CHAPTER TWO

EDUCATION AND PREPARATION OF THE FUTURE GENERATIONS FOR THE KNOWLEDGE SOCIETY

INTRODUCTION

The demographic situation of the youth in the Arab region indicates that the future of Arab societies depends on the attitude and performance of this generation, particularly with regard to the objectives of the transition towards the knowledge society. Arab countries have a huge balance of youth that must be invested in and empowered through education to participate and progress towards the knowledge society. Young people in Arab countries constitute a large proportion of the population, and the percentage of children in the age group less than 15 years is more than 45% of the total population while the percentage of young people between 15-24 years is about 21% (World Bank, 2007). Unless there is a plan to invest in this human capital to form the cornerstone of development by enabling it to acquire the requisite knowledge, skills and values, it will be a burden on the economy, which suffers already from several problems. Unemployment and poverty rates will also increase. This will become a constant condition that negates all the efforts made to overcome the dilemma of development in some Arab societies and provide elements for its sustainability in others. Therefore, the development of cognitive human capital must be a top priority of development in the Arab region, given that human capital is the essential foundation for moving forward towards building the knowledge society and strengthening the competitiveness of the Arab region. Hence, the Arab region must review its education policy in order to enhance the sector and develop it qualitatively, allowing young Arab generations to become a human force able to build, renew and actively participate in a comprehensive development process.

QUANTITATIVE ANALYSIS OF THE ARAB EDUCATION SYSTEM

ILLITERACY AMONG THE ARAB YOUTH

Illiteracy is one of the main obstacles that threaten Arab societies with respect to engagement in the knowledge society and the final eradication of illiteracy, especially among children and youth. It is one of the important measures for programmes designed to promote Arab societies and prepare them to access the knowledge society.

Despite the remarkable improvements achieved in most Arab societies in eradicating illiteracy, literacy rates have remained relatively low in many Arab countries among poor and disadvantaged children and youth, especially females.

According to recent statistics (UNESCO, 2010) the estimated illiteracy rate among the Arab population aged 15 years and above was 29% in 2007, i.e., 58.36 million people who do not possess the skills of reading and writing required for daily life, compared to 16% globally, 20% in developing countries, 9% in Latin American countries, and 7% in East Asia. Egypt is among the top ten countries in the world in terms of the number of illiterate adults, amounting to 17 million, i.e., one-third of the adult population. The number of illiterate adults in Algeria, Morocco, Sudan and Yemen ranges between 5 and 10 million people. The reading rate among adults is

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less than 60% in Mauritania, Morocco, Sudan and Yemen, but it is much more than this (approximately 90%) in most countries of the Arabian Gulf, as well as in Jordan, Lebanon, and the Occupied Palestinian Territories. Despite the significance of this problem and its impact on social and economic development, and with current literacy efforts in Arab countries, UNESCO expects that the number of illiterate males and females in 2015 will reach about 55.78 million people.

One of the main challenges facing youth enabling in Arab countries is the number of illiterate males and females, with a rate of 13% of the total number of Arab youth. Most of them are female from the rural areas and poor neighbourhoods in cities; illiterate young males in the whole Arab region represent 9% while females represent 18% (UNESCO, in English, 2010b).

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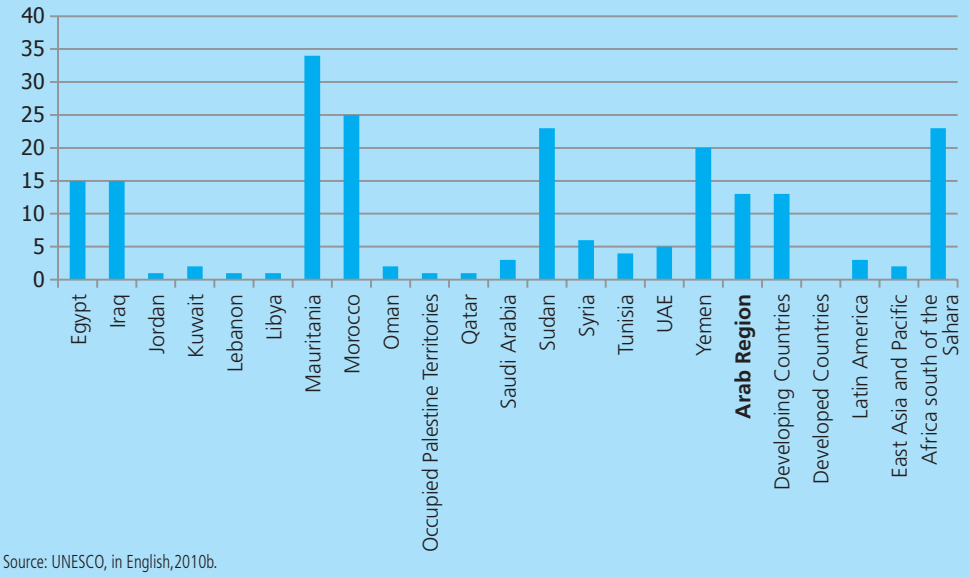
Therefore we are facing large numbers of illiterate male and female adults and youth for whom the education system in Arab societies has failed in providing the minimum level of knowledge necessary to live a life within its threshold levels whether in their private or professional lives. (Kamal Naguib, background paper for the report).

CARE AND EDUCATION IN EARLY CHILDHOOD

Early childhood care aims to focus on investing in the early years of children. Several studies show that early education paves the way for education in all its stages, and that children who have early education will reach levels much higher than those deprived of it. They also indicate that the golden first six years of the child's life form the basis of all progress in the rest of his/her existence. A good education in early childhood is holistic and integrated education which develops capacity, coordinates between knowledge and skills, includes practical and motivational training, and involves exploration and interaction. Early education has a high economic impact on both the individual and society. Table 2.1 shows the high monetary yield for childhood development projects compared to some service, agricultural and industrial projects, according to studies conducted by the International Institute

FIGURE 2-1

Illiteracy rates among youth 2000-2007
(As a percentage of the 15-24 years age group)



Source: UNESCO, in English,2010b.

Table 2-1

The monetary yield of the early childhood development

Project	Monetary yield on each US Dollar
Irrigation project in the Philippines	1.48
Livestock breeding project in Uruguay	1.59
Cement Project in Estonia	2.27
Early Childhood Development Project in the USA	7.16

Source: Hussein Kamel Bahaa El-Din, background paper for the report

BOX 2-1

Vital pillars of investing in early childhood care (The density of nervous cells at different ages)

A baby is born with 100 trillion synapses in the brain. The formation of synapses begins in the second the trimester of the foetal stage and continues throughout life. It reaches its highest rate at 6-8 years of age, with up to (1000 trillion synapses). The number begins to decline upon reaching puberty. At birth, the majority of neurons that will be in the brain are already present; however, the brain continues to grow in size for a few years after birth, and over time, new neurons are produced from stem cells in two places: The Olfactory Bulb and Hippocampus.

Some neurons perform specific functions such as breathing and regulating heartbeat, temperature and reactions. The rest of the neurons are not assigned primarily to a particular function, but they are ready to take on new specific functions. Programming and assignment of these cells to specific functions are done by continuous stimulation, new experiences, and practice. At the age of six, the neurons and synapses, which have not been used nor assigned a particular function, begin to be destroyed in a process called 'pruning', and therefore, we need to ensure full utilisation of all cells and neurons available up to the peak age of six - the golden first six years of the child's age - in order not to waste any neurons afterwards.

Source: Hussein Kamel Bahaa El-Din, background paper for the report

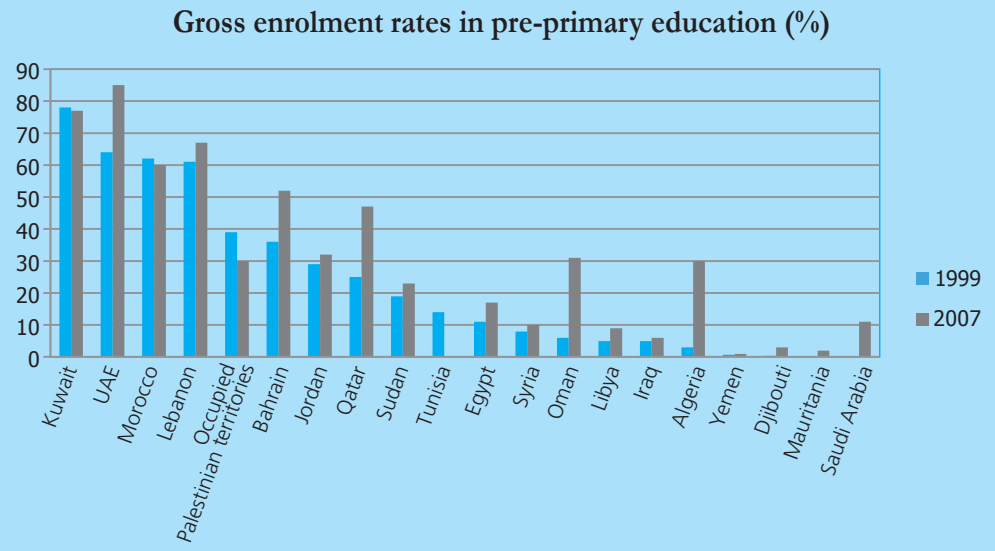
for Development (Hussein Kamel Bahaa El-Din, background paper for the report**).** In 2010, the rate of comprehensive coverage for children aged between 0-6 years in public childcare centres throughout the Arab region reached about 19%, compared to 41% of the global rate. Undoubtedly, the high percentage of children constitutes a significant burden which most Arab countries cannot handle through absorbing large numbers of children into national childcare and early education programmes, in addition to the high rate of the rural population, limiting the ability of these programmes to reach the children of these populations (UNESCO, 2010c).

Children's rates of enrolment in pre-primary education programmes (e.g., kindergarten programme 4-5 years) vary between one Arab country and another; the rates in Kuwait and the United Arab Emirates are close to the rate of some developed countries. At the same time, the rates of most other Arab countries are below the global average, particularly in Djibouti, Iraq, Libya, Mauritania, Saudi Arabia, Syria and Yemen.

The indicators of child well-being, health status and mortality rates in the Arab region stand far below the levels achieved by developed countries in the same areas. The rate of child mortality in Arab countries is an average of 54 children in every thousand before the age of five; about eight times the rate in North America and Western Europe, but less than half that in the countries of Sub-Saharan Africa. While the rate in Djibouti, Iraq and Mauritania is more than one hundred per thousand, we find it very low in several Arab countries where it is up to 22 per thousand (in Jordan, Saudi Arabia and Tunisia) which is comparable to the rate in Central and Eastern Europe (21 per thousand). We find this rate close to 7 per thousand in North America and Western Europe, and up to 9 per thousand

The indicators of child well-being, health status and mortality rates in the Arab region stand far below the levels achieved by developed countries in the same areas

FIGURE 2-2



Source: UNESCO, 2010 b.

Educational opportunities, expressed in the rates of enrolment and participation in primary education, are extremely important to the preparation of the youth for the knowledge society

in the UAE and 10 per thousand in Kuwait (UNESCO, 2010c).

STATUS OF EDUCATION AT THE PRIMARY STAGE

Educational opportunities, expressed in the rates of enrolment and participation in primary education, are extremely important for the preparation of the youth for the knowledge society. Enrolment in primary education and its completion is the key to literacy and the acquisition of mental skills, values and attitudes necessary to prepare the youth for the knowledge society. They are also the only key for admission to preparatory education (intermediate) and secondary education to gain more knowledge capital (Kamal Naguib, background paper for the report).

In this regard Arab countries have made significant progress since 1999 in reducing the number of children not enrolled in school, whose rate has dropped to 28% compared to their rate in 1999, i.e., by about 2.2 million children, as the number of children who did not have places in schools in 2007 reached about 5.8 million children at the primary school age (6-12 years). This represents 8% of the total children of the world who did not get the chance to receive primary education (UNESCO, 2010b).

The Education for All Global Monitoring Report (UNESCO, 2010) indicates the net enrolment rate in primary education is an essential indicator in assessing progress in achieving comprehensive primary education and providing opportunities to start forming the cognitive human capital required for the knowledge society to the largest possible number of children. The significance of this indicator is clear in highlighting the magnitude of the problem of absorbing children at the age for primary education and achieving comprehensive education in this stage. This report shows that the average net enrolment rate increased from 78% in 1999 to 84% in 2007. The average net enrolment rate in the Arab countries ranges between 45% in Djibouti and 98% in Bahrain (Kamal, Naguib, background paper for the report).

Based on the EFA Global Monitoring Report, the data reveals the following:

- Significant progress has been achieved between the years 1999 and 2007 in Morocco, UAE, Yemen, Algeria, Iraq, Djibouti, and Mauritania. The net enrolment rates in some of these countries exceeded 90%. Also, Bahrain, Egypt, Kuwait, Qatar, and Tunisia achieved progress during that period. However, the most important

Table 2-2

Progress in net enrolment rate in primary education and continuity in study

The rates of children out of primary school (1999 - 2007)

Country	Net Enrolment Rate NER %		Number of children out of primary schools (in thousands)
	1999	2007	
Arab Countries	78	84	752.5
Developing Countries	80	86	638.68
World	82	87	791.71

Source: UNESCO, 2010b, in English.

observation lies in the reduction of the net enrolment rates during that period in Jordan, Lebanon, and Oman. Palestinians suffers from a serious educational crisis as the net enrolment rate in the Palestinian territories dropped from 97% to 73% between 1999 and 2007 as a result of adverse conditions and difficult circumstances (UNESCO, in English, 2010a).

- The repetition rate at the level of Arab countries is 3.2% (3.4% for males, 2.9% for females). This general Arab average obscures significant differences between the Arab countries, as the lowest percentage is only 1.1% in Jordan while the highest percentage is 11.9% in Morocco. Generally, the Maghreb countries (i.e., Algeria, Morocco and Tunisia) as well as Djibouti, Iraq, and Syria, record the highest repetition rates in the Arab region.

- The rate of primary education completion is 94%. But the countries that achieved significant progress with regard to enrolment in primary schools could not deal with the large flows of new students until the completion of primary school.

- The expansion of the primary education domain was accompanied by slow progress towards gender parity. The gender parity index in gross enrolment was 90% in 2007, compared to 87% in 1999, and only nine Arab countries achieved gender parity in primary education. If there is a desire to progress steadily towards achieving gender parity, attitudes towards the education of girls must be changed and the inherited image linking girls to household work, preventing them from attending school after the age of puberty, must be changed as well. In this respect, the factors of gender, income and place of residence may interact with other constraints, such as disability, to create barriers before boys and girls join school, but girls are still the most vulnerable to marginalisation.

Undoubtedly, the weakness of many Arab countries in achieving comprehensive primary education and gender parity, not to mention the high rates of repetition and drop-outs in most education systems in the region, are all factors that call for considering the restructuring of primary education and providing the will for action in order to prepare our children for what we aspire and seek to achieve inorder to reach the knowledge society.

SECONDARY EDUCATION FOR THE ARAB YOUTH[3]

Secondary education (with its two sections: preparatory and secondary) occupies a crucial pivotal position within the education system in terms of its structure (between primary and university stages) and the quality of students (between childhood and adulthood). This stage is more important for the preparation of young people for the knowledge society.

The studies covered in the World Bank's Report for 2005 on Secondary Education under the title 'Expanding Opportunities and Building Competencies for the Youth: 'A New Agenda for the Future' confirmed that investment in secondary education has

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a high economic return on the individual and society; secondary education, with its emphasis on the skills of systematic thinking, problem finding and solving skills, as well as the appropriate professional content, is able to prepare citizens equipped with advanced and high skills and knowledge that transcend economy and country to a global level.

The impact of secondary education is evident in the process of technology transfer and indigenisation. It is known that the transfer and indigenisation processes require skills that may not be available in the Developing World unless there is an educated base of youth who poses such skills. Secondary education should provide an important base in this respect, as it will provide the skills required for technological expansion in large numbers, creating an environment that attracts international investments related to advanced technologies. In this context, many researchers indicated that the difference in the magnitude of the spread of computers and information technology, excelled in by East Asian countries - Asian Tigers - compared to Latin American countries, can only be attributed to the huge volume of trade exchange between East Asian countries and the major industrial countries, as well as the degree of expansion in secondary education in East Asian countries (World Bank, 2005).

There is evidence from many studies showing that a low rate of child mortality under the age of five is linked to the increase in the rate of secondary education among females

In social terms, the expansion of secondary education would broaden the utilisation base of the poor segments of society, and therefore serious policies must seek to move from elite private secondary education to public secondary education. Studies have indicated that an increase by 10% in girl's enrolment in primary school would lead to reducing child mortality rate to 4.1 per thousand births. Further, the secondary education of 10% of girls is linked to the reduction of child mortality rate to 6.5 per thousand births. There is evidence from many studies showing an increase in child mortality rate under the age of five, due to the increase of secondary education among females (Hassan Al Bilawi and Ghada Gholam, in Arabic, 2006).

According to data from the UNESCO Institute for Statistics,[4] about 27.5 million students were enrolled in secondary education in the Arab region during the academic year 2006/2007, i.e., approximately 65% of young people in this age bracket, and girls represented 47% of this number. The total enrolment rate of females is less than males by about 5%.

From the perspective of enabling young people to participate in the knowledge society, these indicators reflect a severe decline in secondary education opportunities available for the younth, as about 35%, or possibly more, of pupils at this stage did not receive this opportunity. It is not reasonable to empower young people and provide them with the knowledge, skills and values needed to endure the future personal and social burdens in the knowledge society, with an education that ends, for a large number of our children and youth, at the primary or middle (preparatory) stage; as it is considered the end stage of basic education (Naguib, Kamal, background paper for the report).

In any case, general secondary education in Arab countries dominates other types of technical secondary education, where the number of students enrolled is about 14% of the total students in secondary education, with the exception of some Arab countries, where technical education dominates over general secondary education as the case in Egypt. However, even in Egypt, the outputs of technical education have not led to the desired or expected impact on economy. This is due to the fact that the available training was not needed in the labour market, in addition to the inability to provide projects attracting such labour for many reasons related to the type and volume of investments and financial and administrative corruption, which contributed to the scarcity of economic opportunities, thus increasing the rates of

unemployment and poverty.

Data from the Regional Report on Arab Countries published by the UNESCO indicates that secondary education is still less prevalent than primary education, and we find clear, significant differences between the percentage of total enrolment in both stages, which refers to weak transfer rates, especially in Mauritania and Iraq, and lesser rates in Algeria, Morocco, and Yemen. However, we find parity between the rates of total enrolment in primary and secondary schools in Saudi Arabia, Libya and Qatar, with a similar participation in the two stages. It is also important to note that the number of young people in the Arab region at the age of the lowest stage of secondary education (i.e., preparatory or middle school), who do not have the opportunity to enrol in secondary school, was about 18% of the age group of preparatory education (UNESCO, 2010a).

As for the net enrolment rates for secondary education, it reached 57% in 2007 in all Arab countries. The rates ranged between 17% in Mauritania to 93% in both Qatar and Bahrain. The failure rate in secondary education in general was 7% in most Arab countries: It ranges from 1% in Jordan to 27% in Iraq (UNESCO, in English, 2010b).

SECONDARY TECHNICAL EDUCATION

Technical education can be clearly seen in labour-exporting countries. While we find a high enrolment rate in a country like Egypt, where it reaches about 67%, we find weak rates in most of the oil producing Gulf countries.

While the knowledge capital and learning of advanced cognitive, professional and social skills are the gateway and foundation of the economic and social structure of the knowledge society, good and appropriate technical and vocational education meeting the knowledge society's requirements can represent an essential axis of constructive interaction with the requirements of this society. This is because it is the main educational channel assigned to provide the young with basic work skills to achieve economic superiority and social justice in the new global knowledge economy.

The high rates of unemployment in the Arab world have made governments in the region regard the failure to develop education policies as the underlying cause, thus causing a wave of interest in technical education as a solution for the growing problem of unemployment. Yet, the issue is more complicated than that. To illustrate, the significance of high rates of unemployment among young people is something that goes beyond the limits of the failure of technical education. The unemployment crisis in the region is, in fact, the result of development policies that have failed to achieve economic development which generates employment opportunities, and cultural and political development, which re-constructs the political and cultural life towards a comprehensive renaissance.

The development of technical education and training to prepare new generations for the labour market built on knowledge economies requires new policies and modern visions that cope with what is happening in the world (World Bank, 2005). In this respect, we need to pay more attention to developing national qualification frameworks, such as those used in the European Community, which help link the levels of skills required in different areas of work, and the levels of skills acquired in teaching and learning programmes in schools and scientific institutes.

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QUALITY OF ARAB EDUCATION

Usually, the quality of the education system is monitored or determined through two indicators. The first is represented by a learner's acquisition of the system of knowledge and concepts about the universe, humankind and life, as well as the extent of development achieved by the

learner through this knowledge. The second one is the system of values the learner possesses after going through the education experience. It is clear that the first indicator is easy to quantify while it is difficult to measure the second one. The important and agreed-upon acquisition indicators measure the quality of the education system. In any case, reports and studies show that education systems in Arab regimes are traditional and are of poor quality. Reform of these systems is called for so they can become strong enabling environments capable of equipping new generations with the knowledge, skills and values needed to achieve a renaissance and establish the knowledge society (Mattar, Mohammed, background paper for the report). In this section, we highlight a set of indicators of the quality of education systems in the Arab Region: Acquisition, the teacher, the cognitive and social structure of education, the school environment, school curriculum, spending on education, and legislative and legal structures.

The results of TIMSS 2007 for students in the eighth grade showed that none of the participating Arab countries reached the international achievement level of the study

ACQUISITION INDICATORS IN THE ARAB EDUCATION SYSTEMS

The findings of the TIMSS study[5] are considered one of the most important indicators adopted by many international organisations to monitor the progress or decline in pupils' level of achievement in mathematics and science. It is a study conducted every four years on fourth and eighth grades students.[6] Ten Arab countries participated in TIMSS 2003, this number rose to 14 countries in addition to the Emirate of Dubai in TIMSS 2007. A total of 16 Arab countries participated in TIMSS 2011.[7]

The TIMSS 2003 for the 8th grade revealed low results for the group of Arab countries participating in the study compared to the international average in science and mathematics. Jordanian students were superior to their Arab counterparts in science with an achievement average of 475, thus winning first place on the Arab level and 26th on the international level, out of 46 participating countries, with an achievement average almost equal to the international average. Lebanese students came last on the Arab level and 42nd on the international level, with an achievement average mark of 393. In mathematics, Lebanese students came first place on the Arab level and the 32nd on the international level, with an achievement average mark of 433. Saudi students came last on the Arab level and 44th on the international level, with an achievement average of 332 marks. The results of TIMSS 2007 for students in the eighth grade showed that none of the participating Arab countries reached the international achievement level of the study: 500 marks in science and mathematics. The rates of Arab countries in science ranged between 319 marks (Qatar) to 482 marks (Jordan) and in mathematics between 307 marks (Qatar) to 449 marks (Lebanon).

In the TIMSS 4th grade sample, Arab student achievement was even lower. Three Arab countries participated in TIMMS 2003 while seven Arab countries participated in the TIMMS 2007. The results were disappointing with respect to the quality of educational outcomes in the early stage of a student's life (the first ten years); it is a crucial age phase, in which attempts are made to improve student's numerical and written literacy.

It is worth mentioning that TIMSS measures mathematics and science skills in three areas: knowledge, applying and reasoning. The results of these tests showed that the average achievement of Arab students in science was almost equal in the three areas of knowledge, and lower with a difference of 75 points on the TIMSS scale. The case did not differ in mathematics. These are serious indicators of the decline of Arab students' skills, not only in reasoning, which is the most complex, but also in knowledge, which involves simple abilities such as

remembering and recalling. This calls for a review of the curricula and teaching and evaluation methods in order to rectify these problems. (Mattar, Mohammad, background paper for the report).

The students' results did not differ significantly in other international tests. An example of other studies was the PISA study[8] which is designed to measure students' possession, at the age of 15, of basic skills in mathematics, science, and reading literacy. The PISA study differs from TIMSS in that the first does not rely heavily on mastering the school curriculum but it focuses on understanding the principles, mastering skills and the ability to employ them in different situations in each of the areas covered by the study.

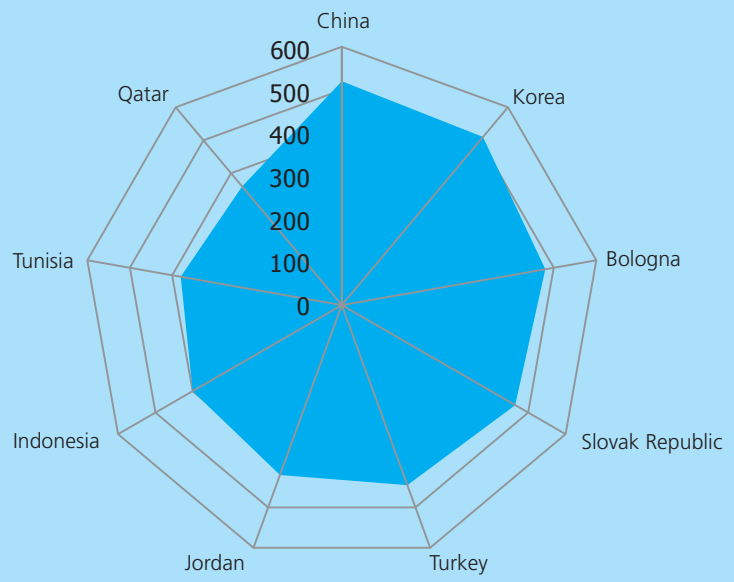
The number of countries that participated in the study in the third round in 2006 (which focused on science) was 56, including 3 Arab countries: Jordan, Tunisia and Qatar. The findings (as indicated by TIMSS) showed a decline in students' reading, mathematics and science skills at the age of 15, which raises many questions about the quality of the school curricula.

The PISA study identified a range of performance levels in each area (six levels, the first of which is the lowest). The results generally showed low levels of performance for the Arab countries participating in the study, compared to the countries of the Organisation for Economic Cooperation and Development. In reading, 23% of the Jordanian students, 61% of the Qatari students, and 32% of the Tunisian students were at the lowest levels. In mathematics, the rates were 37%, 72% and 49% of the students in Jordan, Qatar and Tunisia, respectively. In science, the rates were 16%, 48% and 28% of the students in Jordan, Qatar and Tunisia, respectively. These findings raised questions about the success of Arab education systems in equipping young people with the knowledge required to access the knowledge society (Mattar, Mohammad, background paper for the report). The results of the international achievement test revealed the low level

FIGURE 2-3

Mastery of scientific culture in the 15-year-old category in some Arab countries according to the international comparison

(countries degrees were compared on the basis of an average equal 500 degree)

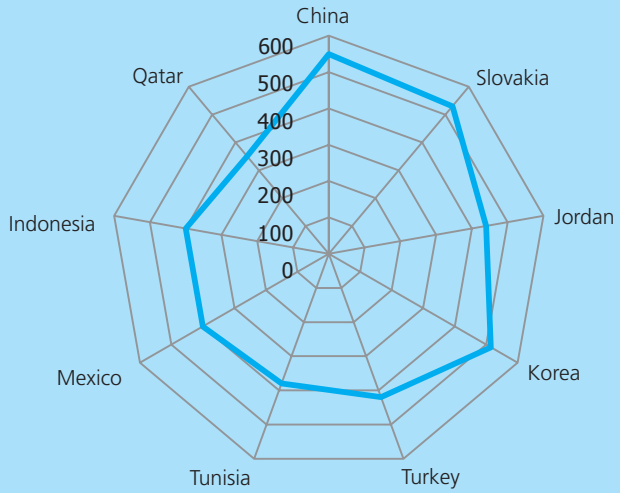


Abdel Wahhab Bin Hafeez - Background Paper.

The UNESCO reports attributed the students' weak educational achievement in Arab and developing countries to some significant factors, including reduced teaching time, the shortage of textbooks, and the weakness of the possibility of benefiting from the learning materials

FIGURE 2-4

Ability to scientifically explain the phenomena in relation to the 15-year-old category in selected Arab countries.
(countries degrees were compared on the basis of an average equal 500 degree)



Source: Abdel Wahhab Bin Hafeez - background paper for the report.

International organisations and reports concerned with education recommend that primary schools should work for a period ranging from 850 to 1,000 hours each year

of students' education in Arab countries - according to the results of countries that participated in the PISA test - in terms of mastery of the scientific culture as well as weakness in their ability to explain phenomena in a scientific way.

The results of Arab participation in PISA-2009 were similar to those in 2006; if we consider scientific thinking as the basis of possessing and producing knowledge, we then realise the extent of the dangers threatening young Arabs in terms of backwardness, failure to understand the surrounding phenomena and facts, and an inability to capitalise on scientific facts to solve the problems of reality and improve it. If we add to that the delay in the ability to understand written information and process written information (through understanding, analysis and assessment), as evidenced by the results of 2009, we find ourselves recognising the failure of the Arab educational system as well as the necessity to develop it to enable the students, the future generation, to possess the tools to acquire sciences and communicate interactively with the knowledge society.

Table 2-3

Results of Arab participation in PISA 2009

	Understanding written text	Identify Deduce	Incorporate Interpret	Think Assess	Connected texts	Disconnected texts	Mathematical culture	Scientific culture
International Rate	493	495	493	494	494	493	496	501
Dubai	459	458	457	466	461	460	453	466
Jordan	405	393	410	407	417	387	387	415
Tunisia	404	393	393	427	408	393	371	401
Qatar	372	354	379	376	375	361	368	379

Source: Osaid, in English, 2010.

The UNESCO reports attributed the students' weak educational achievement in Arab and developing countries to some significant factors, including reduced teaching time, the shortage of textbooks, and the weakness of the possibility of benefiting from the learning materials (Osaid, in English, 2010).

In this context, international organisations and reports concerned with education recommend that primary schools should work for a period ranging from 850 to 1,000 hours each year, i.e. about 200 days, five days a week. They indicate that the average teaching time officially specified in Arab countries is only about 789 hours per year, during the first six years of basic education. On average, this is less than the time recommended by international organisations and reports (UNESCO, 2008).

We should not confuse this with the teaching time specified in official regulations and legislation and the actual number of teaching hours received by children. Some reports estimate that the actual learning time in several Arab countries is less than the average by at least 30%, because of the absence of teachers or their in-service training, or the use of schools as polling or exam sites (Naguib, Kamal, background paper of the report). Of course, the decrease in study hours and days in Arab countries or the inefficient use of study time reflects the poor quality of education, resulting in adverse effects on the learning outcomes.

In light of the results of measuring learning outcomes on both the Arab and international levels, and the results confirmed by specialised studies, it seems that the quality of public education in Arab countries is very weak. This means that the provision of educational opportunities is not accompanied by directing great attention to education quality. Consequently, improving the quality of education is a fundamental challenge to Arab countries which seek to establish a renaissance and access the knowledge society. Perhaps the results of field studies, conducted in the context of preparing this report and which have attempted to investigate the status of skills, values and enabling environments for students in case study countries, support the reality of the poor quality of education in the Arab region. Plainly speaking, the results showed a clear lack in cognitive skills, and identified other relevant gaps (See Chapter 5).

TEACHERS

The number of teachers working in Arab countries is about 169,000 in pre-primary education, about 1,959,000 in primary education, and 1,913,000 in secondary education (UNESCO, in English, 2010b). UNESCO expects that all Arab countries need to employ 1.8 million new teachers in primary schools by 2015, and provide training opportunities suitable for them (UNESCO, 2008).

Qualified teachers in primary education in the UAE, Kuwait, Mauritania, Morocco and Palestine represent the vast majority working in this educational stage (close to 100%). This percentage reaches 99% in Algeria, and goes down to 69% in Qatar and 59% in Sudan. As for Lebanon, this percentage reduces even further, as only 13% of primary school teachers have the necessary qualifications to teach. In secondary education, the percentage of trained teachers is 100% in Kuwait, Mauritania, Oman and Palestine, but it goes down to 80% in Sudan, 68% in Qatar, and 46% in the UAE (UNESCO, 2010b). It should be noted that these figures depend on how each country defines a qualified teacher and his/her qualification levels. The problem of low rates of qualified teachers in Arab countries is exacerbated by the fact that some of these countries have, since the 1990s, resorted to employing contract teachers, often with less training and experience, for less pay than that received by teachers appointed on a permanent basis by the Ministry of Education (Naguib, Kamal, background paper for the report).

Improving the quality of education is a fundamental challenge to Arab countries which seek to establish a renaissance and access the knowledge society

Undoubtedly, teachers' morale and material state is one of the important factors influencing the quality of performance. This issue is severe in many Arab countries where a teacher's income is very low, thus making him/her reluctant to exert any effort at self-education, taking courses or acquiring additional qualifications. Instead, the teacher is forced (often not by choice) to take on private tutoring, one of the reasons for the deterioration of educational quality, or to practice other activities that adversely affect his/her professionalism as a teacher (see the results of teachers field survey, in the case studies, in Part II of the report).

The reports and studies indicate that the numbers of students per teacher are considered appropriate in the Arab world. The average rate in 2007 was 20 students per teacher in pre-primary education and 22 students per teacher in primary education. These rates were recorded in fifteen countries with the exception of Mauritania where the rate reached 43 students per teacher (UNESCO, 2010b). Moreover, studies show that these averages sometimes hide wide disparities between urban and rural areas, and between the rich, poor and remote regions, as is the case for Morocco and Egypt (Naguib, Kamal, background paper for the report).

The social structure can be seen in the 'social environment' that prevails in the Arab education systems in schools and which reflects the style and nature of the social relations network that exists between the elements of the educational process: teachers, students and school management

COGNITIVE AND SOCIAL STRUCTURE OF EDUCATION SYSTEMS IN ARAB COUNTRIES

The cognitive structure and social structure in education systems are intertwined concepts. By the concept 'Cognitive Structure' we mean the epistemological bases on which teaching and learning rely, the pattern of the nature of knowledge that forms the educational content, and how this knowledge is imparted as cultural capital inside the classroom. The 'Social Structure' in any education system refers to all the social educational conditions with and through which the educational process is carried out, including, most importantly, the pattern of social relations existing between the teacher and his/her colleagues, between the teacher and his/her students, between students and their peers, between school management and students, and between students and their knowledge production, academic achievement and books and other sources of knowledge. The overlap between the knowledge structure and the social structure is essential; each of their patterns requires its corresponding pattern. To explain, the cognitive structure, where a solid ready and previously prepared pattern of knowledge conveyed to students prevails, necessarily requires a social structure with an authoritarian pattern between the teacher and student, as the teacher has the (ready) knowledge and the student has to negatively receive it in a state of obedience and silence as is the case in all Arab educational systems. (Al-Bilawi, Hassan, background paper for the report).

The social structure can be seen in the 'social environment' that prevails in the Arab education systems in schools and which reflects the style and nature of the social relations network that exists between the elements of the educational process: teachers, students and school management. This environment lacks democracy in many aspects and is characterised, as a whole, by a hierarchy and centralisation of authority and a dependence on formal rules and laws. The Arab youth learn a great deal of non-democratic criteria, values and attitudes through living in this social environment with its rigid and bureaucratic relations in the school and classroom. Thus, they have a sense of helplessness and alienation from their human potential, energies and abilities. These are relations that create objective conditions for the growth of feelings of alienation among young Arabs. (Hijazi, Mustafa, background paper for the report).

What can be said about the cognitive environment in Arab educational systems also applies to the social structure; both play dangerous roles in the reproduction of cultural and social backwardness and

BOX 2-2

Curricula development in Malaysia

The most prominent changes in the revised, integrated curricula of basic and secondary education in developing curricula in Malaysia include:

• The identification of three levels for learning outcomes to indicate progress and sustainability that all students are expected to acquire from the first level.

• Gradual addition of new academic topics in schools: innovation, information technology and music education.

• Use of effective learning and teaching methodology in which the student becomes the centre of the educational process, such as Constructivism, Multiple Intelligences, Contextual Learning and Mastery Learning,

• Addition of new elements within school subjects, such as literary elements in the teaching of Malay and English, thinking and creative criticism skills, future studies, and family health.

• Use of information and communication technology on a large scale in learning and teaching.

• Addition of new optional subjects at the secondary level to give students a greater opportunity to choose what suits their abilities and interests. These new subjects are characterised by being offered (i.e. professional subjects) in terms of teaching and assessment and they include different sectors (e.g., construction, manufacturing, home economics, agriculture technology, and computer applications).

• Provision of optional courses in foreign languages, such as Spanish, French, Arabic, Japanese and German, in addition to the use of English instead of Malay in teaching mathematics, science and technology.[9]

Source: Sukriah, Muhammad Bassam, 2005

the establishment of the conditions that prevail in the educational systems. These are dangerous roles that are directly opposite to the efforts of social and educational reform towards democracy, Arab renaissance, and equipping new generations with the skills and values of the knowledge society aspired to by Arab countries.

INFRASTRUCTURE AND SCHOOL EQUIPMENT

A safe, attractive and healthy school environment containing the necessary facilities and services that contribute the process of learning and teaching is considered an important indicator of education quality. Arab countries have sought to provide adequate school buildings, equipping them with the necessary facilities to accommodate students and reduce the congestion of classrooms. Some countries managed to provide schools with centres, learning resources and advanced educational equipment, making it an interesting and attractive environment for students. However, the school environment in a number of Arab countries is still below the required level. In some, a significant proportion of school buildings are still inadequate with respect to their locations and sizes, and sometimes lack potable water, especially in rural areas. This is in addition to the shortage of classrooms and furniture compared to the number of students, leading to overcrowding in classes, with some students sitting on the floor or receiving lessons under trees or in tents, not to mention the shortage of facilities, equipment, water sources and sanitation. Due to the shortage of school buildings, some countries resort to renting residential buildings, organising several consecutive periods of study and using the same building for more than a single group of students in one day (Rafiqa Hammoud, in Arabic, 2008).

Arab countries have sought to provide adequate school buildings, equipping them with the necessary facilities to accommodate students and reduce the congestion of classrooms

THE CURRICULUM IN THE TRADITIONAL CONTEXT OF THE ARAB EDUCATION

When examining the reality of curricula in Arab education systems, the report's reference studies have shown the following facts:

- A decline in the percentage of human conative education curricula (conative refers to the arts, such as music, drawing, sculpture, theatre, poetry and literature) and their absence from the map of present curricula distribution,

or some with only a small number of hours allocated to them.

- Lack of attention to the curricula of physical education and health sciences, as well as lessons concerned with practical activities, real life, and equipping students with daily life skills.
- Limitation - if not absence of curricula - with some disparities among countries concerned with legal awareness, human rights, citizenship rights, and lack of attention to citizenship in general.
- Weak interest in science and mathematics, and old-fashioned curricula and teaching techniques of these subjects, leading to poor results in the TIMSS and PISA tests.
- Knowledge, information and theories are often presented as indisputable facts, creating a mentality that underestimates reality and experimentation, feeding on premises that do not accept dialogue or debate, creating a mentality incapable of associating, analysing, comparison, problem solving, or explaining facts (Kamal Naguib, Mohammed Mattar, and Maryam Ayat Ahmed, background papers for the report).

Arab constitutions set forth, in varying degrees with respect to details and scrutiny, the overall principles that allow citizens to benefit from education on the basis of equality and equal opportunities

BOX 2-3

Arab education between official discourse and actual practice

The study of the reality of education in Arab countries shows a gap in the political educational discourse (declared approaches to reform and reality in the field, educational practices in school classrooms, and the dominant culture in the school). At the level of political discourse and general directions for reform, it is noted that most of them emphasise, in different forms, making students the focus of education and developing the mental, social and value competencies which prepare them for the knowledge society. It can be said that most of the educational systems in the Arab region adopts approaches that emphasise critical thinking, creativity and abilities, in addition to other approaches, representing a level of political educational discourse generally suiting the requirements of preparing young people for the knowledge society. At the level of practice, numerous international and Arab reports indicate that the reality in the field is different from the political educational discourse. International, local and regional reports show that education in most Arab schools does not emphasise providing students with the problem solving skills, communication skills, and knowledge of foreign languages required for the world today with its intense global competition and rapid technological changes. Also, these reports show the absence of the concept of education as a cultural pattern and the absence of the impact of organisational culture that guides the daily instructional and educational work in schools.

Source: Mohammad bin Fatima, background paper for the report.

SPENDING ON EDUCATION

In the last four decades, Arab countries spent about 5% of their gross domestic product and 20% of their budgets on education. There were large variations between the countries. The rates of Gross National Income (GNI) allocated to education ranged from 1.6% in the UAE to 7.8% in Djibouti in 2007. These rates have not changed much since 1999 in most of the seven countries for which data has been available for the years in question (i.e. 2007 and 1999), except for Lebanon where the rate increased from 2.0% to 2.7%. These amounts and rates of spending may seem high, but the widening gap in education and knowledge in most Arab countries calls for the allocation of more resources to improve education and expand its umbrella to cover all sections of society. That is, the increased spending requires many related issues, such as strengthening infrastructure, developing curricula, and improving the level of teachers in both the technical and financial aspects alike (World Bank, in English, 2008).

THE LEGAL STRUCTURE OF EDUCATION

By the 'Legal Structure' we mean all the texts regulating the education sector, which include, specifically, the constitutions, legislations and laws. Arab constitutions set forth, in varying degrees with respect to details and scrutiny, the overall principles that allow citizens to benefit from education on the basis of equality and equal opportunities. Moreover, all Arab constitutions are similar in recognising free public education and making it compulsory up to a certain age. One researcher pointed out that the legislation and laws governing the educational system, despite their differences from one country to another in terms of details and nature of scrutiny, were consistent with the constitutions. This brings us to another conclusion: that there are clear efforts by Arab countries

to enact legislation and laws, including the principles of compulsory education, free education, and gender equality. There is also clear awareness of the importance of encouraging openness to modern curricula and sciences, emphasising the spirit of critical thinking and individual and collective diligence, paying special attention to foreign languages, in addition to Arabic, and stressing the adherence to elements of identity, national character, and nationalism. Therefore, we do not see inhibitors at the level of legal structure that would block future generations from accessing the knowledge society. If we assume that there are deficiencies in the drafting of legislation and laws, along with a lack of accuracy in their provisions and requirements, then they still do not reach the level of obstruction, or prevention, because they are not substantial or complex. Yet, analysing the legal structure alone may not meet the required purpose for accessing the knowledge society, unless it systematically takes into consideration the education strategies adopted by Arab political systems, which, in fact, form the intellectual background and the reference frame regulating the relevant legislation and laws (Al-Maliki, Mohammed, background paper for the report).

POLICIES OF EDUCATIONAL REFORM IN ARAB COUNTRIES

In monitoring the efforts and policies of education reform in Arab countries, the World Bank confirmed that Arab countries had made great efforts and spent money on education resources almost equal to their counterparts, but the returns and outcomes of education were still low compared to the education outcomes in their counterparts. This was especially true in the areas of educational achievement, as measured by the tests of PISA and TIMSS, and capacity development, skills and enabling systems expected in any educational system seeking a higher position in the knowl.edge society and global competition (World Bank, in English, 2008). The report pointed to three main negatives characterising the efforts of education reform in Arab countries: **First**, these efforts have been mostly focused on the quantitative and engineering aspects of reform, and have not given enough or adequate attention to building institutional systems for incentives. All systems in the region lack efforts to link the performance of schools and teachers to the results of students in order to develop an effective mechanism to provide information on the performance of students and parents and reward and enhance effective performance. **Second**, the reform efforts have not paid attention to building quality assurance systems and supporting the practice of accountability by parents and relevant bodies; we do not find specific mechanisms that can be used by parents and concerned bodies in participation, influence, guidance, and setting of goals and priorities. **Third**, the weak capacity of the market to benefit from graduates (i.e., the educated workforce), so the Arab world will be required to head towards lifelong learning and increase on-the-job training opportunities. In this respect, Arab countries are behind in the provision of training opportunities and lifelong learning compared to their counterparts in East Asia and Latin America.

The World Bank's report views that an interactive effect occurs when all three types of reform are coherently and consistently implemented, and thus the successful reform programmes combine: (a) the reforms made along the path of good engineering, which covers the efficient use of inputs; (b) the reform of incentive structures that work well and are supported by adequate evaluation mechanisms and rewards for outcomes; and (c) the reform of effective channels of accountability where the preferences of students, parents and citizens in general are communicated and discussed. In this regard, partial and isolated reforms may achieve some improvements in performance. However, integrating all three components described here is likely to lead

If we assume that there are deficiencies in the drafting of legislation and laws, along with a lack of accuracy in their provisions and requirements, then they still do not reach the level of obstruction, or prevention, because they are not substantial or complex

to the implementation of more successful reforms (World Bank, 2007).

The previous analyses within this chapter revealed that there are three basic problems, or rather development challenges inherent in Arab education systems, with the exception of some countries that have overcome a great portion of them, represented in eradicating illiteracy, especially among women, increasing attention to early childhood education, and raising the low enrolment rates in secondary education according to the contemporary global trends.

TOWARDS A NEW EDUCATION FOR THE ARAB REGION

Human capital will always be one of the fundamental forces driving a nation towards the knowledge society. Therefore, the education sector will continue to play the most important role in achieving this objective as the foundation for building the knowledge society. Preparing and equipping the new generations for the knowledge society should begin at school. Naturally, education in the knowledge society provides these generations with the opportunities to acquire the abilities, skills and values that qualify them to deal with knowledge through utilising, instilling and producing it. The Arab Knowledge Report adopted the triad of skills, values and enabling environments, given that the condition of the success of education to equip the young learners with these new experiences is to provide a communal environment based on freedom, democracy, transparency, accountability, modernity and rationality. The report emphasises the need for open educational systems that sponsor equal opportunities, justice and satisfaction of the learners' needs, and which have a common vision to develop their societies.

Human capital will always be one of the fundamental forces driving a nation towards the knowledge society

KNOWLEDGE AND SKILLS NECESSARY FOR THE KNOWLEDGE SOCIETY

For success and employment in the knowledge society the individual needs to master basic technical skills including literacy and numeracy, a foreign language along with Arabic, mathematics, science, efficient use of information technology, and the skills of analysis, criticism, problem solving and dealing with complex situations. There are also systematic and personal skills that should be acquired, possessed and mastered. For the purpose of the knowledge society, education should provide the individual with flexibility, a sense of responsibility, self-esteem, logical and critical thinking, the ability to practice self-teaching and continue with lifelong education, as well as the skills of dealing with risks and rapid changes, crisis management, networking, leadership, communication, and participation as citizens in society, at the local, national and international levels.

As we give importance to providing the teacher with the capital of third wave knowledge, we stress the importance of meta-cognitive skills, which means to teach the young how to think and learn. Meta-cognitive skills refer to those relating to accessing, selecting and evaluating knowledge in a world filled with information. They also refer to working and

BOX 2-4

Basic skills for the knowledge society - EU

The European Union defined the basic skills for the knowledge society as the following: basic skills (mathematics and language); advanced skills in science, mathematics and technology; foreign languages; ICT skills and effective use of technology; learning to learn; social skills; entrepreneurship; and general culture.

Source: Hajji, Ahmed, background paper for the report.

learning effectively whether individually and independently or collaboratively in teams and groups. Moreover, they refer to the transferal, utilisation and production of knowledge, as well as dealing with confusing situations and unexpected problems, and undertaking multiple tasks. Further, the growing competition in the labour market and rapid changes in economic conditions have created a need for individuals who possess creativity and innovation, enjoy flexibility, and are willing to change their work many times throughout their careers. Creativity, cultural development and invention are skills that have become increasingly in demand in the knowledge society, and their continuous development, possession and mastering create a permanent challenge to the education and training systems in all developed modern societies (World Bank, 2005).

THE QUATERNARY OF EDUCATION DEVELOPMENT

Figure 2-5 shows that the quaternary of education development: knowledge structure, organisational structure, technological structure and the global context is an integral part of a more comprehensive reform process of the enabling political, social and cultural environments in light of a comprehensive vision for preparing new generations and equipping them with the values and skills necessary to possess the tools and means to participate in the knowledge society.

UPDATING THE KNOWLEDGE STRUCTURE

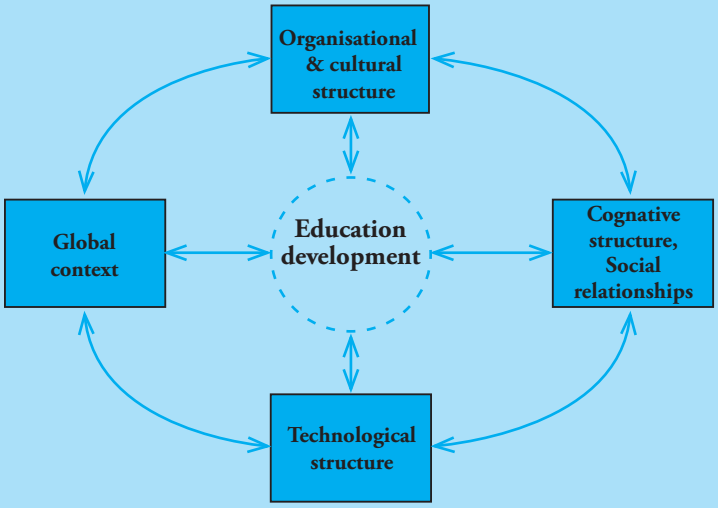
As previously explained, the knowledge structure is considered the overall epistemological condition identifying the nature of knowledge and methods of its transmission, distribution and utilisation in teaching and learning processes (for example the conditions that constitute the pattern of teaching methods) in classrooms. What is needed is to make a quantum leap from the 'traditional pedagogy' prevailing in the education systems in the Arab region and which is based on memorisation and dictation into 'constructivist pedagogy' which is based on four interrelated components. The first component is active 'student-centred learning' which is aimed at developing and acquiring the competence

The growing competition in the labour market and rapid changes in economic conditions have created a need for individuals who possess creativity and innovation, enjoy flexibility, and are willing to change their work many times throughout their careers

FIGURE 2-5

The quaternary of education development

Knowledge structure, organisational structure, technological structure, and global context



of independently dealing with the sources of knowledge. Its objective is to prepare knowledge generators who possess a wide culture of science and humanity, namely, learning based on 'teaching rich in knowledge' it is deeply linked to knowledge, and enables students to recall and utilise knowledge in new situations. The second component is continuous assessment of the student's performance, which is a comprehensive assessment process linked to education and based on student's performance and participation, with the aim of continuously detecting and supporting the aspects of progress, and enhancing the acquisition of critical thought and self-criticism skills. The third component is information and communication technology to be employed effectively in the teaching and learning process and assessment. ICT is a vital element in transforming the traditional classroom into a modern classroom in which students transcend the classroom's boundaries into the vast space of knowledge in the world of scientific and cultural advancement. The fourth component is the flexible approach; a wide framework of constructivist education and learning criteria, giving a wide area for both the teacher and student to define their educational needs in knowledge, information and values according to developments in education and scientific fields, the lives lived by students, and the daily events in the society around them. These four components represent a coherent image of an integrated knowledge structure capable of preparing a good student with a new mind in a new knowledge society.

In all cases, we must emphasise the need to prepare a distinct Arabic teacher capable of developing his/her students and equipping them with the skills and values of the knowledge society, as well as managing this constructivist pedagogy in classroom. We, as agreed by most specialists, cannot raise students' education to a level above that of their teachers. Hence, the teacher must be a believer in change, a leader, a master of the use of information technology, an expert and an experienced professional. He/she must also be able to communicate with his/her students and colleagues, and be aware of the sciences of his era and the cultures of his society.

Moreover, it is necessary to emphasise that this integrated structure of knowledge must be based on the philosophy of lifelong learning, which expresses an advanced trend in developing the learning pedagogy agreed upon by many of the contemporary theoretical approaches, stressing that the lifelong learning required in the knowledge society lies in our ability to develop our children's motivation from childhood towards self-teaching and continuous learning. In this respect, lifelong learning is a new philosophy directing the educational process in all its stages for the young and old. It helps produce learners who can exercise critical thinking, bring about change, experiment, innovate, communicate effectively, deal effectively with ever-changing technology and the global market, take initiative and handle responsibility.

In order to move to a democratic organisational structure based on good governance, there must be a tendency towards more decentralisation and autonomy for the school's management

ORGANISATIONAL STRUCTURE

The organisational structure refers to all social relations by and through which the classroom and the whole school are managed, as stated earlier. It is very important that a qualitative transition be made from the rigid bureaucratic structure prevailing in Arab schools to a social structure characterised by flexible and supportive human relations and an open socio-cultural environment in the classroom and school. This social structure should sponsor the foundations of good governance, which is based on societal participation, accountability and transparency, clear rules and regulations, and support for democratic practices among students, teachers and parents.

In order to move to a democratic organisational structure based on good governance, there must be a tendency towards more decentralisation and autonomy for the school's management. The experiences of Latin American countries indicate that the shift to decentralisation and autonomy in

schools has helped develop decision-making processes closer to the needs of teachers and parents, and given local authorities greater autonomy in making educational decisions. The school's autonomy has also helped support the participation of parents in the context of good governance, thus helping teachers and administrators to further improve the quality of education and teaching and use available resources more efficiently. Additionally, decentralisation and autonomy at schools have enabled the local forces and parents to participate in solving financial problems and developing resources for the enhancement of the educational process with accountability and transparency (Carnoy, in English, 2000).

TECHNOLOGICAL STRUCTURE

The provision of information and communication technology in schools in the Arab region should be directed to answering the question: What should schools do? The answer to this question leads us to innovation, creativity and interest in the preparation of teachers and school leaders in a way that enables them to use technology to renew the educational process and school management. This also requires changing school systems and the cognitive structure of the classroom, so as to make information technology part of a new cognitive structure resulting in a constructivist pedagogical environment that achieves the objective of an optimal benefit from advanced technologies (Spring, in English, 2009).

Some countries have used these technologies to bring about much development in teaching and learning. They have made their educational processes focus on science, mathematics, creative learning and integration of computer activities in curricula. These countries have also changed the traditional role of the teacher to become a facilitator and learner, engaging with students in an interactive process of teaching and learning. The internet has played a major role in the preparation of educational materials rich in knowledge, and created educational clubs and academic links of different disciplines among different generations of students and teachers, through their schools and home countries, with the purpose of developing a universal sense through scientific, social and human studies.

Furthermore, information technology plays an important role in supporting good governance at schools where it is used to achieve the transparency necessary for the exercise of accountability, societal participation, follow-up and evaluation, linking the school with the families of students and the local community, with parents becoming involved in the school's daily life.

For example, Malaysia and other emerging countries are currently trying to establish strong IT structure at schools, in the so-called 'smart school', as a mechanism aimed at developing education and transforming the education system to support and keep pace with the 'vision of the Malaysian nation in 2020.' The most obvious feature of the 'smart school' is the teaching and learning environment based on the world's best practices in elementary and secondary schools. The philosophy of the smart school reflects an integrated strategy combining the student's overall development, technical skills, freedom and educational democracy in the form of equal educational opportunities and participation. This is in addition to providing a teaching and learning environment based on application, practice, social responsibility, pursuit of happiness and joy in learning at school, as well as motivation and encouragement, development of the skills of scientific and critical thinking, problem-solving and creativity. The smart school is linked to a flexible, multi-cultural, meditative, holistic, global, and open-ended approach that supports active learning. The student's assessment system used in this model aims at introducing a realistic picture of a student's performance in a way that ensures continuous follow-up through

The philosophy of the smart school reflects an integrated strategy combining the student's overall development, technical skills, freedom and educational democracy in the form of equal educational opportunities and participation

comprehensive multimedia in which both the teacher and student participate (Hajji, Ahmed, background paper for the report).

GLOBAL CONTEXT

As indicated by the report in the first chapter, another factor of the knowledge society is globalism. In the knowledge society, education has become the component enabling young people to interact with global developments and global changes to compete in the knowledge economy and positively integrate into a global context where the effects and requirements of globalism grow. This requires developing schools and classrooms and adopting constructivist pedagogy that enables students to interact with the global sources of knowledge, culture and arts, through criticism, analysis, utilisation and production. Also, schools should be able to prepare new generations to fulfil the new mechanisms of the global knowledge society. In this context, focus must be on the commitment and application of international standards with respect to the performance of teachers, students and school management, as well as on national qualification frameworks linking the level of skill to that of performance in various educational programmes. This is in addition to continuing with international tests to measure the competences and skills of students, such as TIMSS, PISA and others to provide objective reference criteria for students' performance and allowing meaningful comparisons.

Schools should be able to prepare new generations to fulfil the new mechanisms of the global knowledge society

BOX 2-5

Turkey and the global context

The absence of global and national training standards and national qualification frameworks would limit the transition between the types of education, i.e., formal and informal education, or between education and the labour market. More importantly, this would obstruct the national economic integration with international economies. Accordingly, the most important priorities of the Renaissance plans in Turkey involved the building of employment criteria through developing the National Qualification Framework, which links levels of education and levels of work skills. This has enabled Turkey to achieve the integration of the labour market into the global economies in general, and European economies in particular.

Source: World Bank, 2004.