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

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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

Age Group (y-axis labels top to bottom): +100, 99-95, 94-90, 89-85, 84-80, 79-75, 74-70, 69-65, 64-60, 59-55, 54-50, 49-45, 44-40, 39-35, 34-30, 29-25, 24-20, 19-15, 14-10, 9-5, 4-0

46.5%

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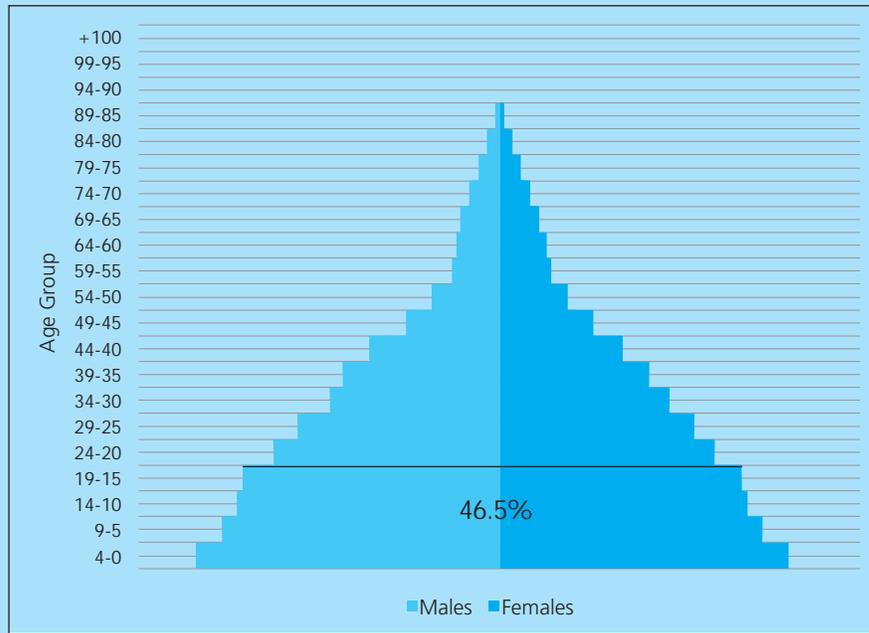
Source: US Census Bureau database
(US Census Bureau) http://www.census.gov/ipc/www/idb/groups.php dated 30 May 2011

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 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

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

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

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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 Batikhy, 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

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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

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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

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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)

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 consist 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

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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

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

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

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

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

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

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

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 curricula[11] 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

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

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.

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

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.

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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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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 over-crowded 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

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

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 does 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

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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 over-crowded 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

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.

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

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" (Zahran 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

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

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

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

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

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

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

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 unions[15] 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

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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

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 Mafraq 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

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

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.			

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.

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

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, over-crowded 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

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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

Legislatives 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

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.

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 currently[26] 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

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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.

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.

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 internet is considered the true opportunity and source of power in Jordan to move towards the knowledge society.

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

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]**					**Statistical differences between males and females[37]**
Males	**Females**	**Total**	**Males**	**Females**	**Standard deviation[36]**	**Lowest score**	**Highest score**	
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

FIGURE 1-5-1

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

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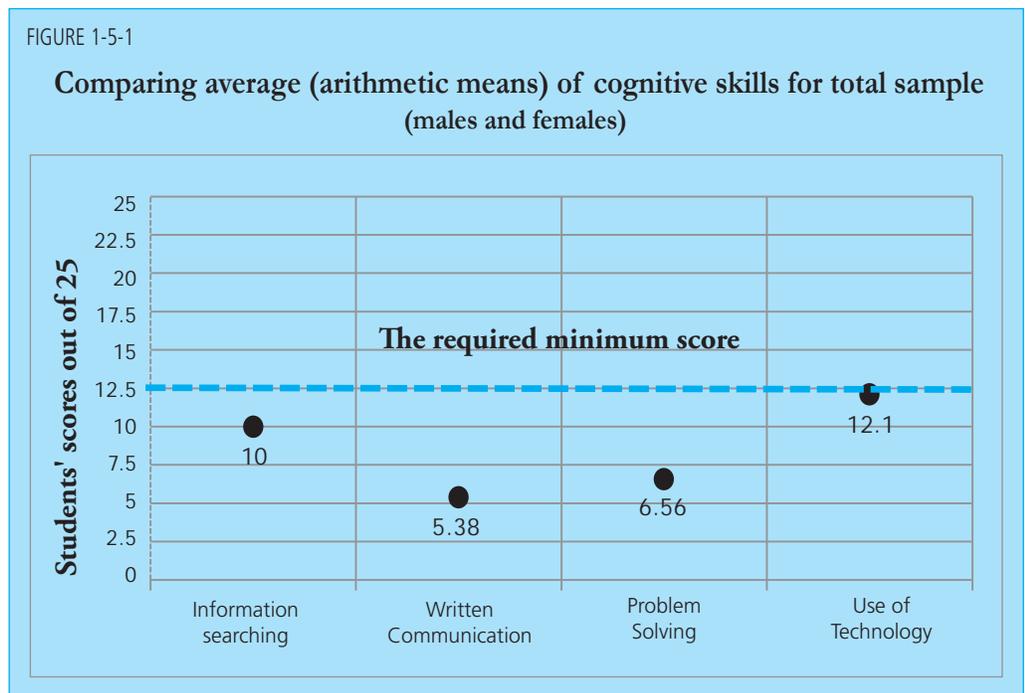
scores were in written communication followed by problem solving, and then information searching and processing. The use of technology was the strongest skill.

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
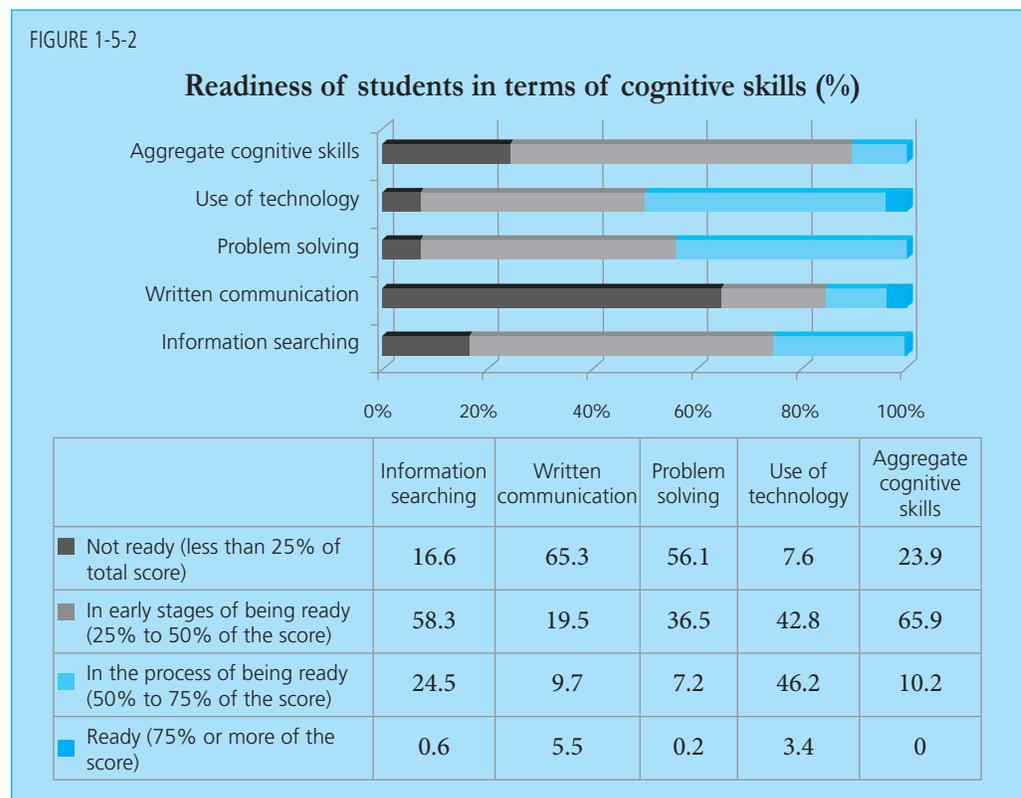
Discussion of students' results in cognitive skills

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

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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
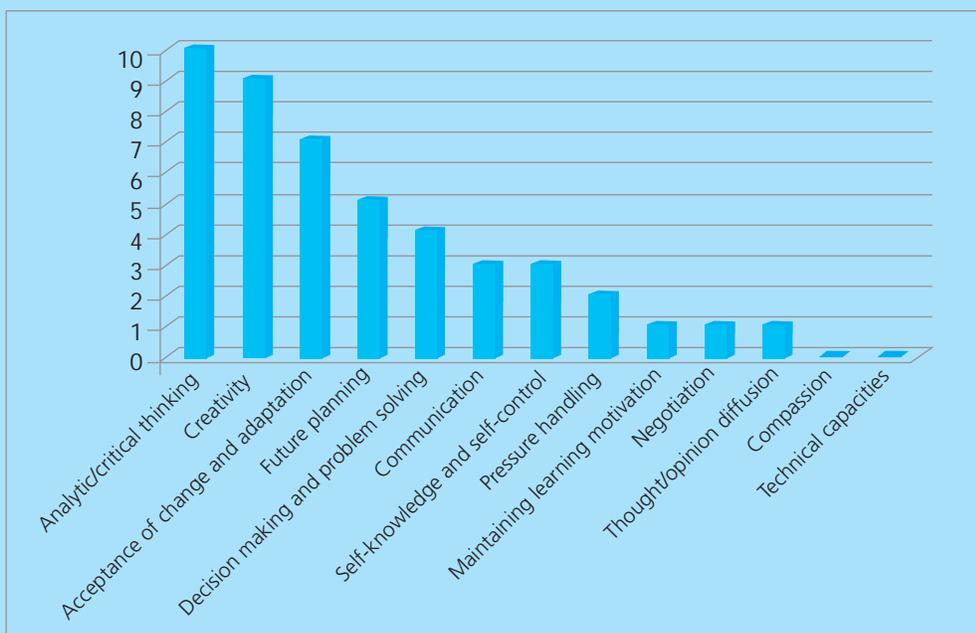
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measure lower mental processes, such as memory and recalling information. This was indicated by the NCHRD study that argued that the methods adopted by teachers still needed to focus on problem solving and stability. Another study (Al Fayoumi, 2008) 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

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

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

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 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

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

FIGURE 1-5-5

Readiness of students in terms of conative skills (%)

		Self-esteem	Learning motivation	Future planning	Aggregate conative skills
■	Not ready (less than 25% of total score)	0.7	0.4	70.7	5
■	In early stages of being ready (25% to 50% of the score)	1.3	2.8	23.2	10.3
■	In the process of being ready (50% to 75% of the score)	21.8	38.3	5.8	80
■	Ready (75% or more of the score)	76.2	58.5	0.3	4.7
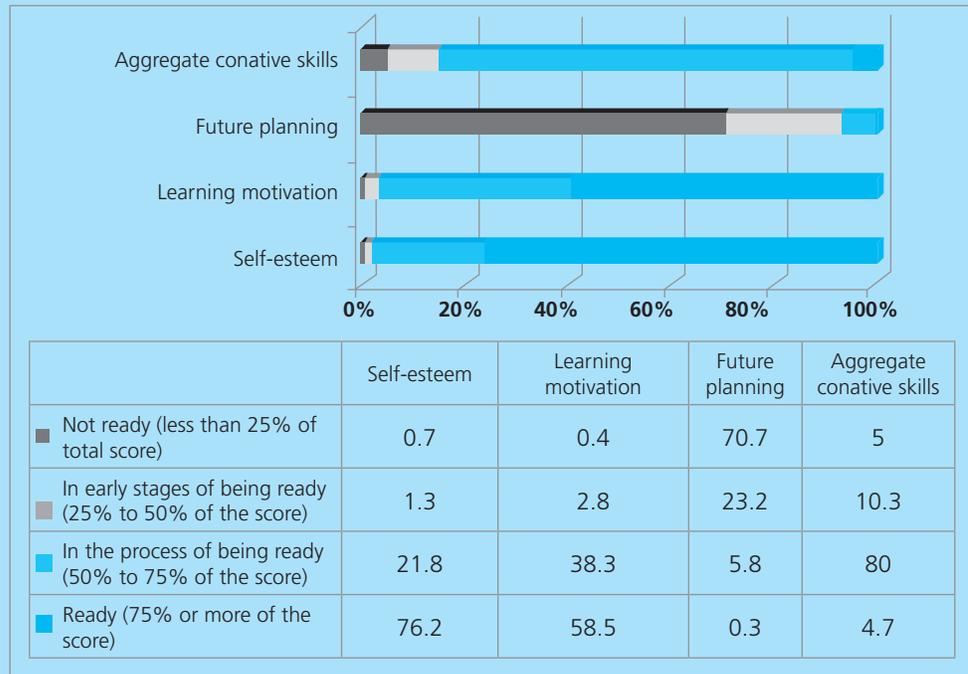
number of internal and external variables and factors that pertain to human beings and their formation as well as the natural environmental and social conditions.

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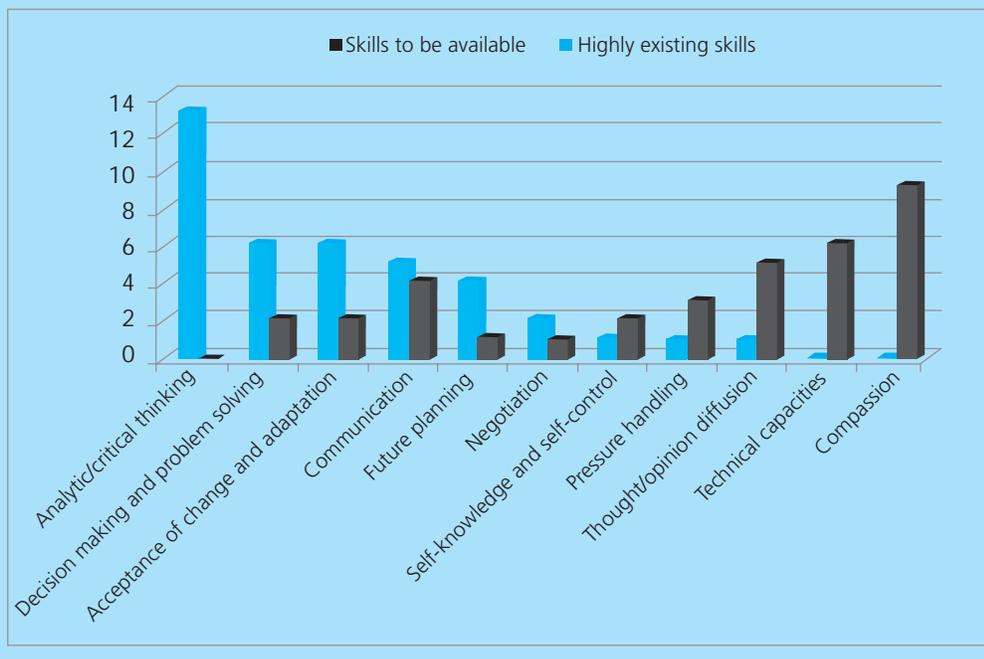
them to learn, and they encourage them to do their utmost to score high marks on the end of year test.

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

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

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 Total	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)

Students' scores out of 25

- Communication with others: 17.58
- Team work: 15.36
- Participation in public life: 14.01

The required minimum score

Readiness of students in terms of social skills
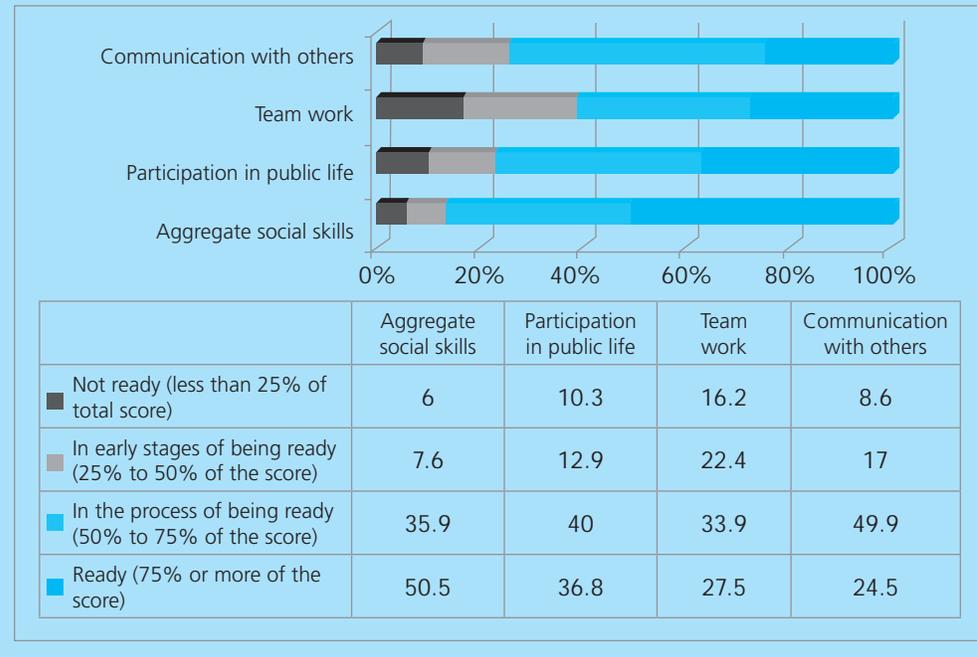
	Aggregate social skills	Participation in public life	Team work	Communication with others
■ Not ready (less than 25% of total score)	6	10.3	16.2	8.6
■ In early stages of being ready (25% to 50% of the score)	7.6	12.9	22.4	17
■ In the process of being ready (50% to 75% of the score)	35.9	40	33.9	49.9
■ Ready (75% or more of the score)	50.5	36.8	27.5	24.5

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

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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.

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

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

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
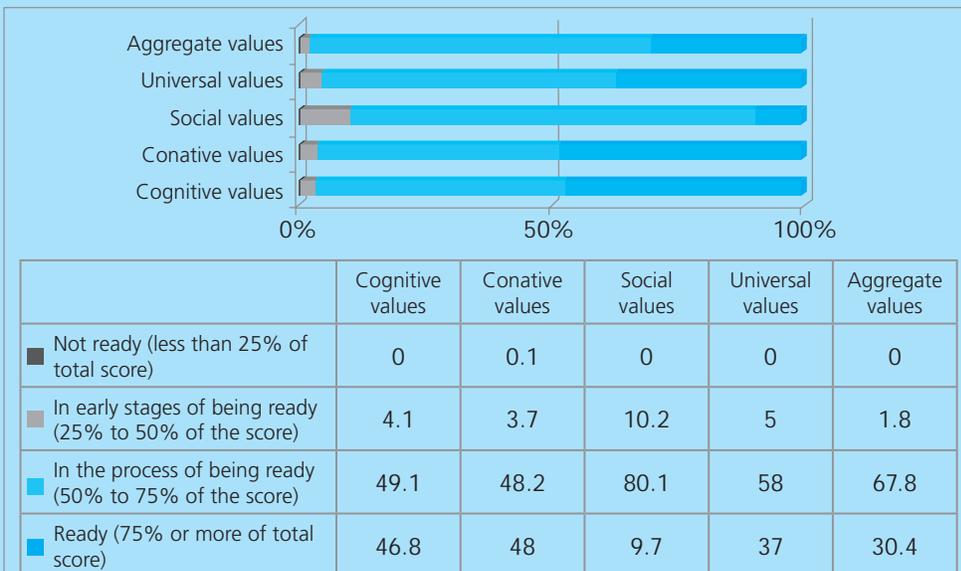
	Cognitive values	Conative values	Social values	Universal values	Aggregate values
Not ready (less than 25% of total score)	0	0.1	0	0	0
In early stages of being ready (25% to 50% of the score)	4.1	3.7	10.2	5	1.8
In the process of being ready (50% to 75% of the score)	49.1	48.2	80.1	58	67.8
Ready (75% or more of total score)	46.8	48	9.7	37	30.4

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 an 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 an 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

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

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

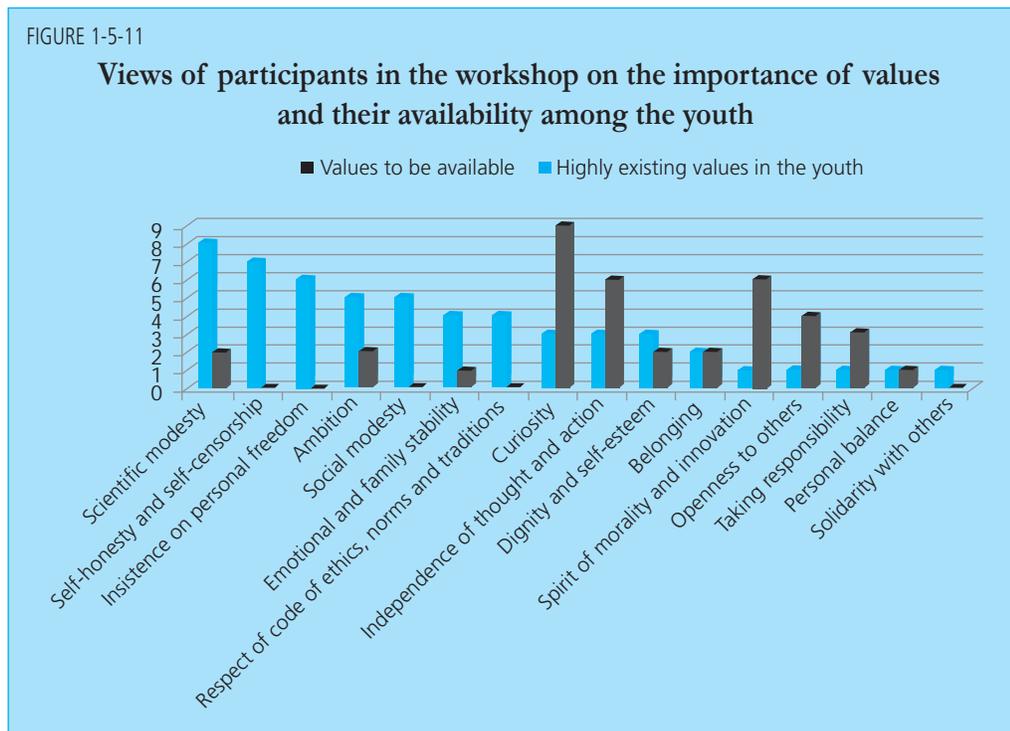*The Jordanian family is the first upbringing system and the most eager for its children to conform to the society's different standards and values, whether they have their origin in religion or social customs and traditions*

FIGURE 1-5-11

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

■ Values to be available   ■ Highly existing values in the youth

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

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

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 cognititive, 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'

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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 (%)
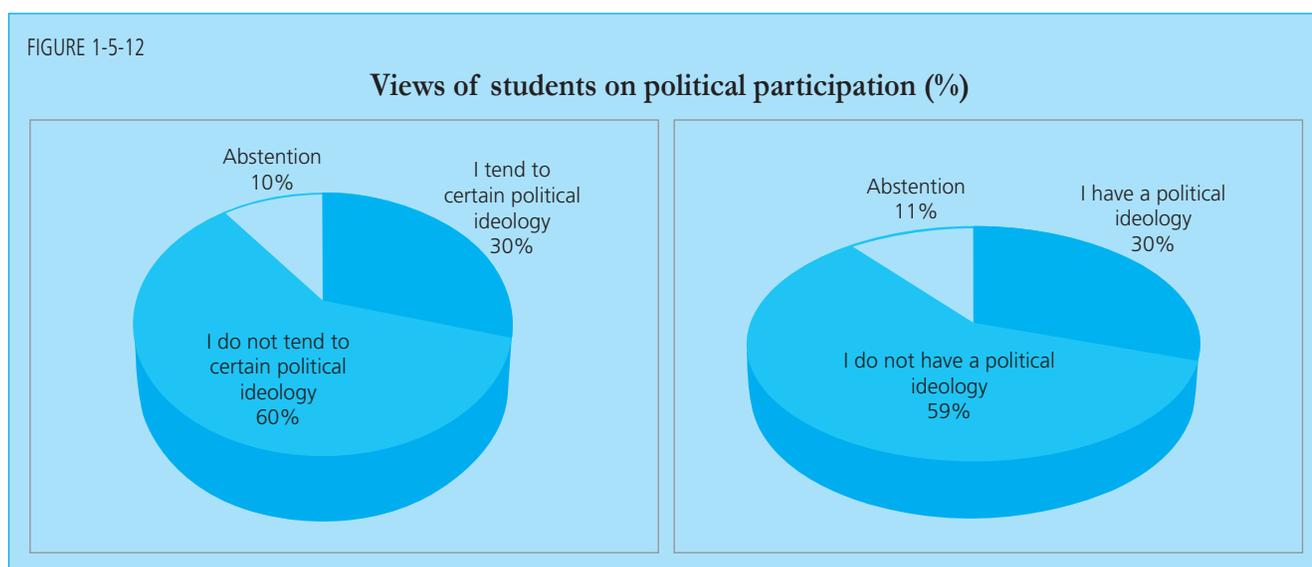
TABLE 1-5-11

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

■ Environments to be available   ■ Highly existing environments
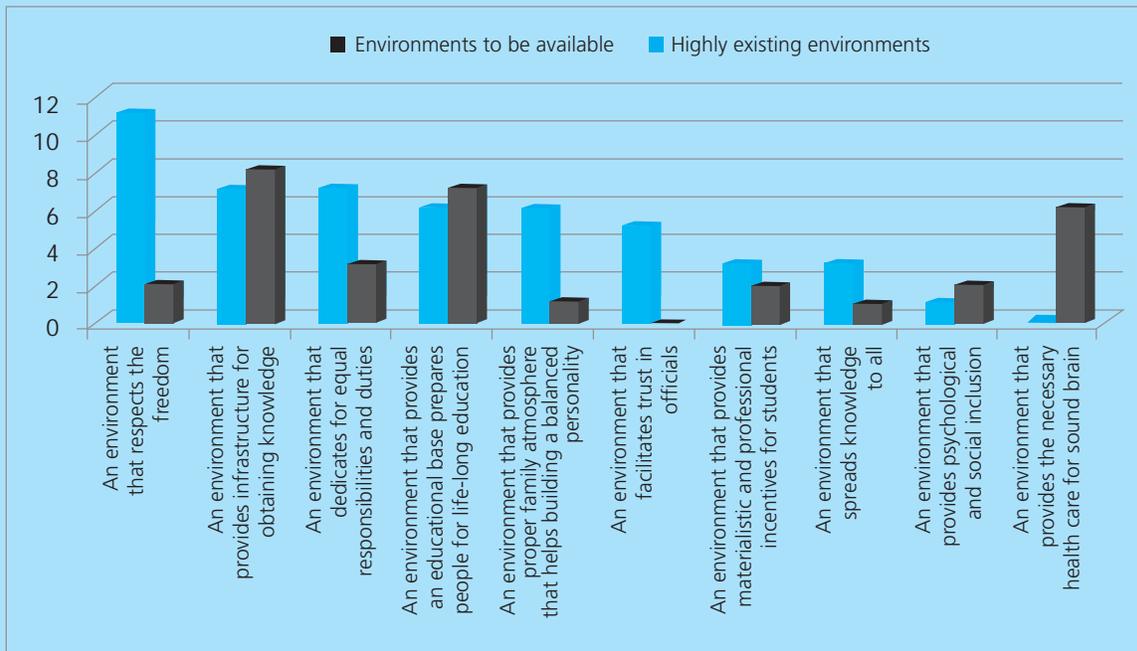
TABLE 1-5-13

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

JORDAN
CASE STUDY

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 movem ents, 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.

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

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

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

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 legislatives 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

LIST OF THE NAMES OF WORKSHOP PARTICIPANTS IN JORDAN

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Mr. Hamza Amr

Senator Nawal Al Faouri

Mr. Maher Al Madadeha

Eng. Khaled Al Tarawena

Dr. Mohanad Al Mubaidin

Dr. Malak Zaalouk

Dr. Fawaz Jaradat

Mr. Mahmoud Al Hussain

Dr. Fayez Al Sayagh

Ahmed Salem Ali

Mr. Maher Areef

Mrs. Elien Youssef

Mr. Kayed Hayel Al Magali

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

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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

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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