they achieve a certain level of satisfaction from their parents. Parents, especially in middle-income families to whom most of the sample students belong, seek to cater to their children's basic needs. Undoubtedly, children brought up in such circumstances feel safe and secure and consequently develop a sense of self-confidence and self-esteem, as revealed in the aforementioned results. This explains the sample students' mastering of self-knowledge and self-esteem skills, and the learning motivation skill. Such percentages make them ready to respond to the knowledge society's prerequisites.

Regarding the large deficiency in the future planning skill (0%) we would attribute this to the feeling of the young generation that they are the core of

interest and care for their parents does not make them occupy their minds with the future's issues, problems and possible consequences. So, they do not think of crystallizing specific future projects.

Nevertheless, modern education ideology has become concerned with the importance of future planning for both the individual and society. Moreover, guiding students and helping them choose a suitable specialism and profession is considered a criterion for the education system's success in performing its duties. Thus, we now live in the stage of the educational institution which seeks to adopt a philosophy geared towards orientation and project building, in addition to enabling students of all educational levels to form their own educational projects. It is for this reason that the Charter of Education and Training called for the necessity of adopting the personal student project and defined it as follows: "Immersion in the future and its horizons and projecting the self onto its path through defining a desired goal. The project is adopted by the individual in order to realise certain goals by anticipating them and providing the means for their achievement" (Al Ghali Ahershaw, 2009).

Given the importance of the personal student project in helping students acquire the future planning skill, the National Charter of Education and Training includes the principles of educational reform which state that teachers, educational administrators as well as educational and professional guidance specialists should help students set up their personal projects. This is stressed in Articles 99, 100 and 101 of the charter. However, such educational

developments have only recently been introduced to the pedagogical practice. Moreover, no sufficient procedures have been put in place for some of the charter's principles. Therefore, such developments have not yet had an influence on the sample students, though many schools are applying this new educational trend. Enhancing such a trend entails further emphasising and encouraging of the adoption of these principles to help students gain the kinds of skills which will help them integrate into the knowledge society.

The detailed conative skills did not reveal a statistically significant difference between males and females, but the aggregate conative skills reflect a statistically significant difference in favour of females. The current reality of the Moroccan society shows that women in general have been granted many rights that their fellow male citizens enjoy, especially in cities. This has enabled women to take part in all kinds of educational pursuits and demonstrate many abilities; they may also outperform males in several situations that require self-related skills.

SOCIAL SKILLS

Like the conative skill, the social skill was assessed through the results of three sub-skills, namely: communication with others, team work and public participation. Below is a review of the aggregate and detailed students' results in the social skills.

The statistical indicators show that students' scores ranged between 0 and 73.25 points, but no student obtained the maximum points. In addition, 270 students

The current reality of the Moroccan society shows that women in general have been granted many rights that their fellow male citizens enjoy, especially in cities

TABLE 3-5-5

Results of aggregate social skills (Total score values range from 0 to 75)

Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
36.36	36.44	36.39	21.86	22.83	22.37	0	73.25	No difference

(17.2%) scored 0. The total arithmetic mean was 36.39 out of 75. If we say that 37.5 is the minimum required score which shows that the students have attained the lowest level of the social skills, we find that 47.2% of the students obtained the minimum score (37.5) and above. On the other hand, the aggregate results of the social skills indicate a great dispersion in the students' scores, but do not reflect a statistically significant difference between males and females.

Results of detailed social skills

The detailed results show that approximately half of the respondents acquire the social skills but with varying degrees and levels. The total arithmetic mean showed 18.19

points for the communication with others skill, 13.8 points for public participation and 12.7 points for teamwork. There was no statistically significant difference between males and females in any of the social skills. Moreover, the students' scores were clustered in figure 3-5-5.

Students' readiness in terms of social skills

Regarding the aggregate social skills, almost all students are equally distributed among the four readiness levels. However, the third category includes more students than the second; therefore students in the third and fourth categories represent nearly 57% of the sample students.

The data shows that the students are

Regarding the aggregate social skills, almost all students are equally distributed among the four readiness levels

FIGURE 3-5-5

Comparison of the average (arithmetic means) of social skills for the total sample (males and females)

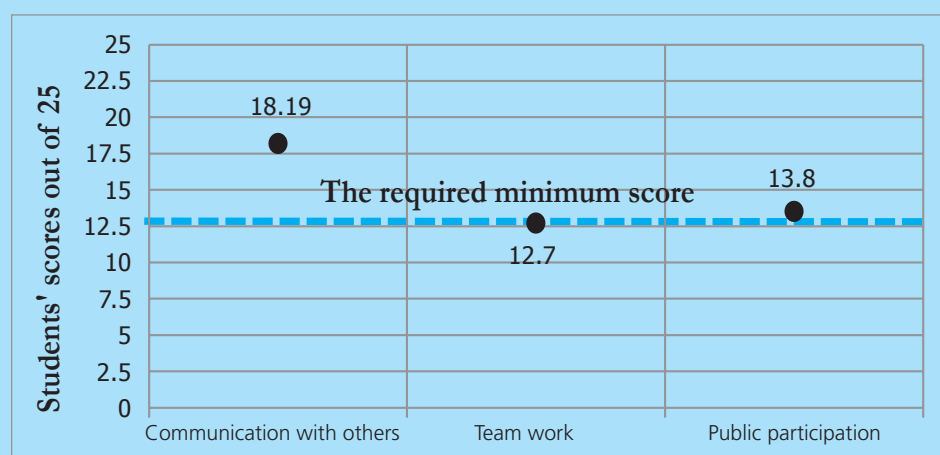


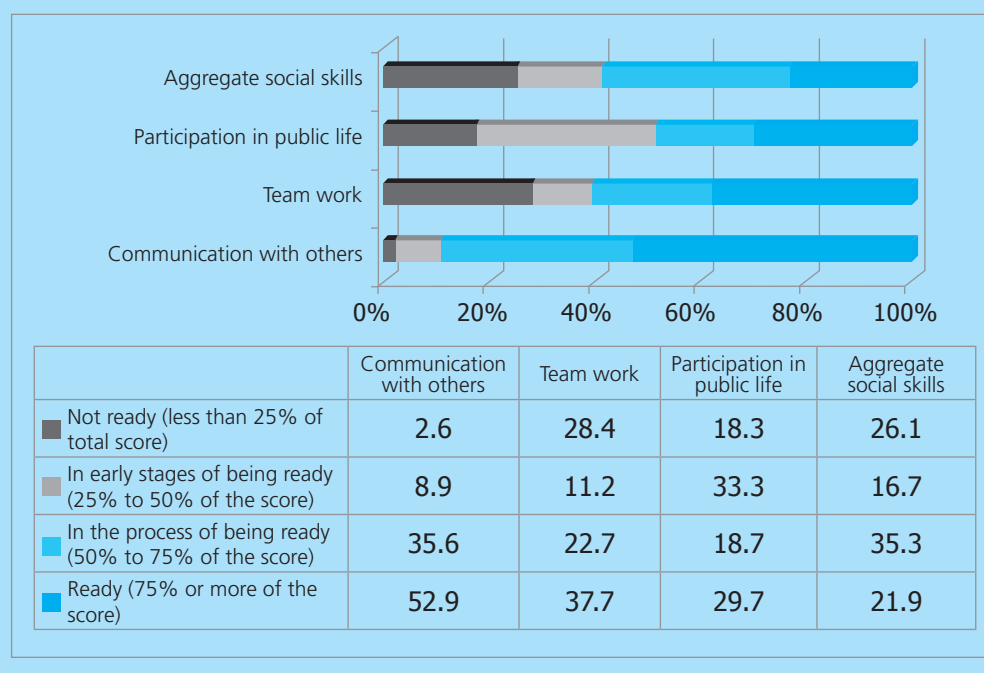
TABLE 3-5-6

**Detailed results of detailed social skills
(Total score values range from 0 to 25)**

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Communication with others	17.95	18.39	18.19	4.57	4.67	4.63	0	25	No difference
Team work	12.79	12.64	12.70	8.3	8.7	8.52	0	24.56	No difference
Public participation	13.59	13.99	13.8	21.86	22.83	7.13	0	25	No difference

FIGURE 3-5-6

Students' readiness in terms of social skills



It is noticeable that males and females in the Moroccan society have equal rights and duties. However, females outperform males in some social skills, demonstrated in the professions of nursing, secretarial work and social aid work

'ready' to participate in the knowledge society in terms of social skills more than cognitive and conative skills. But, if we compare the percentage of students in the 'not ready' category in cognitive, conative and social skills, we find that the social skills showed the largest percentage of students in this category (26.1%), followed by conative skills (16.7%) and then cognitive skills (15.2%).

It is noticed that communication with others was the best skill, with most students falling in the 'ready' category. While, public participation was the weakest skill with the lowest percentage of students in the 'ready' category (29.7%).

For further analysis, a search was made on the number of students who came under the 'ready' category in the three overall social skills and it was found to be 137 students, or 8.7%.

General discussion of three social skills results

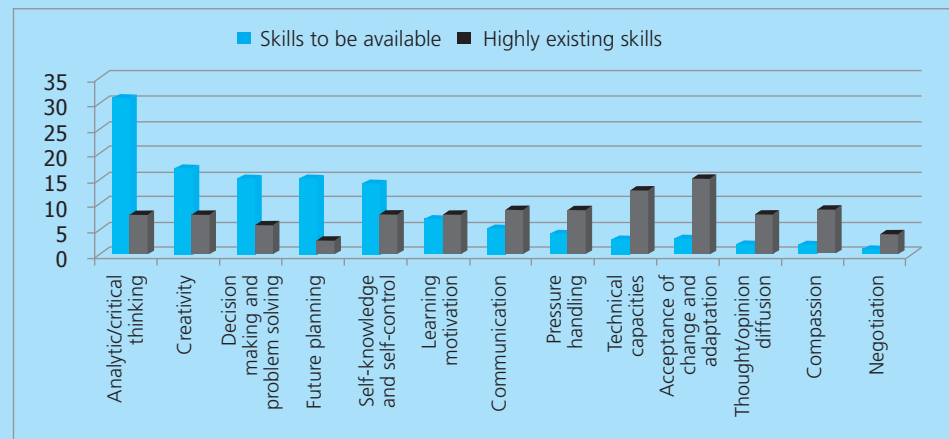
The detailed social skills results showed that more than half of the sample students

(52.9%) are 'ready' to respond to the social requirements of the knowledge society with respect to the communication with others skill. This skill is of paramount importance in the educational field and in public life, where one may encounter cultural diversity, because this skill relies on good listening, understanding, interpretation and criticism. The acquisition of this skill may be attributed to Morocco's geographical position, which is close to Europe and Africa. By contrast, the research results reflected a deficiency in the teamwork skill, which revealed that only one third of the sample students are in the 'ready' category (37.7%). Moreover, the results indicated that the public participation skill showed the lowest percentage of students in the 'ready' category, i.e. 29.7%. The reason may be that the respondents are affected by the surrounding political and economic conditions, especially the difficult political climate in Morocco before the democratic transformation.

The results also revealed no statistically significant difference between males and females in the social skills. The reason

FIGURE 3-5-7

Views of participants in the workshop about the importance of skills and their availability in students



It should be noted that when we talk about values, we talk about what has been stated by the students, which does not necessarily reflect their actual possession or practice of such values

may be that both of them practice such skills in life generally. It is noticeable that males and females in the Moroccan society have equal rights and duties. However, females outperform males in some social skills, demonstrated in the professions of nursing, secretarial work and social aid work.

The findings of the workshop held in Rabat in the context of preparing this report, which was attended by a number of experts and decision-makers, are compatible with the results of the students' skill tests. The workshop participants underlined that the future generation should possess critical analytical thinking, innovative thinking, decision-making and problem solving skills in order to be able to integrate into the knowledge society. Moreover, the experts participating in the workshop pointed out that the future generation's strongest skills

include communication and technical skills, while the weakest skills were future planning, decision-making and problem solving. These findings are consistent with the results from the surveyed student.

VALUES

Values represent the second item which the field surveys tried to measure in order to explore the students' readiness to join the knowledge society. Four kinds of values; cognitive, conative, social and universal values were rated on a scale from 1 (minimum) to 5 (maximum). Students needed to score 3 points to demonstrate their possession of these values. The results of the value ratings of the sample students are illustrated below.

The results indicate that the arithmetic mean of the participating students'

TABLE 3-5-7

Results of aggregate values (Total score values range from 1 to 5)								
Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
3.84	4.01	3.94	0.369	0.275	0.33	2.54	4.77	Females scored higher than males

scores was 3.94 points. This shows that most of the respondent students possess all the assessed values. Moreover, the standard deviation value reflects that the students' scores are greatly clustered. However, it should be noted that when we talk about values, we talk about what has been stated by the students, which does not necessarily reflect their actual possession or practice of such values. Therefore, these results should be treated with caution. Moreover, the results illustrated that the arithmetic mean of the females' scores was greater than that of the males' scores with a statistically significant difference.

VALUES DETAILED RESULTS

Table 3-5-8 shows that students have a strong presence of values, according to their statements. Cognitive values topped all the other values with a statistically significant difference, followed by the conative and universal values which recorded no statistically significant differences. The social values ranked last, with the lowest scores for the sample students. Additionally, the standard deviation values revealed that the students' scores are greatly clustered. It was also found that the females outperformed the males in all values with a statistically significant difference.

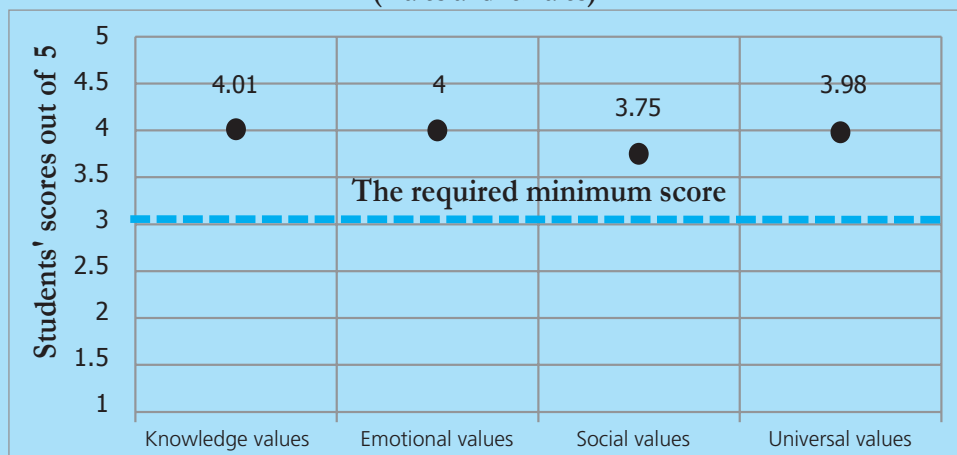
TABLE 3-5-8

Results of detailed values (Total score values range from 1 to 5)

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Cognitive values	3.94	4.08	4.01	0.48	0.4	0.44	2.06	5	Females scored higher than males
Conative values	3.9	4.09	4	0.429	0.328	0.38	2.37	5	Females scored higher than males
Social values	3.69	3.8	3.75	0.449	0.388	0.42	2	4.88	Females scored higher than males
Universal values	3.85	4.09	3.98	0.478	0.378	0.44	2	5	Females scored higher than males

FIGURE 3-5-8

Comparison of average (arithmetic means) of values for total sample (males and females)



STUDENTS' READINESS IN TERMS OF VALUES

Students' aggregate results on values placed most of them in the two upper levels of readiness: 51.5% of them are 'nearly ready' and 47.2% of them are 'ready'. It is clear that such results contrast with the cognitive skills results. For further analysis, we searched for the number of students who fell in the 'ready' category and found that they numbered 194 students (12.3%). No student was 'not ready'.

Cognitive and conative values showed the largest percentage of students in the 'ready' category, followed by universal values, and finally social values. However, the results are better than those from the cognitive skills assessments, in the sense that all the students, except for a few, possess the minimum level of values, which places them in the 'nearly ready' or 'ready' category.

GENERAL DISCUSSION OF VALUES RESULTS

The study results showed that nearly half

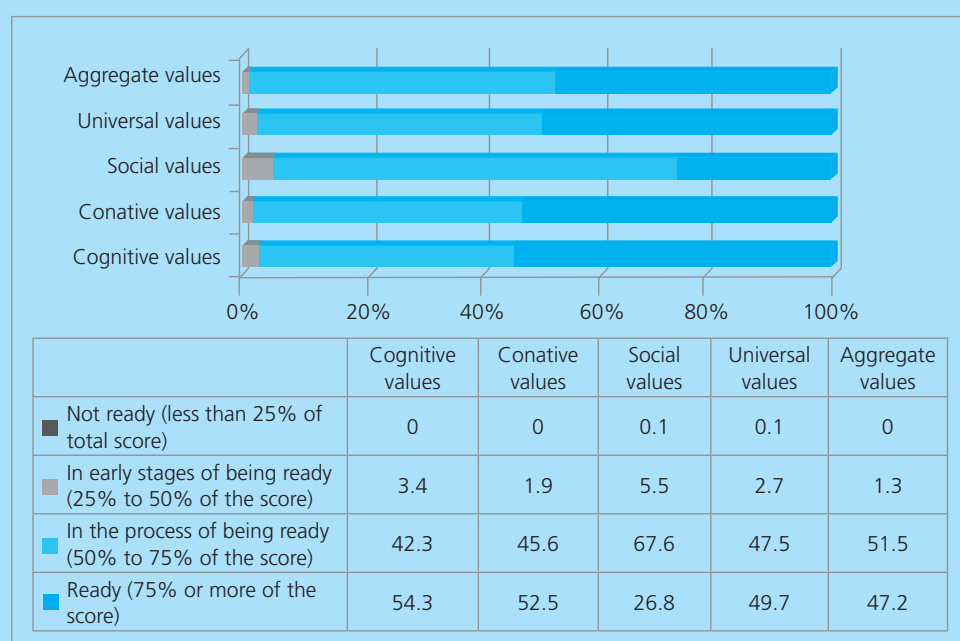
of the sample students (47.2%) are 'ready' for the knowledge society in terms of possessing the values required. More than half of the students (51.5%) achieved scores which reflect that they are about to fully possess the values needed for the knowledge society but to differing degrees on their four assessed values (they come under the 'in the course of being ready' category).

It is worth mentioning that the level of the students' value acquisition meets the requirements of the development stages in a normal personality. Cognitive values came at a high level, since they are associated with learning, knowledge acquisition and persistence. Conative values came next as a symbol of humanity; a being not only composed of a physical, mental or knowledge side, but also needing a complementary emotional side. At the same level as conative values came human universal values, which make human beings universal creatures which are open, cooperative, tolerant and friendly with their fellow beings. Universal values are followed by social values, which make the human being a

Cognitive and conative values showed the largest percentage of students in the 'ready' category, followed by universal values, and finally social values

FIGURE 3-5-9

Students' readiness in terms of values



communicative person.

Regarding the gender variable, it is known that females adhere to values more than males. This is stressed by the value results which reflected a statistically significant difference in favour of females.

In order to further investigate the value levels of the students, teacher's opinions were surveyed on the importance of such values in building the knowledge society as well as the value acquisition levels of the students. The results analysis showed that the teachers expressed their views on the importance of all values by approximate degrees. When the statistical tests were conducted, it was noted that there was no statistically significant difference in the importance level between conative and social. On the other hand, there were statistically significant differences between cognitive and universal values. This means that, teachers give great importance to universal values, followed by social and conative values at the same level and then finally, cognitive values.

Regarding the comparison between student's value acquisition levels as perceived by teachers, the analysis results revealed that according to their teachers, the students' strongest values are conative

values followed by universal values, social values and finally cognitive values, with statistically significant differences among all of them.

Conversely, the comparison between the importance of values and students' acquisition levels of such values according to teachers, revealed statistically significant differences in favour of the importance of the values, which was greater than their level of possession by students.

Based on the comparison with the value levels demonstrated by the students themselves (from their point of view) (see table 3-5-8), we noticed that students build their values systems outside the arrangement pattern perceived by their teachers. The comparison revealed that students' assessment of values was better than the assessment of their teachers who may be governed by other objective data. While this refers to the existence of two distinct systems, it also indicates that the students make use of other sources to establish their value systems. It further shows that students, driven by their self-esteem which may be excessive at this age, have prioritised cognitive values that include persistence, diligence and curiosity, as shown in the table of the

Conversely, the comparison between the importance of values and students' acquisition levels of such values according to teachers, revealed statistically significant differences in favour of the importance of the values, which was greater than their level of possession by students

TABLE 3-5-9

Teachers' opinions on the importance of values

Values	Cognitive values	Conative values	Social values	Universal values
Arithmetic mean	3.24	3.45	3.54	3.63
Standard deviation	0.71	0.62	0.67	0.62
Minimum	1	1	1	1
Maximum	4	4	4	4

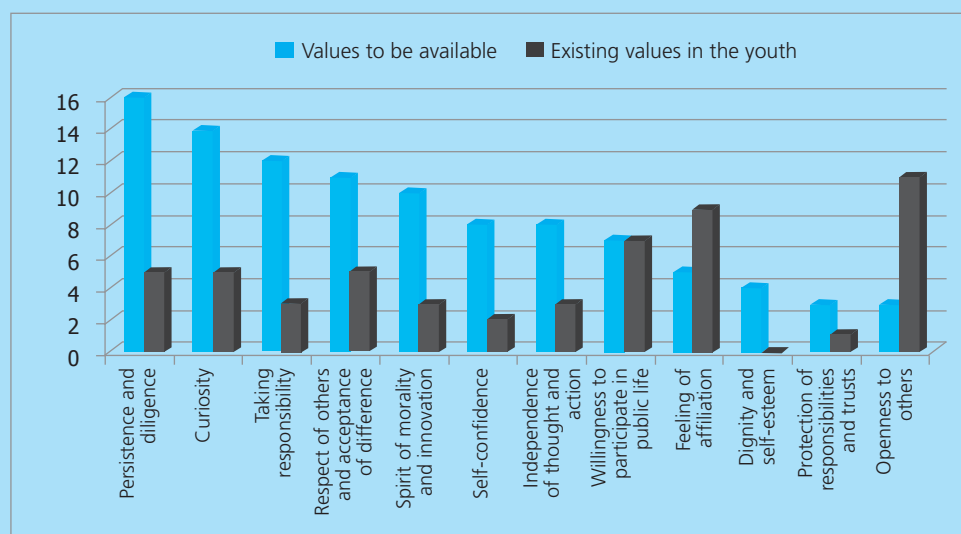
TABLE 3-5-10

Teachers' opinions on the level of availability of values among students

Values	Cognitive values	Conative values	Social values	Universal values
Arithmetic mean	2.04	2.26	2.11	2.24
Standard deviation	0.68	0.63	0.65	0.67
Minimum	1	1	1	1
Maximum	4	4	4	4

FIGURE 3-5-10

Views of workshop participants about the importance of values and their availability in students



Moreover, the teachers' survey showed that students have a weakness in the values of taking responsibility, self-confidence, independence of thinking and action as well as independence

aggregate results of student values (table 3-5-7).

The intellectuals and experts who took part in the workshop unanimously agreed that the future generation should have three necessary values to enable them to integrate into the knowledge society. These are diligence, curiosity and taking responsibility. Such values are basically associated with learning and were strongly demonstrated by the students. Furthermore, the workshop participants see the strongest values of Morocco's future generation as maintaining personal freedom, ambition and openness to others. The participants strongly attributed the acquisition of these values to Morocco's geographical position, its contact with the west and other cultures, the future generation's desire to maintain their identity while communicating with others, as well as the history of Morocco and its development following independence. Moreover, the teachers' survey showed that students have a weakness in the values of taking responsibility, self-confidence, independence of thinking and action as well as independence.

ENABLING ENVIRONMENTS

THE IMPACT OF ENABLING ENVIRONMENTS ON SKILLS AND VALUES

Based on the student survey, the enabling environments were summarised in the following variables:

- Family structure: an integrated family or separate family (absence of father or mother due to divorce, death or migration)
- Father's education level
- Mother's education level
- Family's interest in the student's learning
- Family's method of raising children
- Family's level of financial welfare
- Educational welfare at home
- Educational welfare in the local environment
- Educational welfare at school

The regression analysis (see table m3-20) revealed the following:

1. Cognitive skills: There are six significant variables of the enabling environments that affect cognitive skills;

the mother's education level, family's interest in the student's learning, family's level of financial welfare, educational welfare at home and educational welfare at school, and the father's education level.

2. Conative skills: The results show that there are two significant variables which influence conative skills; the family's pattern of raising children and educational welfare in the local environment.

3. Social skills: Three significant variables of the studied enabling environments affect social skills. Such variables include educational welfare at school, educational welfare at home and educational welfare in the local environment.

4. Cognitive values: There are four important variables of the monitored enabling environments that impact cognitive values; the family's method of raising children, educational welfare at home, the family's level of financial welfare and educational welfare at school.

5. Social values: Six significant variables of the enabling environments affect such value; the family's method of raising children, the mother's education level, interest in the student's studies, the family's level of financial welfare, educational welfare at home and finally, educational welfare in the local environment.

6. Conative values: There are four significant variables of the studied enabling environments which affect conative values; the family's pattern of raising children, the family's level of financial welfare, educational welfare at home and finally, the mother's education level.

7. Universal values: These are influenced by six significant variables of the explored enabling environments; the family's method of raising children, the family's level of welfare, educational welfare at home, the mother's education level, interest in the student's studies and finally, educational welfare in the local environment.

To sum up, we can see that most independent variables that occur in the models are basically related to the family, then the local environment and the school

environment. This means that the families' financial and educational capabilities play an important role in helping children acquire primary skills (dependent variables). In addition to the variable of family, there are also the variables of the educational welfare in the local environment and the educational conditions in school.

Based on this conclusion, we note the following:

If the variables occurring in the models prioritise the family, this is normal and necessary as the family is the place which embraces the respondents and provides them with their basic and educational needs.

However, what is really surprising is that the local environment comes second, preceding the school. This worrisome situation can be attributed to the fact that the educational services of Moroccan schools have been deteriorating, especially over the last two decades. The school no longer maintains its prestige for both students and parents, due to its cumulative problems and inability to solve such problems, despite several attempts at reform. The variable of educational welfare in the local environment ranked second, although this environment lacks information and documentation centres, cheap book fairs, information campaigns and seminars. However, this may be attributed to the availability of infrastructure for accessing information, as emphasised by the workshop participants (see figure 3-5-10).

It is worth mentioning that although these variables are important, they do not explain all the differences observed among the students. That is to say, they are not the only factors that determine the acquisition level of skills and values, as their effect ranges between 3.4% and 16%. This means that there are other factors which help enable students, including the technology culture and children's fondness for its media, as previously emphasised by the research results. It is clear that students interact frequently with the internet and social networking websites. Furthermore,

The school no longer maintains its prestige for both students and parents, due to its cumulative problems and inability to solve such problems, despite several attempts at reform

The analysis of the teachers' survey showed that there is a positive atmosphere in most educational institutions, almost entirely free of any student-teacher conflicts

the personal project plays an important role in inspiring the respondents to search for other knowledge sources to help them. Also, we should not overlook the role of peer communication which is one of the development features during this age period. Despite these attempts at explanation, the research results concluded that there are still other independent variables which affect students' skills and values. These variables should be investigated further.

OPINIONS OF STUDENTS, TEACHERS AND WORKSHOP PARTICIPANTS ON ENABLING ENVIRONMENTS

School environment

The study results (table 3-5-11) showed

that students are somewhat satisfied with the dominant relationships in the school environment as they can adapt to their teachers and classmates. The results further revealed that the students' educational institutions are somewhat safe and secure, helping the students receive the education and training which prepare them for the desired future.

The students teachers' feedback somewhat agreed with this result. The analysis of the teachers' survey showed that there is a positive atmosphere in most educational institutions, almost entirely free of any student-teacher conflicts. 37% of respondents stated that such conflicts rarely occur, while 23.9% stated that student-teacher conflicts do not take place at all. However, 42.3% of the respondents said that conflicts occur occasionally among the students themselves, which can

TABLE 3-5-11

Values of students on school and their relationship to its components (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. I can easily understand school subjects	18.2	67	13.1	1.7
B. My school strengthens my desire for learning and excellence	39.3	41.7	12.9	6.1
C. I feel safe and comfortable at school	45.1	36.4	11.5	7
D. I have good relationships with my teachers (we have mutual respect)	70.9	23.6	3.2	2.3
E. I have good relationships with my school friends	70.6	26	2.6	0.8
F. My school prepares me well for the future	43.9	39.9	9.1	7.1

TABLE 3-5-12

Views of students on school's health enabling environment (%)

	Completely disagree	Disagree	Somewhat agree	Completely agree
A. The school offers periodical medical checkups for students.	29.1	20.7	25.9	24.3
B. The school offers all students medications free of charge.	34.1	25.2	19.3	21.4
C. The school clinic is fully equipped (bed, examination equipment, primary medications).	43.3	20.5	16.2	20
D. The school organises health campaigns to combat unexpected epidemics.	19.4	14.8	32	33.8
H. The school conducts awareness programmes about dangerous diseases.	13	12.8	32.6	41.6
I. The school has a social worker who helps students solve their social problems.	37	19.8	19.3	23.9
J. The school has an educational guide/psychologist to help students settle their psychological problems.	40	19.7	16.6	23.7
K. We study issues related to health education.	20	16.1	33.3	30.6

sometimes lead to violence. This could be because the students are at an age when they are trying to prove themselves among their peers, which can sometimes lead to violent incidents (see table m3-14 in the appendix).

Teachers' opinions were negative when asked about the environment provided by the school to motivate students to learn. 52.6% of the sample teachers said that schools do not provide substitute teachers when full-time teachers are absent. They also stated that schools lack a system for student evaluations of teachers, and do not offer regular teacher training courses (see tables m3-15 and m3-16 in the appendix).

All these factors impede students performance and increase school leaver rates. Furthermore, teachers agreed that the most important factors affecting students are the lack of school's facilities and resources (92.6%), limited material and professional incentives (89.1%), and the low quality of Arabic and English teaching (80.2% and 88% respectively). Other factors include the multiple competitive sources of knowledge outside the school environment (57.5%), and inadequate teacher training (69.6%), (see table m3-17 in the appendix). Such factors do not help facilitate the school's educational reform and as a result

the Emergency Programme has tried to solve these issues (the Ministry of National Education, Higher Education, Professional Training and Scientific Research, 2008B).

Regarding the school environment in terms of health-related issues, the respondents did not agree on the availability of such facilities. Students' answers ranged from 'completely disagree' to 'completely agree' as illustrated in table 3-5-13.

Educational institutions generally provide them with a satisfactory environment for health-related issues. For example, schools occasionally conduct health campaigns to combat unexpected epidemics. They also offer students awareness programmes for dangerous diseases. Educational programmes and curricula include subjects related to health education and human rights. However, some educational institutions still lack fully equipped medical clinics and not all schools provide social workers or psychologists.

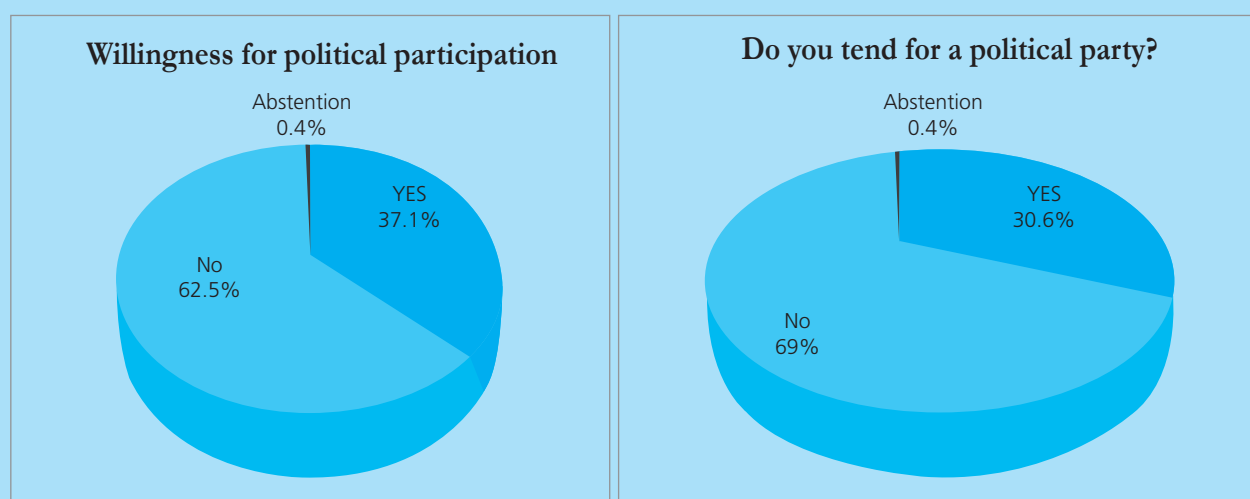
Social environment

The social environment cannot be separated from the school environment. The negative impact of the lack of political education at schools was reflected in the students' answers. Most of the students

Most of the students have no affiliation to a specific political party (69%) and have no inclination towards political participation (63%)

FIGURE 3-5-11

Views of students regarding political participation



Teachers feel that they have a high level of personal freedom and intellectual freedom, followed by academic freedom and finally professional freedom

TABLE 3-5-13

Views of students regarding freedom of choice (%)

	Much freedom	Moderate freedom	Little freedom	No freedom
A. Personal options	64.5	30.9	3.8	0.8
B. Academic options	43.4	45	9.2	2.3
C. Intellectual options	59.7	31.1	7	2.2

have no affiliation to a specific political party (69%) and have no inclination towards political participation (63%). This demonstrates that the future generation, like the adults, avoids political issues. This apathy is reflected by the low participation rate (37%) in the most recent parliamentary elections. Similarly, according to the Interior Ministry, the participation rate in the communal council elections held in June 2009 did not exceed 51%.⁴⁹

The research results revealed that most of the respondents (64.5%) believe they have 'much freedom' to determine their personal options. Likewise, they also have 'much freedom' to determine their intellectual choices undoubtedly related to personal choices. However, only 43.4% of the students said that they have 'much freedom' to decide their academic choices (Table 3-5-14). The reason is that students are not able to choose their academic subjects at school or their disciplines

after obtaining the general secondary school certificate (Baccalaureate), as this is determined by their scores.

Teachers' results were similar to those of the students, as shown in table m3-18. Teachers feel that they have a high level of personal freedom (35% 'absolute freedom' and 37.3% 'much freedom') and intellectual freedom, followed by academic freedom and finally professional freedom, which 53.7% of the sample teachers said they have to a limited degree. The results impact teachers' professional performance; the availability of professional, intellectual and academic freedoms help facilitate creativity and innovation at work. On the other hand, the students' results were positive regarding their ability to express their opinion, either within or outside of their family, as shown in figure 3-5-12.

86.6% of teachers stated that they have freedom of opinion (see table m3-19 in the appendix). This could be

FIGURE 3-5-12

Students' expression of opinion within and outside the family

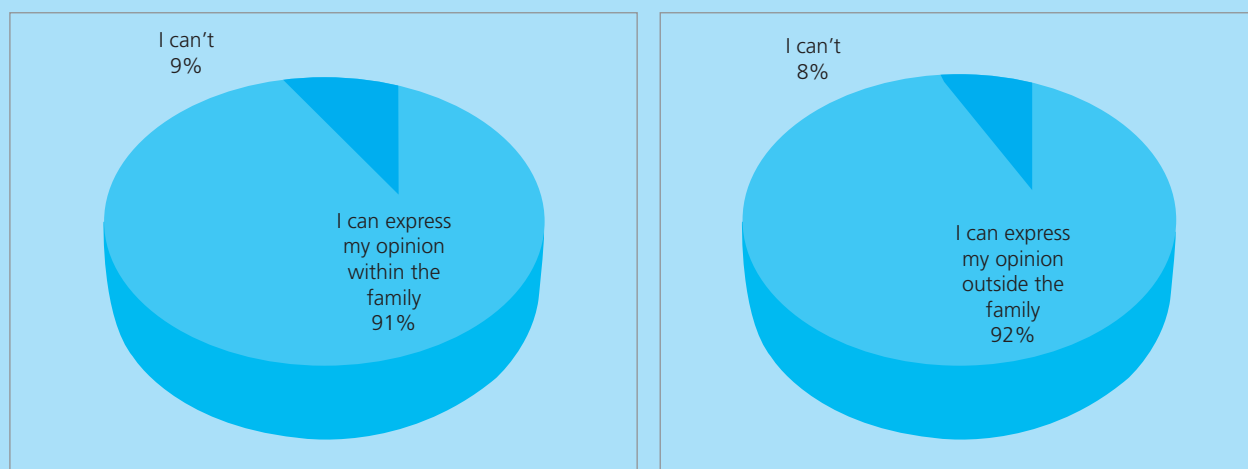


TABLE 3-5-14

Students' views on government run media (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Audio-visual media convey news honestly.	4.2	8.2	20	40.6	27
B. Audio-visual media convey different views of society.	5	5.1	11.3	45.3	33.3

TABLE 3-5-15

Students' views on non-government run media (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Audio-visual media convey news honestly.	6.9	7.3	17.8	38.7	29.3
B. Audio-visual media convey different views of society.	8.1	5.1	11.6	41.3	33.9

Regarding the integrity and objectivity of the media, a moderate percentage of the respondents 'somewhat' agreed that the audio-visual media convey news honestly (40.6%) and that they present differing views in society (45.3%)

because the Moroccan education system has established institutional councils to give teachers a voice with the aim of increasing the role of the school.⁵⁰

Regarding the integrity and objectivity of the media, a moderate percentage of the respondents 'somewhat' agreed that the audio-visual media convey news

honestly (40.6%) and that they present differing views in society (45.3%). A lower percentage of students said they 'completely agree'. The answers for non-government-run media were similar to those for government-run media.

The research results showed that 40.1% of the students are fully convinced that

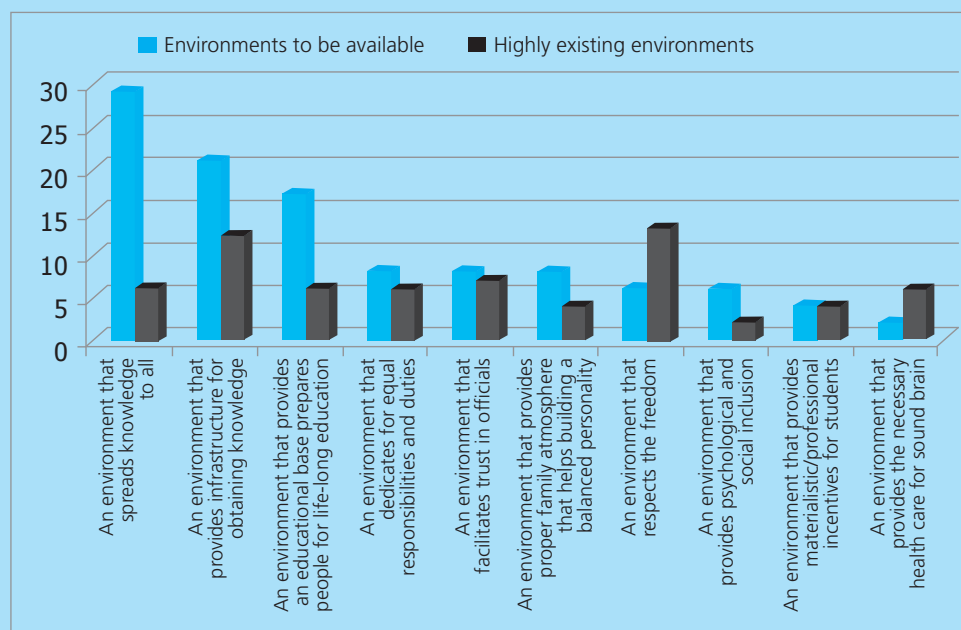
TABLE 3-5-16

Students' perceptions of their legal and social enabling environment (%)

	Do not know	Completely disagree	Disagree	Somewhat agree	Completely agree
A. Strict laws exist in schools that give rights to individuals.	4.2	5.5	13	37.2	40.1
B. Strict laws exist in society as a whole that give rights to individuals.	5.8	8.4	20.5	39.5	25.8
C. The student thinks carefully before violating the code of ethics due to the school's laws.	5.7	7.2	18.9	34.6	33.6
D. The person thinks carefully before violating the code of ethics due to society's laws.	6.5	10.6	21.2	34.5	27.3
E. Law is applicable to all people in school, regardless of their capacity or position.	5.9	12.9	20.1	32.2	28.8
F. Law is applicable to all people in society, regardless of their capacity or position.	7.4	20.7	23.2	25.7	23
G. Those that have money have better opportunities for education.	3.1	7.6	10.5	20.3	58.5
H. Jobs are occupied according to candidates' efficiency and not through other considerations (personal influence, for example).	9.1	14.2	20.5	32.1	24.1
I. Job promotion does not depend on objectivity but personal views.	14.5	6.5	15.2	38.2	25.6
J. Certification, employment, promotion and other privileges should be based on objective considerations and not by using personal influence or favouritism.	18.7	9.7	15	33	23.6

FIGURE 3-5-13

The importance of environments and the extent of their availability according to views of workshop participants



Even if not all respondent students are ready to participate in the knowledge society, they are on the cusp of reaching the readiness level.

the school has strict laws that give rights to individuals, while they were less convinced that such laws exist in society as a whole (25.8%). This result is emphasised by the low percentage of students (23%) who completely agreed that law is applicable to all people in society, regardless of their capacity or position. Moreover, most respondents (58.5%) stated that accessing good education requires a significant cost outlay. Only 24.1% of the students completely agreed that the occupation of high ranking positions in society is based on competency and not through other considerations. Similarly, only 23.6% completely agreed that certification, employment and promotion depend on objective considerations.

The workshop findings revealed that the intellectuals and decision-makers disagreed on the availability of environments that promote equality and allow people to trust officials. A number of intellectuals agreed with the students who said that the predominant environment in Morocco is one that facilitates trust in officials. They

attributed this to the efforts of the state and civil society as well as the climate of public freedom in Morocco. By contrast, another group of intellectuals thought the opposite. The reason for such disagreement between workshop participants is mostly due to their diverse cultural and intellectual backgrounds.

CONCLUSION

Based on the data gathered from the respondent students and teachers as well as the views of the group of intellectuals and decision-makers who took part in the workshop, we can draw the following conclusions:

There is a progressive movement which will be promising if it is strengthened, motivated and its weaknesses are fixed. Even if not all respondent students are ready to participate in the knowledge society, they are on the cusp of reaching the readiness level.

The different respondents, including students, teachers, as well as intellectuals

and decision-makers had differing opinions over the issues of this research. This is to be expected given their different backgrounds.

The differing answers of the respondents will contribute to establishing future educational plans and strategies.

We hope to expand on findings which have raised questions and understand their causes using deeper research methodology and extending the respondent base to include different social categories which affect the future generation.

The two ends of the education continuum, namely, early childhood and higher education, hold great importance in the education and training system. Therefore, studying the conditions of the future generation throughout this educational continuum is important; it helps the future generation realise its full potential and gain maximum knowledge, and consequently helps us form a more complete idea about this issue.



ACTION SYSTEM: PREPARING MOROCCO'S FUTURE GENERATION TO ACCESS THE KNOWLEDGE SOCIETY

“If we set up annual projects, we may grow wheat. If such projects last for a decade, we may plant trees. But, if these projects last for a lifetime, we just need to educate the human being.”

Chinese Proverb

languages that allow the translation as well as the transferal and localisation of basic modern sciences and knowledge. Moreover, the development process also requires encouraging scientific research and supporting its institutions.

Acquiring knowledge as well as building a knowledge society and integrating into it effectively in order to achieve development requires a strong will to overcome problems, and the ability to work industriously. Building the knowledge society does not only entail specifying the gaps and obstacles facing us in reality, but also demands efforts to mobilise all the elements that will work harmoniously and interactively towards building that society. Some of these elements are related with enabling environments, while others are associated with knowledge localisation as well as establishing an education and training system that facilitates creativity and innovation.

Taking a serious and courageous political decision may be the most basic approach to the development process. This requires liberating the energy of the youth to reach their potentials and capabilities, through consistent training and preparation to engage them in the building of the knowledge society. Therefore, such a process requires opportunities to be made available, in addition to promoting the rule of law and activating laws which support development policies. It also requires encouraging creativity and innovation through public social activities. This should be done without prejudice against the national and cultural identity which has Arabic as one of its basic pillars, and without overlooking the role of other international

THE WILLINGNESS TO ACT FOR POSITIVE INTEGRATION INTO THE KNOWLEDGE SOCIETY

Morocco's integration into the knowledge society requires exerting efforts to correct deficiencies and bridge the knowledge gap. It also entails having an overall vision for action which is associated with existing achievements in order to monitor, review and analyse its positive and effective policies using a thorough assessment method which aims to narrow the gap to accelerate the process of achieving the desired goal. The historic underdevelopment of Morocco in several fields can be overcome once a strong will exists. Morocco certainly has the desire to move forward, since it has already taken important steps towards achieving the desired goal. For example, there has been a national agreement on reforming the education and training system since the beginning of the 21st century. In fact, the objectives and mechanisms of such reform have been expressed in the principles of the 'National Charter of Education and Training' and the 'Emergency Programme'.

Morocco has made education the second most important national issue

Morocco certainly has the desire to move forward, since it has already taken important steps towards achieving the desired goal

Morocco's desire for change is also evident in the remarkable progress it has made in creating enabling environments for the future generation in many vital fields

after territorial unity, and to this end allocated resources constituting 27.1% of the state's public budget from 2002 to 2006. The social subsidy for schooling is a mechanism aimed at facilitating children schooling and achieving equal education opportunities for accessing schools and ensuring continuity. Thus the number of beneficiaries of the social subsidy of all its components witnessed a significant increase (See table m3-21 in the appendix).

This educational reform helped reduce the illiteracy rate, as the number of beneficiaries of illiteracy elimination programmes from 301,488 to 629,748 beneficiaries of which 527,799 beneficiaries during the period 2001/2009.⁵¹ Generalization of schooling reached in 2010 a percentage of 94.8% and its rate changed from 43% to 30% in 2010.⁵² Moreover, schooling was made more widely available by 94.8% in 2010 according to authorities. Also, the Emergency Programme in this field approved by the government seeks to reduce the school leaver rate and improve access to pre-school education, thereby helping to reduce the illiteracy rate further. Driven by its desire to develop education, the educational authorities have been eager to participate in international learning assessments, such as PIRLS and TIMSS, as well as conducting national tests.

Morocco's desire for change is also evident in the remarkable progress it has made in creating enabling environments for the future generation in many vital fields. In the field of health, public expenditures increased from 0.9% in 1990 to 1.3% in 2009 (HCP, 2009). There have also been marked improvements in standards of living and in programmes to prevent and fight diseases, helping to increase life expectancy at birth from 65.5 years in 1988 to 72.9 years in 2009. This reflects development in public health and nutrition. Additionally, the consumption expenditures of Moroccan households rose by an annual average of 4.3% and 5.6% from 2003. The relative poverty rate

also decreased from 16.3% in 1998 to 8.8% in 2008.

Given the pace of such achievements and the projection based assessment method approved by the UNDP, Morocco will accomplish the Millennium Development Goals by 2015 (HCP, 2009). This provides evidence that Morocco has the desire to positively engage in the knowledge society.

Notwithstanding all the previous gains, there are challenges to be overcome, such as eliminating illiteracy, youth unemployment and administrative corruption, as well as achieving more social equality in order to pave the way for reaching the desired goal.

THE ABILITY TO ACT TOWARDS THE KNOWLEDGE SOCIETY

The youth in Morocco have innate creative abilities and skills which could be facilitated and developed through appropriate enabling environments. Morocco has demonstrated its ability to develop through the establishment of major projects over the past decade in the fields of economy, educational reform, demographic transformation and social changes in addition to medical insurance and social housing, among others. These projects are capable of eradicating poverty and marginalisation as well as incorporating urban and rural areas in the human development process. Moreover, the economic reform which took place from 1993 to 2005 has helped liberalise the economy and opened it up to international trade by entering into several trade exchange agreements with multiple countries. These efforts will help motivate Morocco to proceed with its political reforms, and will also improve economic transparency indices and direct the national economy towards international modernisation and integration.

The expansion of the media in Morocco has promoted its openness to

the modern world and culture. The media scene has grown through the addition of different media channels which have contributed to instilling the future generation with openness to cultural diversity and intellectual human creativity. Furthermore, the High Authority of Audio-visual Communication was founded with the purpose of promoting democratic discussion as well as strengthening a culture of responsibility and transparency. Morocco was also keen on adopting IT, because accessing the new 'network society' requires strengthening communication and acquiring its tools in order to develop and improve the performance of administrative services. Morocco has sought to make digital technology a basic pillar for economic and public administration and enable citizens to make use of internet services. In addition, Morocco is preparing to launch government ministries' services through e-government which will initiate its work in 2013.

All such trends reflect the ability of Morocco to build generations that can lead the knowledge society. However, what is important is the successful accomplishment and sustainability of these significant projects in order to help build the future generation and enable it to establish the desired knowledge society.

METHODS OF ACTION TOWARDS THE KNOWLEDGE SOCIETY

Movement towards the knowledge society requires achieving the pillars of knowledge, freedom and development. This movement also needs to establish plans and strategies which can create a supportive environment for knowledge and help produce and develop its economic and technological principles in order to overcome new problems facing the knowledge society. In this context, we see that Morocco is pursuing overall economic reform which has helped to liberalise and stimulate the

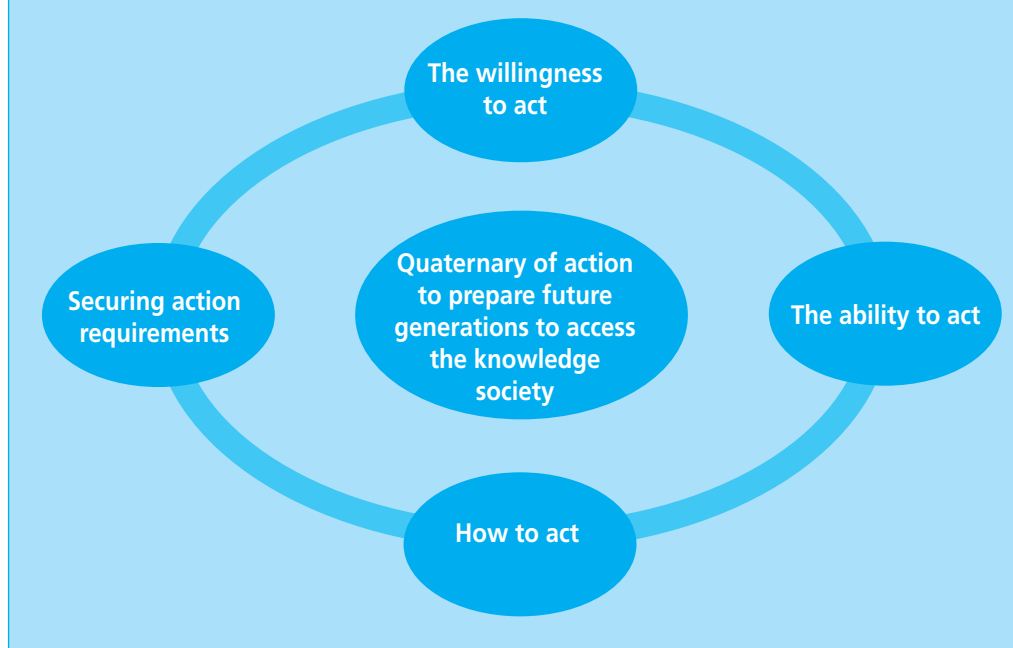
economy. This has led to the emergence of a national industry on the regional level. There are also trends towards supporting scientific research, whose allotted budget rose from 0.3% in 1993 to 0.8% in 2005 (the Possible Morocco, Fiftieth Anniversary report, 2006). The NIHD is also considered a tool for development on several levels. As a reflection of the government's political commitment, its approach to human development is based on local partnerships as well as prioritising disadvantaged social sectors. With respect to the empowerment of women in Moroccan society, this is closely associated with general cultural, social, political and legal conditions. In fact, all development plans and social development strategies will fail unless women are enabled and empowered.

Moving positively towards building the next generation and preparing it for establishing the knowledge society undoubtedly requires monitoring existing policies and trends through review and analysis using scientific methods. The goal of this is to assess such policies and trends and direct them in a positive and active manner. Morocco's underdevelopment in many fields can be overcome once the political will exists. However, this political will should be supported by the allocation of resources required to establish enabling environments and institutions that are concerned with the development of knowledge and the use of its gains in achieving overall development for all of society. All these inputs are capable of providing Moroccan society with the ability to accomplish its plans and effectively integrate into the knowledge society. It is noted that the new political reform initiatives witnessed by Morocco after the radical changes which have taken place in the Arab world have invigorated Morocco, thereby resulting in the establishment of the National Human Rights Council, in addition to fundamental constitutional amendments.

As a reflection of the government's political commitment, its approach to human development is based on local partnerships as well as prioritising disadvantaged social sectors

FIGURE 3-6-1

Stages of action for accessing the knowledge society



Even if the current output of the education and training system is unsatisfactory, the positive results of the educational system need time to emerge

SECURING ACTION REQUIREMENTS

Morocco has witnessed developments with regards to the economy, governance, education and training, health, housing and transportation, in addition to the elimination of poverty and marginalisation, the achievement of gender equality and the establishment of broad regionalisation, which helps in local governance. Morocco has changed its function to become a leader in several sectors and has affected overall reform through institutional democratisation, political actions and economic openness, as well as guaranteeing social housing. In addition, Morocco has been keen on enlivening the NHID. These efforts are considered important in achieving human development as well as securing the requirements of preparing the future generation for the knowledge society.

Even if the current output of the education and training system is unsatisfactory, the positive results of the educational system need time to emerge. Education is a complex and intricate process

which includes interrelated subjective, objective, national and international factors. In addition, it is a process that requires dealing with the present and the future at the same time, since it seeks to change the present, aspire to the future, but cannot sever relations with its past. The findings of the field study, especially those which reflect the weak cognitive skills of the future generation, should not induce pessimism. They should instead help us become aware of the current reality on the ground, make more serious decisions, and formulate action strategies which can yield more positive results.

Undoubtedly, moving towards preparing the future generation for the knowledge society requires 'building a sound knowledge capital' in the first place. This entails designing curricula according to a sound educational philosophy and clear vision, especially in terms of promoting the culture of productivity, achievement and quality, responsibility and accountability and the culture of information and decision-making based on reliable knowledge" (the UNDP and Mohammed bin Rashid Al Maktoum, 2009). One of the

most important issues is the availability of the institutional aspect which pertains to the readiness of the educational system in terms of objectives, purposes, structures and content. In other words, there should be input, processes and output which achieve the desired goal. However, efforts made in this regard still face challenges, including the lack of involvement of some school parties in the thrust towards knowledge, especially some educational administrators, teachers and parents. This may be attributed to inadequate training, in addition to those parties' unawareness of the high stakes involved. Nevertheless, we should remember that there are positive developments in this domain. These developments involve the National Charter of Education and Training, the Emergency Programme, a curricula review as well as the inclusion of new concepts, such as human rights, women's rights, citizenship and tolerance. The developments further include extending the offer of education, encouraging decentralisation, and controlling and securing time spent in school, in addition to improving the school environment by providing it with equipment, educational facilities, pedagogical methodology and improved buildings.

GENERAL CONCLUSION

The first decade of the third millennium is considered an important historic turning point. In this decade, Morocco has witnessed significant changes and managed to achieve comprehensive development broad enough to cover all of society's vital sectors: education and training, politics, the economy, society, health, and women's rights, with the aim of overcoming underdevelopment in these areas which has accumulated over the past few decades. This underdevelopment placed Morocco in a low position on the human development scale according to international assessment. Morocco's shortcomings were manifested in several

domains, including:

- Deficiencies in the education and training system which resulted in educational outputs falling short of society's aspirations. This system resulted in producing large numbers of unemployed people lacking the cognitive skills required to integrate into the knowledge economy society. The school leaver rate was high and there was a substantial increase in the illiteracy rate among adults. All these factors contribute to the underdevelopment of society.
- Decrease in the expenditure in the field of health care in general and the inequality between urban and rural areas in terms of health services.
- A threat in terms of food security for a significant number of Moroccan citizens. This was attributed to the lack of policies and the government's inability to distribute wealth, as well as the imbalance between production and consumption together with a low GDP per capita compared with other countries.
- Economic and industrial recession which hindered developmental efforts and reflected negatively on the number of job opportunities, thereby raising the unemployment rate.
- Marginalising youth in society by not utilising or engaging their abilities, and not listening to their needs or trying to accommodate them. This deprived society of the full political participation of young people, suppressed their creative abilities, and wasted their efforts in work and production. It also made the youth fall prey to despair and pushed them to look for other outlets which would restore their dignity and humanity.

Given the deficiencies observed in several of society's vital fields, there has emerged an attempt to form a strategic vision with the aim of establishing corrective projects. Education has been the core of reform in any society that aspires

Given the deficiencies observed in several of society's vital fields, there has emerged an attempt to form a strategic vision with the aim of establishing corrective projects

Efforts should continue in several sectors at the same time, due to their interactive and overlapping elements and determinants. Moreover, human development is an ever-developing and changing ambition and not a ready and fixed idea

to acquire knowledge. The reason for this is that the role of education has a positive effect on the role of other sectors in society. Accessing the knowledge society is based on human capital and its capabilities. Education develops the creative abilities of the younger generation and helps achieve progress in society. In addition, creativity, innovation and scientific imagination are considered the true wealth of a society's present and future. "If accompanied by positive economic, political and social conditions, a sound, distinguished, open, flexible and high-quality education will be one of the most important ways of developing society in terms of culture, thought, literature, arts, sciences, technology, structures, institutions, lifestyles, relations and dealings" (Abdul Aziz bin Abdullah, 2002).

It is difficult to list the primary issues according to their importance in the developmental process. Efforts should continue in several sectors at the same time, due to their interactive and overlapping elements and determinants. Moreover, human development is an ever-developing and changing ambition and not a ready and fixed idea. However, a thorough review of existing developmental plans as well as their ability to meet the requirements of the current situation, and their responsiveness to the needs of the future is considered a basic approach to arranging priorities. It is noted that any aspects of development in different areas should be accompanied by progress in education, because no social or economic development can come about under a regressive education system or vice versa. This requires a structural review of the educational system to enable it to meet the conditions of sustainable, renewable education.

Our recommendations at the end of this study focus on the correlated triad of knowledge, freedom and development. They are the foundations of societal development and closely related to the areas analysed during the study:

- Reviewing and improving the National Charter of Education and Training

in light of national and international developments in order to set a new philosophy and vision for education and training that fits a democracy and rights oriented modern societal project.

- Linking the education and training system with the overall objectives of sustainable human development with the aim of developing people and society in terms of thought, culture, economy and behaviour.
- Developing the education system in a way that makes it an effective tool that helps students develop their creative and innovative skills and possess the ability to analyse and criticise.
- Invigorating educational reforms to penetrate classrooms and include the education/learning processes taking place in the smallest educational unit, with the aim of developing them to achieve quality.
- Developing curricula in a manner that helps students build their personality in terms of knowledge, skills and values, and in a way that serves the agreed-upon societal plan, satisfies the needs of the knowledge society, helps students adhere to tolerant Islamic values as well as national constants and instil in them universal human values.
- Adopting effective pedagogical methodologies which cherish self-learning and cooperative learning, as well as active communication and interaction methods in order to encourage students to establish personal projects.
- Making the education and training system emphasise the two ends of the education continuum, early childhood and higher education, as well as life-long education.
- Forming a national vision to build the knowledge society and defining its current and future basis and mechanisms, as well as guaranteeing a well-knit plan for its implementation, assessment and development as necessary.

- Setting up a national monitor for the issues of adolescents and youth with the purpose of monitoring their situations and desires, as well as understanding their current and future needs, so that society can always be aware of their concerns, aspirations and expectations.
- Encouraging students to read more, beyond the scope of school books, to increase their knowledge and broaden their intellectual horizons.
- Disseminating school, district and neighbourhood libraries in order to promote the culture of reading for all.
- Supporting and encouraging the translation of modern scientific and knowledge developments in order to enrich Arab libraries with various types of sciences and knowledge that can be transferred and localised.
- Encouraging printing and publishing as well as all other media to enable society's members to access knowledge that forms their minds, refines and develops their thinking.
- Following up on efforts to eliminate the school leaver rate by achieving high-quality appropriate education and generalising pre-school education.
- Trying to raise the school enrolment rate in preparatory and secondary education, and find mechanisms which may keep students in the education system until they finish their secondary and university education.
- Giving attention to the intensive professional training of teachers and guaranteeing them regular training, especially in the field of human rights and gender equality.
- Activating all mechanisms and methods which can bring about the achievement of the millennium goals as well as the education-for-all goals.
- Investing in scientific research; a strategic option for overcoming existing difficulties and deficiencies as well as a basic pillar for developmental sustainability. Without it, development loses one of its important foundations.
- Encouraging creative, talented and distinguished individuals and researchers who promote development in different intellectual, cultural and economic fields and establishing awards of excellence for them.
- Providing support by the state and civil society for the social and cultural development of the family, the first place where children receive care and upbringing;
- Promoting and developing the role of the media in Moroccan society with the aim of forming a purposeful media policy which raises public awareness on the issues of development, human rights and democracy;
- Adopting the participatory method with the population to plan their developmental projects as well as enabling them to take responsibility for planning and implementing their local projects;
- Supporting freedom of expression and strengthening political, social, economic, and cultural democracy in society;
- Supporting current efforts in human development and activating such efforts by linking them with overall developmental projects which have social, cultural and economic dimensions;
- Placing emphasis on the Arabic language as a tool for maintaining Arab and Islamic identity, as well as a means of bringing about knowledge localisation while remaining open to international languages and encouraging their acquisition, especially the languages of scientific research and electronic communication.

Morocco has become involved with the human development project. Educational reform has sought, through its principles set forth in the National Charter, qualifying the Moroccan citizen and link education with development. However, the state's plan to reform the education and training system has not been limited to the

Morocco has become involved with the human development project. Educational reform has sought, through its principles set forth in the National Charter, to qualify the Moroccan citizen and link education with development

provisions of the charter which constitutes the method of reform and its basic reference. It has also set up an emergency programme which activates and acts upon the principles of reform and provides it with a new strong dynamic. Moreover, the NIHD has been a strong influence in eradicating exclusion, poverty and marginalisation of some sectors of society. Therefore, the initiative's philosophy and sustained activity will be a helpful factor in preparing those urban and rural sectors whose developmental participation was excluded. The initiative intends to engage such sectors in public policy with the aim of developing society and bringing about the desired human development.

The challenges faced by Morocco on several levels require the creation of a new vision of public policy. Comprehensive development cannot be achieved by ready-made solutions, but will be the product of public policy and its continued effect. Despite the obstacles facing the desired societal outcome, the initiatives which have emerged since the beginning of the millennium are capable of overcoming all challenges. Thus, it can be said that there is hope that the next generations can realise a dream of a better future.

End Notes

- ¹ United Nations Development Programme, Mohammed bin Rashid Al Maktoum Foundation, Arab Knowledge Report for 2009.
- ² A statistic issued by the Ministry of National Education, Higher Education sector, pgs.27-28. 103% is attributed to rounded up figures, duality and interrelation in the research units' specialties.
- ³ Thomson Scientific Data, OST, Computing. Sited in Country Leaflet-Morocco: Evaluation of Scientific, Technology and Innovation capabilities in Mediterranean countries. Francoise Laville, Jean Theves. Updated version 2007.
- ⁴ According to statistics from the International Telecommunication Union which included the communication sector in 233 countries around the world during 2010, Morocco ranked second after Egypt, with regards to Internet, since the number of subscribers reached 13.7 million subscribers. <http://press.marcs.net/t1994>, dated 17 October 2011.
- ⁵ See website <http://www.assabah.com/378.html> November 9, 2010
- ⁶ Human Development Report 2010, UNDP.
- ⁷ The field study was conducted among students in Rabat as a pilot. The study may expand to cover the remaining Moroccan schools at a later date.
- ⁸ See the mechanisms of Law 01.00 to improve the quality of higher education.
- ⁹ See Article 122 of the National Charter of Education and Training.
- ¹⁰ Statement of the Minister of National Education, Higher Education, Professional Training and Scientific Research before parliament on 9 November 2010, case writer Ahmed Auzi.
- ¹¹ Statement of the State Secretary, Ministry of Education, before Parliament on 13 October, 2010, case writer Ahmed Auzi.
- ¹² Website of Mohammed IV foundation www.fm6-education.ma
- ¹³ Card of achievements of the Ministry of National Education and High Education and forming scientific research and framework in the school education sector 2007/2008 – 2010/2011.
- ¹⁴ The Ministry of National Education, Higher Education, Professional Training and Scientific Research, 2008/2009, Literacy and Non-formal Education Sector, Directorate of Non-formal Education (folded).
- ¹⁵ Card of achievements of the Ministry of National Education and High Education and forming scientific research and framework in the school education sector 2007/2008 – 2010/2011
- ¹⁶ Statement by the Minister of Social Development, Family and Solidarity during a press symposium on 3 December 2010, which coincided with the International Day of Persons with Disabilities. Al Alam newspaper 4, 5 December 2010, case writer Ahmed Auzi.
- ¹⁷ This center is a joint cooperation between Morocco and South Korea in the field of scientific research in order to monitor the impact of ICT on educational output. In July 2006, a partnership was signed between the Korea International Cooperation Agency (KOICA) and Al Akhawayn University for this purpose.
- ¹⁸ A comparison-based international test to measure the abilities of fourth grade students in reading skills in their native language.
- ¹⁹ An international test to assess the attainment of fourth and eighth grade students in science and maths.
- ²⁰ The Ministry of National Education, Higher Education, Professional Training and Scientific Research/School Education Sector "A summary of education statistics" 2010-2011
- ²¹ The Ministry of National Education, Higher Education, Professional Training and Scientific Research
- ²² The Moroccan Kingdom, Ministry of National Education, Higher Education, Professional Training and Scientific Research, 2010, a summary report on the results of national and international learning assessment studies.
- ²³ The Moroccan Kingdom, the Higher Council of Education, 2008, 'Report on academic achievement assessment.
- ²⁴ Website of Morocco News Agency, 12 July 2010, www.map.ma
- ²⁵ The International University of Rabat (IUR) and Lebanese International University (LIU) in Casablanca are two universities that have been established and will be inaugurated in the 2010-2011 academic year.
- ²⁶ According to the multi-dimensional approach of poverty. See the HCP reply to Oxford Report, Al Ittihad Al Ichtraki newspaper, 10 September 2010.
- ²⁷ Aisha Ghaloum, www.womengateway.com/NR/excerces, dated 9 February 2011.
- ²⁸ These statistics were given by Amina Al Mariny, a member of the Advisory Council on Human rights in a symposium held by Moroccan Channel One in September, 2003, following the announcement of a draft code.
- ²⁹ Amazigh is not one language but languages which are used in different geographic regions of Morocco: 'Tachelhit' in the Sous region in southern Morocco, 'Tarifit' in the rural area in Northern Morocco and 'Tamazight' in the Middle Atlas region.
- ³⁰ Mohamed Al Medallawy Al Manbhy, Modern Discussion, Issue 2004-2007/8/11, (<http://www.ahewar.org/debat/show.art>) dated 9 September, 2010
- ³¹ Al Wadoud Mohamed Ahmed et al., 2007, the Moroccan Civil Society: Functions, capabilities and challenges: www.almichaal.org on 30 July 2011

- ³² According to 2007 statistics, the number of Moroccan community members living abroad was approximately 3,292,599. Therefore, the communities' financial contributions over the last ten years have played a significant role in achieving political, economic, social and cultural development.
- ³³ In 1998, Morocco witnessed the formation of a government led by Abdel Rahman Al Youssefi, former opponent and Secretary General of the Socialist Union for the Popular Forces (SUPF).
- ³⁴ The referendum on the new constitutional reforms was held on 1 July, 2011, gaining votes from several Moroccan societal sectors.
- ³⁵ The committee was required to submit the constitutional amendments in June, 2011, to hold a referendum on the amended constitution.
- ³⁶ Speech of King Mohammed VI on 9 March 2011. See also Al Alam newspaper, issue 21920, Friday 11 March, 2011.
- ³⁷ The Hassan II Fund for Economic and Social Development has contributed to funding major national projects, such as building roads, ports and railways, in addition to cultivating agricultural lands. It also financed the Tangier-Med project among others.
- ³⁸ These industries include Morocco Telecom, Moroccan Royal Airways, "L'ONA", and the Sherif Phosphates Office.
- ³⁹ See the Constitution of 1996
- ⁴⁰ See specifically the ninth chapter of the Constitution of 1996
- ⁴¹ This declaration came from King Mohammed VI when he launched the next phase of the advanced regionalisation process, initiated on 3 January, 2010. He appointed the Advisory Committee on Regionalisation on 10 March, 2011.
- ⁴² The assessment conducted by the Moroccan government in its meeting on 20 May 2009, the fourth anniversary of the NIHD, opened a discussion was on the NIHD's strengths and weaknesses.
- ⁴³ The Ministry of National Education, Higher Education, Profession Training and Scientific Research - "A summary of education statistics" 2010/2011.
- ⁴⁴ http://www.alalam.ma/def.asp?codelangue=23&id_info=28856&date_ar=2010-7-4, dated 04 August 2010
- ⁴⁵ A measure which reflects the central value around which the sample data is clustered (a measure of central tendency).
- ⁴⁶ This is used in statistical tests and is a function of standard deviation and sample volume.
- ⁴⁷ This refers to the degree of data dispersion. A low standard deviation indicates clustering of data.
- ⁴⁸ A term used by Paulo Freire to refer to memorization teaching methods.
- ⁴⁹ Hameed Bahkak (Thursday, 4 June 2009).
- ⁵⁰ See the statute of public education institutions published in the official gazette, issue 5024 on 25 July, 2002.
- ⁵¹ Directorate of Strategies, Statistics and Planning
- ⁵² Hespress (www.hespress.com) February 19, 2001

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Ahmad Idaly. (Pedagogical reform in Morocco: strong good will versus weak qualitative performance).

Al-Hassan Boquentar. (Impact of reform on the education system in Morocco).

Kholoud Al Sibai'e. (Family upbringing and its role in preparing Morocco future generation for the knowledge society).

APPENDIX



LIST OF NAME OF RABAT WORKSHOP PARTICIPANTS

This workshop was held under the auspices of Mr. Ahmed Akhchichine, Minister of National Education, Higher Education, Professional Training and Scientific Research.

Mr. Adel Al Khiary	Dr. Mohammed Al Radi
Dr. Mohammed Al Sawali	Mr. Said Al Rahouny
Dr. Ibrahim Shadaty	Dr. Madi Lahssan
Dr. Al Tawil Hassan	Dr. Mohammed Wakidy
Dr. Abdul Aziz Al Ghazi	Mrs. Khadija Alimilahy
Mr. Mostafa Mohsen	Dr. Ahmed Edali
Dr. Mariam Ait Ahmad	Ms. Rajaa Lahwaidek
Mrs. Saida Edrisi Tefrawty	Mr. Mostafa Hosny
Dr. Mohammed Ahmeed	Dr. Mohammed Fatehy
Dr. Al Zaki Abdul Kader	Mr. Ahmed Rekeyy
Mr. Abdul Karim Balhag	Mr. Khalil Al Edrisi
Dr. Al Saadya Ayash	Dr. Kholoud Al Sebaie
Dr. Mohammed Zakour	Dr. Halima Al Gharari
Mrs. Yousra Al Omrani	Dr. Nadia Al Tazy
Mr. Mohammed Al Iraqi	Mr. Al Shohob Mohammed
Dr. Abdul Latif Kadaï	Mrs. Fatma Yassin
Ms. Safaa Kadoury	Mr. Al Kaddam Mohammed
Ms. Ghuzlan Al Assry	Mr. Ali Badran
Ms. Zohour Al Naeem	Dr. Mohammed Mo'men
Ms. Elham Kusair	Mr. Ismail Al Moussawi
Ms. Sanaa Al Wahaby	Mr. Mohammed bin Gloun Andalusi
Ms. Naema Eskerie	Mr. Kabash Mohammed
Dr. Al Araby Hannan	Mrs. Nagah Zahra
Mr. Al Arafî Hudeya	Mr. Mohammed Shakroun
Dr. Al Malky Al Hassy	Dr. Al Jamei Halima
Dr. Bouartis Mulay Ahmed	Dr. Omar Binayash
Mr. Mawad Nour El Din	Mr. Al Mekki Al Marouni
Dr. Rashida Barada	



NAME OF SCHOOLS PARTICIPATING IN MOROCCO SURVEY

The Commercial Technical School	Al Malki School
Ibn Batouta School	Abu Bakr Al Sedik School
Ibn Rushd School (Rabat)	Haman Al Fatwaky
Ibn Sina	Dar El Salam
Al Hassan II School (Rabat)	Abdul Karim Al Khattabi
Al Sharif Al Idrisi	Abdullah Kanoun
Al Elmia Private School	Omar Al Khayam School
Al Laimoon School	Lalla Aicha School
Mullay Abdullah School	Mullay Youssef School
Princess Lalla Nezha	Hassania Schools
Al Moubadara Private Schools	Mohammed V Schools
Atlas Schools Group	Rabat Institute
Mulhakat Gibran Khalil Gibran	Al Sabeel Institute
Al Manbaa Institute	Riad Al Maarefa Institute



MOROCCO QUESTIONNAIRE RESULTS

Table m3-1: Teachers' reasons for using technologies (%)

	Yes	No
Searching for educational resources	88.6	11.4
Preparing lessons	84.4	15.6
Selecting exercises and activities	88.1	11.9
Consulting with other colleagues	68.3	31.7
Communicating with students	54.5	45.5

Table m3-2: Opinions of teachers on the practice of some teaching activities and methodologies (%)

	In all classes	In most classes	In some classes	No practice
A. Participating in educational/learning activities with students	47	42.5	9.8	0.7
B. Training students on problem solving	37.1	39.4	22	1.5
C. Explaining theoretical concepts	55	21.7	21.7	1.6
D. Writing lessons on the board	45.3	22.7	21.1	10.9
E. Discussing the concepts of the lessons with students.	65.7	27	7.3	0
F. Discussing student achievement relating to the concept of the lessons	7.2	17.4	63.8	11.6
G. Assessing student achievement (tests, exams)	13.8	25.4	60.1	0.7
H. Helping students accomplish scientific/practical experiments	5.7	14.2	36.8	43.3
I. Organising student work in small groups	7.4	18.5	62.2	11.9
J. Linking educational material with the requirements of everyday life	27.7	35	31.5	5.8
K. Keeping silence in the classroom and deterring troublemakers	62.1	26.4	9.3	2.2

Table m3-3: Opinions of teachers on the importance of some teaching practices (%)

	Not necessary	Somewhat necessary	Very necessary	Do not know
A. Training students to analyse varied information	3.6	20.7	75.7%	0
B. Training students in critical thinking	2.1	16.4	79.3	2.2
C. Encouraging students to work independently and take the initiative	1.4	22.7	75.2	0.7
D. Helping students conduct research	2.8	41.8	54.6	0.7
E. Training students on problem solving	0.8	22.6	73.7	2.9
F. Helping students memorise rules and laws of scientific material	4.5	38.1	52.2	5.2
G. Motivating students to interact with the teacher	1.4	10.1	87.1	1.4
H. Following students step by step in all their assigned activities	9.4	47.5	43.2	0
J. Training students on self-evaluation practices	0.7	27.8	70.7	0.8
K. Training students on team work	1.4	27.7	70.2	0.7
L. Teaching students on social principles and values	0	16.1	83.2	0.7
M. Requiring students to memorise lessons	23.4	53.2	23.4	0

Table m3-4: Features of knowledge society as perceived by teachers (%)

	Yes	No
A. Density of information	73.5	26.5
B. Easy access to information	89.3	10.7
C. Fast dissemination of knowledge	84.1	15.9
D. Competition on gaining information	57	43
E. Possession of knowledge which is the measure of the power of nations	83.1	16.9
F. Production of knowledge which is the measure of the wealth of nations	85.7	14.3
G. Intensive use of the computer and internet	83.1	16.9
H. Growing demand for knowledge	73.1	26.9
I. Associating the labor market with the level of knowledge	74.8	25.2
J. Linking production with the outputs of scientific research	81.7	18.3
K. Localising knowledge instead of importing its outputs	70.5	29.5
L. Development of technological sciences but not necessarily human sciences	54.8	45.2
M. Knowledge is an approach to human development	91.6	8.4
N. Knowledge is a human right for the whole population	89.1	10.9

Table m3-5: Educational trends of teachers (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. It is necessary to focus on strengthening the memorisation ability of students to succeed in their study	14.5	51.1	22.9	11.5
B. All students can learn and succeed if they are taught by efficient teachers	34.6	51.1	13.5	0.8
C. Successful teachers are those who can accomplish their curriculum tasks in the specified manner and within the specified timeline.	34.1	40.2	19.8	6.1
D. Giving teachers the chance to take the initiative or innovate harms the education system.	11.4	12.1	46.2	30.3
E. Teachers are not required to know all teaching methodologies but should have mastered one of them.	9.8	39.1	42.9	8.2
F. Tests and exams are the best way of encouraging students to concentrate and learn.	9	13.4	58.2	19.4
G. The best way to improve the ability of students to learn is to adopt a qualitative evaluation system (without grades).	21.2	65.2	12.1	1.5
H. Consulting and coordinating with students' parents is part of the teachers' duties.	45.9	45.9	6.8	1.6
I. Educational reform processes pressure teachers and decrease their outputs	24.8	42.9	27.8	4.5
J. It is sufficient for teachers to be experts in their specialties in order to succeed in their mission	17.3	39.8	36.1	6.8
K. It is the mission of teachers to help their students have a passion for learning and knowledge	78.9	19.5	1.6	0
L. The important feature of successful teachers is their ability to communicate information related to their specialty	60.4	29.9	9	0.7
M. It is necessary for teachers to be familiar with aspects of other subjects to be able to teach their own subjects	33.8	48.9	15	2.3

Table m3-6: Opinions of teachers on some assessment practices (%)

	No importance	Little importance	Moderate importance	Much importance
A. Regular school attendance(no absence)	2.8	0.7	5.6	90.9
B. Effort exerted in homework	2.8	2.1	12.8	82.3
C. Steady improvement of results	2.9	0	10.9	86.2
D. Good conduct inside and outside classroom	2.1	3.5	12	82.4
E. Effective classroom participation	2.7	0.7	8.2	88.4
F. The ability to innovate	1.4	2.2	36.4	60
G. The ability to think and question	2.1	1.5	16.4	80
H. Taking the initiative	0.7	2.2	31.4	65.7
I. Correct answers on the exam paper	3.6	2.2	23.9	70.3

Table m3-7: Time devoted weekly to some educational, administrative and training activities (%)

	None	Less than one hour	From one to two hours	From 3 to 4 hours	More than 5 hours
A. Planning and preparing lessons	0	3.6	39.1	34.8	22.5
B. Correcting students' homework	0	5.9	21.5	30.4	42.2
C. Attending administrative meetings	12.3	39.2	39.2	8.5	0.8
D. Holding meetings with students' parents	33.6	52.2	9	5.2	0
E. Meeting students (in clubs or private tuitions)	34.4	12.2	38.2	13.7	1.5
F. Undertaking activities for professional development (attending lectures, reading specialised journals, etc)	12.4	18.8	34.8	18.8	15.2
G. Participating in an educational production (authoring books, setting up projects, taking part in an assessment, etc)	52.6	11.9	14.8	11.1	9.6

Table m3-8: Teachers' views on themselves (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. The society no longer shows respect to teachers.	58.5	33.8	6.3	1.4

Table m3-9: Opinions of teachers about students (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. Students generally show less respect to their teachers than in the past.	56.3	35.9	6.4	1.4
B. Student interest in study is decreasing day after day.	59.7	30.6	8.3	1.4
C. The current generation of students has strong personality.	14.9	51.8	22.7	10.6
D. The preparation of the current generation of students is better than the preparation of previous generations	7.9	23.6	43.6	25
E. The material values of most students surpass their knowledge values.	54.9	40.8	3.6	0.7

Table m3-10: Teachers' relations with the teaching profession and its requirements (%)

	Completely apply	Somewhat apply	Do not apply	Do not apply at all
A. I will leave teaching if I find a job with the same salary and conditions.	20.9	15.5	44.2	19.4
B. I will leave teaching if I find a job that generates a higher income	26	23.6	38.2	12.2
C. The teaching profession salary does not make me feel self-sufficient	42.1	32.9	21.4	3.6
D. The teaching profession makes me feel I have a mission to fulfill	86.5	12.1	1.4	0

Table m3-11: Teachers' views on enabling environments

	Completely agree (%)	Somewhat agree (%)	Disagree (%)	Completely disagree (%)
A. The education system offers teachers facilities to resume their education during their career.	12.5	23.4	43.8	20.3
B. Training centres for teachers exist near the school and I can attend them when necessary.	12.5	14.3	33.9	39.3
C. The state offers incentives to highly efficient teachers.	15.3	9	31.5	44.2
D. The state provides several training opportunities during work to improve the level of education.	14.3	42.9	26.8	16
E. The state provides training courses to new teachers.	35.1	43.9	12.3	8.7
F. The selection of candidates for the teaching profession is governed by strict criteria.	21.6	38.8	24.1	15.5
G. There is a gap between the training of teachers and the true requirements of the teaching profession.	35.7	49.2	8.7	6.4
H. The state offers salaries to teachers which guarantee them a good standard of living.	14	20.2	39.6	26.4
I. There are laws and institutions that protect the rights of teachers.	18.8	40.2	26.5	14.5
J. The state provides teachers with in-service training upon request.	10.9	32	35.3	21.8

Table m3-12: Teachers' views on curricula (%)

	Completely agree	Somewhat agree	Disagree	Completely disagree
A. The educational programmes and curricula prepare students to overcome future challenges.	44.2	38	16.2	1.6
B. The educational programmes and curricula help students acquire necessary skills.	34.6	51.5	12.4	1.5
C. The educational programmes and curricula help prepare efficient students who are up to external competition.	30.2	39.5	25.6	4.7
D. The educational programmes and curricula contribute to promoting the value of citizenship and civilised behaviour.	37.4	47.3	14.5	0.8
E. The educational programmes and curricula prepare students to cope with problems in everyday life.	26.7	43.5	26	3.8
F. The educational programmes and curricula provide training that takes into account knowledge and emotional dimensions.	25.4	53.1	20.7	0.8
G. The educational programmes and curricula provide training which keep up with scientific development.	28.2	46.6	23.7	1.5

Table m3-13: Teachers' evaluation of their abilities to enable students to acquire multiple skills (%)

	Limited ability	Intermediate ability	Great ability	Do not know
A. Varied information analysis	12.2	47.3	32.1	8.4%
B. Critical thinking	19.1	53.4	20.6	6.9
C. Taking initiative	18.2	55.3	23.5	3
D. Accomplishing research	15.3	54.2	28.2	2.3
E. Solving problems	13.2	58.1	20.2	8.5
F. Using their knowledge in different situations.	13.4	45.5	29.9	11.2
G. Memorising rules and laws of scientific material	10.2	35.2	40.6	14
H. Working independently	23.6	44.9	22	9.5
I. Memorising lessons	20.2	42.6	26.4	10.8
J. Life-long education	21.5	35.4	24.6	18.4
K. Team-work	21.6	44	28.4	6
L. Future planning	28.8	34.1	19.7	17.4

Table m3-14 Opinions of teachers on school environment (%)

	Always	Sometimes	Rarely	Never
A. Violence occurs in school between teachers	2.1	5.7	19.3	72.9
B. Violence occurs in school between students and teaching and administrative staff	4.3	34.8	37	23.9
C. Violence occurs in school between students	9.5	42.3	39.4	8.8

Table m3-15: Teachers' views on support provided to students (%)

	Always	Sometimes	Rarely	Never
A. The school helps students who have learning difficulties.	24.6	47	17.2	12.1
B. The school provides incentives to distinguished students.	45.3	25.2	17.3	12.2
C. The school has a system for substituting absent teachers.	22.2	16.3	8.9	52.6
D. The school has specialists who help teachers deal with the material, psychological or social difficulties faced by students.	9.4	13	8	69.6

Table m3-16: Teachers' views on support provided for them (%)

	Always	Sometimes		Never
A. School has a system for regular evaluation of teachers by students	9.5	10.4	7.9	72.2
B. School has a system for regular evaluation of teachers by management	37.9	16.1	12.9	33.1
C. School helps teachers develop their abilities and skills by providing them with regular training courses	11.6	31.1	17.4	39.9
D. Teacher meetings are held in school for consultation and coordination of educational activities	19.7	47.9	19.7	12.7

Table m3-17: Factors affecting the preparation of generations (%)

	Yes	No
A. The weak material resources of the school	87.8	12.2
B. Tense relations between students, teachers and administrators	65.1	34.9
C. Shortage of facilities and equipment in school	92.6	7.4
D. Inadequate training of teachers	69.6	30.4
E. Mismatch between training and the growing needs of teachers	82.7	17.3
F. Low incentives (material, professional, etc)	89.1	10.9
G. Multiple competitive sources of knowledge outside school	57.5	42.5
H. Low learning motivation of students	88.5	11.5
I. Inability of students to master the Arabic language	80.2	19.8
J. Insufficient command of foreign languages	88	12

Table m3-18: Freedom of choice for teachers (%)

	Absolute freedom	A good deal of freedom	Limited freedom	No freedom
A. Personal options	35	37.3	27.7	0
B. Academic options	15.9	42.4	36.4	5.3
C. Intellectual options	27.1	40.6	29.3	3
D. Professional options	14.2	26.1	53.7	6

Table m3-19: Teachers' freedom of opinion (%)

Yes	No
86.6	13.4

Table m3-20: Effect of available enabling environments on student skills and values*

Enabling environments Skills and values	The Family's method of raising children	Mother's education level	Family's interest in the student's studies	Family's material welfare	Educational welfare at home	Educational welfare in the local environment	Father's education level	Educational welfare at school
Standard coefficients								
Cognitive skills	-	0.169	0.132	0.134-	0.206		0.097	0.084
Conative skills	0.150	-	-	-	-	0.098	-	-
Social skills	-	-	-	-	0.083	0.074	-	0.098
Cognitive values	0.266	-	-	0.232-	0.225	-	-	0.102
Social values	0.229	0.131-	0.086	0.123-	0.089	0.060	-	-
Conative values	0.241	0.108-	-	0.142-	0.142-	-	-	-
Universal values	0.249	0.092-	0.073	0.242-	0.175	0.062	-	-

* numbers in the table express the standardised regression coefficient



EDUCATIONAL QUANTITATIVE DEVELOPMENT INDICES IN MOROCCO

Table m3-21: Development of number of beneficiaries of the social subsidy

		2003-2004	2010-2011
Beneficiaries of school feeding	Primary Education	975,085	1,135,107
	Secondary Elementary Education	20,915	42,556
	Total	996,000	1,177,663
Beneficiaries of boarding schools	Primary Education	720	1,260
	Secondary Preparatory Education	39,750	40,522
	Vocational Secondary Education	43,457	50,279
	Total	83,927	92,061
Donees	Primary Education	913	1,829
	Secondary Preparatory Education	36,837	50,941
	Vocational Secondary Education	44,389	51,579
	Total	82,139	104,349
Beneficiaries of school tools	Primary Education		2,959,648
	Secondary Preparatory Education		254,932
	Total		3,214,580
Beneficiaries of Dar Talib in the 2 divisions of secondary education			30,687

Source: The Ministry of National Education, Higher Education, Professional Training and Scientific Research

Research Table m3-22: Curricula Developing

Indices	Achievement 2009 & 2010, and the 1st semester of 2011	Goals 2009 & 2010, and the 1st semester of 2011	Achievement rate
Methodological framework for rebuilding curricula	Preparing a methodological framework for rebuilding curricula	Preparing a methodological framework for rebuilding curricula	100%
Current Curricula Assessment	Preparing reference items for assessing different components of primary education	Preparing reference items for assessing different components of primary education	100%
Defining shortcomings and deficiencies of current education programs	Counting shortcomings and deficiencies that should be addressed in primary education programs	Counting shortcomings and deficiencies that should be addressed in primary education programs	100%
Correction and appropriateness of current school curricula to updates of the urgent program	Reviewing school programs for all subjects of the primary education	Reviewing school programs for all subjects of the primary education	100%
Updating educational instructions in light of updates of the urgent program	Preparing educational instructions for all schools subjects in primary education	Preparing educational instructions for all schools subjects in primary education	100%
Putting a framework for the production of new school books	Preparing specification sheets for preparing school books and teacher guides for primary education	Preparing specification sheets for preparing school books and teacher guides for primary education	100%

Source: The Ministry of National Education, Higher Education, Professional Training and Scientific Research

Table m3-23: Equipping educational institutions:

Indices	Achievement 2009 & 2010, and the 1st semester of 2011	Goals 2009 & 2010, and the 1st semester of 2011	Achievement rate
Number of institutions equipped	4760	6556	73%
Number of institutions equipped with extensions of health facilities or fences	1464	2332	63%
Number of rooms overhauled	13594 are being overhauled 18221 overhauled	40142	79%
Number of Available:			
Fences	908	1257	72%
Water Circuits	1730	2510	69%
Water tanks	2330	2629	89%
Number of institutions linked to different Networks:			
Water	2730	2423	80%
Electricity	2481	3363	74%
Solar Panels	938	1088	86%
Decontamination	567	776	73%
Decontamination refineries and wells	1009	1100	92%
Number of education institutions benefiting from renewing school furniture	2595	4518	75%
Number of boarding schools overhauled	286	295	97%
Number of schools benefiting from preventive maintenance	5111	10416	49%

Source: The Ministry of National Education, Higher Education, Professional Training and Scientific

Table: m3-24: Integrating ICT in Education

Indices	Achievement 2009 & 2010, and the 1st semester of 2011	Goals 2009 & 2010, and the 1st semester of 2011	Achievement rate
Number of institutions equipped with a multi-media room	913	1432	63.75%
Number of training centres equipped with a multi-media room	49	49	100%
Number of institutions linked to Internet	3002	3182	94.34%
Number of teachers benefiting from training in TICE	69956	148937	46.97%
Number of inspectors benefiting from training in TICE	2752	2752	100%
Number of acquired digital equipments	142605 Cd	100000 CD	142.6%
Number of distributed digital equipments	56844 Cd	100000 CD	56%
Number of digital equipments put on the internet	56844 Cd	100000 CD	56%
Number of digital equipments put in place	85764 Cd	142608 CD	60.13%

The Ministry of National Education, Higher Education, Professional Training and Scientific Research

ARAB KNOWLEDGE REPORT 2010/2011

EVALUATING THE READINESS OF FUTURE GENERATIONS FOR INTEGRATING INTO THE KNOWLEDGE SOCIETY

YEMEN CASE STUDY



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As part of the general methodology of the Arab Knowledge Report 2010/2011, a number of Arab countries were selected to represent the reality of the Arab cognitive state and how it deals with its youth as young people make up about half or more of most Arab societies. Soon the youth will be integrated into the production and construction workforce. The current study seeks to discover how prepared Yemeni youth are to access the knowledge society. Yemen was chosen among other case studies as an Arab country that has a wealth of future opportunities. However, it is also a country in need of serious development, and faces numerous challenges that affect the efforts to lead its people and economy towards the knowledge society. Due to increased recognition of the significance of quality education and improved efficiency of the output of educational institutions as fundamental for preparing future generations for the knowledge society, calls for intensified education reform in Yemen are currently growing.

This section of the report includes a general explanation of the methodology of the study, a description of knowledge status in Yemen, a review of the preparation systems for Yemeni youth for the knowledge society, an analysis of the readiness of Yemeni youth to engage in the knowledge society through reviewing the outcomes of field surveys and workshops, and finally the action mechanisms for the preparation and empowerment of Yemen's youth.

The study is based on methodologies which diagnose knowledge status and define the best ways to accelerate the movement towards the knowledge society. The theoretical part of the study relies on official documents, studies and reports of various social, economic and political issues in Yemen, and the relationship of these issues with the challenges and needs for the desired knowledge society. In addition, some background papers, covering a number of aspects of knowledge in Yemen, were used.

In an attempt to engage with, and seek out, the opinions of a large number of stakeholders in Yemen for this study, a comprehensive workshop was held in Sana'a on August 4th, 2010, entitled 'The Arab Knowledge Report 2010/2011: Yemen Case Study'. The varied views and opinions of decision-makers regarding the status of knowledge in Yemen, and the challenges and opportunities for youth preparation for the knowledge society were reviewed. The workshop included a group of intellectuals, educators and stakeholders from different societal and professional groups: young people, NGOs, media, Yemeni universities, the Ministry of Education and the Ministry of Planning and International Cooperation (MPIC).

A field survey on the readiness of the youth in Yemen to access the knowledge society was also conducted. The survey sample was comprised of Yemeni youth who had finished the 11th grade, including male and female students of both scientific and literary streams in public and private high schools in Sana'a, to test their skills and measure the values gained by graduates of the public education system. The survey also included a sample of high school teachers of both genders.

Yemen is a country in need for serious development, and faces numerous challenges that affect the efforts to lead its people and economy towards the knowledge society



CONCEPTUAL INTRODUCTION: 'KNOWLEDGE' AND 'THE KNOWLEDGE SOCIETY'

INTRODUCTION

The revolution of technology, information and telecommunications in developed countries has created an expanding dependency on modern technology, which is reflected in the rapid growth of their economies. As a result, a need for change in education systems has developed. Individuals need to be provided with new skills that are compatible with the emerging requirements of technology and knowledge. This transformation has been accompanied by new terms such as the 'knowledge society' and 'information society' to describe the features of modern societies based on knowledge and technology. The Arab Human Development Report 2003 (AHDR) defines knowledge as the tool for expanding human options and abilities, achieving freedom and a decent life, overcoming poverty and deprivation, building prospering societies, and as the cornerstone for achieving comprehensive human development.

The first Arab Knowledge Report 2009 expands the concept of knowledge to include the cultural, cognitive and scientific stock of a society in a context that governs all human development activities, aimed at providing Arab societies with options for progress and freedom. Therefore, knowledge, with its various processes of acquisition, production, indigenisation, and deployment, is at the same time a means and an end to equally reach the different segments of society. The Arab Knowledge Report 2009 adopts the triad of knowledge, development, and freedom, emphasising the firm correlation between these elements.

The Arab Knowledge Report 2009 concludes by developing a plan for future action in order to create the knowledge society in the Arab world. It is based on three complementary fundamentals: expanding freedom, responding to development needs

and intercommunicating productively, demonstrating how central the building of human capital is to all these processes. Therefore, the preparation of future generation has been the theme of the second Arab Knowledge Report 2010/2011.

REVIEW OF THE STATUS OF KNOWLEDGE IN YEMEN

HUMAN DEVELOPMENT: THE BROADER FRAMEWORK OF THE KNOWLEDGE SOCIETY

The concept of development has been expanded from bringing about economic growth, high growth rates, the welfare of individuals, and the provision of services to include human development that targets the individual. The concept's focus is on the person as the means to and an end of development. Human development means increasing and expanding options for people, who are considered the core of the development process itself. If the social and economic conditions are right for knowledge acquisition, an appropriate environment will be created allowing high economic growth by investing resources in knowledge. This leads to new production of knowledge that accordingly accelerates economic growth. If intensive knowledge is not a central determinant of economic output, the community demand of knowledge will be zero, and subsequently the creation of an effective knowledge system will be impossible (UNDP, in English, 2003).

The Arab Knowledge Report 2009 expands this concept to show that building a knowledge society means disseminating, producing, and using knowledge in all aspects

The concept of development has been expanded from bringing about economic growth, high growth rates, the welfare of individuals, and the provision of services to include human development that targets the individual

TABLE 4-1-1

Yemen Status in Human Development Reports*

Description	2007/2008	2010	Change
Human Development Index (HDI) rank	153	133	+
HDI value	0.508	0.439	-
Life expectancy at birth	61.5	63.9	+
Fertility rate	6.0 (2005)	4.7	+
Percentage of adult literacy % (> 15 years)	54.1	60.9	+
Enrolment in public education %	55.2	-	
Gross national income per capita (equivalent of purchasing power \$)	930	1160	+
National poverty line	41.8 (2006-2007)		
	< 1.25\$ 17.5%		
Population below poverty line %	< 2\$ 45.2%		
	Multidimensional poverty* 52.5		

Source: UNDP website, 2007/2008 and 2010 HDRs, 2009 and 2010 HDRs

*Multidimensional poverty is a new measurement used in 2010 HDR to measure the percentage of people who lack a number of education, health, and economic indices.

In the current world, knowledge is simultaneously the tool and the product; therefore, it is the gateway for reform that consolidates knowledge and turns it into behaviour and method

of community activity; the economy, civil society, politics, and private life, to ultimately achieve the welfare of the Arab societies. In addition, the report indicates that knowledge is flourishing in societies of advanced social and economic development and is mainly supported by freedom. In the current world, knowledge is simultaneously the tool and the product; therefore, it is the gateway for reform that consolidates knowledge and turns it into behaviour and method.

THE STATUS OF HUMAN DEVELOPMENT IN YEMEN

In 1990, the Republic of Yemen reunited its two parts, divided due to the traditional 'Imamate rule' in the north and the British occupation in the south. The newly-born country has shouldered the burden of developing the two former states, creating more complex challenges over the past two decades. Yemen faces several common challenges of developing countries such as population growth, limited resources and slow economic growth, in addition to new, serious challenges such as extremism, piracy in local and regional waters, climate change, and the impact of the global financial crisis, disrupting efforts for achieving

sustainable development.

DEMOGRAPHY

Yemen is ranked as a country of low human development, with a Human Development Indicator (HDI) of 133 out of 169 according to the HDR 2010. However, Yemen has high population growth, with a 3% increase according to the Population Census 2004. Statistics show that the population has increased from 19.7 million in 2004 to 22.5 million in 2009, with an increase of 2.8 million between 2004-2009.¹ During the next 24 years, the population is expected to double if the rate of increase remains unchanged. In Yemen, the number of children is about 9.6 million, and they will become part of the production power during the next 10 years adding to the national labour force and surpassing the absorption capacity of the national economy.

The large development gap between rural and urban areas is another developmental issue (Yemeni rural and urban populations are 73.7% and 26.3% respectively). Many within the rural population, especially young people, move to the cities for better opportunities, expanding unplanned settlements and overloading their infrastructure and

services. In addition, large segments of the rural population are still deprived of basic services. Electricity services cover the needs of only 42% of the population. About 32% of families in Yemen faces severe food shortages (MPIC, 2010 A).

HEALTH INDEX

As for health, despite efforts to expand health care services, real improvement remains low. From 2005-2009, in every 100,000 live births, 370 mothers died. The fertility rate decreased from 8.1 in 1990 to 5.1 in 2009. In 2008, the percentage of people using safe water resources was below 62%.² One third of the population (34%) are not covered by health care services, with an obvious disparity between rural and urban areas.³

PROGRESS TOWARDS THE MILLENNIUM DEVELOPMENT GOALS (MDGS)

Yemen is ranked as an off-track country which means that it will be unable to achieve the MDGs by 2015. Despite achieving the primary education goal and combating some diseases during the last two decades, progress towards many goals is less than required, particularly those relating to the indices of gender equality and the mortality rate of under-fives. The performance on some goals has declined,

especially those relating to poverty reduction, the decrease of the maternal mortality and the provision of safe water.

Challenges that hinder the achievement of goals on schedule are highlighted by the most recent MPIC report for measuring the MDGs progress in Yemen in 2010. The wide-scale need and the large financing gap are the most prominent problems. The actual total expenditure of local and foreign resources is less than 8.6% of the required need. To achieve the goals on time, Yemen needs about \$45 billion to finance the eight MDGs.

ECONOMIC GROWTH

The global financial crisis, rising food prices and the Yemeni political situations have affected economic growth rates. However, the economic growth trends in the last three years have shown good performance given the hard economic and financial conditions in Yemen. In 2009, the gross domestic product (GDP) at fixed prices increased by 4.7% (MPIC, 2010 B).

POVERTY

Yemen is among the poorest countries in the MENA region, with 47.6% of the population living on less than \$2 per day in 2007. While the 2005 poverty survey showed Yemen's success in reducing the number of people living below the national poverty line from 40.1% in 1998 to 34.8%

Yemen is ranked as an off-track country which means that it will be unable to achieve the MDGs by 2015

TABLE 4-1-2

MDGs Progress

Indices	1990	2004	2008	2015
Percentage of population living on less than \$2 per day (%)	..	46.6 (2005)	47.6 (2009)	23.5
Underweight children aged less than 5 years (%)	30 (1992)	42.9 (2005)	..	15
Net enrolment rate in primary education (%)	52.7	62.5	69.8	100
Ratio of female to male in primary enrolment (%)	44.6	70.6	74.8	100
Under-5 mortality rate (%)	122	102 (2003)	78.2 (2006)	40.6
Maternal mortality rate per 100,000 live births (%)	..	365 (2003)	..	87.8
Percentage of people who lack a public water supply (%)	65.1 (1991)	..	52	32.6

Source: UNDP and MPIC, 2010

Economic conditions and growing development challenges force resources to be allocated mainly to food provision and combating local and global economic fluctuations that threaten the national economy

in 2005, reports indicate that the last global food crisis has undermined this progress. From 2005-2008, the poverty rate rose again (MPIC, 2010 A). Many political strategies have been adopted to reduce poverty and boost economic growth; including giving priority to heavy labour investments in all economic sectors, with an emphasis on rural areas; expanding the financing mechanisms and programmes for offering loans to small companies and micro enterprises; empowering poorer groups, rural women in particular; developing and implementing a national strategy for food security in Yemen; and directing government spending towards infrastructure and basic services to meet the needs of the poor (Saleh Al Solamy, in Arabic, 2010).

Economic conditions and growing development challenges force resources to be allocated mainly to food provision and combating local and global economic fluctuations that threaten the national economy. Therefore, education development receives limited resources, despite attempts to allocate a high ratio of expenditure to it. Here a question arises: In such an economic situation, how can we keep track of building a knowledge society and enabling the human capital which can shoulder the burden of developing a new economy?

GENERAL STATUS OF KNOWLEDGE IN YEMEN

MEASUREMENT AND DESCRIPTION OF THE STATUS OF KNOWLEDGE IN YEMEN

In all development plans, Yemen confirms the importance of education, training and skill development, as first priorities. The vision of building the knowledge society is available, the Strategic Vision 2025, which outlines Yemen's goals and ambitions over 20 years (2005-2025), stresses the building of a knowledge economy and society. The united country has witnessed great progress in the movement of culture, information, and knowledge due to the

relative democratic atmosphere, political and party plurality, and the expansion of political and social freedoms compared to pre-unification. Many civil, independent and party-affiliated newspapers have appeared. Intellectual and cultural institutions have flourished, creating a cultural movement in the civil society, enriched by the political transformation and the increase of party competition. However, media and cultural speech is sometimes characterised by enthusiasm and even stress. Political and ideological tones have overpowered cultural and development issues. Intellectual products are subject to censorship. The cultural, intellectual and art activities in state-owned institutions are often under the control and direction of the authorities, putting all cultural tools such as printing, media, and communication means in the hands of the authorities.⁴ On the other hand, publications and the cultural and political speeches of opposition parties tend to introduce opposite or unique views, marginalising other voices.

KNOWLEDGE INDICES IN YEMEN

KNOWLEDGE ECONOMY INDEX (KEI)

As part of the Knowledge Assessment Methodology (KAM), prepared by the World Bank, Yemen has low indices, according to the KEI. KAM measures the readiness of a country to become a knowledge economy through four pillars: Economic Incentive and Institutional Regime, Innovation and technology adaptation, Education and training, and Information and Communications Technologies (ICT) infrastructure. 140 countries have been measured according to this scale from 0-10.

The transformation to the knowledge economy in Yemen still requires great efforts on multiple fronts. Despite Yemen's slight improvement in KEI, Economic Incentive and Institutional Regime, and

Innovation, there is a decline in Education and ICT. Yemen's KEI (2.2) is less than the average of MENA's (5.4) and is next to last among Arab countries.⁵

Yemen's third Human Development Report (HDR, 2004), states that poor economic, social, and cultural structures pose a serious challenge for the requirements of the knowledge society in Yemen. The information, cultural, and educational development needs the introduction of the technology of communication, information and the internet, involvement in the information industry, updating educational technology, and linking educational output to the labour market. Meanwhile, Yemen needs to continue to improve its health and education services, infrastructure and living conditions. Knowledge building should have three directions:

1. Information Transfer and Communication; through developing the necessary infrastructure, building information and communications networks, drawing up policies and preparing cadres who are capable of using their abilities in knowledge production.
2. Education Formation and Establishment; through focusing on the policies and institutions of human resource preparation such as schools and universities, and adopting quality education that develops the person culturally and cognitively and is linked with societal needs.
3. Cultural Originality and Enlightenment;

through global communication and familiarity with our heritage to build a self-renewable culture able to cope with information and communication development.

INFORMATION TECHNOLOGY

In the Digital Opportunity Index (DOI)⁶ for 2005/2006, Yemen ranks low. It ranked 16 among Arab countries and 128 out of 181 countries worldwide. Its DOI was 0.28, less than the international average (UNCTAD and the International Telecommunication Union (ITU, 2007).

The Public Telecommunication Corporation; a government company, offers land lines and data communications services via DSL and ISDN. The private sector, along with a government organisation offers mobile phone services. Table 4-1-4 illustrates the telecommunications services and numbers of users in Yemen.

The number of public internet cafes, except those available in NGOs, training centres, universities, schools, and institutions, has been estimated to be about 898 (up to the survey year, 2008). Internet cafes have spread rapidly in urban areas where the required infrastructure was available.

What follows are the efforts that Yemen seeks to provide for information and communications technology:

- Establishing a National Information Centre to be responsible for implementing, managing and operating

Yemen's third Human Development Report (HDR, 2004), states that poor economic, social, and cultural structures pose a serious challenge for the requirements of the knowledge society in Yemen

TABLE 4-1-3

Measurement of the knowledge status in Yemen according to KEIs

	2000	Most updated data (2009)	Change
KEI	2.03	2.2	+0.17
Economic Incentive and Institutional Regime	2.12	2.66	+0.54
Innovation	1.55	2.76	+1.12
Education	2.14	1.79	-0.35
ICT	2.32	1.67	-0.65

Source: The World Bank Database, KAM, 23 May 2011 http://info.worldbank.org/etools/kam2/kam_page5.asp

TABLE 4-1-4

Number of Subscribers in different telecommunications (2007-2009)

	2007	2008	2009
Local phone	1,021,988	960,588	996,981
International phone	74,116	92,643	107,993
Mobile phone	4,348,264	6,445,033	8,312,773
Internet	205,613	305,762	452,132

Source: CSO website, Annual Statistical Book 2009 <http://www.cso-yemen.org>

The lack of knowledge and its slow development leads to poor productivity and diminishes the opportunities of development in a country

a national comprehensive information system that connects information centres in various sectors and institutions. It will be operated through a national information network.

- Introduction of competitive internet providers in Yemen.
- Adoption of an IT strategy and policy in the Republic of Yemen and allow multiple mobile phone carriers to operate to prevent a monopoly.
- Connecting the country with fibre optic networks.
- Establishing a city of information technology and communications with a nationwide modern fibre optic network for analogue input.
- Establishing a Public Institute of Communications, associated with foreign institutes and specialised companies, to provide various advanced training programmes.
- Establishing a centre for Innovation Development to support creative projects and sponsor talent and innovations.

Among the most serious challenges that faces IT dissemination in Yemen are:

- Poor command of foreign languages.
- The purchasing power of most people is too limited to afford computer technology and its requirements.
- The low presence of technology and information in curricula and government education institutions due to limited capabilities and little emphasis on it within education plans (though, the situation in urban schools is better).

- IT investments are not exempted from taxes on profits leading to rising IT costs (they don't benefit from the facilities given to investment, and the increase of customs tax which raises IT costs).
- Limited coverage in the countryside, where about 75% of the population live, due to the geographically harsh nature of the mountain areas containing mountain ranges causing barriers, and the high cost of service coverage in such areas.
- Poor education outcomes, insufficient interest in scientific research, and the weak coordination between the socio-economic development requirements and the education output (Sharaf Eldin, in Arabic, 2007).

INNOVATION AND SCIENTIFIC RESEARCH AND ITS LINK TO PRODUCTION

The lack of knowledge and its slow development leads to poor productivity and diminishes the opportunities of development in a country (AHDR 2002). However, research experience, knowledge accumulation and practice result in innovation, creation and original production. The AHDR 2002, highlights the critical situation of scientific research in the Arab world indicating that: allocated funds are limited, a clear Arab scientific strategy for research is absent, databases for Arab researchers are unavailable, coordination of pan-Arab research institutions are poor and funds to support, promote and finance research and study are unavailable. Compared to GNP, Arab spending on scientific research is the lowest worldwide. In addition, the development outcome of Arab scientific research does not match the expenditures and is weakly linked to production. As a developing country that has massive political, economic, and development pressures, Yemen faces the Arab scientific research dilemma.

In the past decade, scientific research

has received much attention. Many research centres of government universities have been established. Since 2008 based on established selection criteria, the President of the Republic's Award for Scientific Research has been granted across many disciplines. In addition, the Innovation Award for Young People is annually granted to young people of both genders for their innovations in arts, science, sports, and others. A scientific research budget has been allocated to every university, either from public funds or internal resources (MPIC, 2010 C).

Financing is among the numerous challenges facing scientific research. Only 0.05% of the gross national income (GNI) is usually spent, by the government, on scientific research. Most of this funding is spent on items that have no relation with scientific research. In addition, the contribution of the private sector in supporting research is lacking due to the absence of innovative researchers who can provide services to this sector (Yemeni Shura Council, Committee of Education and Scientific Research, 2010).

There is a focus on the expansion of research, both strategically and academically. Many research centres have been established to enlarge the strategic, economic, and social scope of research. About 30 science magazines are published by Yemeni universities in addition to a number of

academic research centres. However, they suffer from limited funds. Examining the research projects in various universities and research centres, it is obvious that strategic planning and evaluation are required nationwide so the research fulfils the needs of the country (World Bank and the Republic of Yemen, 2010).

However, the cultural and knowledge publication is very weak either on the intellectual elite or academic level. Following are the biggest challenges facing cultural publications and knowledge exchange in Yemen, as reported by one of the studies (Ahmed Ali Al Haj Mohamed, in Arabic, 2009).

- The absence of a comprehensive future vision to create a complete system of knowledge and information; in terms of production, deployment, storage, retrieval, distribution and marketing.
- Knowledge production institutions (universities and research centres) focus on theoretical education without finding new applications for knowledge. Cooperation among the institutions for knowledge spread, documentation and application is weak.
- Translation movement from live languages is largely absent, except for some limited individual attempts.
- Universities and research centres depend upon reproducing and publishing knowledge produced by industrially

There is a focus on the expansion of research, both strategically and academically. Many research centres have been established to enlarge the strategic, economic, and social scope of research

BOX 4-1-1

Example of the private sector's contribution to knowledge development in Yemen

As an example of the private sector's support to spread cultural and scientific activities, the Al-Saeed Foundation for Science and Culture has taken an interest in the cultural, scientific and knowledge activity in Yemen through sponsoring creative works. A large number of creative events are held annually; such as art and photography exhibitions, artistic events including cinema, theatre and the art of caricature. Weeks dedicated to art and the cinema are organised in partnership with foreign cultural centres and book fairs. Launched with 5,000 titles,

the Al-Saeed Public Library now has around 100,000 titles. It offers services for people with special needs, and has expanded to cover all governorates through 76 libraries and a comprehensive cultural centre in Hadhramaut. Al-Saeed Foundation for Science and Culture has also launched the Al-Saeed Annual Award for Scientific Research. It allocates a fund with an annual budget of \$100,000 to support scientific research in six scientific disciplines. Awards are granted for proven research based on the criteria of efficiency and excellence.

Source: The website of Attagamua Newspaper <http://www.attagamua.net/index.php?action=showDetails&id=1688>, accessed on 15 May 2011

advanced countries.

- Public and private business and production organisations rely on using or reproducing information and knowledge models to facilitate economic tasks.
- A real trend of training, meaning continuous retraining in all institutions in society is absent. Training is only regarded as a temporary remedy for urgent and important needs.
- The infrastructure of IT and communications for the knowledge system is poor.

INFORMATION ACCESSIBILITY

Among the most apparent requirements of the knowledge society is a free and comprehensive information accessibility for all members, the availability of an advanced IT and communications infrastructure along with the legal bases that protect the rights and secure free and transparent information access. In Yemen, internet use and information access has been growing. Most government, political, partisan, educational (schools, universities, and institutes) and civil society organisations have their own websites and periodically post reports. The National Information Centre (NIC) offers free information services. It collects information from different sources, including the government and academic organisations, reorganising and storing them to provide a database for users. The government has published information about government tenders on the NIC. In addition to their research production, many specialised research centres currently make efforts to post reports, studies, and information on their websites.

The communications sector in Yemen has been increasingly growing. The number of online news websites have increased and created an effective interaction and expression space for visitors. Recently, the number of blogs has also increased, creating a virtual social network for journalists,

politicians, intellectuals and young people of both genders. In addition, the number of users of social networks have been rising. However, online information access to the majority of Yemenis is subject to the challenges of communications and basic infrastructure. Having a computer is unaffordable for many. In a positive step towards better communications growth and a larger internet access on a wider geographical scale, the provision of internet services via land lines has been free since 2010, with no monthly fee, and at the rate of an ordinary phone call. Internet censorship is still a controversial issue. Many websites are blocked for social and security reasons including some news, political and cultural sites.

EDUCATION AND HUMAN RESOURCES

Since its unification in 1990, Yemen has considered education as the basis for renaissance of the new country. Swift efforts have been exerted to unify the Yemeni education system and expand educational enrolment for all school age children. The Constitution of the Republic of Yemen states that primary education is compulsory and free, with no discrimination for both genders. However, due to political, economic and social challenges and conditions resulting from the incorporation of two systems of different political ideologies to form the Yemen of today, no comprehensive strategies for educational reform have been prepared till up to the turn of the new millennium. Yemen relies on human resources in its development drive, as it is the most densely populated state in the Arabian Peninsula, which constitutes a challenge and dilemma for development efforts. Nevertheless, this dilemma can be a national wealth, if the investment in human capital becomes a priority and efforts are focused on it. There has been a quantitative expansion in the number of educational institutions, such as schools,

Internet control is still a controversial issue. Many websites are blocked for social and security reasons including some news, political and cultural sites

universities and institutes; however, this was accompanied with improvement in quality (depth and pace). High school enrolment rate among young people has been targeted, but the wide spread of the population and the tough geographical nature of the country undermined efforts to progress and develop in this area. Therefore, it is necessary to define the elements of the desired knowledge society in Yemen and the means for achieving it.

THE MODEL OF ARAB FUTURE GENERATIONS WHO ARE CAPABLE OF ACCESSING THE KNOWLEDGE SOCIETY

In its theoretical section, the current Arab Knowledge Report 2010/2011 develops an outline of a typical type of Arab youth capable of entering the knowledge society. The model is based on a group of required skills, such as analytical and critical thinking, creativity, decision making and problem solving; technical skills such as computing and use of modern technologies; learner-related skills such as hard work, persistence and desire to learn everything new; enabling environments, including educational, home, and community settings in general, intellectual empowerment and freedoms; and the necessary infrastructure for the knowledge society and learning (see the introduction of the General Report). All elements of this typical system will be reviewed and compared later (see Chapter 5) with the scheme outlined by a group of Yemeni experts and intellectuals. The outcome of a field study on a sample of twelfth graders will be presented to check the availability of these components; skills, values and enabling environments, and to understand the gaps.

The high school enrolment rate among young people has been targeted, but segmentation of the population due to the tough geographical nature of the country undermines efforts to progress and develop



THE EDUCATION SYSTEM AND THE PREPARATION OF FUTURE GENERATIONS FOR THE KNOWLEDGE SOCIETY

INTRODUCTION

Having reviewed the general conditions of development and knowledge in the previous chapter, this chapter will address the situation of education, its indicators, and environment, its ability to provide the youth with necessary skills and abilities for accessing the knowledge society.

EDUCATIONAL DEVELOPMENT IN YEMEN

In the 1960s of the past century, after the September 1962 revolution in the north, and the October 1963 revolution in the south, Yemen expanded the spread of official education. Formal education organisations were established and policies developed in the two separate Yemeni states. In 1963, the first education laws were issued. Before that time, a limited number of schools were supervised by the rulings of the two Yemeni states (Imamate rule in the north and British occupation in the south). Education was limited to the few wealthy, especially in cities.

Since the start of formal education and over the past 30 years, Yemen made good efforts in making official education more accessible for all, resulting in high rates of enrolment at all educational stages. The illiteracy rate had decreased in 2004 to reach 45% from total population, compared to 90% in 1973. There is great ambition to provide high quality education though it is hindered by economic and demographic challenges. 1.8 million children are not

enrolled in school, as most of them live in rural and remote areas (The World Bank and the Republic of Yemen, 2010).

EDUCATION GOALS AND THEIR RELATION TO PREPARING THE FUTURE GENERATIONS FOR THE KNOWLEDGE SOCIETY

Education in Yemen is based on a unified national system for all enrolments in public and private schools, subject to the supervision of the Ministry of Education. Schooling within the public education system lasts 12 years and is divided into two stages; primary education (grades 1-9) and higher education (grades 10-12), with two departments of science and literature. Specialisation starts in grade 11. After unification in 1990, numerous efforts have been made to unify the education system and curriculum.

The Law of Public Education defines the educational goal as the formation of “a good citizen of integrated personality” through the acquisition of a number of capabilities, values, and general directions that moulds a citizen’s personality. This includes the ability to contribute to the creation of an educated and productive community, and achieve comprehensive cultural, social, and economic progress of the individual and the country; confirming the individual’s responsibility, respecting the rights of others and collaborating and promoting research and studies,

The Law of Public Education defines the educational goal as the formation of “a good citizen of integrated personality” through the acquisition of a number of capabilities, values, and general directions that moulds a citizen’s personality

Despite the clear basic principles and goals of different educational phases, there is a gap between the regulations and laws and the actual application, adversely affecting the ability of the education system to provide comprehensive and high quality education

institutions development, and deepening teachers' systematic scientific teaching approaches. This vision targets the preparation of a learner that is capable of being active in a productive society, and ensures comprehensive development for the people and the country, in harmony with the vision of the knowledge society, particularly in terms of highlighting values, research, development and scientific thinking that are the tools of knowledge production and that should be provided for the youth through education. The general goals of education in Yemen open doors to reach the knowledge society. Similarly, the transitional goals of curriculum can be built upon; however, their application poses a challenge in keeping the large theoretical gates that are opened by the general objectives to access the knowledge society (Al Mekhlafy, in Arabic, 2010).

THE EDUCATIONAL STAGES

Law No. 45 of 1992 of Public Education defines the basics of the education system in Yemen as follows:⁷

EARLY CHILDHOOD/ PRESCHOOL

This phase prepares children for the next stage of formal education. It is informal and optional, in which the private sector plays a large role, particularly in the urban areas.

PUBLIC EDUCATION STAGE

This is divided into two stages:

Primary Education: A unified and compulsory public education for all students in Yemen of enrolment age: 6 years and last for 9 years.

Public Secondary Education: A three-year phase following primary education offers the option of joining either the literary or scientific streams in the second grade of secondary education.

TECHNICAL EDUCATION AND VOCATIONAL TRAINING (TEVT):

TEVT offers many disciplines to choose from depending upon the talents and capabilities of students and allows direct access to the labour market.

HIGHER EDUCATION/ UNIVERSITY:

Students with a Higher Secondary Certificate or an Intermediate Technical Diploma can attend to complete their specialised theoretical and applied studies. Within the qualification frameworks and institutions, university education targets the balance between social demand and development needs. It manages a framework that embraces technical and scientific developments, develops and follows up on the outcome of research, and adapts it to the needs of the society.

Despite the clear basic principles and goals of different educational phases, there is a gap between the regulations and laws and the actual application, adversely affecting the ability of the education system to provide comprehensive and high quality education. This will be noted upon in the presentation of the indices of education enrolment and quality in the different stages of study. Due to the existing systems, higher education enrolment lacks the flexibility that allows learners to choose other courses, hindering life-long education and encouraging students to leave school early as a result of administrative policies and enrolment practices. The TEVT, for example, does not allow access to university, even for excellent students, and the same applies to graduates of community colleges.

EDUCATION STAKEHOLDERS IN YEMEN

Many official bodies are responsible for carrying out and supervising education in

Yemen:

1. The Ministry of Education supervises the public education of both government and private primary and secondary phases. It also houses the Literacy Authority that is responsible for adult education and literacy.
2. The Ministry of Technical Education and Vocational Training (TEVT) oversees technical education, vocational, industrial, commercial and agricultural training.
3. The Ministry of Higher Education and Scientific Research manages government and private university education, and centres for research and studies.
4. Some authorities have roles that affect the education system through the budget (the Ministry of Finance) and recruitment (the Ministry of Civil Service and Insurance), or through allocating subsidies and foreign loans (the Ministry of Planning). However, they have no direct supervision over educational institutions.
5. The High Council of Education Planning is a research supervising body that is responsible for periodic reports and statistics.

They may seem like different supervisory organisations that work in parallel, but in fact, each works independently, with its own strategies, budget, and plans. Hence, it is necessary to adopt an extensive strategic approach to control the different educational systems in order to unify their

visions of the required education output to meet the current and future needs of development.

EDUCATION QUANTITATIVE INDICES IN YEMEN

PRIMARY EDUCATION

According to a recent report, public education enrolment totals about 6 million male and female students. In the school year 2010/2011, about 750,000 students were enrolled in primary school in 16,000 schools in different Yemeni governorates. The number of educators and teachers is 260,000.⁸ Such figures suggest that enrolment rates in Yemen have experienced great increases during the last 20 years due to the expansion of the education infrastructure.

The table shows that the enrolment rate of males and females in primary education in 2008/2009 was 75.4% of the 6-14 age group, i.e. the age that corresponds with primary education. Male enrolment rate has increased to 84.5% while female enrolment rate was at a lower rate of 65.7%.

Some recent reports indicate a decline in male enrolment rates due to poverty increases in certain areas, and a better female enrolment rate in primary education as a result of the policies that have targeted girls in rural areas in particular, including a tuition exemption for girls, conditioned financial incentive programmes, and a school nutrition programme (The World

According to a recent report, public education enrolment totals about 6 million male and female students

TABLE 4-2-1

Enrolment indicators in the various educational stages in Yemen

Stage	Survey Year	Student No.			Enrolment Rate		
		Males	Females	Total	Males	Females	Total
Kindergarten (KG)		13,684	12,208	25,892	0.56%	0.50%	0.53%
Primary Education	2008/2009	2,498,676	1,828,775	4,327,451	84.5%	65.7%	75.4%
Secondary Education		374,317	206,512	580,829	46.6%	26.9%	36.95%
TEVT	2007/2008	11,203	1,306	12,509	2%	1%	1.1%
University		169,067	66,905	235,972	18%	7.5%	13.2%

Source: Hamoud Al Seyani, background paper for the report

As part of the Comprehensive School Development Programme, the Yemeni Ministry of Education has expanded the role of schools in planning, implementing, following-up, and the evaluation of various educational issues within the schools

Bank and Republic of Yemen, 2010). However, there are problems that affect the rates of school completion, failure, and moving up to the next grade that need serious comprehensive solutions.

SECONDARY EDUCATION

In the academic year 2008/2009, enrolment in secondary education for both males and females was 36.95% (Table 4-2-1).⁹ In recent years, secondary education has been expanded in terms of the number of students and schools built. Some believe that this increase in public secondary education has affected other types of secondary education. Secondary education is still linked to the academic nature of university education rather than to the needs of development. All of the above make it necessary to reconsider the education philosophy; introduce various forms during the coming years; review and develop the curriculum content of secondary education and balance its theoretical and applied aspects; prepare and qualify teachers; and provide the schools with their basic needs such as labs, educational aids, and buildings. Schools lack guidance and educational services that help students of both primary and secondary education choose the specialisation that matches their capabilities, preferences, needs, social, economic and health conditions, serves their society, and meets the needs of comprehensive development.¹⁰ In this context, we should refer to an experimental activity of the Ministry of Education to establish a professional guide for students of both primary and secondary stages. Though still in the testing stage, it is a positive step to bridge the gap between schools and other educational and vocational organisations.

The improvement in the enrolment rates of both primary and secondary education has been the product of endeavours to implement the timetable of the Primary

Education Strategy over less than a decade. The progress can be seen in:¹¹

Expansion of infrastructure: The numbers of classrooms and teachers have increased. Many schools across Yemen have been equipped and furnished for educational and training settings, especially central schools used for training and as information centres.

The adaptation of financial and other in-kind incentive programmes: Encouraging the enrolment of students from poor families and those with special needs, through the provision of school bags and uniforms; tuition exemption for male students in grades 1-3 and female students in grades 1-6 of primary education; and the conditioned financial incentives for girls from poor areas.

The increase in the social demand for education: Through raising awareness in local communities of the importance of education via different means of media and religious discourse; promoting community involvement in the education process through parent boards in the majority of schools. As part of the Comprehensive School Development Programme, the Yemeni Ministry of Education has expanded the role of schools in planning, implementing, following-up, and the evaluation of various educational issues within the schools.

Focus on students with special needs: Providing educational needs such as wheelchair ramps in all schools and learning aids for blind and deaf students.

Despite the efforts made in education in Yemen, the impact on raising the enrolment rate is still less than expected due to many reasons, most of them are out of the control of the Ministry of Education; these include:

- Continuous population growth, which resulted in an insignificant enrolment rate
- Increased food prices along with the high rates of poverty have changed the priorities of Yemeni families, making food and clothing a priority over education.

TECHNICAL EDUCATION AND VOCATIONAL TRAINING -TEVT

Technical Education and Vocational Training started later than the general education. Due to intense focus on the development of public education, the increase in the number of schools and the rise in enrolment rates, a relatively negative opinion has been formed of the TEVT. It is regarded as an option for those too poor to join public education and those who have failed to achieve good enough grades to complete their higher education (Badr Al Akbhary, 2010). Recently, the TEVT has been receiving attention for its expansion and plans to furnish TEVT institutes in different governorates. There are about 27 government TEVT institutes and 12 civil institutes, which are not governed by the Ministry of TEVT but are under the administrative control of various ministries and organisations.¹² According to 2007-2008 statistics, about 25,098 students have been enrolled in the different centres and institutes. TEVT aims to prepare and qualify a technical and vocational labour force for work in the industry, commerce, and agriculture areas, and provide them with the technical and scientific skills to cope with the developments of these areas. (Republic of Yemen, High Council of Education Planning, 2009).

Compared to public education, the enrolment rate in the TEVT is much lower, with 1.1% enrolled among the TEVT age groups. The male enrolment rate increased to 2% while female enrolment doesn't exceed 1%.

Opportunities for TEVT graduates to join higher education are severely limited, causing reluctance to enrol. Technical and community colleges put a lot of restrictions on the registration of TEVT graduates due to their limited absorption capacity, discouraging TEVT enrolment. The World Bank Report 2010 mentions that TEVT is more expensive than public education due to its technical needs and high tech labs for different disciplines.

The most prominent challenges that face the TEVT are the inconsistency between its output and the needs of the local and regional markets of skilled labour and professional technicians, in addition to the challenge of achieving TEVT quality, and sources of financing.

HIGHER EDUCATION

Yemen has about 14 government and private universities, mainly based in the major cities, with branches in towns of the governorates.¹³ Recently, many universities have been expanded in terms of premises and equipment. Some new universities have been built in a number of governorates. A decline in the number of government university enrolments has been noted due to many reasons. As a result of the flexible enrolment conditions, if compared to government universities, secondary education graduates join civil university education, with 54,073 male and female students registered in 2007/2008 (Republic of Yemen, High Council of Education Planning, 2009). Recently, it has been notable that some students do not complete their university education as it does not meet their future ambitions. The unemployment rate among university graduates has increased, especially graduates of the humanities that offer limited job opportunities, and who have a 67% enrolment rate, compared to 33% for science departments.¹⁴ On the other hand, wealthy families seek to enrol their children in private universities that do not need high grades and don't limit the options of disciplines.

The challenges of higher education in Yemen include:

1. The curriculum of university education does not complement the modern advances of science and technology and responds poorly to the changing needs of the labour market. Both the theoretical and practical aspects of studies need to be balanced and reflected by the hours of practical training.

Recently, it has been notable that some students do not complete their university education as it does not meet their future ambitions

A large gap can be seen between the needs of the labour market and the education output so only a small portion of graduates are embraced, especially those with a specialisation in communication and maintenance

2. Study curricula are based mainly on summaries and booklets instead of textbooks written by the education committee members.
3. Lectures are commonly used as the main method of learning and teaching in universities, followed by discussion, researching and reporting. Methods stimulating creative thinking such as problem solving, investigation, work groups and projects are used less.
4. Opportunities for practical application and field training are limited.
5. The interaction of the private sector to determine its needs from graduates and the provision of training during study is limited.

ENROLMENT CONDITIONS AND FLEXIBILITY IN EDUCATIONAL STAGES

In primary education, there are no limitations on enrolment except reaching the age of six. As for university education, secondary education graduate enrolment in public universities is postponed by one year. As part of two policies approved at that time, some males were expected to attend the National Defence Services, while others, including females, would teach in order to cover the shortage of teachers and also for the 'Yemenisation' of education.

Many issues emerged from forbidding secondary education graduates to directly enrol in government higher education institutions. The knowledge output of secondary graduates is basic. There are no alternatives for the students to gain skills and abilities unless they are wealthy enough to afford enrolment in private institutes, training institutions or private universities (this is according to unofficial documents waiting to be issued by the Ministry of Education). University enrolment conditions include a waiting period from the issuance of secondary school certificate (between 1 to 4 years); and a final score of no less than 70%, and even sometimes 80% and 90% for

top colleges. In addition, some colleges have admissions exams that reduce the number of students chosen even among those who get high scores in the secondary stage.

QUALITATIVE INDICES FOR EDUCATION STAGES

Due to the challenges facing education, the low learning achievements of students in different educational stages and the disconnection between the education output and the labour market needs have been increasingly discussed. The following are some of the studies that have investigated the level of primary students' learning achievements:

1. The Monitoring and Learning Assessment (MLA) survey was carried out in 2002 and 2005, targeting grades four and six in primary education in four subjects: science, maths, Arabic language, and social skills.¹⁵ The findings showed a slight improvement in the scores of students in 2005 compared to 2002, with an average of 50% in the four subjects, except for social skills which had an average of 60% (Tawfeeq Al Mekhlafy, background paper for the report).
2. The Trends in International Mathematics and Science Study (TIMSS) was conducted in 2007 for grade four. The six participating Arab countries came last among the 36 participating countries; with Yemen in last place. Yemeni students scored 224 in maths, less than the international performance average (500) and the Arab average (332). In science, they scored 179, less than the Arab average (324), (UNDP, 2007). In a serious attempt to address the quality of education, Yemen will take the TIMSS tests in 2011, regardless of the criticism that such international evaluation may bring to the society.

As for the TEVT, Yemen is working hard to improve and expand it. A large gap can be seen between the needs of the labour market and the education output so only a

small portion of graduates are embraced, especially those with a specialisation in communication and maintenance (GTZ, A study of TVET Sector, 2008, in English). Moreover, the recurring low rate of secondary and university graduates reflects the need for developing education quality and effectiveness to meet the needs of the market.

In higher education, enrolments in humanities and social arts departments outnumber those in applied science departments. This is due to the limited number of science programmes offered by universities, compared to those offered in humanities and art departments. University students of humanities and social arts have increased from 30% in 2003/2004 to more than 67% in 2007/2008, the highest in the region. Such numbers do not match the students of science departments in secondary schools who exceed the numbers of students in arts departments. Many major secondary schools (for males in particular) have closed literature departments due to a lack of popularity among the students (Hamoud Al Seyani, background paper for the report).

A study has outlined many reasons for the low quality of education, including:¹⁶

1. Primary students have weak basic skills due to weak teachers. The outcome of student test results in maths and science (TIMSS) indicated that their low achievement was due to their poor command of reading and writing skills.
2. The extensive accelerated expansion of education negatively affects its quality. With limited financial and human resources, the country attempts to respond to the increasing demand on education, impacting the quality of education.
3. In urban areas, primary and secondary classrooms have high numbers of students. About 50% of students study in classrooms with more than 50 students. In rural areas, there is a shortage of educational materials and capacity, along with low numbers of students in classrooms (average of 23 students). Thus affecting the quality of learning.
4. Expansion of parallel education in government universities to increase their financial resources. However, it is offered by the same staff who teach the public courses, which impacts negatively on improvements to the public education system.
5. Actual learning hours are low due to the high rate of teacher absences. In April 2006, a survey was conducted on a sample of schools, and approximately 19% of teachers were absent on the survey day, with 3/4 of them absent without notice. The Ministry of Education has taken serious steps to control teacher absences, such as publishing information about the issue and its consequences and taking severe action when needed (including payment deductions for absence without permission). Positive results have been noted, with teacher attendance at 85%. However, the actual time of learning and education (69%) is less than government expectations. It may be much less than this, given the absence of students.
6. The Ministry of TEVT has adopted a competency-based policy towards the curriculum, but this has not been accompanied by teacher training to apply it in classrooms. TEVT's connection with the labour market's needs is fragile. TEVT does not concentrate on gaining industrial experience. Practical and life skills do not constitute part of the students' educational experience, and TEVT schools and universities have a severe shortage of libraries and computers. Currently, the TEVT facilities are being improved and expanded.

The Ministry of Education has taken serious steps to control teacher absences, such as publishing information about the issue and its consequences and taking severe action when needed

METHODS FOR INSTILLING SKILLS INTO THE YEMENI EDUCATIONAL SYSTEM

THE CURRICULA

The curricula for basic and secondary

Appropriate education material that helps both the teacher and learner is rare, making the educational content hard to understand, and forcing some teachers into dictation and encouraging memorisation-based studying

schools provide students with a strong foundation of skills and information acquisition. In terms of planning, they have a good level of efficiency and effectiveness. Curricula documents are available for each subject separately, including the curriculum guidelines, learning plans and objectives, and listing the content and skills in detail and in clear order. Most of the curricula are based on learner-centred exploration. However, the curricula are not actually applied in this way. There is a conflict between the curriculum and its required interactive teaching methods due to the poor qualifications and training of the teachers. Appropriate education material that helps both the teacher and learner is rare, making the educational content hard to understand, and forcing some teachers into dictation and encouraging memorisation-based studying. As for the curricula of private secondary schools, the theoretical nature is dominant, providing students with the basics to prepare them for higher education. Higher education institutions take in about one third of secondary graduates. The curricula of secondary schools are blamed for the lack of recruitment and lack of social skills, information technology skills, and problem solving skills that qualify graduates to successfully enter the labour market. As a result, confidence in the qualifications and abilities of secondary school graduates to directly engage with the job market has been reduced (The World Bank and the Republic of Yemen, 2010).

The sector of curriculum and orientation centrally develops school curriculum documents for primary and secondary education. Analysing the number of classes for different primary and secondary curricula, it is noted that the Arabic language, Islamic subjects and maths, in the secondary stage, come first in both the departments of science and literature respectively, followed by department-specific subjects, i.e. science classes for the science department, and social subjects for the department of arts.

English language comes last. Though important, this large quantity of theoretical and art subjects, when compared to science classes and languages, does not serve the need for the student's acquisition of thinking, analysing, and exploration skills because the curricula is dominated by theory.

As part of the preparation for this report, a field survey was conducted to survey the teachers' opinions regarding the school curriculum that they teach. They did not unanimously agree that the current status of the curriculum prepares students for the future (29.9% 'totally agree' and 36.4% 'somewhat agree') nor provides students with basic skills (28% 'totally agree' and 53.3% 'somewhat agree'). Less agreement was recorded concerning the questions about the curriculum's ability to handle scientific advances and address problems of everyday life. The disagreement varied from 42.4% (35.8% 'disagree' and 6.6% 'totally disagree') and 36.4% (30.8% 'disagree' and 5.6% 'totally disagree') respectively (see Table m4-1 in the Appendix). Therefore, this percentage of teachers in the capital Sanaa believes that the curriculum does not adequately respond to the components of social skills and knowledge aspects required for the knowledge society.

FOREIGN LANGUAGE AND COMPUTER SKILLS

The absence of a high command of foreign languages and computer skills is a dilemma for both job seekers and public, private and foreign employers. In government schools, the teaching of the English language starts in the seventh grade at the primary stage and before that in a number of experimental schools. In the secondary stage, some schools offer German and French as well as English, especially in the major secondary schools in urban areas. Private schools tend to have English departments for all stages,

providing the students with a chance to master English. They also gain computer skills and have access to IT and more information than their peers who have less command of the language. Similarly, there is a difference between rural and urban areas regarding the learning of foreign languages and computer skills, due to the limited capabilities of teachers and schools in rural areas. This gap in language and IT skills remains up to the university level, pushing many young people of both genders to use the compulsory gap (for one school year before university enrolment) to join private and public institutes to improve such skills. The government should work hard to make up for the shortage and minimise the gap so that opportunities of involvement in the knowledge society are not restricted to young people from cities or wealthy families. The principles of equal opportunities and expanding the options for the youth should remain uncompromised so as not to limit the ability of the majority of young people to gain knowledge and master its tools.

TEACHING METHODS AND APPROACHES

Despite training programmes that are carried out in education methods and classroom management, the volume of the curriculum and the time limit of school terms affect the performance of many teachers and can force them into traditional teacher-centred and memorisation-based approaches. This does not mean that these methods are the only option for teachers. The teacher survey, conducted in the course of the preparation for this report, indicates that some of them use modern teaching approaches. 71.1% of teachers said they discuss the lesson concepts with the students in all classes and 21.1% do the same in most classes. 20% stated that they participate with the students in learning activities in all classes and 31.1% follow these activities in most classes. However,

the traditional approaches are still dominant. 74.1% of the teachers said they write the lesson on the board in all classes while 10.7% do that in most classes. Due to the long and difficult educational content, the short time of classes, and the crowded classrooms, teachers have to concentrate on keeping order in the classrooms, explaining theoretical concepts, writing the lesson, and discussing it with the students. Therefore, maintaining silence in the classroom and controlling troublemakers are the most important practices, with 80.5% of teachers doing this in all classes and 13.3% in most of the classes (see Table m4-2 in the Appendix).

Teachers' awareness of the importance of the modern approaches has been noted. Practices such as 'encouraging the students to interact with the teacher', 'dictating the social principles and values to the students', 'training the students on problem solving', 'training the students on analysing information', and 'familiarising the student with teamwork' are top priorities for teachers, reflecting their understating of their role in providing cognitive and social skills to their students, even if this is not widely practiced. It is also remarkable that teachers are reluctant to promote exploration skills and give the students the freedom and independence to analyse and criticise ideas. The educational practices relating to the teacher's role as a supervisor over the students' activities and a motivator for independent work, ability to take the initiative, and the development of critical thinking have close percentages, with the surveyed teachers confirming their necessity (47.4%, 49.1% and 52.2% respectively), (see Table m4-3 in the Appendix). These outcomes may be interpreted as the limited confidence of teachers in the abilities of their students, as 95.6% of teachers (65.2% strongly agree and 30.4% somewhat agree) believe that the students' interest in study is continuously declining (see Table m4-4 in the

It is also remarkable that teachers are reluctant to promote exploration skills and give the students the freedom and independence to analyse and criticise ideas

Local and professional activities that require co-authoring and co-evaluation are usually assigned to the supervisors of different educational stages and experienced teachers are rarely chosen

Appendix). On the other hand, many teachers are not familiar with managing these kinds of activities because of their weak preparation and poor practice of modern teaching approaches and methods.

What reduces learning opportunities outside the classroom is the unavailability of sufficient additional learning sources in schools, such as libraries, computer rooms, activity rooms, playgrounds, and others. This hinders the acquisition of self-learning skills and decreases the ability of both teachers and students for scientific research. The situation gets worse if school activities, extra-curricular ones in particular, are poor, and if the classroom activities centre around the traditional tasks of the teacher such as lesson preparation and correction of assignments, with little attention given for learning-growth activities. The results of the field study prove this trend (see Table m4-5 in the Appendix).

Local and professional activities that require co-authoring and co-evaluation are usually assigned to the supervisors of different educational stages and experienced teachers are rarely chosen. This is understandable due to the professional criteria of choosing the candidates of these supporting activities. However, professional meetings, gatherings and educational workshops can partially fill this wide gap in professional performance development, providing more chances for teachers to consult and learn about educational performance. On the other hand, the shortage of such opportunities, the absence of incentives for teachers, and the pressures of a heavy teaching load may discourage teachers to act to develop their performance and abilities.

Meanwhile, 78% of teachers (33.3% totally agree and 44.7% somewhat agree) have recognised that the approved teaching methods and approaches they follow do not capture the students interest for learning. 62.8% of teachers (16.7% totally agree and 46.1% somewhat agree)

have said schools play a secondary role in providing the students with science and knowledge. The administrative pressures imposed by the Ministry of Education and the educational administrations, the absence of updating of the curriculum and teaching methods make the teaching process routine and unvarying. The school turns to the dictation of knowledge and theoretical concepts to the students and abandons its educational role of cultivating both their thoughts and talents, undermining the school's role in preparing the youth for the knowledge society (see Table m4-4 in the Appendix).

While the initiatives of professional performance development, either self or administration-driven, are stagnant, making summaries and notes that draw students' attention to the main points in general exams, particularly for the third secondary grade by individual teachers are popular. These materials are well liked by students. They sometimes provide more detailed explanations for ambiguous topics and additionally summarise and organise the information for the students to make it easier for memorisation and studying. Thus the students' acquisition of organisational skills and devising ways of studying and reviewing are limited.¹⁷

Certain teachers may be excused as a result of the educational environments imposed by the conditions of the society. Teachers in urban areas, for example, have to deal with overcrowded classes. Many teachers in the countryside encounter low numbers of students as well as colleagues forcing them to teach multiple grades (Multi-Grade teaching) with the absence of the appropriate environment that enables this type of teaching

METHODS OF DIVIDING EDUCATIONAL ACTIVITIES

Learning assessment is divided into two systems: A school-led evaluation and a Ministry of Education-led evaluation through nationwide official exams upon

the completion of different education stages.

THE SCHOOL ASSESSMENT¹⁸

The school-led evaluation consists of evaluating many different student activities, called ‘the year’s achievements’ and the exams of both school terms. The year’s achievements refer to the continuous follow-up on the learner through monthly tests, homework, attendance, discipline, and any activity that may be required. The scores are added to the exam marks of the two terms. From the fourth grade, the student must get the ‘minimum score’ (50) in all subjects in order to move up to the next grade. In grades 1-2, the student automatically passes to the next class and the same applies to the third grade, providing that the student masters the basics of reading, writing and maths. The assessment measures the students’ acquisition of basic skills by the end of the first three grades.

THE GENERAL EXAMS

The general exams follow the same 100% benchmark of the evaluation. However, passing the exams moves the student to the next educational stage. Those who pass the exams at the end of the ninth grade join secondary education, and by the end of grade 12 the student leaves school for higher education, either at university or a technical education institution. The MOE-led evaluation does not include ‘the year’s achievements’ nor the periodic exams. It depends solely upon the final exams, with a weight of 80% of the score, authorising schools to estimate the remaining 20 marks for the students.

To investigate how teachers view the various evaluation practices, the field study prepared for the Arab Knowledge Report 2010/2011 has shown a mix between modern and traditional approaches. 87.7% of teachers believe in the importance of active classroom participation while 85.3%

think that punctual attendance has large significance too (see Table m4-6 in the Appendix).

However, the use of modern methods has some weaknesses. The Education Development and Research Centre conducted a study, Classroom Evaluation in Grades 1-3 of Public Education, (Al Masory and Al Haj, 2005) in which the teachers, the principal and the educational supervisor were the respondents. Among the 10 points of the student’s prior assessment, the study showed that defining the “abilities and previous experiences of students” came first while being aware of their “learning difficulties and reasons” came last. Among the eight interests of the teacher, “follow-up on homework” and “ask questions that consider individual differences” are at the forefront while “feedback-based improvement of teaching” and “the improvement of classroom management” come last.

One researcher concluded (Al Mekhlafy, in Arabic, 2010), in a review of studies examining the reality of the application, that the challenge of application is the most notable element in the system of learning assessment as the means of verifying the quality of education results. Evaluation tools are not on an equal track with the curriculum goals that offer great opportunity to reach the knowledge society. Most assessment methods focus on the lower learning levels (remembering, understanding), taking the learning-teaching process off track from the modern ambition of using and producing knowledge.

METHODS TO INSTIL VALUES INTO THE EDUCATIONAL SYSTEM

Since the school is the most important social institution outside the family in which children spend many years, the development of values and correct behaviour is a fundamental pillar of learning.

According to the Law of Public

Since the school is the most important social institution outside the family in which children spend many years, the development of values and correct behaviour is a fundamental pillar of learning

The education curriculum has been revised to introduce many international concepts and values such as human rights, gender equality, and children's rights

Education, the goals of the curriculum include a number of original values as the bases of education philosophy in Yemen. The first three value principles stress the belief in Allah and Islam, the love and esteem of the country; belonging to Islamic and Arab nations; and reasonable openness to world civilisations and cultures to achieve freedom, justice, equality, peace, and multi-cultural understanding. The philosophy of the curriculum is based on the idea of Islam as a comprehensive system that honours the man; respects the mind; encourages science, creativity and innovation, and respects human rights, freedoms and dignity. Emphasising the national, Arab, and Islamic identity, interaction with others, the pursuit of the values of the knowledge world, and multi-cultural understanding are not excluded. It can be concluded that the educational system provides a value cluster that can be a foundation for the knowledge society (Al Mekhlafy, background paper for the report).

The education curriculum has been revised to introduce many international concepts and values such as human rights, gender equality, and children's rights. Nevertheless, some researchers believe that the Ministry of Education, since its establishment, has not achieved the general goal of this education philosophy for many reasons. The school has abandoned its main role of maintaining identity and culture through teaching and learning. However, the school curriculum, such as Islamic education and the national education, provide a large group of positive social values. A disconnection can be seen between the ethical values promoted by the school books and those acquired by the surrounding environment, confusing the youth in Yemeni society. Hence, some young people disobey their families, educational organisations, and social norms and values. The educational system is central in the community and mainly responsible for educating and raising new generations to ensure their

inclusion in society and their contribution to development and entering the knowledge society, while maintaining a national, Arab and Islamic culture and identity (Al Hakeemy, background paper for the report).

ENABLING SYSTEMS AVAILABLE FOR THE FUTURE GENERATIONS

THE PUBLIC SCHOOL ENVIRONMENT

The classroom size policy of the Ministry of Education in both primary and secondary education is based on the grade and whether it is in an urban or rural area. Generally speaking, the student/teacher ratio (STR) is about 30 and 50 students for rural and urban classrooms respectively. However, urban schools are very overcrowded, affecting the quality of teaching and student-teacher interaction. At the same time, the population dispersion in the countryside reduces the student numbers in the classrooms. Therefore, a recent study recommends the building of small schools in rural areas and expanding urban schools (Republic of Yemen and the World Bank, 2010). Nevertheless, the small areas of most urban schools, due to their location within towns and cities, and the high numbers of students, limit the available spaces inside the schools; hence decreasing the student share of school facilities such as playgrounds, yards, libraries, etc. In addition, the open spaces in many private school premises are too limited and too close to the classrooms, stairs, etc., so intentions to use them for a school activity are hindered.

IT AND COMMUNICATIONS IN EDUCATION

Integrating both the practical and the theory, educational technology is essential in teaching and learning processes as it helps and motivates the acquisition of

skills and methods of scientific thinking; in view of its practical side which is compatible with the theoretical side. The educational environment requires a group of tools, equipment, and supplies of learning and knowledge resources such as computers, libraries, labs, and art rooms. However, the mere availability of these does not necessarily mean that the conditions of the educational settings are met. The good educational environment prepares and prompts the students to learn, use and apply new skills and use the skills of exploration and experimentation. Computer labs equipped with up-to-date machines are ineffective if the students are unable to explore, use, and apply the computer software. Teaching how to surf the internet is useless unless the students can search, organise, analyse, summarise, save the needed information, identify it and draw results from it. Within the available capacities, the Ministry of Education seeks to provide the equipment and hardware necessary for a motivating educational setting. Schools are equipped with labs, school radio, libraries, computer labs and internet access (mostly in towns and cities).

The use of educational technology by teachers depends on two elements: the availability of computers and internet access and the teacher's ability to use technology for educational purposes. In the study sample conducted in the context of this report, 71.6% of teachers said they own personal computers at home. 47% of them use their computers for educational purposes. Technology is mostly used in lesson preparation (83.3%), searching for teaching situations (89.6%) or selecting exercises (78.3%), (see Tables m4-7, m4-8, m4-9 in the Appendix).

The high percentage of teachers who use technology for lesson preparation and communication indicates the personal efforts of teachers to improve their performance and lessons, so that they can be easily developed, with technology

becoming a part of modern teaching methods. It is worth mentioning that many schools have launched free training on low-cost PCs for teachers as a part of specific training programmes (Ministry of Education, 2008).

GIFTED STUDENTS AND STUDENTS WITH SPECIAL NEEDS

In 2003, an administration for talented and creative students was established in the Ministry of Education, and in 2004, the Comprehensive Education Administration was formed to care for students with special needs. The two administrations seek to support gifted students and those with special needs through appropriate programmes and activities, despite the shortage of human and financial resources that limit the coverage or the development of such programmes. In cooperation with the Arab Council for the Gifted and Talented, training courses have been organised to prepare teachers for gifted students, covering all topics and issues related to their discovery, and their cognitive, social, and conative characteristics, as well as teaching methods and strategies to develop their skills of thinking and creativity. More attention should be given to the issue. Some major schools in main cities, government or private, develop their own programmes for gifted students, arrange training programmes, contests, and initiatives inside and outside Yemen.

TEACHER PREPARATION AND TRAINING PROGRAMMES

Education Colleges in various universities are responsible for preparing teachers for different educational stages through training programmes as part of their pre-service qualifications. The real issue is that most teachers of the first grades do not have university degrees.¹⁹ The recent Education Status Report by the World

Some major schools in main cities, government or private, develop their own programmes for gifted students, arrange training programmes, contests, and initiatives inside and outside Yemen

The majority of teachers managed to define the characteristics of the knowledge society and admit the significance of modern teaching methods; however, an examination of their behaviour shows that a high percentage of teachers commonly use traditional methods

Bank shows that 46% of teachers of grades 1-6 (the stage of providing the student with basic skills) do not have secondary certificates. According to the Educational Survey 2005/2006, 18% of teachers have secondary degrees and are spread in rural and remote areas, worsening the quality of education (The World Bank and the Republic of Yemen, 2010).

The low standard of teachers' qualifications is a critical issue that needs special attention if we are serious about preparing the youth for the knowledge society. Indicators show that 40% of basic and secondary teachers do not have enough professional qualifications according to the law of the Ministry of Education. Most of them are located in rural schools (76%), and especially in primary education (91%). In addition, the well-qualified educational TEVT teacher is a challenge for Yemen. The qualification enhancement of academic staff in Yemeni universities is urgent, with only 58% of the staff having PhDs while the remainder are under-qualified (Hamoud Al Seyani, background paper for the report).

To avoid the existing accumulated deficiencies of educators, the Ministry of Education has executed extended in-service training programmes targeting the primary education stage, and then more specialised training for the teachers of higher grades in primary and secondary education. However, being short-term, these courses do not offer an official degree or a diploma, for example that enables teachers to be promoted or qualify for a salary raise. No adequate attention is paid to the competency of teachers. A recent report indicates that no systematic or institutional mechanism is followed in education colleges to integrate teaching requirements into the curriculum. Additionally, there is no framework for the professional standards of teachers, nothing that defines teacher competencies, the subject-specific knowledge, and the skill requirements to be used as a reference for the various organisations of teacher preparation and training (Republic of

Yemen and the World Bank, 2010). The training of graduates is not compatible with the vision of the knowledge society. The programmes have not been recently refined or updated. The practical in-classroom training of teachers is inadequate. Training programmes focus on teaching philosophy and history rather than the skills needed for most Yemeni schools such as multi-grade teaching. Moreover, the graduates have only an average command of the Arabic and English languages, and computer and IT skills (Republic of Yemen and the World Bank, Education Status Report, 2010).

As for the teacher's status, according to the field survey results; about 90% of teachers (51.7% agree and 38.8% 'somewhat agree') believe that teachers in Yemen no longer have the same respect as they have in the past. 90.4% of teachers (60% 'totally agree' and 30.4% 'somewhat agree') said the students' respect for their teachers has declined. Since education arose in Yemen in 1960s, teachers have enjoyed a high degree of social respect. This is still the case in many rural areas where the teacher is considered an influential figure in the local community. However in urban areas, the respect shown by the students for their teachers has deteriorated, particularly in boys' schools (see Table m4-4 in the Appendix).

The majority of teachers managed to define the characteristics of the knowledge society and admit the significance of modern teaching methods; however, an examination of their behaviour shows that a high percentage of teachers commonly use traditional methods, such as "focusing on the improvement of the student's memorisation abilities for success in studying". 86.5% of teachers (23.4% 'totally agree' and 63.1% 'somewhat agree') admitted to using this method (see Table m4-10 in the Appendix). This indicates that the teachers have some knowledge of modern teaching methods and are aware of the attributes of the knowledge society. However, they still mix modern and traditional teaching methods and behaviour. The use of traditional

approaches is enhanced by the inflexible educational system that focuses on quantity and targets the quantitative indicators of planned goals.

TEACHER JOB SATISFACTION

In Yemen, teaching is not a favoured profession among the youth, especially males. However, it is still a good option because the education sector offers many job opportunities annually, and it recruits the majority of employees in the Yemeni service sector. The field study examined the job stratification and the relationship between teachers and other education stakeholders. Low satisfaction has been observed among most teachers. 91% of teachers (74.8% 'totally agree' and 16.2% 'somewhat agree') said teaching does not make them self-sufficient while a higher percentage, 96.6% (80.9% 'totally agree' and 15.7 'somewhat agree') said they felt that they had a mission. Questions investigating the financial sufficiency of teaching may explain this contradiction. About 43.9% of teachers said they would change their career if a job with a higher salary was available. Hence, financial compensation for teachers is not satisfactory, despite improvements introduced by the so called Teachers Law and the wage reform of the education administration that raised salaries in recent years (to a minimum of \$200).

The majority of the sample (81.4%) admitted they were dissatisfied with their educational qualifications to meet the teaching requirements (see Table m4-11 in the Appendix). Being aware of the need for professional development paves the way for a teacher capable of producing a generation that can live and interact with the knowledge society. Since teachers are still the main source of information and skills for the students, the preparation and improvement of teachers in the terms of the profession, skills, and knowledge should be fundamental in preparing the next generation in Yemen.

EDUCATION REFORM EFFORTS

Post-unification, the Ministry of Education sought to re-evaluate the curriculum. For the merger of public education in the recently unified country, a new curriculum (for primary and secondary education) was drawn up by selected educators from various disciplines of science, humanities and literature, in order to unify school teaching curricula. The education system was modified from six primary grades, three preparatory grades and three secondary grades into nine basic grades and three secondary grades. It has been recognised that the expansion of schools and gender equality in education, made compulsory and free by the Yemeni Constitution, should be accompanied by education service enhancement. Over the last ten years, efforts have been made to reorganise the education sector and shape education policies. Five sector-specific strategies have been developed and approved for the reform of various education stages: the National Basic Education Development Strategy 2003-2015, the National Secondary Education Development Strategy 2007-2015, the National TEVT Development Strategy 2005-2015, the National Higher Education Development Strategy 2006-2015, and the Literacy and Adult Education Strategy 1998-2020. All strategies seek to create a balance between quality and quantity. They emphasise expanding education, decreasing the failure and leaver rates, narrowing the gender equality gap, enhancing the quality of education, and building the institutional competencies of educators. However, they also reflect the lack of coordination among the organisations responsible for the implementation of these strategies, which sometimes work independently.

The National Basic Education Development Strategy aims to increase the enrolment rate, particularly of girls in rural areas. It aims by 2015 to have 95% of children aged 6-14 years enrolled in

The National Basic Education Development Strategy aims to increase the enrolment rate, particularly of girls in rural areas. It aims by 2015 to have 95% of children aged 6-14 years enrolled in education

Yemen has been chosen among ten countries to be supported by the Education for All – Fast Track Initiative

education (the Ministry of Education, 2003). Due to the shortage of funds that has hindered the achievement of generalising the primary education target by 2015, Education for All by 2015 has been adopted. Yemen has been chosen among ten countries to be supported by the Education for All – Fast Track Initiative. Experimental government-led procedures to promote basic school enrolment include:

- Experimental programmes such as cash for families of girls to keep them in school, and enhance community participation and support education.
- The Countryside Female Teacher Programme in which a large number of female secondary graduates are contracted and trained to work as teachers in rural schools where the presence of female teachers is a prerequisite for families to enrol their girls, especially in higher grades.
- A number of initiatives have been adopted to enhance and strengthen the educational situation in schools, support the school's financial independence and promote family involvement in education improvement such as school-based development, child-friendly schools, and girl's education support.

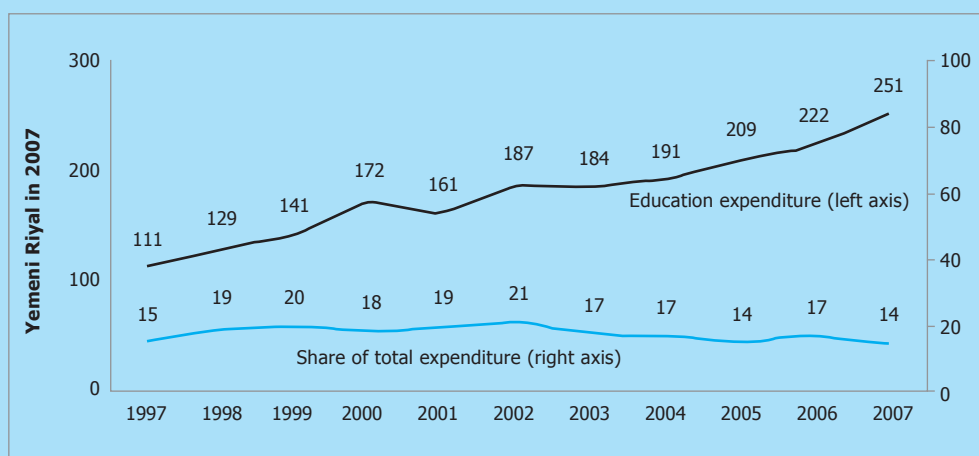
Successive endeavours have been taken, either by the implementation of policies and progress monitoring or by the practical expansion of the educational input, especially in the past decade. However, the challenges are still critical because the reform focuses on education delivery for all; provision of education input; and attempts to improve education quality via on-going training, enabling environments, technology in schools and support for gifted students. The challenges pose a serious situation that must be addressed, i.e. the current direction of reforms has not paid appropriate attention to the knowledge dimension that enhances the creation of the knowledge society. If it is decided to introduce youth preparation methods through schools, the real producers of knowledge, then the reforms should go hand in hand with the existing patterns, emphasising the innovation of new educational alternatives that give excellent educational output and are equipped with the basics for entering the knowledge society.

GENERAL SPENDING ON EDUCATION

Moving forward towards the knowledge society requires the allocation of sufficient resources to improve the quality of

FIGURE 4-2-1

The development of government expenditure on education 1997-2007



Source: Republic of Yemen and the World Bank, 2010

education, extend the delivery of various educational opportunities and prepare the educational infrastructure. However, countries with government-financed education often have less ability to balance the quantitative expansion of education services with quality enhancement and offering numerous educational options.

While the support offered to Yemen by official international development aid is low (\$13 per capita in 2006), education receives the largest share (Republic of Yemen and the World Bank, 2010). Reports show a 125% growth in allocated education spending from 1997-2007. According to statistics of 2007/2008, the expenditures of public education were 73%, university education 19% and TEVT 8% respectively out of the total education allocation of government spending (Republic of Yemen, High Council of Education Planning, 2009). Public spending on education increased from 1997-2007 to 5.8% of the GDP, a high percentage when compared to other countries with largely government-supported education such as Egypt, Oman, and Pakistan with 3.8%, 4%, and 2% respectively. With this high government spending, private financing

resources are totally absent. The spending on education from foreign finance is only 4% (The World Bank and the Republic of Yemen, 2010).

The Table 4-2-2 illustrates that the country considers education to be a top priority for human development, and at the same time, indicates the challenges resulting from the limited public resources to meet the growing demand of improving education enrolment and quality.

While examining education spending, it is noted the period 1997-2005 received the largest share, 80-85%, which then decreased in the following years to 78% in 2007, as shown in Figure 4-2-1. The major part of this expenditure goes towards the remunerations of teachers and educators, with 70% for basic education and 65% for secondary education, rather than direct spending on educational services where the administrative costs of primary and secondary education are 25% and 30% respectively.

Less than 6% of the current expenditure go towards improving the quality of public education. Similarly, higher education spending has two focuses; the salaries and scholarship costs that constitute about

Moving forward towards the knowledge society requires the allocation of sufficient resources to improve the quality of education, extend the delivery of various educational opportunities and prepare the educational infrastructure

TABLE 4-2-2

The distribution of education expenditure 1997-2007

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total education expenditure (%)											
Primary and secondary education	85	82	84	85	84	82	80	80	80	79	78
TVET	1	2	2	2	4	2	3	3	3	5	6
Higher education and research	14	16	14	12	13	16	17	17	16	16	17
Total	100	100	100	100	100	100	100	100	100	100	100
Recurrent education expenses (%)											
Primary and secondary education	89	88	88	89	88	85	83	82	83	82	81
Primary				66	65	62	61	61	61	60	60
Secondary				24	23	22	22	22	22	22	22
TVET	1	1	1	1	1	1	2	2	2	2	2
Higher education and research	10	11	11	10	10	14	15	16	15	16	17
Total	100	100	100	100	100	100	100	100	100	100	100

Source: Republic of Yemen and the World Bank, 2010

80% of the total current expenditure (Al Hawary, Mohammad, in Arabic, 2006).

Since it is completely financed by the government, the delivery of high quality education and meeting the increasing demand for higher education has limited resources. Hence, additional resources must be found to cover the required expansion in higher education. Higher education faces immense pressure to enrol more students in government and private universities due to the increased output of secondary education, the growing population rate, and the socially prestigious consideration of university education rather than the TEVT. Public and higher education budgets are still controlled by the Ministry of Finance, the authority with the final decision regarding spending and goals. Government universities, for example, negotiate with the Ministry of Finance every year; however, the allocations are distributed unevenly, giving no flexibility for higher education to plan and put strategies in place based on the changing opportunities and needs (Al Hawary, Mohammad, in Arabic, 2006).



THE UPBRINGING INSTITUTIONS AND PREPARATION OF THE FUTURE GENERATIONS

INTRODUCTION

The upbringing process involves many social institutions. These institutions are involved in preparing youth for their expected roles in the future and in society, including the family, school, place of worship, peer groups, mass media and youth organisations.

THE FAMILY

The family is the first institution that educates the child on values, manners and principles before encountering outside influences. Crucial to the formation of character, psychologists believe that early childhood is of great significance. Families may be classified per their structure (nuclear or extended), economic status, social class, education level, religion, and other influences that define the child's personality, social development, and behaviour towards others and society, it even affect his or her future choices.

Prior to the revolutions of 1962 and 1963, Yemenis lived in an environment dominated by traditional values where the family was responsible for instilling social values, customs, and norms, followed by the mosque and the surrounding community. This can be attributed to many reasons, including the subsistence economy that was prevalent at the time. Individuals were entirely dependent on their families in terms of their social and economic life. The family's role was not

only included in the child's upbringing and instilling social values, but also in training them for a lifetime craft or career, usually an extension of the family's profession (Abdel Salam Al Hakeemy, background paper for the report).

A study examining the role and effect of social upbringing institutions in rural areas of Yemen, has reported that families of high social and economic levels want a high level of education and prestige for their children in order to maintain the family's position. Dialogue and understanding usually prevails to achieve the parent's ambitions for their children. On the other hand, families of a low social and economic position often have many children. Due to increased social and economic pressures, parenting is often based on obedience, punishment and early responsibility (Salem Al Shamsy, in Arabic, 2005).

THE FAMILY AND LEARNING VALUES

While enrolment and staying in school rates are low, the value of learning is high and positive in Yemeni society. The better educated the family is, the keener they are to send their children to school. Additionally, middle-class families in urban areas often spend a lot of money enrolling their children in private schools due to their interest in extra-curricular activities, less crowded classrooms, and early teaching of

The family is the first institution that educates the child on values, manners and principles before encountering outside influences

Under the parental family structure, gender inequality is common inside the family, in terms of behaviour or events that are either allowed or forbidden. The family show bias towards males and is much more firm with girls

English. It is noticeable that the education level of mothers is reflected in daughters' education level in the family, and increases their opportunity to complete their study to a higher level (Ministry of Education, 2009). In Yemen, obtaining and competing for a degree or an educational qualification is greatly respected. Many families put pressure on their children to obtain high grades and educational excellence to enter university or benefit from special advantages, such as getting an internal or external scholarship, or a tuition deduction in institutes and educational institutions.

The situation changes in low-income families. The investment in educating boys is linked to the opportunity of getting a job. On the other hand, educating girls is seen as a limited investment, because traditionally, girls marry and move into their husbands' homes, giving their families little to no return. Therefore the opportunity for girls to complete their education is greatly reduced. This is the reason for the low rate of female education and early marriage. Also, the high unemployment rate and the decline in economic conditions have led to negative trends regarding the feasibility of getting a degree that ensures jobs. Therefore, poor families push their children into labour at an early age to help secure the family's needs, which affects their school attendance and eventually causes them to leave.

In many families, children do not have a choice but to accept the decisions made by their parents, who claim that they are better at choosing what is best for their children. In few cases, where parents are highly educated and with a good income, options for studying and the future may be discussed with the children. Upbringing methods effect children's personalities - whether they are able to make their own decisions or not - and children move from an authoritative family to a school in which rules and laws are applied and teacher-centred traditional methods are followed and the mosque where other rules must be respected. In these situations, there

is no room for discussion, objection, explanation, or reasonable justification by the members of these institutions - the child must obey without any discussion. Therefore, the child tends to memorise and depend on the limited information provided by teachers in school.

FAMILY AND CHARACTER-RELATED VALUES

Due to the traditional parental structure of the Yemeni family, respect, obedience and submission to elders are characteristics which control the parent-children relationship. With the extended pattern of family in the countryside and large parts of towns, elders guide the young people who are expected to show obedience in all orders and follow instructions determined by the father, the grandfather, the mother or other family members.

Under the parental family structure, gender inequality is common inside the family, in terms of behaviour or events that are either allowed or forbidden. The family show bias towards males and is much more firm with girls. Powers and freedoms are given to males and they gain prestige after their maturity, and are allowed to voice their opinions and have some authority over the girls. The brother does not only limit the actions of his sisters but can also influence decisions of learning and marriage. Thus the pattern of the traditional authoritative culture and masculine dominance is reproduced again in future families formed by those men and women.

While common in families with highly educated parents, positive communication methods and developing the child's communication and dialogue, supporting their opinions and respecting the views of others are absent in the traditional family pattern in Yemen. However, no generalisations can be made. The trend towards a nuclear family, an increased education level, and working mothers in urban areas have helped bring about

some transformations within the family. In emerging families, many parents use dialogue and persuasion with their children, enhanced by the youth's openness to mass media and technology, positively affecting the formation of the child's personality to be more challenging, questioning, and seeking explanation.

THE FAMILY AND INTERPERSONAL VALUES

Family upbringing is based on emphasising the values of cooperation, solidarity, and helping others, but shows caution regarding the relationships of their children with others. A survey study has indicated that 73% of families are protective of their children when they are young as they fear that some friendships and relationships could lead to them becoming involved in bad or extremist behaviour (Abdel Salam Al Hakeemy, background paper for the report). The protective role is present for both boys and girls, but girls' relationships are much easier to control because of the culture. It is preferable for girls to be kept at home and to limit their acquaintances to a certain number who the family know. Boys however, have the freedom to move so it is more difficult for parents to monitor their friendships. The excessive fear within the family may be due to the emergence of a number of ideological extremist movements that encourage the youth of different social classes in both rural and urban areas to join them. Families have become increasingly afraid and seek to prevent their children from being influenced by these radical movements. Moreover, the family concerns may be increased by the ineffective role of the school and the mosque to complement the role of the family and spread values of tolerance, non-aggression, and interpersonal communication. Such extreme precautions in upbringing generates a mentality of fear and caution, hindering interpersonal communication, and diminishing the youth's ability to improve basic life skills

such as decision making, problem solving, and differentiating between right and wrong - all fundamentals for the knowledge society.

MASS MEDIA AND FUTURE GENERATIONS PREPARATION

With advanced communication technology and the huge number of satellite channels received by televisions and receivers, the role played by these channels, with various orientations and tendencies, is maximised for preparing the Arab youth. It is obvious that most of these channels are dominated by consumption patterns and depend on entertainment and product marketing. So, they enhance imitation-based behaviours and excessive consumption and do not promote any skills or capabilities desired by the society and family. With its uncontrolled, unlimited varieties, the mass media has been central in raising the youth. So, some countries, such as Yemen, implement procedures to control and codify the internet and media space. Justified on the grounds of being culturally, religiously or politically inappropriate, some channels and websites have been banned to protect society and youth, in particular, from the uncontrolled openness. Sometimes, security reasons are behind a ban.

With political openness accompanying the unification of the country, political plurality and the support of freedom of expression, many political parties of various ideologies have been established, and this has coincided with an increase in publications and papers exceeding 400 official, civil, party related and independent publications, as well as news websites which have started to attract the youth in particular. Maybe due to the special nature of the political situation in Yemen, the content of these sites is remarkably characterised by political controversy, criticising and blaming other parties for the events and developments. The websites neglect the critical informative role they should assume, i.e. focusing on

Justified on the grounds of being culturally, religiously or politically inappropriate, some channels and websites have been banned to protect society and youth, in particular, from the uncontrolled openness

the development and educational aspects and contributing to building the national personality, culture and knowledge (Rashad Al Yosfy, in Arabic, 2010).

THE VALUES SYSTEM AND SOCIAL UPBRINGING IN YEMEN

Prior to the 1960s revolution, traditional Yemeni society experienced the social hierarchy of the prevailing ruling regime for political reasons. The social hierarchy was classified into ranks and categories (masters, sheikhs, judges and the common people of tribes, traders, business owners, slaves, and servants).²⁰ Based on certain standards, i.e. genealogy, social origin, profession, religion, and race, it was found that the masters or the nobles were at the top of the hierarchy while the servants were last. As a result of this social order, some careers had been scorned, not those practising them. In former South Yemen, a large segment of the population was deprived of education, health care, and the basics of a good life as the occupation provided services which were limited to certain ranks and foreigners. The schools had been a manifest example of this deprivation; no educational institutions had been built in the other governorates except in the major cities and for some students of the wealthy classes. The system of social class dominated the governorates controlled by the sheikhs and sultans. In national liberation movements against the British occupation and the revolution against the traditional regimes in the southern, eastern, and northern areas, most of the revolution leaders promised real development in the society to gain their legitimacy. However, political and economic changes were faster than social transformations. And while the post-revolution independent governments chose modern education and used advanced technology, no significant changes were noted in the social behaviours of individuals. The

matrix of the traditional values remained dominant in the upbringing of the youth, in which the family and the direct environment continued to be the main socialisation sources. Even the scorn of some professions and social classes had not changed while some of these segments reached leading positions in the country, benefiting from the post-1960s modifications (Abdel Salam Al Hakeemy, a background paper for the report).

THE RELIGIOUS UPBRINGING AND VALUES SYSTEM²¹

The family is the first institution of upbringing and religion for children until school where they are provided with typical unified patterns of acts of worship and religious issues, mainly in the form of memorisation of desired behaviours. Sometimes, families do not encourage their children to ask questions and have queries; therefore, religious upbringing is limited in many cases to orders, prohibitions, observing acts of worship, and the practice of reward and punishment in relation to behaviours. As a result, the deep penetration of religious basics may be affected, slowing down the mental growth and the development of thought and analysis skills of the youth.

Post unity, the partisan plurality and the growing freedom of the political environment helped some religious schools and institutes to emerge in a group of governorates such as Sufi, Salafi and other schools. During this period religious schools of different political orientations and methodologies also grew in Yemen. Many of them were built without a license from the education authorities for several reasons; the lack of regulation of the civic and private bodies and the absence of supervision and monitoring of some concerned organisations over these schools, religious schools and institutes in particular. As a result, some religious trends used mosques and religious schools and institutes to teach their ideology

The matrix of the traditional values remained dominant in the upbringing of the youth, in which the family and the direct environment continued to be the main socialisation sources

and beliefs to the youth. Some religious schools, institutes and centres in Yemeni cities are not subject to supervision or modification of the concerned bodies of the Ministry of Education. Therefore, the efforts for education reform have been intensified in Yemen to unify the paths of the public education, including the inclusion of the educational institutes into the education system, monitored by the Ministry of Education; and the refining of the curriculum to exclude any radicalism or extremism.

With multiple sources of religious and social upbringing formed post-unity in 1990, the major institutions affecting the values of Yemeni youth have been multiplied and the family has become no longer the sole source. The changes in the social, economic and political conditions of the society, living standards, the increased rates of unemployment and poverty, the associated social issues of the rising school dropouts rates in different education stages in rural and urban areas, rising youth deviance, the absent role of the family, and other problems, all have played a part in the deterioration of Yemen's social structure.

These conditions and other social issues have helped some ideological groups to induct many young people with the aim of educating them on certain values and orientations. Additionally, some existing political parties have begun to attract the youth seeking to influence them intellectually and ideologically. Political disputes between the government and the opposition parties, the armed conflicts and the instability in many areas have also contributed to the emergence of some radical groups.

CONCLUSION

The dynamic socio-cultural context in Yemen and its changes have affected the direction and content of the youth's value matrix. Since the division of the country into 2 parts in the 1960s until the establishment of the unified Yemen in 1990, society has experienced various social, economic, and intellectual transformations, with one part of Yemen following capitalism while the other chose socialism. Post-unification, the Yemeni society has gone through rapid and successive alternations in all social, economic, and political aspects due to the combination of two different ideologies. Such transformations have resulted in the youth acquiring values and orientations that have divided them due to the cultural duality of the new and the traditional methods. Consequently, the youth has shaped new values and orientations due to the multiple sources of socialisation, formed after this period, consolidating a number of social norms and trends characterised by conservation, stagnancy and the rejection of renewal and development (Abdel Salam Al-Hakeemy, a background paper for the report). Therefore, the reform of the education system and the unification of religious and ethical values, in the formal sources of upbringing, are the main paths to raising and educating the generations in a way that helps them integrate into society and to develop and move into the world of knowledge, while maintaining the national, Arab, and Islamic culture and identity.

The reform of the education system and the unification of religious and ethical values, in the formal sources of upbringing, are the main paths to raising and educating the generations in a way that helps them integrate into society and to develop and move into the world of knowledge, while maintaining the national, Arab, and Islamic culture and identity



ENABLING ENVIRONMENTS AFFECTING FUTURE GENERATIONS' PREPARATION

INTRODUCTION

Enabling environments intersect with the triad of knowledge, development and freedom in preparing the appropriate setting for knowledge acquisition and production. The enabling environments are linked to the reality of a society's development and the presence of political management committed to allocating the necessary resources for such environments, and establishing institutions that support and foster knowledge growth to achieve a comprehensive development. According to the Arab Knowledge Report 2009, the enabling environments for cognitive performance are the weakest points in the Arab world, especially in terms of the freedoms that support knowledge growth. The AKR stresses that the enabling environments are maximised under the prevalence of freedom, however, they also need supporting institutions that manage knowledge growth, production and circulation, and are backed by legal frames to gain the legitimacy of their continuation.

In Chapter 4, the status of enabling environments in Yemen is examined, with reference to the conditions of freedoms, the related institutions, legislations, laws and the support directed to achieve knowledge growth in the society. Additionally, the obstacles, pressures, and the limitations that hinder building the components of the knowledge society are also highlighted.

POLITICAL FREEDOM

The reunification of 1990 constituted specific transformations in social, economic and political life in Yemen and has created a new and good environment

for freedom with laws such as Law No. 25 of 1990 on the press and publications. Political plurality has been announced; Law No. 66 of 1990 on Political Parties and Organisations. Article 3 of this states, "Freedoms, including the political and partisan plurality, based on the Constitutional legitimacy, is one of the crucial pillars in the state's political and social system that may not be cancelled, limited or used otherwise to prevent the citizens from practicing this right." Article 5 reads, "Yemeni citizens have the right to form and voluntary join political parties and organisations according to the Constitution and the provisions of this law." Following the unification of the country, a democratic atmosphere prevailed in Yemen. The number of political parties and organisations grew to 46, and included various ideologies across the political spectrum (Ahmed Al-Asbahi, in Arabic, 1998). Following the formation of the Committee for Parties and Political Organisations in 1995, the number of parties decreased to 22, and they have the constitutional and legal right to do political work. From this year up to today, many rounds of local and parliamentary elections have been held which has been a new experience for the people of Yemen. Regardless of the advantages and disadvantages of this experience, it has added a new dimension for the youth to understand new concepts of democracy, local government, people representation in various authorities and the presence of the different political trends.

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INDICATORS OF GOOD GOVERNANCE

Since the independence of the former two parts of Yemen, the country lives under a republican presidential system. After the reunification declaration, the Republic of Yemen was established as a republican, democratic, and constitutional regime. The governance is a pillar of the 2025 Vision. Additionally, the Third Socio-Economic Development Plan for Poverty Reduction (2006-2010) has emphasised the practice of good governance with an increase in the separation of powers, an improved judiciary improvement, enhancement of the judiciary's independence, reform and upgrading of government management, the development of anti-corruption policies and mechanisms, freedom and human rights protection, the promotion of decentralisation and the activation of the local authority. The National Reform Agenda 2006-2008 has focused on many areas including judiciary and administrative reform, updating of the civil service, economic and financial improvement, improvement of the investment and work atmosphere, the control of corruption, and the increase of accountability and transparency.

The World Bank Governance Indicator (WGI) for Yemen has shown slight improvement in the Regulatory Quality indicator and a decline in 5 major indicators:

Voice and Accountability; Political Stability and Absence of Violence; Government Effectiveness; Rule of Law; and Control of Corruption.²²

Some attribute this decline to the political instability in some areas of Yemen that have experienced armed conflicts, causing the emigration of numerous families from these areas.

As for the control of corruption, the Anti-corruption Law No 36 for 2006 was enacted followed by the establishment of the National Supreme Anti-Corruption Authority (NSACA). Article 24 of the above law clearly reads that anyone who has information about a corruption case should report the concerned authority or body and submit the available information to be examined in order to take the necessary action. Moreover, the NSACA investigates the corruption crimes published in the various mass media. Under Article 27 of the law, the NSACA is committed to providing legal, career, and personal protection for witnesses, experts, and reporters of the crimes. The Executive Regulation defines a number of related protection procedures and measures.

The problem can be seen in some economic, social, and cultural reasons that affect the application of the law provisions, particularly if some social elites are not aware of the significance of the equal application of laws for protecting

After the reunification declaration, the Republic of Yemen was established as a republican, democratic, and constitutional regime

TABLE 4-4-1

Yemen Status in WGI*

Description	Yemen		MENA	
	2007	2009	2007	2009
Voice and Accountability	16.8	11.8	23.8	23.2
Political Stability	8.2	2.4	37.9	38.6
Government Effectiveness	15.9	11.4	45.3	47.8
Regulatory Quality	26.2	29.5	45.3	48.3
Rule of Law	16.2	13.2	47.5	49.0
Control of Corruption	25.6	15.2	48.3	49.1

Source: World Bank WGI website, on 14 May 2011 <http://info.worldbank.org/governance/wgi>

* The indicator shows the worldwide rank of the country, where 0 is the lowest and 100 is the highest.

the public interest and the supreme social benefits.

LOCAL GOVERNMENT AND DECENTRALISATION

The experience of local councils in Yemen is approaching 9 years, with increased attempts to delegate wider powers for the local governments. Over the past few years, a number of democratic activities have been practised, including some elections on all levels, starting from the presidential, local, parliamentary, and finally governor elections.

Local councils are still new experiments and have had mixed positive and negative results. They need urgent assistance particularly regarding the operational budget and the reinforcement of accountability and control mechanisms. Despite the short length of time, the experience has proved a success in achieving various projects and controlling the performance of different executive offices. However, they have not yet accomplished what they were set up to do as those involved have not had enough time to accumulate the expertise and knowledge required to manage them. The experiment is characterised by the positive role of the local councils in broadening the base of political participation, where the citizens of both genders have the chance to choose the members of the local councils or stand as candidates. Nevertheless, there is still a lot of work to be done. Accountability and transparency mechanisms should be developed for local revenue collection within the decentralisation system. Effective coordination must also be achieved among the provinces and governorates with the major ministries. After this, confusion and conflict arising from the short length of experience should decrease. Further efforts should be made for the participation of NGOs and strong partnerships should be formed with the local authorities to push forward the development of the local communities.

GOVERNANCE IN EDUCATION

As for governance in education, “The Road Not Travelled”, a World Bank Report (WBR) 2008, found that the education systems in the MENA region have neglected public accountability in education despite the focus on education reform. In this context, the WBR has confirmed a number of procedures for successful modifications in education which generally can be applied to Yemen. These include:

- Focusing on the education operations, with all their input,
- Motivating the concerned parties of education through follow-up, evaluation, supervision and incentives,
- Strengthening public accountability and engaging all stakeholders including parents, students and teachers in its issues.

In this regard, the endeavours of the Ministry of Education can be seen in the establishment of central and local departments for community engagement to promote the involvement of local communities to improving the education quality in their schools. Tangible results have been achieved in the formation of democratically elected parent boards and training them to take up their tasks in schools; those in remote rural communities have been more successful than those in the cities. The effectiveness of such boards varies from one area to another. There are many remarkable stories of success in which the locals along with the boards have brought about a great move in education quality, the improvement of educational environments and the provision of the education input. Nevertheless, the practice of accountability in education issues needs more work. In partnership with the local selected councils, community elected boards such as parent boards should be motivated to maturely and responsibly employ accountability. With the emergence of the local councils

Local councils are still new experiments and have had mixed positive and negative results. They need urgent assistance particularly regarding the operational budget and the reinforcement of accountability and control mechanisms

Nevertheless, the socio-cultural structure largely dominates the institutional performance and the political scene in Yemen. Tribal influence and authority prevail and clan loyalty can outweigh loyalty to the country

and their relatively short life, some new problems and disputes have arisen among the education departments, the provinces and the members of the local councils that can disturb the process.

CITIZENSHIP

Citizenship has many definitions. However, it can be agreed that it includes, under its comprehensive meaning, equality in basic rights such as a decent life and justice; equality in duties and responsibilities for the members of society regardless of their gender, origin, class and religion; and the right to decide their representatives and ruler. The articles of the Yemeni Constitution underline this comprehensive concept of citizenship but the structure of the Yemeni society is very complex and overlapping. As such, Yemen follows a partisan plurality; it has room for political and economic freedom; owns the legislative, executive and judiciary authorities; has people of all classes who democratically participate in the elective representation of the parliament, local councils and others to help build a modern system for the country. Nevertheless, the socio-cultural structure largely dominates the institutional performance and the political scene in Yemen. Tribal influence and authority prevail and clan loyalty can outweigh loyalty to the country. Some analysts go further to say that tribal law is the applicable law that is really governing in Yemen and that the

political system is based upon a combination of the modern political institutions and the traditional tribal cultural system (Al Shargaby et al, in Arabic, 2009).

The school, through its educational philosophy, curriculum and teaching methods, has a great role in infusing and developing citizenship values since the objective is to let the youth acquire a group of values, skills, and orientations that make them able to adapt to their community and contribute to its improvement and building. Over the last 20 years, new directions in Yemen have led to a combination of various conceptual frames of modern citizenship values, including human rights, democracy, the rights of others, freedoms, etc. However, citizenship is restricted to the values and concepts circulated in educational institutions, publications, printed media, seminars and conferences, without actually applying the supporting theoretical orientation. This confuses the youth between what the school tries to enhance and the actual practice of society.

With the participation of selective professors of Yemeni universities, experts and specialists, the Ministry of Education conducted a one-year study to review the values of national loyalty to consolidate the national identity and belongingness into the curriculum from the third primary grade to the third secondary grade, covering 78 school books in the humanities. Following the study, it was decided to add the subject of national education to secondary

BOX 4-4-1

Platforms for Yemeni Juveniles and future generations

Child Parliament (CP) establishment and activation, two successive rounds of elections have been held. It performs numerous activities such as following up the juvenile conditions and delinquent care centres and spreading the awareness of child rights. The CP holds regular meetings that are broadcast on national television. Ministers are invited to discuss the raised issues.

Some NGOs seek to enhance democratic concepts in children and teenagers, with initiatives including

the democratic school, in which young activists, with the participation of the CP, carry out many field studies, awareness programmes and trainings in schools and communities.

The Youth Radio has been launched in April 2003. It works 24 hours a day broadcasting programmes for all young people in Yemen, giving the youth of both genders the opportunity to contribute, develop their abilities and talents and find jobs as mass media specialists.

Source: The website of Attagamua Newspaper <http://www.attagamua.net/index.php?action=showDetails&id=1688>, accessed on 15 May 2011

education to keep the students updated on the latest development and priorities of the country. In this regard, we find that the discussion of the values of national loyalty and civic education are limited and the school assumes it without considering the socio-cultural reality of the society and the complementary institutions that contribute to raising youth, especially in the secondary stage when they are open to political and community institutions.

TRIBALISM AND THE ARGUMENT OF DEVELOPMENT AND POLITICS

Tribes in Yemen have a special particularity; they are stable and form a political community power that has some characteristics of a political party, lobby, or administration. In Yemen, the clan seeks to influence political decisions, and many of its sheikhs pursue authority or try to pursue their own interests. In addition, if the ruler loses political legitimacy, the tribe assumes the responsibility to fill the political vacuum that may be caused by “the moral or functional withdrawal of the state’s authority” when the individuals feel that the regime neither represents their ambitions nor meets their needs. In this case, tribal loyalty precedes loyalty to the state and the country (Mohammad Al Dhahary, in Arabic, 2004). Many intellectuals in Yemen criticise the politicisation of the clan, believing that this has emptied the tribes of their original ethical values and replaced them with external thoughts, including opportunism, dominance and a merciless struggle to keep all benefits and gains exclusive, even through the use of weapons.

Tribes had played a positive role in resisting the Ottoman invasion of Yemen and supporting the revolution of 1962. Socially, the tribe has maintained the historical identity and heritage of Yemen, values of courage, generosity, helping people in need and the morals derived from religion. On the other hand, it has

strengthened blind tribalism, revenge, ignorance, legends, self-isolation and the disregard of experiences of other nations and civilisations. Some blame the clan for hindering development (Nezar Al Abady, in Arabic, 2006). Unfortunately, the majority of the youth in such an environment absorb these negative values, and some take them as a way of life.

Unlike the relationship between power and wealth in industrial societies where fortune leads to power, authority in Yemen brings wealth. Since the 1960s, some tribal leaders have managed to collect huge sums by being a part of the bodies of authority and decision-making institutions. By the mid 1980s and 1990s, they have started to invest in the market. Being protected and supported by leading positions in power, the freedom of economic competition and the market has been disturbed due to the spread of corruption. In parts of Yemen, the tribes’ tendency to use violence to articulate their demands and solve their disputes (either by kidnapping, destroying buildings, mugging, imposing compulsory charges on entrepreneurs) is a great obstacle for investment and development projects in some remote and tribal areas with deteriorating conditions (Adel Al Shargaby et al, in Arabic, 2008). This poor environment in terms of economy, development and knowledge prevents the youth from obtaining the minimum rights of education, health and growth.

Despite the announcement of political and partisan plurality and many clan individuals receiving membership in political parties, the political and social practices of tribal leaders are still influenced by tribal concepts and norms. The dilemma of the tribal role in development is still present in the cultural scene. Some researchers believe tribal influence hinders modernisation, the development of new institutions and consolidation of the state’s power. On the other hand, some believe that the clan system in Yemen does not contradict the state since it is historical and present part of it (Al Mansoob, in Arabic, 2006).

Tribes in Yemen have a special particularity; they are stable and form a political community power that has some characteristics of a political party, lobby, or administration

Under tribal dominance, it is evident that loyalties and citizenship rights cannot be complete or equal. The discriminatory class and social divisions form the values and concepts for youth. They suffer from such separation and even impose the same product of the prejudiced traditional inheritance. This is again an obstruction for shaping the desired positive values for a society in which the characteristics of the knowledge and science society prevail, especially tolerance, openness and intercommunication.

BASIC FREEDOMS

Human development is linked to the concepts of freedom, the secured provision of basic rights and the involvement of people. This necessitates the presence of freedoms and the expansion of opportunities for participation. After reunification in 1990, a democratic approach and political plurality have appeared in Yemen. Transformations have been seen in the political, legal and economic systems of the former parts of Yemen. Therefore, Yemen has a relatively open atmosphere for political freedoms and the freedom to express one's opinion. The Republic of Yemen has been based on political plurality and economic liberalism under the provisions of the Constitution. Article 5 states that, "The political system

of the Republic of Yemen is based on political and partisan pluralism with the aim of enhancing the peaceful transfer of power...". Under Article 7, the national economy is based on freedom of economic activity. According to Article 10, "the state shall sponsor free trade and investment..." Thus, the constitution states the basics for political pluralism, freedom of the press and expression, people involvement and a free economy. Article 4 of the constitution states that, "the people of Yemen are the possessors and the sources of power, which they exercise directly through public referendums and elections, or indirectly through legislative, executive and judicial authorities, as well as through elected local councils."

SOCIAL AND ECONOMIC FREEDOMS

For equality of a decent life for both genders, the constitution secures economic and social freedom as it does for political rights and freedom. The constitution acknowledges the right to practice private economic activity and the right of ownership. This is without prejudice to the interest of society where it states that the protection of private ownership cannot be confiscated unless necessary in the public's interest, in lieu of fair consideration and in

Yemen has a relatively open atmosphere for political freedoms and the freedom to express one's opinion.

TABLE 4-4-2

Yemen's Rank in the Economic Freedom Index 2010/2011 (%)

Indicator	2010	2011
Economy Freedom	54.4	54.2
Business Freedom	74.4	73.7
Trade Freedom	76.1	81.6
Tax Freedom	83.2	83.2
Government expenditure	51.3	44.5
Monetary Freedom	65.1	82.3
Investment Freedom	45.0	45.0
Financial Freedom	30.0	30.0
Property Rights	30.0	30.0
Freedom from Corruption	23.0	21.0
Labour Freedom	65.4	50.9

Source: Heritage Website, 22 May 2011 www.heritage.org

accordance with the law (Article 7, c).

The Economic Freedom Index²³ shows a decline of 0.2 in 2011 for Yemen, which ranked 127 among 179 countries and 13 among 17 Arab countries whose data are available, while it was 121 among 179 countries in 2010, and rank 13 on the level of 17 Arab countries with available data.²⁴ The Yemeni constitution admits the right of citizens to articulate thoughts with all available media and by the means they believe would express their opinions and stances, including speech, writing and gathering (Article 42). It also guarantees the protection, freedom and confidentiality of correspondence, including mail, telegrams or telephone, which may not be censored, exposed or delayed except in cases specified by the law (Article 53). Yemen has signed international conventions for the protection of innovation, creativity and intellectual property rights, such as the Paris Convention in 1994 that regulates intellectual property in all aspects, including rights and commercial purposes. Although an intellectual property law exists, it needs to be modified to cover all types of intellectual property, namely the technical aspect, and to develop and facilitate the procedures for registering the various creativities, particularly inventions and to state the appropriate penalties to control intellectual property violations.

Modifications to the Law of Press and Publication are currently being discussed in the Shura Council with the Syndicate of Journalists arguing that the modifications proposed by the government would further restrain the freedom of journalists more than the existing law. The actual situation shows politicisation of the formal and opposition press that are obsessed with political competition instead of the concerns of people, development and youth. This can be partially attributed to the domination of the political situation and instability that has preoccupied public opinion. However, a country such as Yemen needs its journalists to be more responsibly and effectively

engaged with the issue of development. The interest in education and knowledge is not represented in reportage, field examination and coverage of conferences and workshops. Newspapers dedicate little space for in-depth discussion and diagnosis of the issues of education and knowledge infrastructure in Yemen.

INDEX OF OVERALL PROSPERITY AND PERSONAL FREEDOM

According to the Legatum Prosperity Index, personal freedom is limited in Yemen but there is a space of freedom in the daily life of Yemenis. The index indicates that Yemenis do not have limitations to practice their religious beliefs or freely express their opinion without fear of government control. Under the indicators of 2010, Yemen, regarding personal freedom, ranks 107th worldwide, compared to Algeria (101), Egypt (109), Jordan (105) and Morocco (100).²⁵ So, personal freedom is close to that of some Arab countries; however, the index clearly shows the need for the expansion of freedom and creation of more investment opportunities in social capital.

LEGISLATION AND LAWS

The Yemeni constitution emphasises that, “all citizens are equal in rights and duties”. To this end, “the state shall guarantee equal

The interest in education and knowledge is not represented in reportage, field examination and coverage of conferences and workshops. Newspapers dedicate little space for in-depth discussion and diagnosis of the issues of education and knowledge infrastructure in Yemen

TABLE 4-4-3

Yemen's Rank in the Overall Prosperity Index 2010

Indicator	The rank among 110 countries
Overall Prosperity	105
Economy	99
Entrepreneurship and Opportunity	106
Education	102
Health	94
Safety and Security	96
Governance	103
Personal Freedom	107
Social Capital	79

Source: Legatum Website, 23 May 2011

In an attempt to revise legislation and laws for the benefit of the youth, a thorough revision of some national laws has been conducted to reconsider and remove discrimination

opportunities for all citizens in the fields of political, economic, social and cultural activities” (Article 24). Every citizen has the right to participate in political, economic, social and cultural life (Article 42). The state guarantees education as a right for all citizens through building educational institutions and providing the appropriate conditions. Basic education is obligatory (Article 54).

In an attempt to revise legislation and laws for the benefit of the youth, a thorough revision of some national laws has been conducted to reconsider and remove discrimination, such as the Child Law, Juvenile Law, Crime and Punishment Law, Personal Affairs Law, and Prison Regulation Law. The laws have been modified to correct some inconsistencies, including the age of childhood to correspond to the Convention on the Rights of the Child and the legal protection of children living in harsh conditions. It also addresses issues relating to violence against children, such as female circumcision, early marriage, child labour, rights of teenagers as well as maximising penalties for violators of child’s rights. These laws have become a vital tool for the institutions of the civic society and human rights, as well as for activists advocating youth rights. There are emerging organisations concerned with the issues of children, the youth, public awareness and mobilisation for violations against these age groups. Among the issues most advocated are for juveniles, child labour, early marriage, violations and violence against children.

As for policies and programmes many have been developed such as the National Children and Youth Strategy and the Supreme Council for Motherhood and Childhood. General strategies have been devised for developing basic, secondary and vocational education. The Child Parliament has been activated to follow juvenile conditions and delinquent care centres, spread awareness of child rights among the youth, and involve children in drafting childhood-related policies.

LOCAL AND INTERNATIONAL CHALLENGES FOR HUMAN DEVELOPMENT IN YEMEN

POLITICAL AND SECURITY CHALLENGES

Since the establishment of the unified state, the security and political challenges facing the young country over 2 decades have affected economic, social, political and cultural development in Yemen (Abdulmalek Al Doraay, in Arabic, 2010). Examples include:

- The Summer war of 1994 had excessive economic, social and political consequences on the national economy.
- The Saada wars which began in 2004, with the most furious and final round in 2009. Experts estimate losses to be around \$750 million. As a result, food insecurity indicators increased in the conflicting areas. Thus, the reconstruction costs have multiplied to around 20 billion YER.
- The impact of the conflict in Somalia has driven large numbers of Somalis, Ethiopians and others to emigrate. The number of African refugees in Yemen is more than 700,000. In addition, the threat of piracy has spread to Yemeni territorial waters, affecting trade, navigation and the life of numerous fishing-dependent communities along Yemen’s coastal strip on the Gulf of Aden and off Somalia.
- The escalation of the activities of radical groups and terrorist assaults targeting buildings, service sectors, government and foreign interests and security, and affecting local and international investments.
- Political and security instability in some governorates adversely impact the development of these communities.

DEMOGRAPHIC CHALLENGES

Continuous population growth in Yemen has led to an increase in the average

number of family members and a rise in the sustenance rate. This has affected the family's ability to provide for health, food and education. As a result of the population growth, government spending necessary to meet the growing needs has also increased. This reflects how the infrastructure is too poor to afford private investment and the increase in economic activity to realise the development. In 2015, the population of those under 25 years of age is expected to reach 18 million; constituting 63% of the total population.²⁶ This poses a great challenge for the educational system in Yemen to prepare for this excessive number for the knowledge society. Among the major demographic challenges is the vast population scattering that undermines the state's ability to reach out to all communities and provide basic services, especially in rural and mountainous areas. The harsh geographic nature of the communities living in the highlands, plains and deserts increases the cost of delivering these services and hinders the provision of a decent life. Additionally, it puts pressure on the limited resources, the water supply in particular, so the people of some mountainous areas leave due to severe drought and lack of fresh water.

SOCIAL CHALLENGES

The variation of the social structure, classism, the control of conservative powers and traditions are major factors that have great influence. Because of such a traditional structure, the youth are not supported by the society to grow independently. They are often marginalised in both political and social participation in their communities. This has a negative influence on their personality formation, independence and development of social skills.

As a consequence of poverty and economic conditions of many families, child labour has increased. The official statistics of child labour in Yemen are

conflicting.²⁷ However, according to a recent international study of children in a number of governorates, the most recent data in 2005 indicate that more than a million child in the 6-14 years age group work and 80% of these children perform dangerous and hard tasks (Cooperative Housing Foundation (CHF), in English, 2009).

Early marriage is common in Yemen, especially in the countryside, because of traditions that emphasise the practice for both genders. It impacts female educational enrolment and completion where they are usually forced to leave. In such cases, girls are deprived of their educational rights, aside from the health threats due to giving birth at this early age. Despite efforts to raise awareness of the health problems for both the couple and children, early marriage still widely prevails.

ECONOMIC CHALLENGES

After reunification in 1990, Yemen has faced major economic difficulties. The incorporation of two political systems has had an enormous impact on the economy. As a consequence of the First Gulf War (1990/1991), a million Yemeni emigrants returned from neighbouring countries. The 1994 civil war in Yemen additionally impacted the economy and initiated a severe economic crisis. In 1995, an economic and administrative reform programme and market-based economy have been employed. In addition, the role of the private sector has been enhanced in the area of economic growth.

POLICIES OF ECONOMIC AND ADMINISTRATIVE REFORM

The reform programme, backed by revenues from crude oil, has successfully decreased the macroeconomic imbalances, created some economic stability and made progress in the infrastructure and the basic services. The government budget has been improved, moving from a 14.9% deficit

The variation of the social structure, classism, the control of conservative powers and traditions are major factors that have great influence

Variation in economic activities should be stressed, since relying on limited sources of income, such as oil, emigrant money transfers, foreign aid and others shall not realise the desired growth

of the GDP in 1994 to a surplus of 7.1% in 2000 (MPIC, 2010 A). A social security network has been developed with various approaches to alleviate the impact of the reforms on the poor.

With the decline in oil revenue, the global economic crisis, the growing population, the recent political and security circumstances in many parts of Yemen, public limited resources have been reduced and the state's ability to provide public services has been lowered. Economic growth is still the biggest challenge. In the coming period, increasing the growth rate should be a top priority. Variation in economic activities should be stressed, since relying on limited sources of income, such as oil, emigrant money transfers, foreign aid and others shall not realise the desired growth. The structure of the economy can only be changed by a wide-scale growth rate of income resource diversification (MPIC, 2010 B).

Yemen gives priority to economic, financial, and administrative reforms, the implementation of the national agenda of corrections, enhancing partnerships with the private sector and civic society and building development partnerships with donors.

UNEMPLOYMENT

Unemployment is and shall be a major challenge in Yemen over the next few years if the educational system is not updated to reasonably focus on practice and link its output to the requirements of local and regional markets and the knowledge society. Since beginning of the 1990s, the national rate of unemployment has risen to 14.6% in 2009 due to the deteriorating economic situation and delayed development of a central recruitment strategy. Statistics show a recent further decline.²⁸ The unemployment problem in Yemen is structural; it is mainly a product of the incapacity of the national economy to accommodate the annual new labour, and structural unemployment results from the incompatibility of skills required for existing job opportunities and those of

job seekers. Unemployment has evolved to be a youth issue that is common among the graduates with different specialities. The problem is also evident among students of production age that have never worked, which is 52.9% of young people aged 15-24 years old (MPIC, 2010 A).

The number of unemployed graduates has increased as they don't meet the labour market needs. In addition, the private sector hardly ever finds the skills required in those graduates. TEVT and university graduates find it more difficult to enter into the labour market, due to a weakness in the required skills, a poor command of foreign languages and the use of computers, and decreased job opportunities in the state's administrative authority. Inappropriate education output for the labour market requirements and the diminished role of the private sector to offer new jobs are demanding challenges. New national programmes of graduate requalification to meet the market needs should be approved. TEVT institutions should be restructured to be more responsive to current and future requirements, particularly those of the knowledge economy. Moreover, the private sector should play a pivotal role in management and recruitment.

Non-traditional solutions of unemployment are numerous,²⁹ including the expansion of local heavy-labour developments, self-employment ventures financed either by the government through the Social Development Fund, Social Care Fund and Youth Fund, or by lending and financing organisations of micro and small-sized enterprises, such as Bank of the Poor and NGOs that are concerned with funding youth, women, and small enterprisers and the activation of employment services. Two fundamentals should lead to this end. First, an information infrastructure should be developed and a labour market analysis unit should be created with a website that allows local and international employers to record their vacancies and requirements. Second, employment offices should be improved in terms of human power, infrastructure and connection to labour market analysis units.

TABLE 4-4-4

Social Gender Indicators for 1990-2008 and Target Indicators for 2015

Indicators	1990	2000	2004	2008	2015
Ratio of females to males in primary education (%)	44.6	55.7	70.6	74.8	100
Ratio of females to males in secondary education (%)	13.7	36.6	44.8	58.8	100
Ratio of females to males in university education (%)	20.5	23.3	35.3	37.5	100
Ratio of educated females to males aged 15-24 (%)	34.1	--	57.8	--	100

Source: UNDP and MPIC, in English, 2010

Knowledge society requirements are not only limited to narrowing the supply/demand gap in the labour market, but also to developing the local market economy to be on a par with regional and international knowledge economies. Then, the actual situation needs to be corrected in multiple directions, such as devising strategic plans to move into the knowledge economy and defining the required skills and abilities to be simultaneously developed.

The modern state of Yemen has faced harsh situations that have affected the efforts of structural stability and comprehensive development that aim at expanding individuals' options. Most endeavours have focused on meeting basic needs, such as spreading education rather than improving its quality and implementing the planned visions of preparing the youth for the knowledge society. Therefore, bridging the skills and digital gap and drafting a practical strategy for human capital investment are among the most outstanding knowledge challenges for Yemen.

GENDER EQUALITY

When it comes to preparing the knowledge generations, we should not disregard the issues surrounding girls who represents half of the Arab youth. They experience, in many Arab countries, social traditions that further restrict their abilities and talents and hinder their involvement in the knowledge society more than males.

Like other Arab societies, Yemen is a male-dominated society where social customs play a primary role in

discriminating against women. There have been efforts made to increase the number of feminist and rights organisations, as well as the participation of women in elections as candidates and voters with some leading positions occupied by women, such as ministers, ambassadors, members of parliament and Shura and local councils. However, many challenges slow the desired progress, and this is mostly attributed to inherited social traditions and customs, poverty, the harsh economic situation, increased illiteracy and a low community awareness of the significance of women in development. In addition, radical political and religious movements have played an adverse role in limiting the opportunities to improve the conditions of Yemeni women and have hindered development efforts targeting women. They have successfully misled people about the woman's situation and role as prescribed by our true religion. Consequently, the enrolment of girls in school is low in the countryside with the excuse that the availability of female teachers is a must. Many girls leave school after the 4th or 5th grade. Early marriage is common in the rural areas. Women are prevented from participating in public issues in favour of their traditional role. Significant efforts have been made to raise girls' school enrolment in the countryside by building girls' schools and classrooms, providing female teachers and offering food and financial incentives within various programmes of the Ministry of Education. Nevertheless, there is much more to be done. Local councils and communities are still required to play a more effective role

Radical political and religious movements have played an adverse role in limiting the opportunities to improve the conditions of Yemeni women and have hindered development efforts targeting women

TABLE 4-4-5

Women's Representation in Parliament and Shura and Local Councils

Role	Women	Men	Total	Ratio of women to men
Parliament members	1	300	301	0.3 %
Shura members	2	109	111	1.8 %
Local council members	38	7,594	7,632	0.5 %

Source: Women National Committee, 2010

In an astonishing fact, formal statistics indicate that less than half of the girls in Yemen enrol in primary education and the majority of them receive little education

to support the girls' right to complete their education.

According to the Interim Audit Report of the Third Socio-Economic Development Plan for Poverty Reduction, the economic activity of women was 8.8% during 2006-2008, with 24.6% of total workers and 15.5% of the official labour force. In the informal sector, sometimes called the unregulated sector, women account for 92.7%. This sector is less committed to labour laws and workers' rights and provides lower wages (Women's National Committee, 2010). Many achievements are noteworthy; however, there is much to be done if we want to prepare half of the youth, namely girls, to actively participate in the desired knowledge society.

In an astonishing fact, formal statistics indicate that less than half of the girls in Yemen enrol in primary education and the majority of them receive little education. Most of them get married, especially in the countryside, at an early age before developing their physical and mental maturity to find themselves responsible for children while they are in great need of care. How can we expect these adolescent mothers to raise, guide and develop their children in early childhood, the formative age of personality and cognitive growth? Yemeni girls, the future mothers, need real progress away from misleading ideas spread by radicals and a sincere orientation to improve their situation and provide basic needs, such as education, health and awareness. Women's development should be a central theme in development programmes and plans instead of political parties' overstatements

about uncompleted achievements.

COMMUNITY AND PROFESSIONAL INSTITUTIONS AND FUTURE GENERATIONS' PREPARATION

The role of the government in providing and spending on social services has declined because of economic, political and social changes, the trend towards the market economy, structural reform policies and other reasons. Therefore, other entities should be involved to complete the state's role in achieving sustained community development, such as the private sector, civic society institutions and other community organisations. Being much closer to the different categories of society, the role of these organisations has become more significant in building the knowledge society and preparing individuals for it. The knowledge society is greatly concerned with activating various community bodies.

CONTRIBUTIONS OF THE PRIVATE SECTOR

The review of the recent progress of the Development Plan 2006-2010 has highlighted the vital role to be played by the private sector and the appropriate conditions to be secured for its development. Private investment has grown during the first years of the plan, from 23.6% of the GDP in 2006 to 33.6% in 2007, and then it has significantly slowed during 2008 to be 21.1% of the GDP (MPIC, 2010 D). The effective

role of the Yemeni private sector has been undermined by being dynamic and small. A real desire of cooperation between the government and the private sector is clearly seen. Both the government and civic society institutions have numerously approached this through various corporate social responsibility conferences for the private sector and developing communication channels. However, more confidence, cooperation and integration seem to be needed between both parties. The private sector is still inactive in providing social services except some endeavours by the major commercial entities. However, the scope of such services does not cover the issues of sustainable development.

As for the private contribution in education and knowledge, it runs parallel to rather than complementary and uncontrolled in terms of quality and quantity. Its role is limited to for-profit nurseries, schools, universities and training institutes. Additionally, the small-scale private sector affects the knowledge demand and lessens competition in the market. Having joint projects or communication among the private sector, NGOs and the Ministry of Education is lacking except for the Education for All Coalition, an initiative created in 2010 by the civil society that seeks to include the private sector.

CIVIL SOCIETY INSTITUTIONS

NGOs, sometimes called the ‘third-sector’, are not only integral to the state’s role in social development, but are also fundamental to the state’s system when involved into creating, implementing, and controlling policies. The number of civil society organisations in Yemen is estimated to more than 7,000, varying from developmental, cultural, or rights institutions, or trade unions.³⁰ Nevertheless, most NGOs are limited to charity, with increasingly emerging activity in organisations concerned with rights, political and social, and childhood issues. There are few development-oriented NGOs

that manage to implement development and training programmes, in partnership with the government and private sector. Strongly linked to the government sector, private sector, or influential political groups are the civil society institutions that have adequate resources and capacities to continue their work.

NGO activity in education is almost absent, except for limited supplementary events performed by some major NGOs, local ones in particular, which provide adult literacy classrooms for rural women and school uniforms and bags for poor students. This does not mean that Yemeni civil society is unable to make an effective contribution to education and development. There are some unique experiences of boards of mothers in rural schools from which development NGOs have emerged. Due to the continued training and raised awareness of such boards, young female leaders have appeared and some successful NGOs have created and implemented some developmental and educational projects, for example in Yarim, a rural town.

Some development-oriented NGOs have leading programmes of building professional, informative, and administrative abilities and supporting small enterprises for young people until they can operate them independently.

This shows that the activation of civil society is possible if the political will allows it for further involvement in educational issues. Additional school independence, increased support of local authorities and enhanced decentralisation of decision making, a package that the Ministry of Education started in 2006, shall solve many educational issues, create leading development patterns and devise innovative solutions to the educational challenges in remote rural areas. Due to the transition to decentralisation and lack of experience of the executive authorities, the integration of non-educational NGOs is still currently not possible.

NGO activity in education is almost absent, except for limited supplementary events performed by some major NGOs, local ones in particular, which provide adult literacy classrooms for rural women and school uniforms and bags for poor students

MAJOR CHALLENGES FOR PREPARING THE FUTURE GENERATIONS FOR A KNOWLEDGE SOCIETY IN YEMEN

The development situation in Yemen suggests that the vision, foundations and legal frameworks for the knowledge society are available

The development situation in Yemen suggests that the vision, foundations and legal frameworks for the knowledge society are available. Moreover, among the most significant methods for economic growth is the focus on human capital investment. Therefore, it is possible to move into the knowledge society if real opportunities of enhancing political and economic stability become attainable in Yemen.

The inadequate training and rehabilitation for teachers' changing needs, and maybe students too, are among the adverse factors. Teacher preparation in educational colleges is not evolving to match the changing learning situations that are influenced by some new elements, such as the increased use of technology in education, knowledge challenges, an information explosion and communication technology. Thus, teachers are not prepared for today's students and accordingly do not educate the students for the future society.

Poor command of the native and foreign languages of both learners and teachers is evident; both lack the medium of knowledge, i.e. the language. Recent reports on labour market requirements in Yemen confirm that job seekers are weak in both foreign languages and computer skills.

Although the goals of curricula concentrate on comprehensive knowledge objectives, their practical part does not reflect this. Analytical and cognitive skills are rarely considered. Mechanisms of turning from education and dictation to learning and building effective self-learning abilities are absent. The status of development, education and enabling environments shows that efforts are centred on the quantitative expansion of basic educational services via providing its input, such as school infrastructure, teachers and curricula. Endeavours to improve the quality and outcomes of education are undermined by geographic and financial challenges and lack of resources.

The great difference between the countryside and urban areas, in terms of education environments or input that come in favour of the latter, prevents a high percentage of young people from an equally high quality education, impacting the educational outcome in rural areas. University education evidently shows this difference.



READINESS OF YEMENI FUTURE GENERATIONS FOR THE KNOWLEDGE SOCIETY: RESULTS OF THE FIELD STUDY

INTRODUCTION

This section aims to measure the extent of youth readiness in Yemen to access the knowledge society through a field survey conducted to measure student possession of a number of skills, values and enabling environments that are required for the knowledge society. The survey also examined the opinions of students and teachers regarding the appropriateness of their environments to enable them to acquire the required skills and values.

SAMPLES OF FIELD STUDIES IN YEMEN

Within the general goals of the current Arab Knowledge Report, three categories from the society were chosen in order to survey their opinion. The first category and main sample is the students. The teachers of those students in the sample schools are the second category. The third category includes experts, intellectuals and decision-makers representing Yemeni society and the stakeholders.

RANDOM SAMPLING OF STUDENTS

Similar to the general methodology followed in other case studies, in Chapter 5 of the General Arab Knowledge Report, stratified random sampling was drawn to collect a sample of twelfth grade students in Sana'a schools.

The sample was taken according to the

data approved by the Ministry of Education, showing the number of students and their educational disciplines. It included 207 schools and 21,022 students. For systematic purposes, sampling was limited to twelfth grade Yemeni students in the capital. The random sample included students in government and private schools only.

SAMPLE DESCRIPTION

The sample included 29 (20 government and 9 private) schools in the capital Sana'a.³¹ The student sample was 1,724 (860 males and 864 females) from all departments. The field survey was conducted between 17 and 20th October, 2010.

SAMPLE OF TEACHERS

The teachers of the same students were randomly drawn for the sample, with disciplined variation considered. The number of teachers sampled was 117.

GROUP OF EXPERTS AND DECISION-MAKERS

To examine the opinions of specialists and other representatives of the Yemeni society, a brainstorming workshop was held in August, 2010, to select experts, intellectuals and educationalists. 48 various specialists in the private and public sectors participated in the workshop. They were asked to give their views on major issues

The survey also examined the opinions of students and teachers regarding the appropriateness of their environments to enable them to acquire the required skills and values

that need to be addressed to prepare the youth for effective involvement in the knowledge society, define the requirements and suggest methods to attain this end.³²

RESULTS OF THE FIELD STUDY

SKILLS

Three skills were measured: cognitive, conative and social. The results of students' responses are detailed below.

COGNITIVE SKILLS

This section measured 4 basic skills: information search and processing, written communication, problem solving and use of technology. The findings were analysed by calculating arithmetic means, standard deviation and difference analysis.

Generally, it is obvious that the students who responded have poor cognitive skills, as illustrated in Table 4-5-1.

The above table shows that the students' scores vary between 3.5 (as a

minimum score) to 64.5 (as a maximum score) with an average of 27.72. This clearly indicates the poor level of students in the target skills, as their performance is less than the first 1/3 of the scale and significantly below the average score (50 out of 100) for the minimum level required to possess cognitive skills.

An examination of the components of the cognitive skills and the averages shows that written communication skills are the weakest.

Females outperformed males in the skills of information processing and written communication, and males exceeded in use of technology. There was no significant difference for problem solving. When talking about the skills collectively, the difference vanishes, and the performance of both males and females is equal. Written communication and information processing, both needing writing and accuracy, may be attributed to the fact that females are more patient than males.

The detailed results of the students for cognitive skills are below:

TABLE 4-5-1

Results of aggregate cognitive skills (measured from 0 to 100)

Average (Arithmetic mean) ³³			Standard deviation ³⁴		Standard ³⁵ deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
27.91	27.54	27.72	10.35	9.98	10.16	3.57	64.49	No difference

TABLE 4-5-2

Results of detailed cognitive skills (measured from 0 to 25)

Skills	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Information searching	8.83	9.91	9.37	3.43	3.71	3.35	0	20.24	In favour of females
Written communication	4.41	5.14	4.79	5.04	5.14	5.11	0	25	In favour of females
Problem solving	5.87	5.91	5.89	3.64	3.59	3.61	0	19.44	No difference
Use of technology	8.79	6.56	7.67	3.67	3.39	3.71	0	20.28	In favour of males

Information searching and processing skill

Students' scores varied from 0 to 20.24, and no student received the maximum score (25). The arithmetic mean is 9.37 out of 25. This means that the general performance of respondents is less than expected. Only 312 students, i.e. 18% of participants, received the minimum score (12.5).

Many reasons can explain the evidently poor skills of information searching and processing, including:

- School curricula do not focus on such skills; questions focus on information memorisation and rarely tackle information processing and analysis.
- The practical content of data and chart processing and analysis are insufficient, and the students lack the ability to deal with realistic data and examples of other resources other than the books used in schools.

Written communication skill

The scale for this skill was 0 - 25 score. Respondents' scores varied from the minimum to the maximum, with 365 students (21.2%) receiving 0 and only one received 25. The arithmetic mean was 4.79 out of 25, indicating the great lack in this skill, with a difference of 8 points between the students' scores and the minimum required level (12.5 out of 25).

The written communication skill is the poorest skill of the Yemeni young people. It may be attributed to the students, males in particular, being uninterested in questions, even those with few words. It may also reflect the fact that teachers modestly concentrate on enhancing all types of writing skills, as they often focus on writing essays rather than other kinds of writing.

Problem solving skill

The scale of this skill was 0 - 25. It is

obvious again that the youth are poor in this skill, with 18 students receiving 0, no student received the maximum of 25 and 4 students receiving 19.4. The arithmetic mean is 5.89 out of 25, with only 4% of students receiving at least the minimum score (12.5).

Two explanations can highlight the reasons for the students' poor command of this skill. First, students are unable to read instructions and link them to the provided map keys, as they do not practice such kinds of questions in the curriculum. Second, most students depend on the teacher to explain the question (sometimes due to being lazy or unconfident). Therefore, when the teacher repeats the instructions, the students become more confident with the meaning behind the question. The survey does not allow this, so the students had to rely on themselves to understand the instructions. These low results indicate an urgent need for concentrating on problem solving, understanding instructions and enhancing and strengthening the practical part.

Use of technology skill

Although computer labs are available in schools, especially in secondary schools, and computer subjects are included in the curricula of both the basic and secondary education, the arithmetic means of this skill (7.67 out of 25) is remarkably low. So, the general performance of the sample is 5 points below the expected level. 23 students received 0, and no one received the highest score (25), with the highest score being 20.2.

These results may be due to the inadequate number of computers in labs, so students do not practice using them enough. In addition, few students have personal computers at home due to their high price. The use of the internet is primarily limited to entertainment, chatting and games. The internet is available in internet cafes for males who

The practical content of data and chart processing and analysis are insufficient, and the students lack the ability to deal with realistic data and examples of other resources other than the books used in schools

are allowed to stay outside the house, but not for girls. So, the narrow use of technology for entertainment outweighs its use in science. No attention is given to research and stimulating students to search for information rather than the school content, thus reducing the development of these skills.

Analysing differences between cognitive skills

The differences in the averages of the cognitive skills measured are statistically significant. This shows the actual variation in skills, so the general performance of students in all cognitive skills is poor but to

No attention is given to research and stimulating students to search for information rather than the school content, thus reducing the development of these skills

FIGURE 4-5-1

Comparison of average (arithmetic means) for cognitive skills for males and females

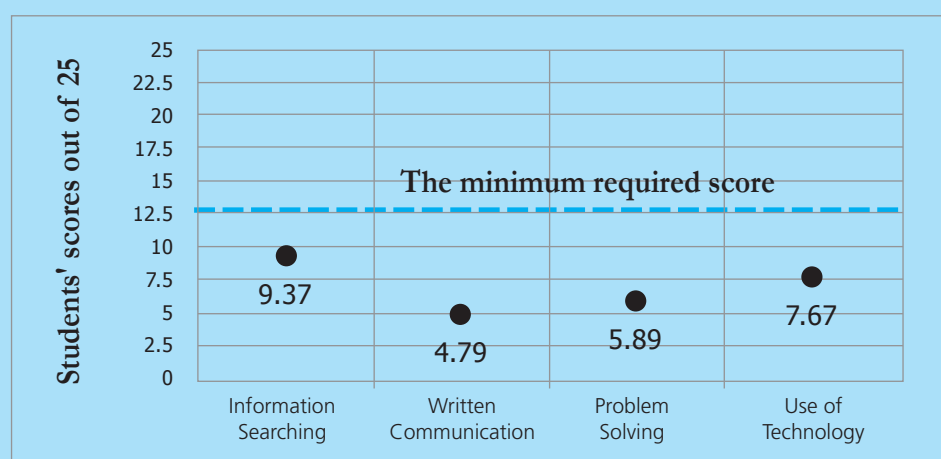
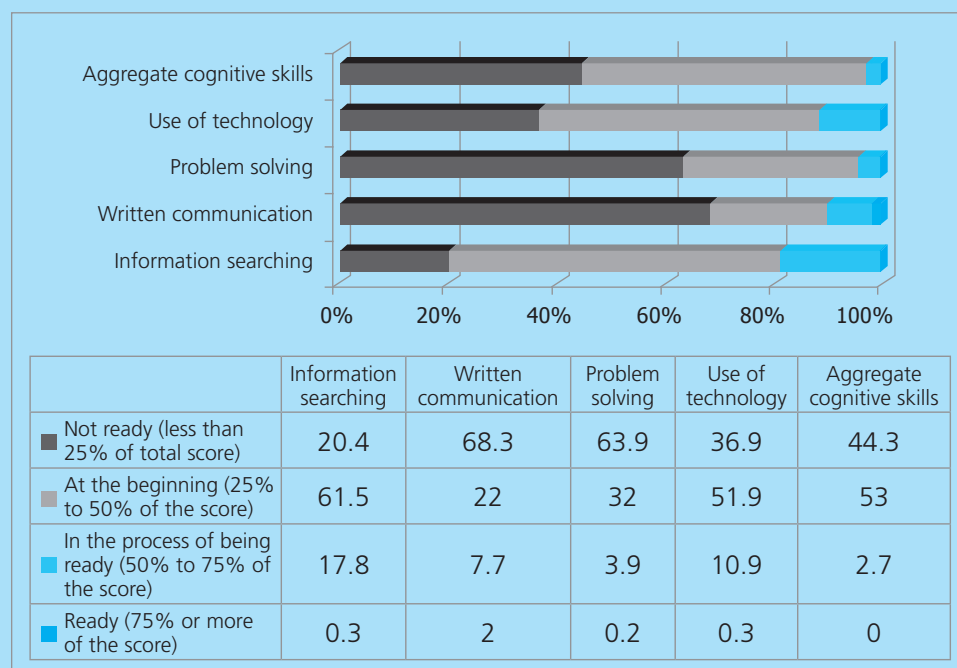


FIGURE 4-5-2

Students' readiness in terms of cognitive skills



varying degrees. Written communication skill is the lowest, followed by problem solving skill, then the use of technology skill, and the highest performance was in the information searching and processing skills.

Students' readiness in terms of cognitive skills

It is noted that 44% of the responding students did not receive the minimum score that prepares them for the knowledge society, while more than the half of the sample are still on the way. On the upper half of the scale, 2.7% of students reached the 'phase of acquiring readiness elements', but no one reached the phase of 'readiness completely.'

As for the sub-skills, most students are in the lower half of the scale, so they do not have the adequate ability to respond to the cognitive requirements of the knowledge society. When the 4 skills are compared, the skills of information processing and use of technology are in a relatively better position than those of problem solving and written communication. More than 50% of students are on the cusp of readiness for the former

skills, while 60% of students are completely unprepared in terms of the latter skills. For more accuracy, we found that 114 students were 'not ready' in all skills, accounting for 6.6%, with no one reaching the fourth level in all skills. This clearly shows that cognitive skills are poor and a prompt revision of the Ministry of Education's curricula is needed.

CONATIVE SKILLS

Conative skills include 3 sub-skills: self-knowledge and self-esteem, motivation to learn and planning for the future. Collectively analysed, the outcome of the conative skills are better than the cognitive skills.

Theoretically, the total scores for the 3 conative skills are collectively calculated, with a range of 0-75. The students' scores varied from 0 to 63.10, with 107 students (6.2%) receiving 0 and only 7 students receiving 60 and above. Measured against the arithmetic mean (39.99), most of respondents obtained the minimum score for conative skills, with 78.8% receiving 37.5 or more.

Comparing the result with the gender variable, females outperformed males in the skills of self-esteem and planning for the

Written communication skill is the lowest, followed by problem solving skill, then the use of technology skill, and the highest performance was in the information searching and processing skills

TABLE 4-5-3

Results of aggregate conative skills (measured from 0 to 75)

Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest degree	Highest degree	Statistical differences between males and females
Males	Females	Total	Males	Females				
37.81	42.03	39.99	15.57	11.42	13.68	0	63.10	In favour of females

TABLE 4-5-4

Results of detailed conative skills (measured from 0 to 25)

Skills	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Self-esteem	20.22	20.60	20.42	3.63	2.91	3.27	0.89	25	In favour of females
Motivation to learn	18.6	18.56	18.58	3.45	3	3.22	1.39	25	No difference
Planning for the future	4.07	4.89	4.48	3.39	3.79	3.62	0	25	In favour of females

The increased level of self-esteem and planning for the future with girls positively indicates how they are highly self-confident, contrary to the social and cultural conditions that show a basis for male self-appreciation and prestige inside the family, like many Yemeni families

future, while males exceeded in motivation to learn. However, these results were not statistically significant. All differences are statistically significant for girls, even with collective skills. The increased level of self-esteem and planning for the future with girls positively indicates how they are highly self-confident, contrary to the social and cultural conditions that show a basis for male self-appreciation and prestige inside many Yemeni families. In addition, this indicates that girls are able to overcome social obstacles for becoming involved in the knowledge society.

Self-knowledge and Self-esteem

Students performance in this skill was high, with 35 students (1.9%) receiving the maximum score, and arithmetic mean of 20.42 out of 25, which is 8 points above the theoretical mean (12.5 out of 25). This reveals an increased level of self-esteem for most of the students who responded.

They are able to judge the consequences of their actions, are confident in having the necessary abilities for success and are willing to openly learn their faults from others so as to correct them. As positive indicators of psychological balance, students highly appreciate knowledge for future progress. This confirms the high value placed on learning and knowledge and the confidence of youth in their abilities.

Motivation to Learn

Scores varied from 1.39 to 25, and only 3 students (0.2%) received the maximum score. The arithmetic mean was 18.58, with around 6 points above the theoretical mean (12.5 out of 25). More than half of the students received high averages in this skill, with 58.5% of students receiving a score of 18.58 and above. The standard deviation indicates that the students' scores are close.

Sections covering objective clarity and the use of self-learning and self-evaluation methods highlight the trend of students

towards learning. A high percentage of them have some control over their self-orientations and strategies (varying from 86% to 76% for those who responded with 'totally apply' and 'somewhat apply').

The high scores for motivation to learn may be explained by family-related factors, such as education welfare at home and parental encouragement. Since the sample included students from the third secondary grade, i.e. the final year of secondary education, students were very competitive to obtain high scores in order to join universities that raised its enrolment rates (a minimum of 70%) or receive local or foreign scholarships. Therefore, the future options of the young people are highly determined by the marks of the secondary certificate.

Planning for the future

287 students received 0, and only one student received the maximum score (25). The arithmetic mean was less than 4.48 out of 25, with 8 points below the theoretical mean (12.5 out of 25). This suggests respondent students' poor ability to plan for the future.

Teenagers should have the ambition to achieve current and future objectives which is a sign of self-esteem. The students already articulated some goals relating to wealth and social status. It seems contradictory to the significant percentage that said they act according to their parents' planning. A small group said they do not have objectives or did not set their goals yet. This reveals that some families fail to develop the skills of planning for the future and others restrict the freedom of their kids to choose their future options.

Weak skills for planning for the future is an evident product of the absence of professional and personal guidance programmes that help secondary graduates to define their preferences and choose their study or career path. Additionally, parents are usually the ones who select this path for their children. Therefore, the absence of the freedom to choose and

learning options do not allow the building of strong and independent personalities that enable young people to identify goals, abilities and preferences.

Analysing differences in conative skills

Comparing the averages of the conative skills examined, they are statistically significant. This confirms that the levels of the skills vary among the sample, self-esteem was the strongest skill and planning for the future was the weakest.

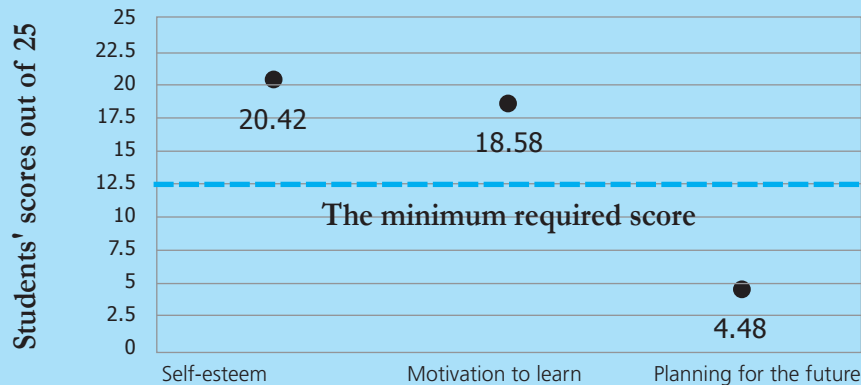
Students' readiness in terms of conative skills

Students' performance in conative skills is better than cognitive skills, collectively and in detail. Most of students are in the third level, i.e. the phase of acquiring the necessary skills. Only 9.9% of the students do not have the minimal conative skills needed for the knowledge society. At the other side of the scale, few are ready (2.8%).

As for the conative sub-skills, most students fall in the third and fourth levels

FIGURE 4-5-3

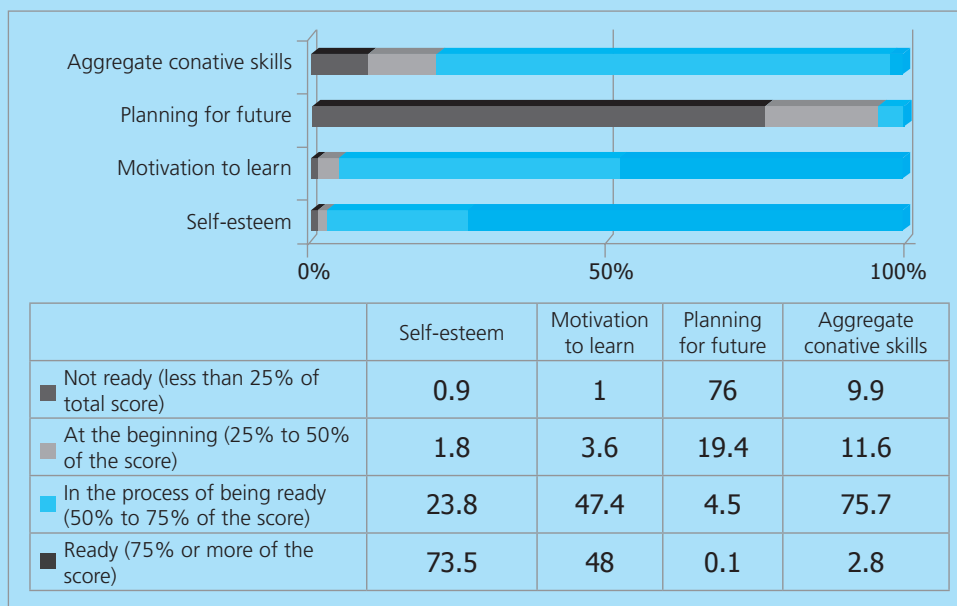
Comparison of average (arithmetic means) in conative skills of males & females



Weak skills for planning for the future is an evident product of the absence of professional and personal guidance programmes that help secondary graduates to define their preferences and choose their study or career path

FIGURE 4-5-4

Students' readiness in terms of conative skills



We can conclude that the youth have good self-esteem; however, further support of educational institutions, such as the school and family, are required for skill integration

of the readiness scale, except for planning for the future. For more accuracy, we found that 3 students were 'not ready' in all skills, with no one reaching the fourth level in all skills at the same time.

We can conclude that the youth have good self-esteem; however, further support of educational institutions, such as the school and family, are required for skill integration. Although the curriculum objectives include the development of such aspects, reality does not reflect these goals.

SOCIAL SKILLS

Social skills include 3 sub-skills: communication with others, teamwork and participation in public life. Collectively analysed, the outcomes of the social skills are better than the cognitive skills as shown in Table 4-5-5.

The total scores of the 3 social sub-skills collectively vary from 0 to 75. 209 students (12.4%) received 0, and 9% received 60 or more. The arithmetic mean (37.54) corresponds to the theoretical mean (37.5) that can be considered the minimum score for social skills. Accordingly, 60% of participants reached the minimum and above, with girls clearly

outperforming boys.

Females outperformed males in skills of communication with others and teamwork, while males exceeded in participation in public life. The difference is statistically significant and becomes larger if the skills are collectively combined. This confirms again that girls generally exceeded boys in this area.

Communication with others

22 students (5.3%) received 0, and another 22 students (5.3%) received the full score. The average (15.86 out of 25) exceeded the minimum score (12.5) with 3.5 points. More than 61.7% of students attained the mean. This indicates that most students have the minimum limit of communication with others, although the limited social environment is not motivational, particularly in the case of girls who face more restrictions on communicating with others.

Upbringing methods may have an impact on the students not performing well in the skills of communication and ability to manage dialogue and accept others' point of view. Families do not often promote discussion and argument, primarily with elder members. Just like

TABLE 4-5-5

Results of Aggregate social skills (measured from 0 to 75)

Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
Males	Females	Total	Males	Females				
34.05	41.18	37.54	17.49	17.49	19.93	0	71.10	In favour of females

TABLE 4-5-6

Results of Detailed social skills (measured from 0 to 25)

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Communication with others	15.12	16.51	15.86	6.47	5.35	5.94	0	25	In favour of females
Teamwork	11.5	14.65	13.05	8.03	6.94	7.68	0	24.12	In favour of females
Participation in public life	15.08	13.69	14.33	6.92	6.5	6.73	0	25	In favour of males

the pattern of Arab families in many conservative societies, the older member dominates, and the younger is instructed to show respect and silence instead of communication. Additionally, the school does not pay sufficient attention in developing the skills of discussion and dialogue methods because of the tight curriculum and classroom size.

Teamwork skill

289 students received 0, and no one received full marks (25). The arithmetic mean (13.05) is higher than the required minimum limit for possessing this skill (12.5 out of 25). Therefore, the performance of the students with regards to teamwork is within the required average; it is generally moderate.

While training on teamwork skills is limited in schools, the youth experience in working in groups shows a great awareness of this skill. This can be explained as a characteristic of Yemeni society that still has positive qualities, such as helping others and cooperating in group work, such as weddings, funerals, disasters and charity. This is still a part of the original heritage, either in rural or urban areas, so young people spontaneously gain these skills.

Participation in public life skill

Participation in public life is significant since it is a major part of the aspiration of the community and educational institutions towards preparing the youth. To measure this skill, many questions were chosen to examine the youth's participation in voluntary activities, local elections and community work outside school.

49 students (3.9%) received 0, and 128 students (10.1%) received the full score (25). This is a positive indication that the students who actively take part in public life outnumber those who completely refrain. More than 50.4% of students received the arithmetic mean (14.33 out of 25), revealing that half of the students has a reasonable degree of this skill, with the difference in the favour of males.

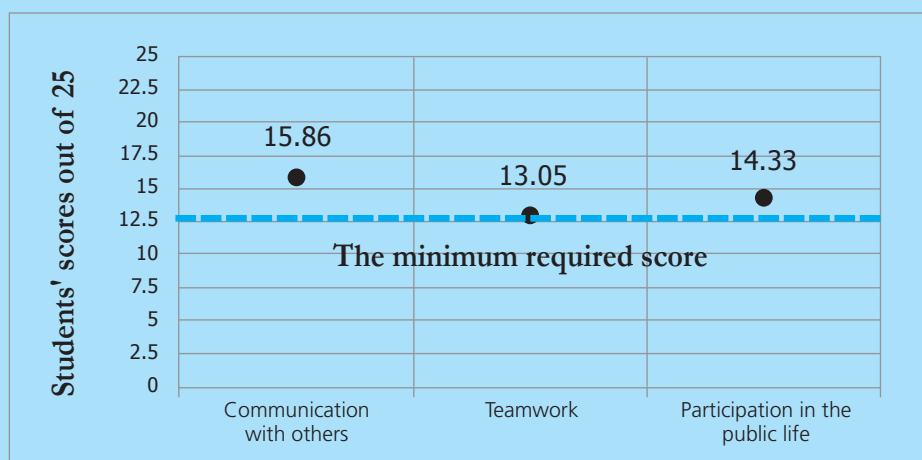
Analysing differences in social skills

Comparing the arithmetic means of the social skills examined, shows they are statistically significant. This confirms that the levels of social skills vary. Students show varying performance in the skills, with teamwork being the weakest, followed by participation in public life, and then direct communication with others being the highest.

Upbringing methods may have an impact on the students not performing well in the skills of communication and ability to manage dialogue and accept others' point of view. Families do not often promote discussion and argument, primarily with elder members.

FIGURE 4-5-5

Comparison of average (arithmetic means) in social skills of males and females



Students' readiness in terms of social skills

The survey results show that most students fall in the third and fourth levels of the readiness scale, and about 20% of respondent students do not have sufficient social skills, so they fall in the first level for accessing the knowledge society. On the other side of the scale, few are ready (17.2%).

Focusing on the upper category, at least 30% of respondents in each skill have reached the 'ready level', with varying performance between students between one skill and the other (teamwork at the top and communication with others coming last). For more accuracy, we found that 91 students (5.3%) are 'ready' for all social skills, and 8 students are completely 'not ready'.

The survey results have been compared to the views of experts and intellectuals in a discussion workshop held in Sana'a. Below are the most remarkable findings relating to skills and abilities.

VIEWS OF WORKSHOP PARTICIPANTS ON THE DESCRIPTION OF THE FUTURE GENERATIONS' SKILLS THAT ARE REQUIRED FOR ACCESSING THE KNOWLEDGE SOCIETY

Intellectuals and decision-makers concentrated on skills that they believe cannot be covered by traditional memorisation-based education. Skills of critical thinking, creativity, information processing and analysis are the most needed for preparing the youth in Yemen for the knowledge society. At the same time, experts think these skills are currently the poorest.

Figure 4-5-7 shows the most compelling skills, according to the experts. Cognitive skills, such as analytical thinking, decision-making and problem solving, are at the top.

Specialists agreed unanimously that the poorest skills of Yemeni youth are those relating to critical and analytical thinking, creativity and planning. Such skills are essential for dealing with the massive flow of internet information, satellite channels and

Specialists agreed unanimously that the poorest skills of Yemeni youth are those relating to critical and analytical thinking, creativity and planning

FIGURE 4-5-6

Students' readiness in terms of social skills

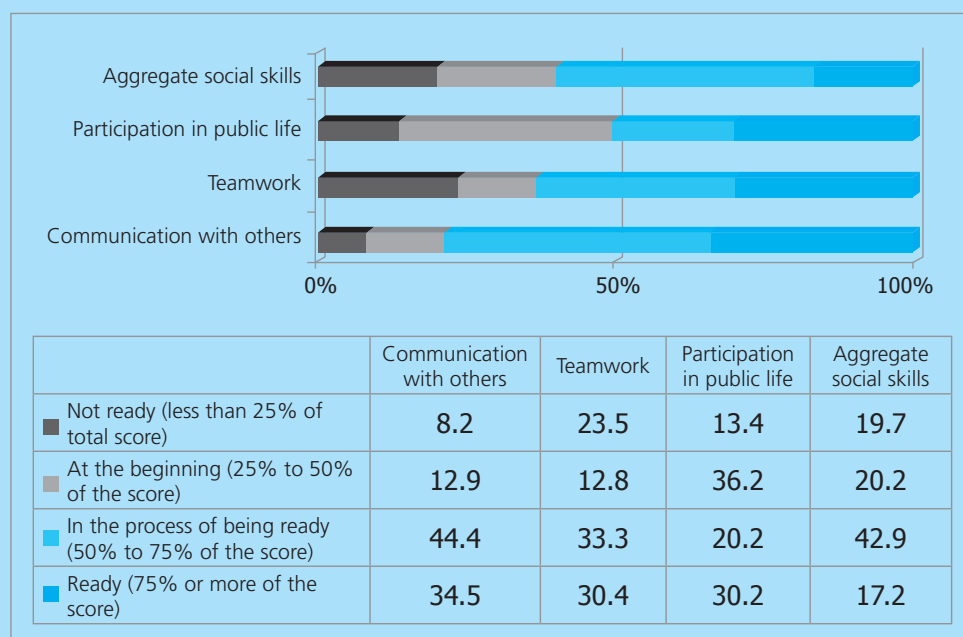
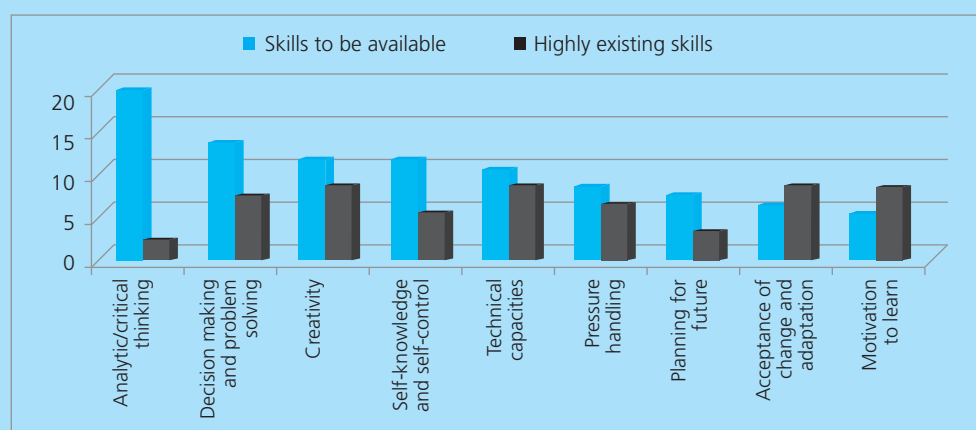


FIGURE 4-5-7

Views of workshop participants on the major skills and their availability



Comparing the expert views to the survey findings, there is agreement that the skills of analysis, thinking, planning for the future, decision-making and problem solving are low

newspapers. They represent uncontrolled and open resources of knowledge so the users should be able to process, refine and use this information stream.

Comparing the expert views to the survey findings, there is agreement that the skills of analysis, thinking, planning for the future, decision-making and problem solving are low. On the other hand, experts believe that the skills of self-knowledge and motivation to learn are absent, while the students show high performance in both.

Again, cognitive skills were found to be the poorest, followed by self-development

skills, such as decision-making, planning for the future, negotiation, dialogue management and acceptance of others' views. In the course of curriculum revision, these self-learning skills and practical exercises should be considered in teaching methods and approaches.

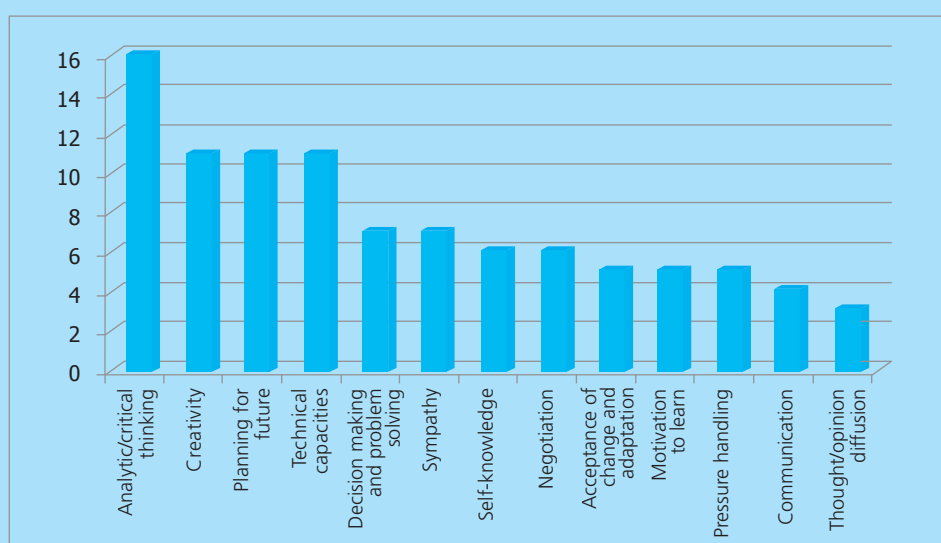
VALUES

AGGREGATE VALUES

Analysing the arithmetic means of all surveyed values (1-5 scale), the actual

FIGURE 4-5-8

Views of workshop participants on the weak skills in Yemen



scores of the students range between 2.22 and 4.65, with only one student receiving the minimal mark while the remaining exceeded the theoretical mean (3 out of 5). This indicates that the great majority of students possess the examined values.

COGNITIVE VALUES

This part focuses on measuring the cognitive values relating to the significance of knowledge and education, individual initiatives, renewal, overcoming learning difficulties, excellency, success and appreciation of educational contributions. The students' scores vary from 1.84 to 5, and the arithmetic mean is 4.05. This reveals that most students have a strong sense of cognitive values based on their statements.

SOCIAL VALUES

Students' scores ranged from 1.67 to 4.72, with an arithmetic mean of 3.75. This indicates that most students have a good grasp of social values but with lower marks than for cognitive values.

The results of the social values are in line with social skills, including teamwork. This is reflected by the strong presence of the values of community work and helping others. In addition, most society members are characterised by modesty and gentility that can be seen for example in the various social occasions where the elite gather side by side with poorer individuals.

CONATIVE VALUES

Most students showed high marks for conative values, with scores ranging from 2.74 - 5 and averaging 4.03. During adolescence, ideals greatly increase. This may partially explain the students' answers concerning such values.

UNIVERSAL VALUES

Just like other values, students seem to have a high sense of universal values, even if relatively less than cognitive and social values. The minimum score is less than the theoretical mean (3), and 96% of students received 3.93 and above. This robust understanding of universal values can be in part attributed to the inclusion of the concepts of human rights and demography in curricula. Another positive factor is the political momentum in Yemen during the first decade of the current millennium, such as the local, parliamentary and presidential elections in which all classes participated. This creates some recognition of concepts of democracy and political involvement.

Girls outperformed males in both social and universal values; however, there is no statistically significant difference in cognitive and conative values.

STUDENTS' READINESS IN TERMS OF VALUES

As for collective values, most students

Just like other values, students seem to have a high sense of universal values, even if relatively less than cognitive and social values

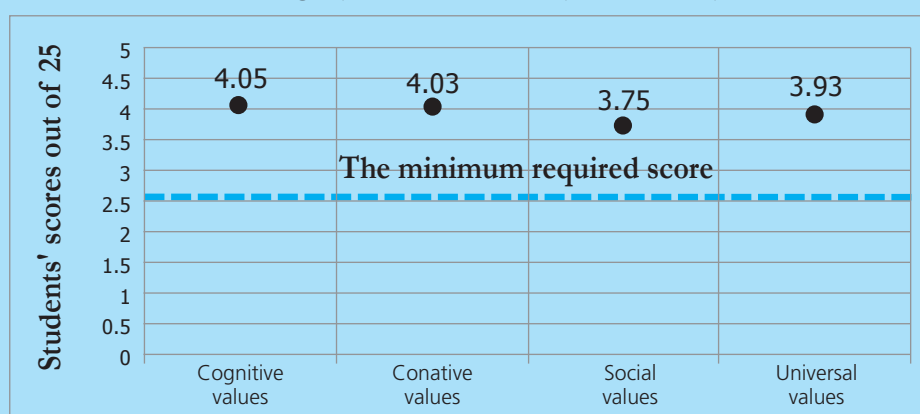
TABLE 4-5-7

The results of values (measured from 1 to 5)

	Average (Arithmetic mean)			Standard deviation		Standard deviation	Lowest score	Highest score	Statistical differences between males and females
	Males	Females	Total	Males	Females				
Collective outcome of values									
	3.9	3.97	3.94	0.28	0.26		2.22	4.65	In favour of females
Detailed outcome of values									
Cognitive values	4.04	4.06	4.05	0.39	0.87		1.84	5	No difference
Conative values	3.96	4.10	4.03	0.37	0.36		2.74	5	In favour of females
Social values	3.76	3.74	3.75	0.35	0.32		1.67	4.72	No difference
Universal values	3.85	4	3.93	0.39	0.26		2.47	5	In favour for females

FIGURE 4-5-9

Comparison of average (arithmetic means) of values (males & females)



reached the upper two levels of the readiness scale, with 55.7% in the course of being ready and 44% ready.

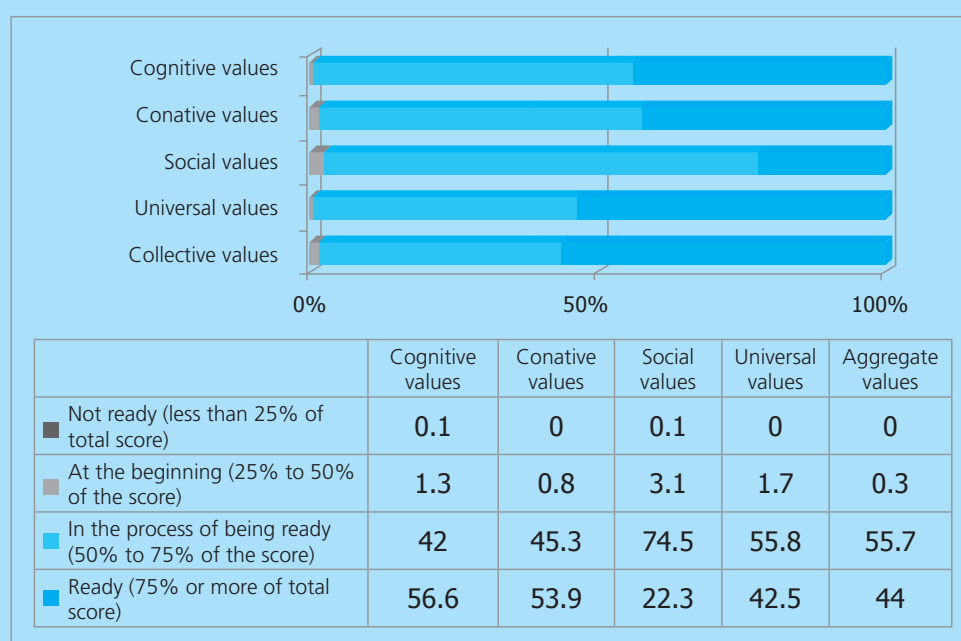
Examining the upper part of the scale (the ready), it is remarkable that students are more ready in cognitive and conative values, followed by universal values, then social values. Generally, the situation is better than with collective skills since students who responded, except very few, have the minimum limit of values that make them in the

course of being ready or are already ready. Accordingly, the youth's readiness regarding the values is much better than the skills. This again reconfirms that the component of skills in educational content needs careful revision and attention to the quality and practice of the skills. Educational objectives clearly underline the importance of skills for the preparation of the youth; however, the curriculum does not actually reflect this.

Girls outperformed males in both social and universal values; however, there is no statistically significant difference in cognitive and conative values.

FIGURE 4-5-10

Youth readiness in terms of values



VIEWS OF WORKSHOP PARTICIPANTS ON THE REQUIRED VALUES FOR THE FUTURE GENERATIONS TO ACCESS THE KNOWLEDGE SOCIETY

It has been agreed that the youth must have three values related to learning and an increase in knowledge to enter the knowledge society: passion and curiosity for knowledge, creativity and responsibility. As for personal values, belonging has been emphasised. When talking about dealing with others, participants have stressed the value of national, Arab and Islamic affiliation.

The participants agreed that ambition, diligence, perseverance, modesty, desire for new information and self-esteem are the most powerful personal values the youth have, as shown in Figure 4-5-12. Such values are good indications that the youth are willing to know the latest and develop a curiosity for knowledge and information, i.e. the basic values for learning. Comparing this outcome with the expert views regarding the necessary values for the knowledge society, a conflict appears between what is needed and what

the youth already have.

The participants attributed these values to the family upbringing that emphasises the respect and appreciation of knowledge, and they described the skills as characteristics of Yemenis. Others believe that these are inherent values and have nothing to do with upbringing and/or political orientation. On the other hand, there was an evident weakness in personal values, especially in confidence, personal balance, self-honesty, participation in public life and independence of thought. This may be justified by the poor attention paid by the educational institutions, such as the family, schools and social culture that always expect obedience and compliance to their instructions and pre-set behaviours, as seen in the traditional families in many Arab societies.

In addition, the experts blamed curricula fluctuation for not practically reflecting these values within the value system that young people should have. Moreover, they have criticised the educational methods that are based on memorisation and instruction and do not develop independence of thought. Religious strictness and radical groups are additional elements. In general, there is

The participants agreed that ambition, diligence, perseverance, modesty, desire for new information and self-esteem are the most powerful personal values the youth have

FIGURE 4-5-11

Views of workshop participants on the major values and the extent of their availability among the youth

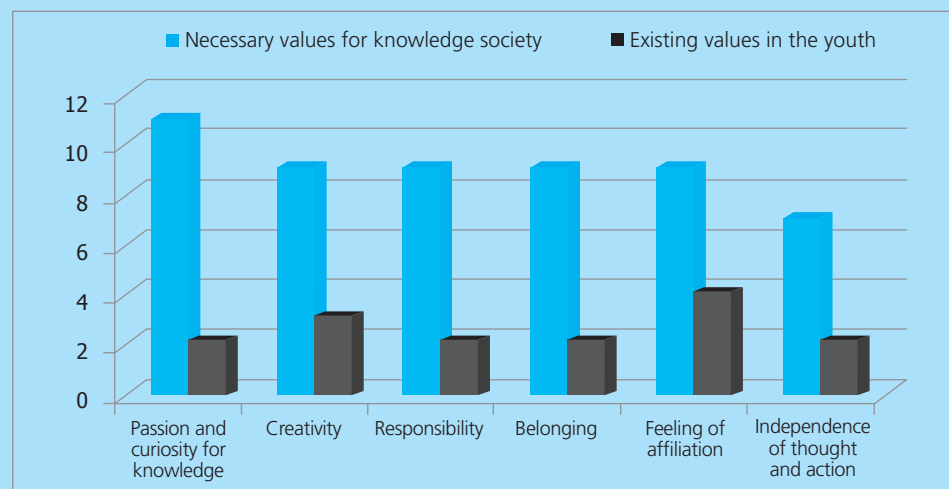
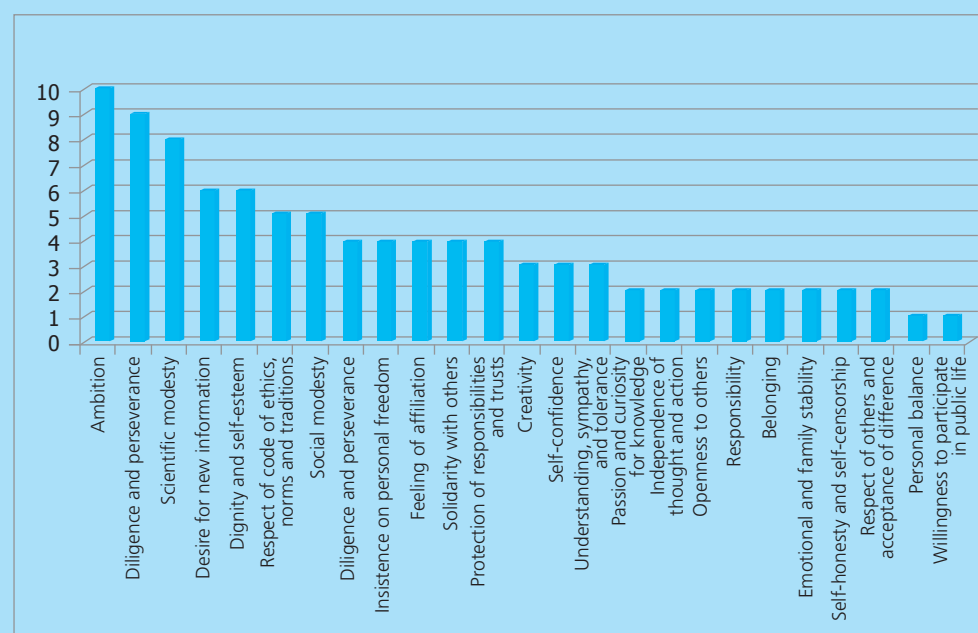


FIGURE 4-5-12

Views of workshop participants on the major values available in Yemen



The survey includes an examination of enabling environments, either at home, school or in the community. It covers the social and educational situations of the family, home welfare, family pattern of upbringing and their effect on the level of values and skills acquired

decreased sense of group responsibility due to tribalism and the absence of good examples for the youth. Poverty and the great difference in standards of living are influences that cannot be neglected in this regard.

It can be concluded that the youth's assessment of values they have is higher than that of the experts and teachers. This can be explained in that the youth somewhat ideally evaluate their values or that the experts are more pessimistic about the values of the society for various reasons. Since reunification, Yemeni society has experienced a transitional period with attempts at harmonisation among the various social and ideological trends. Tribal loyalty, political parties and religious movements have emerged. All these factors have resulted in alien values to Yemeni society.³³ Dissimilarity in value concepts among the different social classes and educational institutions may interpret the view of teachers and specialists. It additionally reveals a gap between the youth and both teachers and experts, especially because of media openness and the information

and technology revolution that have influenced the youths' values away from traditional institutions.

ENABLING ENVIRONMENTS

The survey includes an examination of enabling environments, either at home, school or in the community. It covers the social and educational situations of the family, home welfare, family pattern of upbringing and their effect on the level of values and skills acquired. As for the school, the survey handles issues of educational welfare in schools, availability of facilities such as libraries, science labs, extracurricular activities and others, as well as the effect and support of the local environment on knowledge and education.

Some issues of the enabling environments have been combined into a number of variables. Regression analysis has been used to check the most influential factors on the acquisition of skills and values for the knowledge society. Below are the variables summarising the enabling environments, according to the student

It can be concluded that the most influential variables in the acquisition of skills and values are related to the family, such as the family upbringing pattern and parental education level, followed by school-related variables, then those linked to the local environment

questionnaire:

- Family structure
- Father's education level
- Mother's education level
- Family's attention to the student's study
- Family financial welfare
- Educational welfare at home
- Educational welfare in the local environment
- Educational welfare at school
- Family upbringing pattern

As for cognitive skills, regression analysis (see Table 4-16 in the Appendix) reveals five variables that have significant influence.

The most influential factors are educational welfare at home, such as having a home library, a computer, access to the internet and subscriptions to magazines, newspapers or reference books. The attention of the father, mother and family on the children's study come in second. Educational welfare at school, including science, language and computer laboratories, libraries, playgrounds and educational aids, has a much less effect. This suggests the need for more improvement and activation of school educational settings. Alternatively, it indicates that the students do not properly use them or are not allowed to make the desired use of them. It should be considered that most secondary schools in Sana'a are much better equipped than rural or primary schools.

As for conative skills, regression analysis shows four variables that have significant influence. The family upbringing pattern is the most powerful element in the acquisition of conative skills, followed by educational welfare at school. This indicates the major role of the family and the importance of the mutual efforts of both the family and the school in developing these skills, instead of each working independently.

As for social skills, there are two significantly influential variables, i.e. family upbringing pattern and educational welfare at school. Thus, the orientation of the family, its role in activating discussion

and dialogue and the availability of learning sources and educational welfare at school enhance the youths' acquisition of communication skills. Both are crucial in gaining social skills, and other skills.

Regression analysis shows three other variables to be significantly effective in gaining cognitive values. The family upbringing pattern is the most influential in developing such values, followed by educational welfare in the local environment. Here, it is notable that the school settings do not appear to be as effective in developing cognitive values, suggesting the poor role of the school in enhancing this aspect.

As for social values, four variables have significant influence. There are two similarities between social skills and values: the family upbringing pattern and educational welfare at school have an effect.

As for conative values, there are four significantly effective variables. The family-related variable dominates, especially the family upbringing pattern. For the first time, family structure appears as a variable. This may be interpreted as the absence of the father (not only by divorce but maybe due to death or immigration) which allows the mother to take responsibility in developing the values of her children alone. Findings show that these factors may affect the enhancement of these values, perhaps because of the mother's sense of responsibility.

As for universal values, four variables are significant. Noticeably, the variable of the financial welfare of the family has a reverse relationship with universal values. This variable includes technology equipment and its prevalence at home. It may be explained that the more luxurious the house is, the more the consumptive behaviour of the individual is. Family members are often preoccupied with entertainment and lose some interest in interacting with international or public issues, such as human rights violations and the environment.

It can be concluded that the most influential variables in the acquisition of

skills and values are related to the family, such as the family upbringing pattern and parental education level, followed by school-related variables, then those linked to the local environment. Therefore, the family still plays the main role in youth acquisition of skills and values. Since school-related variables come in second, there is clearly a shortage in the family's role of empowering the youth to gain the basic skills. The need for activating the coordination and integration of both family and school roles is highly emphasised.

These variables, despite their importance, do not explain all differences among the students. In other words, they are not the sole determinants of the level of acquisition, with an effect range of 4.8-12.7%. Therefore, there are other elements that affect student empowerment.

STUDENTS' VIEWS REGARDING ENABLING ENVIRONMENTS

Students were surveyed regarding some school and community environments to check their contributions to building their skills and values with regard to the educational aspects and the school environment. Table 4-5-8 shows that paragraphs relating to interrelation among the students had the most agreement. It also reveals that the school environment is motivating and encouraging for most students.

The student-school relationship is generally good. Most students tend to agree on the positive features of their schools,

particularly in terms of relationships and interaction at school. These are positive indications that students accept and feel comfortable towards their school and teachers in general. They may also reflect the peculiarity of the educational phase surveyed (final secondary year), in which both the school and teachers are more eager for students to achieve higher marks to keep the good reputation of the school. Therefore, most schools pay much attention to students of the third secondary grade, extra lessons are provided and students are given assistance to overcome their educational difficulties.

As for the evaluation of the health enabling environments, students' views varied. Almost 50% agreed that the school carries out anti-epidemic campaigns. This may be attributed to the condensed health awareness in school with the outbreaks of swine influenza.

Students' responses are positive in terms of the availability of basics, such as a social advisor to help them solve their social problems.

Teachers were surveyed regarding the support provided to the students by the school to improve performance and educational processes, and overcome difficulties. Teachers' views are different in this regard. However, it can be considered a positive indication that a quarter of the teachers sampled agreed that specialists exist and offer guidance and support to students. Different views may be attributed to the recent wide activation of this role in Yemeni schools, after being

The student-school relationship is generally good. Most students tend to agree on the positive features of their schools, particularly in terms of relationships and interaction at school

TABLE 4-5-8

Students' views on school and their relation with its components (%)

	Totally agree	Somewhat agree	Disagree	Totally disagree
A. I can easily understand the subjects.	23.7	67.7	7.4	1.3
B. The school enhances my desire to seek knowledge and excellency.	49.4	37.8	8.9	3.9
C. I feel comfortable and secure at school.	58.3	31.2	7.4	3.1
D. I have good relationships with my teachers (mutual respect).	75.1	21	2.2	1.7
E. I have good relationship with my schoolmates.	78.2	19.6	1.2	1
F. The school prepares me well for the future.	53	35.9	7	4.1

TABLE 4-5-9

Students' views on health enabling environments (%)

	Totally disagree	Disagree	Somewhat agree	Totally agree
A. The school provides periodic medical examinations for students.	25.8	20	20.3	33.9
B. The school provides free treatment for students.	30.3	19.6	18.4	31.7
C. The school clinic provides all necessary supplies (a bed, medical equipment, basic medicines).	22.3	14.6	22.3	40.8
D. The school organises medical campaigns against incidental pandemics.	17.6	13.2	26.3	42.9
E. The school offers educational programmes against dangerous diseases.	10.8	11	29.1	49.1
F. The school has a social advisor to help students solve their social problems.	13.4	10.8	24.9	50.9
G. The school has an educational advisor/psychologist to help students solve their psychological problems.	19.5	14.7	23.1	42.7
H. We study health-related topics.	18.7	16.9	27.5	36.9

neglected. On the other hand, teachers are dissatisfied with the system for filling the teacher shortage or other alternatives, particularly in government schools. 46.8% of the sample responded that this system is not available (see Table m4-12 in the Appendix).

As for the support offered to teachers, a dissatisfied tendency is evident in teachers' answers regarding the support provided by the school to develop their abilities, skills, financial situations and incentives for excellence. The highest percentage of total disagreement comes with the sentence, "There are associations to protect teachers' rights" with 14.7% (see Table m4-13 in the Appendix).

It is worth mentioning that government schools cannot provide training courses unless they are under the supervision of the concerned educational departments with the availability of financial support to cover related expenses. So schools, even private schools, use this for justification. However, school administrations do not show any interest in holding periodic short courses or meetings after working hours to develop professional performance (weekly or monthly). Both teachers and school administrations give excuses that the curricula are too condensed to have either time or effort for other activities. Therefore, schools are limited to routine courses held by the Ministry of Education (through educational departments).

FUTURE GENERATIONS AND POLITICAL PARTICIPATION

The issues of political participation and freedom of choice given to youth have been covered. The findings show some interaction with political orientations, with more than one third of students expressing their willingness for political involvement.

The results indicate a low interest in political participation. This might be attributed to the Ministry of Education and school administrations attempt to keep political and partisan issues away from schools to avoid their politicisation, contrary to universities where various student unions are very active.

Table 4-5-10 shows the students' more positive responses to the freedoms they have.

Personal and intellectual freedom of choice outweigh that of the educational choices. This is a positive indicator that the school or society does not push the youth to adopt a certain political orientation.

When it comes to the freedom given to teachers, the results were less positive. 55.3% state that they have absolute personal options. However, professional options come last after both intellectual and scientific freedom, with only 26.2% saying they have full freedom for professional choices (see Table m4-14 in the Appendix).

In general, two-thirds of the teachers

Teachers were surveyed regarding the support provided to the students by the school to improve performance and educational processes, and overcome difficulties

FIGURE 4-5-13

Students' views on political participation (%)

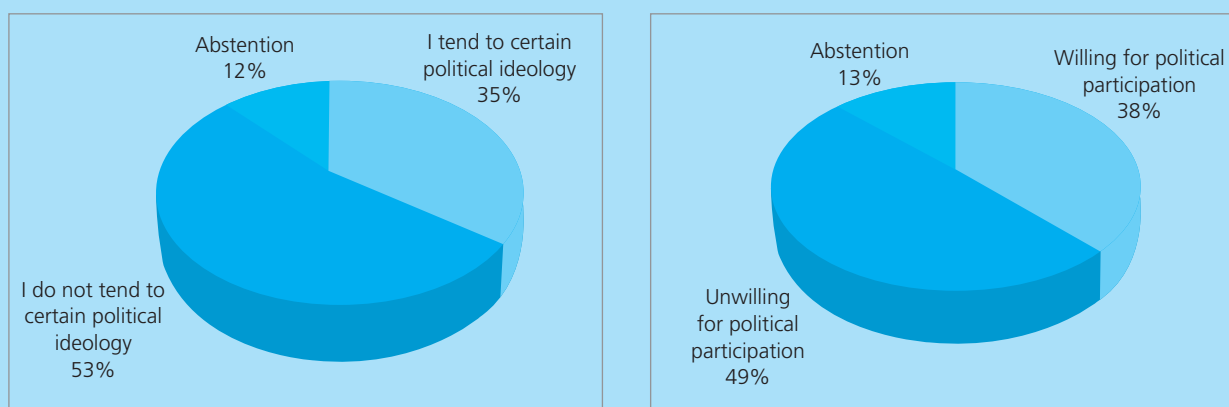


TABLE 4-5-10

Students' views on freedom of choice (%)

	Good freedom	Moderate freedom	Poor freedom	Absent freedom
A. Personal choices	61.1	33.9	3.2	1.7
B. Educational choices	49.2	41.5	7.1	2.2
C. Intellectual choices	57.3	32.1	8	2.6

sampled (66.7%) agreed that the expression of freedom is absent, while one-third believe there is an expression of freedom (see Table m4-15 in the Appendix).

STUDENTS' VIEWS ON LEGAL AND SOCIAL ENVIRONMENTS

The student's evaluation of the legal and social controls and standards inside and outside school are somewhat positive, as most of them either 'somewhat agree' or 'totally agree'.

It is remarkable that the students' confidence in the application of strict rules in the society is less than at school. The connection between money and better education is highlighted. Students may link private education, foreign language studies or studying abroad to nepotism or to those who are wealthy.

On the other hand, students show some confidence in the mass media, either government or private, as shown in tables 4-5-12 and 4-5-13.

However, we are not sure if the students' views are based on personal content formed due to watching various mass media, especially in light of the widespread satellite channels that attract a massive youth audience. Most of these channels are not local. The students' views may be partially based on adopting the opinion of their parents or the public.

VIEWS OF WORKSHOP PARTICIPANTS ON ENABLING ENVIRONMENTS REQUIRED FOR THE KNOWLEDGE SOCIETY

In conclusion, the 3 most important enabling environments that should be made available for the desired knowledge society are:

- An environment that provides knowledge infrastructure,
- An environment that offers basic education and prepares for life-long education,

Students may link private education, foreign language studies or studying abroad to nepotism or to those who are wealthy

TABLE 4-5-11

Students' views on legal and social enabling environments (%)

	Don't know	Totally disagree	Disagree	Somewhat agree	Totally agree
A. There are strict rules inside school for people to ensure their rights.	4.1	4.1	9.1	33.5	49.2
B. There are strict rules in the whole society for people to ensure their rights.	5.3	10.5	18.9	31.3	34
C. Because of applicable rules at school, the student is reluctant to violate the norms.	6	4.6	12.9	37.2	39.3
D. Because of applicable rules in the whole society, individuals are reluctant to violate the norms.	8.6	7.9	15.9	31.5	36.1
E. Regardless of the capacity or position of the violator, rules are strictly applied at school.	5.3	8.6	16	28.1	42
F. Regardless of the capacity or position of the violator, rules are strictly applied in society.	8.3	16.1	20.2	22.3	33.1
G. Having more money equals better education.	3.9	10	14.3	20.5	51.3
H. Jobs are given based on applicant qualifications rather than other considerations (e.g. cronyism).	9.2	18.4	20.1	20.8	31.5
I. Promotion is based on subjective rather than objective views.	13.9	5.6	13.7	34.8	32
J. Objective considerations are taken into account with recruitment, certification, promotion and other advantage rather than cronyism or nepotism.	15	12	13.6	28.2	31.2

TABLE 4-5-12

Students' views on government mass media (%)

	Don't know	Totally disagree	Disagree	Somewhat agree	Totally agree
A. The audio and video mass media are fair and honest in their coverage.	5.2	7.7	15.6	42.6	28.9
B. The audio and video mass media reflect the various views of society.	6.8	5.4	8.8	41.5	37.5

TABLE 4-5-13

Students' views on non-government mass media (%)

	Don't know	Totally disagree	Disagree	Somewhat agree	Totally agree
A. The audio and video mass media are fair and honest in their coverage.	9.4	7.5	14.2	39.2	29.7
B. The audio and video mass media reflect the various views of society.	10.1	5.6	10.7	38.9	34.7

- An environment that respects the freedom of thought, opinion and belief.

Figure 4-5-14 compares the enabling environments available and those that are required. It can be deduced that the environment that respects freedom is necessary for accessing the knowledge society. As a good indicator, such an environment exists in Yemen.

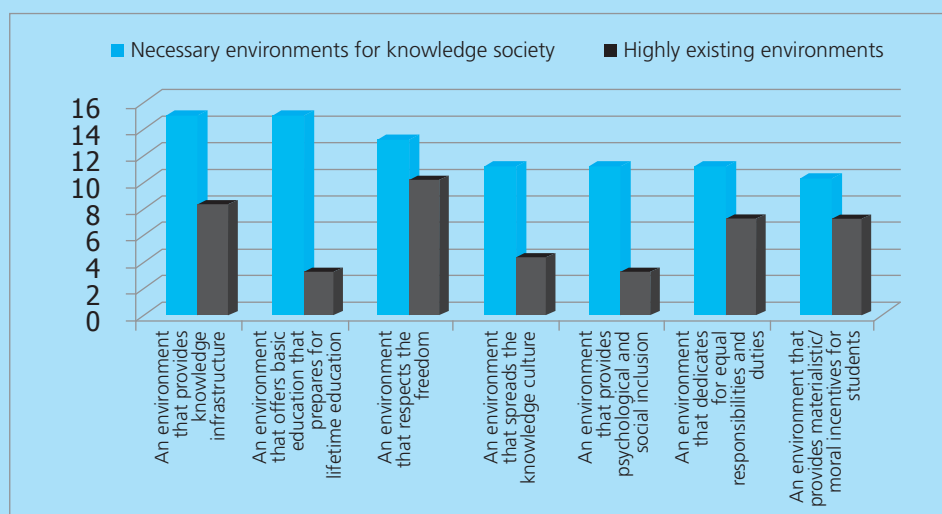
It can be noticed that the most

significant enabling environment available provides knowledge infrastructure. It is preceded in ranking by environments that respect freedom and provide materialistic/moral incentives for the knowledge students.

Participants see the reasons for having these environments available in Yemeni society are the religious and family influence that respects the freedom of

FIGURE 4-5-14

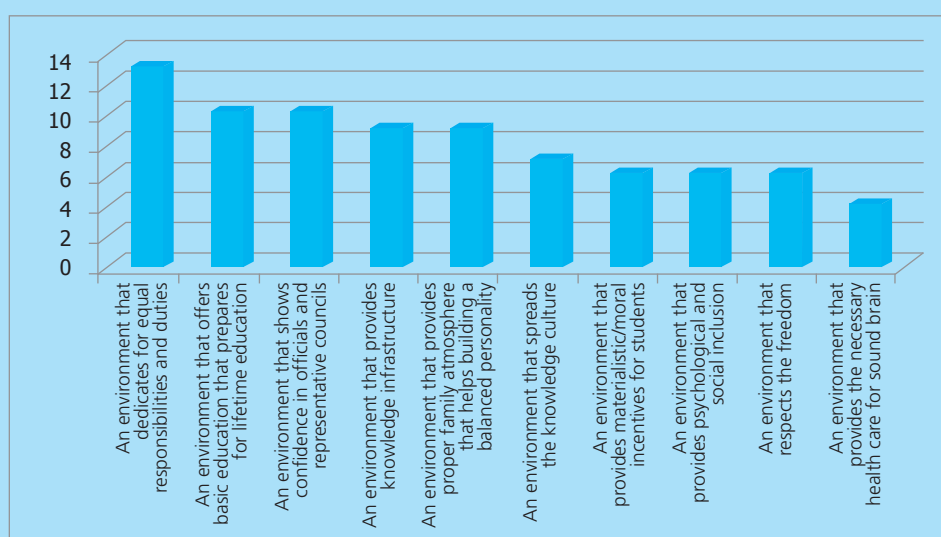
Views of workshop participants on the most remarkable values in Yemen



It can be deduced that the environment that respects freedom is necessary for accessing the knowledge society. As a good indicator, such an environment exists in Yemen

FIGURE 4-5-15

Views of workshop participants on the weak environments in Yemen



belief and opinion, in addition to some laws and legislations that protect such environments. Educational support via school infrastructure plus family stability are advantages for spreading the knowledge culture.

An environment offering basic education that enables life-long education is essential for the knowledge society. However, it is poor in Yemen due to the challenges in providing education for all

and a qualitative expansion that usually outweighs the concern of quality. This clearly indicates the need for reviewing the education systems and practices and to make them more responsive to the demand of the knowledge society.

In Figure 4-5-15, the experts identified the poor enabling environments in Yemen. An environment that is dedicated to equal responsibilities and duties was the most significant, followed by one that offers

It can be said that Yemeni youth are motivated and able to enter the knowledge society if the appropriate conditions and capabilities are provided, with the supportive, enabling environment at the top

basic education that prepares for life-long education and then one that shows confidence in officials and representative councils.

CONCLUSION

From the above analysis of the findings of the field studies carried out as part of this Arab Knowledge Report, it can be concluded that Yemeni youth suffers from weakness in the cognitive skills which are required to become involved in the knowledge society. However, they do well in conative skills (self-esteem and motivation to learn) and social skills (communication with others, teamwork and participation in public life), except in the skill of planning for the future. As for the values necessary for the knowledge society, the field research shows that Yemeni youth have such values in general, particularly cognitive and conative values. Therefore, it can be said that Yemeni youth are motivated and able to enter the knowledge society if the appropriate conditions and capabilities are provided, with the supportive, enabling environment at the top.



PREPARING YEMENI FUTURE GENERATIONS FOR THE KNOWLEDGE SOCIETY: PROPOSED VISION

INTRODUCTION

The 'Strategic Vision 2025' for Yemen emphasises the building of the knowledge economy and society. This vision sets out, in detail, the objectives and ambitions of becoming a medium human development country that has economic diversity and social, scientific, cultural, and political development. This aspiration needs reconsideration of the youth preparation systems, either educational or societal for those responsible for the development of human capital to make a multi-skilled generation adaptable to social and economic changes brought about by the techno-information revolution. The spread of education across the country has expanded despite huge challenges, such as wide population dispersion and geographic and economic obstacles. However, the quality of this vital aspect of human capital development, namely education, is still poor with output failing to meet the requirements of actual development.

QUATERNARY OF ACTION FOR FUTURE GENERATIONS PREPARATION

The proposed action towards the desired knowledge society can be summarised in an interactive matrix of 4 main pillars: the willingness to act, the ability to act, securing action requirements and how to act.

Based on the previous chapters, which reviewed the status, findings of field studies, and the vision of the general Arab Knowledge Report, a visualisation of the quaternary of action in Yemen is provided below.

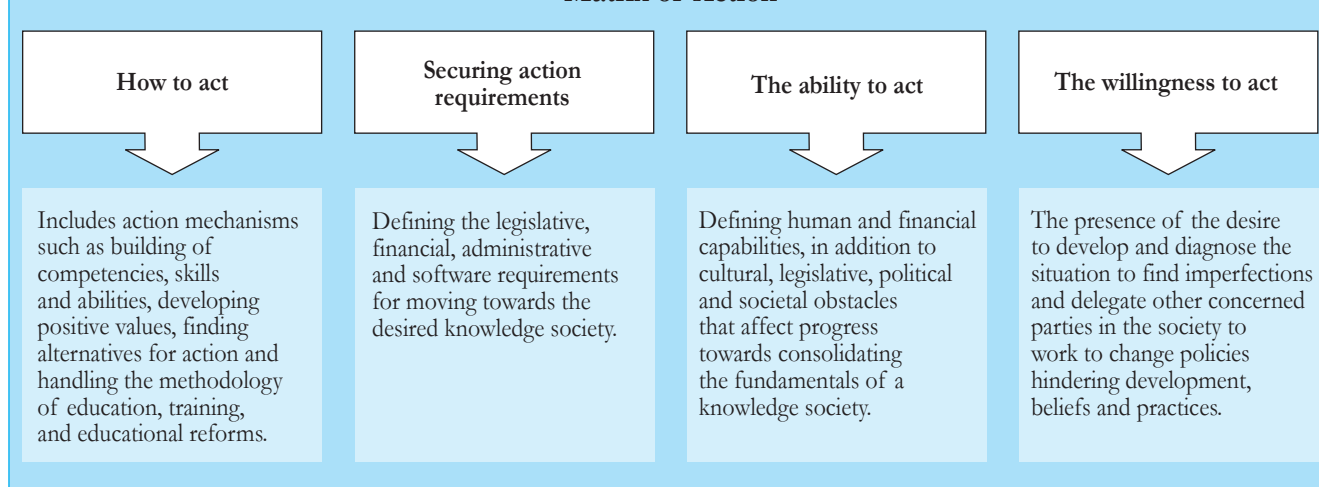
The spread of education across the country has expanded despite huge challenges, such as wide population dispersion and geographic and economic obstacles

THE WILLINGNESS TO ACT

Some indicators and evidence can help us know Yemen's willingness for change.

FIGURE 4-6-1

Matrix of Action



Due to challenges facing education in Yemen, educational expenditure are still low when compared to the requirements of developing high quality education

Below are some of these indicators:

Education spending: Generally speaking, the increase in education spending for quality improvement vs. operational expenditures is a main sign of a serious trend towards developing educational output. Due to challenges facing education in Yemen, educational expenditure is still low when compared to the requirements of developing high quality education. In addition, most of the resources are spent to improve salaries and other matters. Education spending during 2002-2007 decreased from 21% to 14% (Republic of Yemen and the World Bank, 2010). This is not enough to cover the increased demand on education, the population growth and the requirements for expansion. Schools still complain about the lack of operational budgets and support of creative and extracurricular activities. Therefore, the budget for education and its spending items urgently need reconsideration.

Nationwide reform plans: Public acknowledgement of the issue among the official authorities, rather than denial, is a further step towards reform, since education modification requires national efforts and institutions for planning, implementation and follow-up. It is unacceptable to entirely shift the blame to the Ministry of Education in working separately from the Ministry of Higher and Vocational Education. Educational reform should include a deeper and more comprehensive development vision for the current situation and the future. Human cognitive development should be central to such a vision. Then we should move into sector reforms of public, higher and TEVT education. The details of the elements and input of education and learning, such as learners, teachers, structural content, infrastructure as well as evaluation methods should be reconsidered.

With the turn of the millennium, Yemen has experienced some educational reform. A number of various strategies for different types and stages of education have been developed. This momentum

has led to a focus on human resources and improvement of educational paths. The increased enrolment rates, continuing expansion of the educational structure and the growing number of training programmes are evidence of this. Many strategies are in progress for different educational stages (see Chapter 2, Yemen case study).

Meanwhile, annual plans are followed up and evaluated through the common annual review held every May and attended by central and local officials from the Ministry of Education, representatives from ministries concerned with education and education-supporting development partners. The common annual review includes the progress evaluation of the annual plans and results and the mid-term outcomes, development and approval of recommendations and policies that guarantee the implementation of the objectives of short, mid, and long-term plans.

Projects and initiatives: Yemen takes part in some initiatives, such as Education for All – Fast Track along with international evaluations, such as Trends in International Mathematics and Science Study (TIMSS) for 2003, 2007 and 2011. This shows a sharp trend toward problem identification and diagnosis. In spite of sever criticisms for Yemen's participation with countries who are economically superior than Yemen, an honest desire for reform is noted what is lacking Yemen is to benefit from the results of these evaluations to address vulnerability through a systematic reform of curricula and teaching methods, students' acquisition of mathematical and scientific skills thinking and analytical skills and developing evaluation approaches.

Along with that, evaluation centres were established for quality assurance. These include measurement and evaluation centres and educational research and development centres to develop and measure the efficiency of the educational system and identify its problems. Evaluation and follow up of strategic

plans for basic and secondary education are included in the medium term frame that has been divided into 2 phases to evaluate progress made from 2003-2009. The frame incorporates many issues such as improvement in educational quality and appraisal of fulfilled institutional reforms. The evaluative frame is featured by partnerships with all active educational players, such as financers, donators, executives and supervision authorities. Some research is conducted and followed up, and annual evaluation reports are made on achievement progress.

The political will: Human resource development and educational issues take priority in the national five-year plans and reform agendas. The National Strategy for Local Government has clearly modified the roles and process of local executive offices in the governorates and provinces. It has enhanced the decentralised decisions that are made for individual local communities. However, further promotion of decentralisation is needed, especially in terms of allocating financial resources.

The societal will: It includes the contributions of other concerned institutions and parties along with the government in preparing the society for action. There are many forms of societal participation that support the main educational issues, such as parent boards in schools, NGO coalition for education, bodies and organisations for education under the Ministry of Religious Endowments and legislative councils, i.e. Parliament, Shura Council and local councils. It is necessary to let such participation escape the institutional bureaucracy for actual practice, renewal and implementation.

It can be concluded that a real desire to act towards youth preparation can be felt, either in political or societal decisions. However, more effort should be made in many directions to visualise this desire. Financial allocations for education should be increased and clearer, applicable visions should be employed to prepare the Yemeni youth for the desired knowledge society.

THE ABILITY TO ACT

The identification of weaknesses and strengths is a step forward in enabling the youth to enter the knowledge society. Chapter 2 has covered these points. Nevertheless, many advantages and enabling factors should not be disregarded in Yemen. These include:

Current generations: The current generations have an insatiable thirst for knowledge. Results of examinations have shown the motivation to learn skill to be significant. In addition, the findings of an expert workshop have indicated a high level of educational ambition in Yemeni youth.

Progress in building enabling environments: Yemen has expanded the infrastructure in terms of schools and educational centres built over the past few years, including computer and language labs, activity rooms and initiatives to create motivating educational environments. These are positive indications of Yemen's ability to build and improve. However, such expansion should include all geographic areas to offer equal opportunities for students nationwide. Since the financing resources are too short to cover needs, improving the quality of education should have a large presence in national plans. Partnership with other community parties, i.e. the private sector and local communities, are fundamental to further enhance the enabling environments.

Motivating/hindering legislation, laws and rules: Yemen's constitution expressly states that basic education is free and obligatory for all. Many policies have been developed to facilitate education for all, including exempting male students in grades 1-6 and female students in grades 1-9 from tuition fees. Nevertheless, there are legislative gaps to be bridged. Compulsory educational policies should be passed to force families to enrol their children in schools, with some penalties for violators. Laws for the application of educational quality standards should be enacted.

It can be concluded that a real desire to act towards youth preparation can be felt, either in political or societal decisions. However, more effort should be made in many directions to visualise this desire

SECURING ACTION REQUIREMENTS

Some political, economic and social elements feature in the coming period. The trend toward development and construction is among the most prominent characteristics. Over two decades, Yemen has increasingly experienced security and political challenges that have adversely affected the drive of economic, political and social development. Due to low human development indicators and huge challenges on all levels, the status of Yemeni youth is poor despite the great efforts of the government, the sole provider of all basic services, to meet health and educational needs. Certainly, the increase in this age group and the overall status will influence the next stage. With escalating political tension since 2011, priorities are changing according to the situation. However, comprehensive reform should be the starting point.

To ensure continuous action, some requirements should be met by multiple parties within the society. Cognitive capital development is a group responsibility, and all should cooperate to ensure the move and support the enabling environments. Below are some strategies for doing so:

- Expand and support civil society participation in educational and cognitive aspects.
- Promote and activate participation of the private sector, either for profit (investments in educational institutions or offering various training programmes) or voluntarily within its social responsibility. Support the government sector to reach disadvantaged sections.
- Make the youth a 'critical mass', central to educational, cognitive and development reforms.
- Devise effective accountability rules for education.
- Involve the society and especially NGOs in developing performance standards and evaluating training and qualification systems.
- Adapting new, comprehensive and

unified reforms for all components of the educational sector, TEVT, pre-school, the university and public education to attain educational objectives. Such corrections are reflected in the joint initiative for a unified vision for the educational system, sponsored by the government and the World Bank, so its completion and implementation should be accelerated.

HOW TO ACT

A comprehensive development vision of education should be employed. Executive plans should be drafted. Mechanisms of action should be identified. Investments in cognitive and human capital should be targeted, and enabling environments should be created. Mechanism of action can be summarised by creating a unified strategic vision for different educational sectors and paths (public, vocational and university) to determine the requirements and objectives of both current and future stages. The vision should be flexible, provide equal opportunities for all instead of the current selective policies that deprive many from certain curricula (university education for example) or impose different courses (such as TEVT) and focus on life-long education. Therefore, stages of educational reforms will be simultaneously accomplished to cope with the unified strategic vision.

Comprehensive educational reform is an effective tool for society to adapt to the current changes in Yemen and prepare its members to efficiently and positively deal with transformations locally and internationally. Four basic components for educational reform are highlighted:

DEVELOPING THE EDUCATIONAL COGNITIVE STRUCTURE

More attention should be given to teacher training. The rapid progress of knowledge necessitates continuous education for all

Cognitive capital development is a group responsibility, and all should cooperate to ensure the move and support the enabling environments

without limitation to certain educational institutions, curricula or age group. Both knowledge and technologies used for education are ceaselessly evolving. Therefore, the best educational development programmes and plans will fail unless teachers are always qualified and trained in order to refine the cognitive skills of the youth to face life and embrace life-long education. The trio of teacher, student and curriculum in Yemen needs reassessment and revision to match Yemen's strategic vision to build a modern knowledge society. Below are some remedies:

- New vision for teacher preparation: Since teachers have a highly complex role, teacher preparation institutions should support their role to primarily be the guide and manager of educational processes instead of their traditional function as the only source of knowledge besides school books.
- Bring about a comprehensive change in curricula to be learner-based, motivating for life-long self-learning and skills of critical thinking.
- Provide educational environments such as libraries and free access to learning resources.

EVALUATION AND DEVELOPMENT OF THE ORGANISATIONAL STRUCTURE OF EDUCATIONAL INSTITUTIONS

To this end, educational institutions should be restructured, decentralisation should be promoted, independence should be secured by having operational budgets, school buildings should be repaired, recreational and educational spaces should be provided in schools, some financial and administrative independence should be given to schools and competition among schools should be encouraged for the institution to be a supportive environment for acquiring knowledge.

In this context, we should not forget the importance of supporting the educational

institutions with overlapping roles, so they should be considered as one integrated system when developed. Among these institutions are the family that should have effective participation in the cognitive preparation of the youth, the mass media that should realise its educational responsibility and mosques that should involve moderate religious trends helping to emphasise the values of tolerance, hard work and an appreciation for learning.

DEVELOPMENT AND IMPROVEMENT OF TECHNOLOGY IN EDUCATION

The infrastructure, information networks in particular, must be in place in all educational institutions. Technology services should be improved in schools by upgrading computer labs, internet service and making up for any shortage. In participation with local communities, science and language labs and libraries should be freely provided in educational and training centres. Educational technology should be further improved, and the private sector should be involved in this respect, within its social responsibility, to help in facilitating useful opportunities for educational institutions and the youth in particular. International cooperation programmes in education can effectively provide the technical expertise needed for educational development.

DEVELOPING SCIENTIFIC AND EDUCATIONAL RESEARCH

Local, regional and international search networks and units must be established and supported to be up to new cognitive, scientific and educational production. It is undeniable that Yemen needs to activate the meaningful search to support the knowledge society, i.e. a major shortage in Yemen's educational structure. As a starting point, some mid-term procedures can be implemented, such as equipping schools with modern libraries and promoting simple research at school stages, including

The best educational development programmes and plans will fail unless teachers are always qualified and trained in order to refine the cognitive skills of the youth to face life and embrace life-long education

basic search methods within computer and science courses.

CONCLUSION

The task of preparing the youth for the knowledge society is very urgent; it comes before other development priorities

The task of preparing the youth for the knowledge society is very urgent; it comes before other development priorities. Having creative and productive cadres that can localise knowledge will secure sustainable development based on productive human resources. If Yemen is resolved to move into the knowledge society, human and financial resources and capacities should be mobilised to secure requirements of action to prepare future generations for the knowledge society.

End Notes

- ¹ Central Statistical Organisation (CSO) website, Annual Statistical Book 2009, on 14 May 2011 <http://www.cso-yemen.org>
- ² UNICEF website, on 15 May 2011 www.unicef.org
- ³ MPIC, Second Report on Major Indices of the Third Socio-Economic Development Plan for Poverty Reduction, July 2010
- ⁴ Nasr Al Dhabhany, Indicators of Knowledge, Information, and Cultural Reality in the Civil Society, <http://www.yemen-nic.info/contents/Informatics/studies/23.pdf> on 16 May 2011
- ⁵ The World Bank Database, KAM, on 23 May 2011 http://info.worldbank.org/etools/kam2/kam_page5.asp
- ⁶ DOI measures the progress of a country in the digital divide. It is based on three sub indicators; opportunity, infrastructure and utilisation, to measure the 12 DOI variables.
- ⁷ This section is based upon background papers of specialised educators and official documents of the Ministry of Education.
- ⁸ Yemen's Ministry of Education website, on 23 May, 2011, <http://www.yemen.gov.ye/portal/2011>
- ⁹ The Ministry of Education, the Annual Progress Report, submitted during the Annual Review, 2010.
- ¹⁰ Al Maory, A Vision and a Conception of Secondary Education, 2004
- ¹¹ Hamoud Al Seyani, op. cit.
- ¹² MPIC, Evaluation of the Third Socio-Economic Development Plan for Poverty Reduction (2006-2010).
- ¹³ Recently, some universities are approved to be established but still under construction.
- ¹⁴ The Republic of Yemen and the World Bank, Education Report, 2010.
- ¹⁵ Monitoring and Learning Assessment
- ¹⁶ Hamoud Al Seyani, background paper for the report
- ¹⁷ Feedback of some teachers and parents during the survey.
- ¹⁸ This section is based on a background paper for the report by Tawfeeq Al Mekhlafy.
- ¹⁹ Meaning intermediate and general diplomas.
- ²⁰ The masters or the nobles in the social hierarchy are the descents of the Prophet Mohammad (PBH). The servants are a group of Yemenis working in the trade who had been marrying for a long time women from nearby African countries, then their descendants moved to Yemen. They are spread in many parts of the country, in the major cities in particular, and tend to live in isolated groups to enjoy the full rights of citizenship. However, they are subject to severe classism.
- ²¹ This section is based upon a reference paper prepared for the AKR by Abdel Salam Al Hakeemy: (Value Matrix in the Yemeni Society: Continuation vs. Changing)
- ²² World Bank WGI website, on 14 May 2011 <http://info.worldbank.org/governance/wgi>
- ²³ The index indicates how economic freedom prevails in a society, the freedom people feel to work, produce, consume, and invest in any way they desire, with that freedom both protected and unconstrained by the state. The index has 10 indicators, on a scale from 0 to 100, where 100 represents maximum freedom and 0 no freedom.
- ²⁴ Heritage Website, 22 May, 2011 www.heritage.org
- ²⁵ Legatum Website, 23 May 2011 www.prosperity.com
- ²⁶ Population Estimates and Projection Section, UN, 15 May 2011 http://esa.un.org/unpd/wpp/unpp/panel_population.htm
- ²⁷ A thorough, national survey is currently being conducted by CSO to gather child labour statistics.
- ²⁸ CSO Website, Annual Statistical Book 2009, accessed on 14 May 2011 <http://www.cso-yemen.org>
- ²⁹ Arab Labour Organisation website, Yemen Experience in Labour Market Regulation www.alolabor.org/nArabLabor/images/stories/.../yaman-experience.doc on 30 August 2010
- ³⁰ CSO Website, Annual Statistical Book 2009, on 14 May 2011 <http://www.cso-yemen.org>
- ³¹ See the Appendix for the survey participants' schools.
- ³² See the Appendix for the workshop participants.
- ³³ A measure describing the central value of the sample data (a measure of central tendency).
- ³⁴ Used for statistical testing
- ³⁵ Measures the dispersion of data.
- ³⁶ You can refer to the section of values and upbringing in the Arab Knowledge Report.

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APPENDIX OF YEMEN



LIST OF WORKSHOP PARTICIPANTS IN YEMEN

His Excellency Dr Abdel Salam Al Gofy	Dr Badr Al Aghbary
Mr Abdel Karim Algandary	Mrs Nagla' Hassan
Mr Mohammad Zebarah	Mr Mohammad Najy Khomash
Dr Hamoud Al Seyani	Mr Mahdy Al Badjy
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Dr Abdurrahman Al Shargaby	Mr Kasem Al Shawsh
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Mrs Fawzya Noa'man	Mr Abdul Rahman Ahmed Abdu Al Salahy



LIST OF SCHOOLS PARTICIPATING IN THE SURVEY IN YEMEN

Sonaa Al Hayat	Hussein Al Ahmar
Al Forsan Al Ahylia	Aisha
Al Nahda Schools	Asmaa for girls
Al Shoruq	Balkis Primary School
Zaid Shools	Arwa
Al Rashed Al Haditha	Sakina
Modern Zal, Hyda branch	Khadijah bint Khuwaylid
Al 'Olom w Al Teqniah	Um Salamah
Al Ajial	Mogama Al Thaorah
Khalid bin Al Waled	Al Kuwait Secondary School
Nashwan Al Homairy	Bilal bin Rabah
Al Sha'b	Al Horesh
Martyr Mohammad Yahia	Salman Al Faresy
Ibn Majed	Hayel Saeed
Al Hamzah	



YEMEN SURVEY RESULTS

Table m4-1: Teachers' views of curricula (%)

	Totally agree	Somewhat agree	Disagree	Totally disagree
A. Educational curricula and programmes prepare students to face future challenges.	29.9	36.4	30.9	2.8
B. Educational curricula and programmes help students acquire necessary skills.	28	53.3	16.8	1.9
C. Educational curricula and programmes help to prepare competencies that are able to compete internationally.	26.4	34.9	34	4.7
D. Educational curricula and programmes contribute to consolidating the values of citizenship and civilised behaviour.	31.8	57	10.3	0.9
E. Educational curricula and programmes prepare students to deal with life's daily problems.	23.4	40.2	30.8	5.6
F. Educational curricula and programmes provide a composition of cognitive, emotional and social dimensions.	22.6	43.4	27.4	6.6
G. Educational curricula and programmes are in line with scientific and technological advances.	26.4	31.2	35.8	6.6

Table m4-2: Practice of following educational methods and activities (%)

	In all classes	In most classes	In some classes	Do not practice
A. Participate with students in learning/educational activities.	20	31.3	47	1.7
B. Train students on problem solving.	10.4	36.5	47.8	5.3
C. Explain theoretical concepts.	48.2	34.8	13.4	3.6
D. Write lessons on the board.	74.1	10.7	8	7.2
E. Discuss the concepts of the lesson with students.	71.1	21.1	7.8	0
F. Discuss presentations made by the students on the concepts of the lesson.	9.8	35.7	42	12.5
G. Evaluate student achievement (tests, quizzes and examinations).	22.3	36.6	36.6	4.5
H. Help students to perform scientific/practical experiments.	4.6	13	56.5	25.9
I. Organise student work into small groups.	11.6	20.5	50.9	17
J. Connect the subject to the requirements of daily life.	41.8	30.9	24.5	2.8
K. Maintain silence in the classroom and control troublemakers.	80.5	13.3	5.3	0.9

Table m4-3: Teachers' views on the following educational practices (%)

	Unnecessary	Somewhat necessary	Very necessary	Do not know
A. Train students to analyse various sources of information.	3.5	19.1	77.4	0
B. Train students to think critically.	7	33.8	52.2	7
C. Motivate students to work independently and take initiatives.	7	41.3	49.1	2.6
D. Help students to do research.	1.8	40.3	55.3	2.6
E. Train students to solve problems.	2.6	15.7	80	1.7
F. Help students memorise the rules and laws of the subject.	2.6	20.4	77	0
G. Encourage students to interact with the teacher.	1.7	7	90.4	0.9
H. Participate with students in all activities assigned step by step.	7	43.9	47.4	1.7
I. Acquaint students with self-evaluation practices.	2.6	35.1	60.5	1.8
J. Familiarise students with teamwork.	2.7	27.4	69	0.9
K. Dictate social principles and values to students.	2.6	11.3	85.2	0.9
L. Obligate students to memorise the lesson.	15.8	50.9	30.7	2.6

Table m4-4: Teachers' views on education, students and the school (%)

	Totally agree	Somewhat agree	Disagree	Totally disagree
A. Education in the Arab world has improved when compared to the past.	18.3	48.7	21.7	11.3
B. Teachers no longer enjoy the same level of social respect.	51.7	38.8	6.9	2.6
C. Students' respect for teachers has generally declined when compared to the past.	60	30.4	7	2.6
D. Students' interest in studying decreases day by day.	65.2	30.4	1.8	2.6
E. The current generation of students is characterised by a strong personality.	13	37.4	38.3	11.3
F. The current generation of students is better prepared than previous ones.	6.1	21.1	36	36.8
G. For most students, materialistic values dominate over cognitive values.	59.6	31.6	7.9	0.9
H. The school's role as a knowledge and information source for students has become secondary.	16.7	46.1	25.4	11.8
I. Educational methods followed in school do not create a student's interest for knowledge.	33.3	44.7	16.7	5.3

Table m4-5: The weekly time allocated for the following activities (%)

	None	Less than an hour	1-2 hours	3-4 hours	More than 5 hours
A. Lesson planning and preparation	1.8	35.7	37.5	11.6	13.4
B. Grading students' assignments	4.5	19.6	40.2	22.3	13.4
C. Attending administrative meetings	11.6	58.9	25.9	1.8	1.8
D. Meetings with parents	44.6	43.8	8.9	1.8	0.9
E. Student activities (in clubs, extracurricular, ...)	55.8	30.1	10.6	2.6	0.9
F. Activities to increase professional performance (attending lectures, reading specialised magazines, ...)	20	27.8	35.7	13	3.5
G. Participation in educational products (writing books, setting programmes, participating in an evaluation, ...)	54.8	22.1	13.3	7.1	2.7

Table m4-6: Significance of the following evaluation practices (%)

	Insignificant	Low significance	Moderate significance	High significance
A. Regular school attendance (presence)	0	1.7	13	85.3
B. Effort exerted for school assignments	2.6	0.9	25.2	71.3
C. Steadily improved results	0	2.7	27	70.3
D. Good behaviour inside and outside the classroom	0	1.8	7	91.2
E. Active participation in the classroom	1.8	0.9	9.6	87.7
F. Creativity and innovation	0	5.3	38.9	55.8
G. Thinking and questioning	0	2.7	51.7	45.6
H. Taking initiatives	0	5.3	49.1	45.6
I. Giving correct answers on exams	2.6	0.9	24.8	71.7

Table m4-7: Educational means available for teachers at home (%)

	Yes	No
A. Computer	71.6	28.4
B. Internet access	27.6	72.4
C. Scientific encyclopaedia	55.4	44.6
D. Subscription to educational magazine	20.4	79.6
E. Dictionary	70.3	29.7
F. Library	74.1	25.9

Table m4-8: Use of technology for educational purposes (%)

Yes	No
47	53

Table m4-9: Teachers' use of technology (%)

	Yes	No
Search for educational situations	89.6	10.4
Prepare lessons	83.3	16.7
Select exercises and activities	78.3	21.7
Consult other colleagues	70.5	29.5
Communicate with students	60	40

Table m4-10: Educational trends of teachers (%)

	Totally agree	Somewhat agree	Disagree	Totally disagree
A. Focus on improving students' memorisation for success in studying	23.4	63.1	11.7	1.8
B. All students are able to learn and succeed if handled by efficient teachers.	54.1	38.7	5.4	1.8
C. Successful teachers are those who manage to finish the curriculum timely and properly.	63.1	36	0.9	0
D. Giving opportunities to teachers for pro-action or creation harm the educational system.	11.7	15.4	45.9	27
E. Teachers are not required to know various educational methods; perfect command of only one is enough.	1.8	24.8	47.7	25.7
F. Intensive tests and exams are the best way to push students to learn and concentrate.	12.1	50.5	31.8	5.7
G. The best approach for evaluating student learning is the use of a specific assessment of their performance (without assigning grades).	14.8	60.2	20.4	4.6
H. Discussion and coordination with parents are among the teacher's responsibilities.	36.4	43.9	14	5.6
I. Educational reforms exhaust teachers and reduce their product.	17.8	29	42.1	11.2
J. To be a successful teacher, it is sufficient to be experienced in your subject.	29	24.3	40.2	6.5
K. The teacher's role is to instil passion for knowledge and science in youth.	83.3	13.9	1.9	0.9
L. Information transfer is the major characteristic of a successful teacher.	50.9	38	9.3	1.8
M. Teachers must be familiar with other subjects in order to teach their disciplines well.	40.4	46.8	11	1.8

Table m4-11: Teachers' relationship to their career, its requirements and education stakeholders (%)

	Totally apply	Somewhat apply	Do not apply	Exactly the opposite
A. I will leave teaching if I find another job with the same salary and conditions.	22.4	19.6	37.5	20.5
B. I will leave teaching if I find another job with a higher salary.	43.9	21.9	26.3	7.9
C. Teaching income does not allow me to be self-sufficient.	74.8	16.2	9	0
D. Teaching allows me to feel as if I have a mission.	80.9	15.7	2.5	0.9
E. My relationship with students is based on mutual respect.	80.7	18.4	0.9	0
F. My relationship with my colleagues is based on mutual respect.	91.1	8	0.9	0
G. My relationship with parents is based on mutual respect.	81.4	15.9	2.7	0
H. My relationship with the administration staff is based on mutual respect.	82.1	15.2	1.8	0.9
I. I regularly meet with parents to discuss student-related matters.	7.9	41.2	42.1	8.8
J. I feel that the preparation I received does not correspond to teaching requirements.	81.4	15.9	2.7	0
K. I feel I need professional qualifications to be able to teach for the future generation.	32.1	43.8	18.7	5.4

Table m4-12: Teachers' views on the support offered to students (%)

	Always	Sometimes	Rarely	Never
A. The school assists students who have difficulties studying.	27.4	31	20.4	21.2
B. The school offers promotional incentives for excellent students.	28.9	30.7	21.1	19.3
C. The school has a system to replace absent teachers.	20.8	18	14.4	46.8
D. The school has specialists to help teachers handle students' difficulties, be they financial, psychological or social.	24.6	28.1	19.2	28.1

Table m4-13: Teachers' views on enabling environments (%)

	Totally agree	Somewhat agree	Disagree	Totally disagree
A. The educational system provides facilities for teachers to continue their in-service learning.	13.7	25.5	37.3	23.5
B. There are teacher training centres near the school that I can join when necessary.	12.3	12.2	33.7	41.8
C. The state provides incentives for highly competent teachers.	8.1	14.1	30.3	47.5
D. The state offers many in-service training opportunities to improve teaching.	9	40	28	23
E. The state provides training for beginning teachers.	8.3	36.5	29.2	26
F. Teacher candidates are selected according to strict standards.	6.2	16.5	33	44.3
G. There is a gap between teacher preparation and the actual requirements of teaching.	48	29.6	16.3	6.1
H. The state pays teachers to secure a good living for them.	12	10	18	60
I. There are rules and organisations in place that protect teacher's rights.	14.7	24.2	21.1	40
J. The state provides customised in-service training.	11.7	18.1	31.9	38.3

Table m4-14: Teachers' freedom of choice (%)

	Absolute freedom	Good freedom	Limited freedom	Absent freedom
A. Personal choices	55.3	24.3	19.4	1
B. Scientific choices	35	40.8	23.3	1
C. Intellectual choices	41.7	29.2	23.3	5.8
D. Professional freedom	26.2	33	34	6.8

Table m4-15: Ability of teachers to express their opinions (%)

Yes	No
66.7	33.3

Table m4-16: Effect of available enabling environments on students' skills and values

Enabling environments Skills and values	Family upbringing pattern	Mother's education level	Family's attention to the student's study	Welfare of the family	Educational welfare at home	Educational welfare in local environment	Father's education level	Educational welfare in school	Family structure
Standard averages of cognitive skills		0.104	0.1		0.186		0.109	0.072	
Standard averages of conative skill	0.117			0.067		0.077		0.083	
Standard averages of social skills	0.169							0.129	
Standard averages of cognitive values	0.234				0.102	0.104			
Standard averages of social values	0.134				0.086		0.114	0.077	
Standard averages of conative values	0.235				0.111	0.068			0.063
Standard averages of universal values	0.197			0.080	0.156			0.071	

The Arab citizen lies at the heart of the process of building the desired knowledge society. The Arab Knowledge Report 2010/2011 is a step towards laying the foundation for building the knowledge society by developing principles to deal with the methodologies and mechanisms of preparing future generations to actively participate in building the knowledge society and to access its vast domains. In its vision, the report is based on the correlation between the triad of skills, values and enabling. Preparing future generations to build a knowledge society requires equipping them with skills that keep pace with cognitive, technological and scientific developments and thinking patterns in order to cope with international progress in this field. The report stresses that skills alone cannot yield the desired results unless they are accompanied by a precise system of values, which includes a group of general principles that govern and form the convictions, and hence the practices that harness and direct the skills into the desired paths. Enabling is the key and the gateway in the processes of preparing generations for the knowledge society. Its components encompass issues related to policies, development and education plans; legislations, guarantee and incentive institutions; freedoms and political reform; provision of infrastructure for information networks and facilitation of access to them.

This report is distinguished by its reliance on field research and surveys carried out in four Arab countries (Jordan, the UAE, Morocco, and Yemen), which constitute case studies on the status of the preparation of future generations for the knowledge society. The Arab Knowledge Report consists of two main parts, of which the first, the “General Report”, discusses issues of preparing future generations for the knowledge society in the Arab region as a whole, and gives a synthesis of the results of the field research and a vision of the dynamic action system proposed to prepare future generations for the knowledge society. The second part of the report contains the details of the four case studies, including a comprehensive and thorough presentation of field surveys results. Thus, the Arab Knowledge Report 2010/2011 provides a detailed analysis of the processes of preparing the future generations of the Arab world for the knowledge society, relying on field studies that depict the reality of Arab countries. It actually proposes a model for action which we hope represents a milestone on the road towards preparing our youth to access the knowledge society in its vast domains.

There is an immediate need to act if we are to prepare the coming future generations and equip them with the necessary skills and values, achieve radical reforms in fostering empowering environments, and develop future generations to build a renaissance that will launch Arab capabilities and enable them to access the knowledge society. The required change proposed by the report is, at its core, a comprehensive economic, social, political and cultural process of mobilisation to build the Arab Renaissance project, through which the Arab future generation will be prepared for a new society that will lay the foundations of knowledge, bring openness to the world, and achieve sustainable human development in support of the dignity and welfare of the Arab citizen.