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THE
STRATREAL
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Partnership for
Entrepreneurship
Education

Entrepreneurship Education in the Arab States

**A Joint Project of
UNESCO and
The StratREAL Foundation
United Kingdom**

**Case Studies on the Arab States
(Jordan, Tunisia, Oman, Egypt) and
Regional Synthesis Report**

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and

Regional Synthesis Report

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Foreword

Entrepreneurship Education (EPE) in the Arab States is a joint project between UNESCO and StratREAL Foundation, United Kingdom, which includes two main components:

Component 1: The collection, systematization and dissemination of innovative and successful experiences of EPE from different countries of the region (2009–2010);

Component 2: Providing technical support for the development of strategic plans to facilitate the incorporation of the concept of EPE in education systems (2010–2012).

The UNESCO-UNEVOC International Centre for TVET-Bonn is taking the lead in the implementation of the project, in co-operation with UNESCO Regional Bureau for Education in the Arab States - Beirut. Other UNESCO Field Offices in the Arab region are also involved in the project.

The National Centre for Human Resources Development (a UNEVOC Centre in Jordan) had been commissioned for the implementation of component one (2009–2010). Educational experts from four countries (Egypt, Jordan, Oman and Tunisia) prepared case studies on the current situation of entrepreneurship education (Sections 1–4). Based on the four country case studies, a regional synthesis report (Section 5) was prepared, which highlights the national and regional contexts and expectations of EPE in the Arab region. The document will be disseminated in Arabic and English to promote EPE in the education systems of Member States in the region.

UNESCO would like to thank all policy-makers who contributed to the case studies and the regional synthesis report, especially H.E. Dr. Munther Masri, President of the National Centre for Human Resources Development, Jordan. The effort of the research team and UNESCO co-ordination team have been effective in the implementation of component one of the project. We expect that the case studies and the regional synthesis report will lead to more cooperation between educational institutions and other partners/stakeholders on the promotion of EPE in the Arab Region.

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Executive Summary

Four case studies of Jordan, Tunisia, Oman, and Egypt were conducted by a research team in the Arab region as part of Component I of the project “Entrepreneurship Education (EPE) in the Arab States” (2009-2012). The methodology used to conduct the case studies included desk reviews of relevant documents and reports at the country level, analyses of the education systems, discussions with key officials/specialists, and two workshops held by the NCHRD-Jordan for the research team (August and December 2009) on the outcomes and results. The case studies focused on socio-economic development, with a particular emphasis on how EPE can enhance employment opportunities for youth and graduates in the private sector and provide the young generation with knowledge and skills on how to manage and open small and medium enterprises (SMEs).

The first case study of Jordan focuses on the extent to which the many aspects of EPE are handled in the different areas of the Jordanian education system. A 1994 law outlines the overall philosophy of the Jordanian education system and emphasizes a wide variety of entrepreneurial characteristics students are meant to acquire during their schooling, beginning during basic education where the foundation is laid and continuing on to secondary academic or vocational education, which provide opportunities for specialization to the students. Additionally, a reform plan for the educational sector (2003) stated that entrepreneurial life skills and mindsets, such as innovation, initiative, problem-solving, critical-thinking, etc., are major goals of education in Jordan. While the policy framework for EPE is well developed, there is a need for improvement at the implementation level regarding skills-oriented teaching and the imparting of initiative and entrepreneurial attitudes.

In vocational education and training, students can be exposed to practical entrepreneurial environments while training at the workplace. At this level, they can acquire the necessary information and skills concerning self-employment and the establishment of small enterprises. Other possibilities to enhance EPE are also presented in this case study, such as projects financed by the

Educational Innovation Fund to improve efficiency, innovation, sustainability and competition in education. Many of these projects have a practical approach to labour-market-oriented teaching. In addition to governmental initiatives, there are non-governmental organization (NGO) programmes and the initiatives of international and donor organizations that focus on EPE. Awards and incentives such as the Queen Rania Al-Abdullah Award for Excellence aim at enhancing the culture of innovation and entrepreneurship through spreading awareness about distinguished performance concepts.

The second case study of Tunisia addresses the challenges that the country's education system faces due to recent demographic and economic developments, as well as the ways in which entrepreneurship education can be an important factor in overcoming these challenges. Currently, 62% of the Tunisian population is of working age, and the numbers are increasing. The number of enrolled students is also rising, and so a significant effort needs to be made to boost the pace of job creation and to increase the employability of school graduates. Statistics indicate that 80,000 new jobs need to be created each year to meet this rising demand. Managing this additional demand requires a reorientation of the Tunisian education system towards competency-based teaching and learning, as well as the promotion of an entrepreneurial spirit and key skills in all aspects of education. Such an educational reform was established in 2002. It focuses on teaching children and adolescents behaviours and attitudes that help them to cope with the fast pace of an open-market capitalist society. The reform redefined the roles of schools to include concepts of competency, cost, quality, employability and entrepreneurship. The case study also presents several other entrepreneurial education projects that aim to promote self-employment and training, such as the Tunisian Bank of Solidarity's loan scheme for SMEs or entrepreneurship education and business administration programmes, such as INJAZ Al-Arab or ILO's Know About Business programme.

The third case study of Oman analyses how EPE is integrated within the education system in Oman. Between 2003 and 2006, a major review of the education system in Oman was carried out. Following this review, a "vision for education" was developed that put a special emphasis on teaching skills that increase students' employability. Various approaches were outlined to prepare students for the labour market, including the teaching of entrepreneurial skills, such as decision-making, problem-oriented thinking and discipline. The current post-basic school curriculum in Oman reflects this vision, for example through

innovative teaching and learning approaches in subjects such as Business English, IT for Business, Life-Skills and Applied Mathematics. The latter two subjects focus especially on skills for future entrepreneurs and provide skills in areas such as time management and business calculation. Other topics covered in the new curriculum include transactions in financial markets, securities and stocks, and economic theories and practices. Several pilot projects and private-sector programmes have been implemented to promote entrepreneurship and to provide entrepreneurship education. They include business simulation classes at Nizwa College and the SANAD programme, which promotes the launch of youth business ventures through the provision of loans and expertise to recent graduates.

The fourth case study explores Egyptian measures designed to anchor EPE in its national education system, including a review of past and present difficulties. After decades of policies that favoured a centrally-planned economy, which impacted negatively on the entrepreneurial spirit of the population, Egypt has been liberalizing its economy and over the past thirty years has been adapting it to the constantly changing developments in society, technology and the labour market. From the beginning, establishing and developing SMEs played a major role in this reform process. Entrepreneurship was promoted to mitigate high youth unemployment rates. This campaign attracted a high number of young people, but most of them lacked basic entrepreneurial training and their business efforts mostly failed. In 2004, the Egyptian Government passed a new law on small enterprise promotion, which contains a strong EPE component. Since then, many diverse EPE training centres and programmes have been established. As a next step, these programmes, whether national or donor-supported, must be better co-ordinated to increase effectiveness.

The regional synthesis report adopted a broad concept of EPE that includes economic, social and cultural dimensions, with a special emphasis on both the higher mental skills of the individual and the preparation for the world of work. The scope of EPE here comprises all aspects and dimensions of the education system, including the relevant inputs, processes and practices, and the possible educational disciplines (courses) in formal and non-formal education.

EPE (in general), can be influenced by two groups of factors within the education system: personal and external factors. Personal factors include professional competences, communication skills, and higher mental skills. External factors

include social, cultural, economic and political conditions that prevail in society and which have direct effects on EPE or the education system.

Policy, legislation and governance systems can be important venues to support EPE in the education systems though clear references to EPE competences and skills that need to permeate innovations in teaching and learning. Governance at the central, regional and school levels can play a vital role in anchoring EPE in the education system. Nevertheless, developing specific strategies for this purpose is of great help.

Basic education can be considered the best vehicle to incorporate EPE, especially because it is common, compulsory, non-specialized and covers a wide spectrum of disciplines. Secondary education, on the other hand, lends itself to cater more for individual differences and to incorporate basic theories of EPE with higher standards of out-of-school activities. Apprenticeship systems in secondary education have the added advantage of incorporating employability and self-employment skills. Needless to say, at all levels of education, assessment tools that target the learner and that accompany curricula and textbooks can play an important role in assimilating EPE concepts and competences in the education systems. In addition, the teaching and learning methodologies utilized by the teacher are important for the incorporation of EPE skills in education systems.

The development of practical skills and implementation of applied activities related to EPE require the availability of adequate funding sources, especially at the school level. Reward systems and special funds are good examples of such sources if they are sustainable and subject to proper evaluation.

An important dimension of successful EPE experiences is the community involvement in such programmes through twinning between schools and enterprises, sponsorship of activities, the provision of services for schools by external stakeholders, and exchange of enterprise projects between teachers and students. Another important dimension includes determining the feasibility of a regional approach to EPE, as well as collaboration between national and international efforts and experiences. Several experiences were shared as contributions to the regional synthesis report for the Arab countries (from Bahrain, Lebanon, Morocco, Palestinian Authority, Sudan, and Syria), as part of cooperation between UNESCO Field Offices and UNEVOC Centres. They include information about teaching and learning materials developed by UNESCO, ILO,

and ALO/ACHRD during the past five years. Most of these materials are available on CD-ROM and on the websites of these organizations. Other initiatives mentioned relate to youth employment and skills. They are implemented by the British Council and INJAZ Al-Arab (NGO).

Several issues related to gender were identified as crucial in promoting EPE in the education systems in the region. They include involving women policy makers in EPE programmes and cooperating with business women's associations in the implementation of EPE teaching and learning experiences. This can have positive impact on the role of women in socio-economic development and the labour market in general.

The conclusions, suggestions, and recommendations on adopting EPE in the educational systems of the Arab countries included the importance of developing national and regional strategies and plans of action for EPE. The strategies/plans of action should focus on the following priority areas:

- Policy and coordination;
- Curriculum development;
- Teacher education and training;
- Equipment, laboratories and infrastructure; and
- Networking and connectivity.

1. A Case Study of Jordan

by Munther Masri

1. A Case Study of Jordan

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1.1 Introduction

In a joint UNESCO/ILO publication *Towards an entrepreneurial culture for the twenty-first century* (2006, p. 22), entrepreneurship education is defined as follows: “[Entrepreneurship education] is usually conceived more broadly, seeking to foster self-esteem and confidence by drawing on the individual’s talents and creativity, while building the relevant skills and values that will assist students in expanding their perspectives on schooling and opportunities beyond. Methodologies are based on the use of personal, behavioural, motivational, attitudinal and career planning activities”.

Consequently, the scope of entrepreneurship education (EPE) and the venues that permeate and are permeated by EPE are varied and can comprise all the relevant inputs, processes and implementation practices in education, including -with varying degrees and approaches- all educational disciplines and cycles in formal and non-formal systems. At the system level, it includes inputs such as governance, legislation, financing, curricula, teacher education and the roles of different stakeholders in the public and private sectors. At the school level, on the other hand, it includes such inputs as teaching/learning methodologies, testing and certification, out-of-class and out-of-school activities, school administration and staff development.

This paper is a case study about entrepreneurship education in Jordan. It deals with a number of relevant dimensions and inputs, including:

- Policy, legislation and governance at the national level;
- Basic education: structure and content;
- Secondary education: structure and content;
 - secondary academic education;

- secondary vocational education;
- Curriculum and assessment tools;
- Teacher education and training;
- Financing: funding entrepreneurial projects;
- Private sector and non-governmental organization (NGO) initiatives;
- Regional initiatives.

Each one of these dimensions will be explored to the extent that it explicitly or implicitly contributes to EPE. The methodology adopted for the collection and analysis of the relevant information in this study included the following:

- Desk review of relevant, official reference documents and data, including laws, by-laws, regulations, funds, etc.
- Information on special programmes that relate to or can be seen to support EPE in Jordan, including awards and initiatives. Such programmes are often implemented by NGOs or the private sector.
- Review of assessment studies conducted by researchers to evaluate the different aspects of the education system, including some aspects of EPE.
- Discussions with senior officials of the relevant agencies and stakeholders.
- Discussions during two workshops (August and December 2009) with the research and coordination teams for the whole project, as listed in Annex 1.

1.2 The education system: a brief overview

Education is one of the major service sectors in Jordan and accounts for more than 5% of gross domestic product (GDP). It is characterized by the prominent role and involvement of the private sector. The national literacy rate exceeds 93% with relatively high participation rates of both males and females in the various cycles. The following are the major characteristics:

- **Pre-school education** in kindergartens lasts for two years and serves children of the age group 4–6 years. It is mostly run by the private sector and NGOs, with only 7.4% of children in government kindergartens. Although pre-school education is not compulsory, it is considered to be one of the formal education cycles under the general supervision and regulation of the Ministry of Education. About 40% of children

in the age group 4–6 years join kindergartens, with nearly equal distribution between males and females. The student/class unit ratio in kindergartens is about 22:1, while the student/teacher ratio is 21:1.

- **Basic education** lasts for ten years and serves the age group 6–16 years. It is compulsory and free in government schools. It is mainly run by the Ministry of Education, with 72% of children attending government schools, 18% in private schools and 10% in UNRWA (United Nations Relief and Works Agency for Palestinian Refugees) schools. Of the age group 6–16, more than 93% of both males and females enter basic education. The student/class unit ratio in basic education is about 28:1, while the student/teacher ratio is 19:1.
- **Secondary education** lasts two years, and serves students of the age group 16–18 years. It is not compulsory, but is nevertheless free in government schools. Students who successfully complete basic education can either join the applied secondary education path run by a government agency—the Vocational Training Corporation (VTC— and which consists of vocational options where the applied (practical) component is implemented through on-the-job apprenticeship carried out in enterprises in co-operation with employers, or they can join the comprehensive secondary education path which comprises two streams: the general education stream consisting mainly of literary and scientific options; and the vocational education stream consisting of industrial, agricultural, home-economics and hospitality options. Of the 16–18 age group, 82% join secondary education (78% of males and 86% of females). Less than 20% of all secondary education students enter the various vocational education streams, including applied secondary education. Almost 90% of general education options and all vocational education options are offered by government schools and training centres. The student/class unit ratio in secondary education is about 24:1, while the student/teacher ratio is 12:1.
- **Higher education** consists of two major paths: university education; and intermediate university education lasting two-to-three years and taking place in community colleges. To join either of these two paths, students have to pass a national examination—the General Secondary Education Certificate Examination. About one-third of students in higher education can be found in private universities and community colleges.
- **Governance structure**
 - *Basic and secondary education*

For educational purposes, Jordan is divided into thirty-six regions, each served by a local directorate of education. Nevertheless, the Jordanian education system may be considered a centralized system. Basic functions, such as curricula, textbooks, recruitment of teachers, legislative tools and regulations, financing, etc., are in the hands of the central authority—the Ministry of Education (MOE). A Board of Education, whose membership is drawn from the various stakeholders in the public and private sectors, has the authority of approving curricula and textbooks. It also offers advice to the ministry on policies, strategies and developmental needs.

- *Higher education*

The Ministry of Higher Education and Scientific Research (MOHESR) is the agency responsible for higher education, comprising twenty-seven universities and fifty community colleges, many of which are private institutions. A Higher Education Council and an Accreditation and Quality Control Organization with public and private representation provide the umbrella for policies, quality and regulatory needs of the sector.

- *Technical and vocational education and training*

Although technical and vocational education and training (TVET) is organized and implemented by three major government agencies (MOE, MOHESR and the Vocational Training Corporation), the Ministry of Labour is responsible for the co-ordination, policy-making and overall supervision of TVET, aided by a council, the Employment, Technical and Vocational Education and Training Council, with strong representation from employers.

- **Teachers.** According to Educational Act No. 3 (1994), a first university degree in addition to one year of teacher education is the minimum requirement to join the teaching profession. Although about 80% of teachers fulfil the first requirement of holding a first university degree in their specialization, the majority have so far not acquired the pedagogical requirement.

1.3 Policy, legislation and governance

The Jordanian Educational Act No. 3 (1994) has special features that are not usually incorporated in similar legislative tools elsewhere. It is not restricted to structures, mandates, roles, procedures, etc., but also deals with such

themes related to the philosophy and general objectives of education. As such, it has numerous references to skills, competences and attitudes that need to permeate the education system, and that would enhance the entrepreneurial spirit, mindsets and abilities of the learner. Below we give analytical outlines of the articles that are considered to be pertinent to EPE in the said law.

- **Chapter Two of the Education Act** deals with the philosophy and objectives of education. The following four articles refer to skills and attitudes that are of relevance to EPE in this chapter.
 - Article 3 summarizes the sources from which the philosophy of education has been drawn, highlights such themes as the need for interaction with human and global development, and refers to social and political participation within the framework of a democratic system as a right and duty of the individual.
 - Article 4 defines the objectives of education that are exemplified, among other things, in shaping a citizen endowed with human virtues and ideals, and developing the various aspects of his/her personality—physical, mental, spiritual, emotional and social—so that the learner will acquire a wide spectrum of factual knowledge, applied skills and positive attitudes, many of which would enhance directly or indirectly his entrepreneurial abilities and characteristics. As indicated in the detailed text of this article, such a spectrum includes: comprehension of facts, concepts and relations; openness to the values and positive attitudes of human cultures; scientific thinking; interaction with technological developments and sources of information; critical thinking; acquiring vocational skills, etc.
 - Article 5 states the principles of educational policy. Such principles include, among other things, the provision of adequate opportunities for lifelong education, the enhancement of the scientific approach in the education system, and emphasizing the concept of the comprehensive experience that includes vocational and technological aspects.
 - Article 6 specifies the functions of the Ministry of Education. Such functions include imparting many of the components that are relevant to entrepreneurship education. These incorporate encouraging all aspects of students' activities in educational institutions in all fields: sports, scouting, cultural, social and productive. Such relevant functions also include the establishment of adult, continuing and

non-formal education, as well as strengthening relations between the educational institutions and the local communities.

- **Chapter Three of the Education Act** deals with the different educational cycles and their objectives. Many aspects of EPE can be found to have been incorporated in the different cycles, including kindergartens, as shown below:
 - Article 7b gives authority to the Minister of Education to allow gifted students to shorten the number of years they spend at school by two years in basic education and by half a year in secondary education. It is apparent that this is intended to recognize some aspects of the entrepreneurial qualities of talented students.
 - Article 8 deals with the kindergarten cycle. It states that pre-school education aims at providing a suitable climate that provides the child with a balanced education related to all aspects of his/her personality: physical, mental, spiritual and social, that will help him/her develop good health practices, improve social relations, and enhance positive attitudes and love for school life.
 - Articles 9 and 11, on the other hand, deal with the basic and secondary education cycles, where it is stated that these cycles aim at preparing all aspects of the citizen's personality—physical, mental, spiritual, emotional and social—to enable him/her to acquire different competences related to applied skills, positive attitudes and useful knowledge. Many of the competences spelled out in these articles are directly or indirectly related to EPE. These include scientific thinking, the absorption and employment of facts and technology in life, care for the environment, developing a taste for arts and aesthetics, performing handicraft skills, diligence, perseverance, self-sufficiency, self-appreciation, self-development, openness and contribution to world civilization, problem-solving, experimentation, etc. (source: www.lob.gov.jo).

In addition to legislation, EPE can be further supported by the management and administrative structures, practices and approaches at the different levels, including the central (i.e. the ministry), the regional (i.e. the field directorates) and school levels. The school administration, in particular, can play a major role in this respect. This means that special importance should be given to the empowerment of the school and to taking initiatives and introducing

innovations that help facilitate the integration of EPE in the teaching/learning process. Such a target and approach has for many years been supported by the MOE and considered as a major component in all educational reform plans. Nevertheless, progress in this respect has so far been modest. One of the serious attempts undertaken by the MOE to address this problem is a pilot project that was entitled “Discovery School Experiment”.

This pilot project, which in the first stage covered 100 schools, was initiated in the government school system in 2004 with the objective of integrating information and communication technologies (ICTs) in the teaching/learning process through a mixture of e-learning and face-to-face traditional learning, with full support of new administrative school styles. This type of learning came to be called “blended” or “hybrid” learning. Its major objective from the learner’s perspective includes the development of self-learning, as well as the utilization of different sources of knowledge available worldwide.

From the teacher’s perspective, on the other hand, the objective is to transform his/her role more into that of a facilitator and evaluator, and less as a source of information and instruction. Such an objective helps to enhance the learner’s initiative, innovation and entrepreneurship skills, and hence to support EPE.

An evaluation study that was implemented three years after the launch of the pilot programme showed that the experiment, while realizing some of its objectives in the field of integrating ICTs in educational practice, has not been as successful as expected. The instructional model employed in computerized lessons was not significantly different from that used in non-computerized lessons. In both types of lessons the instructional model was more of the transmissive type with a focus on presenting and illustrating information, posing questions and evaluating students’ responses. In addition, the learning environment in both cases was teacher dominated, with little opportunity for students to use their initiative and participation.

It was felt that more time is needed for the full integration of e-learning in the discovery schools in order to fulfil all the relevant objectives, not the least of which is EPE.

1.4 Basic education: structure and content

The education system has the potential to convey a strong component of EPE through the inclusion of a wide spectrum of useful knowledge, life-skills and attitudes in support of the concept of wide-based and comprehensive experiences. Basic compulsory education is usually the best vehicle for such an approach because it is general, non-specialized, universal and common.

From the quantitative and structural point of view, the study plan for basic compulsory education in Jordan spanning grades 1 to 10 and age groups 6 to 16 incorporates most, if not all, of the needed groups of disciplines that would give learners the necessary life-skills. Such groups of disciplines include the following:

- Humanities, including Arabic language, English language and French in some schools;
- Social sciences, including history, geography and national education;
- Pure and natural sciences, including mathematics, physics, chemistry, biology and geology;
- ICTs;
- Pre-vocational education, including mainly applied basic skills in home economics, agriculture, industry, etc;
- Arts education;
- Music education;
- Physical education.

As expected, the traditional academic disciplines-humanities, social sciences, pure and natural science-are already covered in the study plan, testing and evaluation system. Some other disciplines that have a strong component of applied skills, including ICTs, arts education and physical education, are also present in the study plan and evaluation system. The rest of the study plan disciplines, i.e. pre-vocational education and music education, do not seem to have been fully integrated into the study plans of all schools, as most of them do not have the full facilities and necessary inputs for such assimilation.

From the qualitative point of view, much still needs to be done, even in the case of the traditional academic disciplines. The relevant qualitative aspects include such life-skills and mindsets as innovation, entrepreneurship, initiative, problem-solving, critical-thinking, etc. The weaknesses of the qualitative

aspects will become clear later in this study. Needless to say, the various skills, attitudes and competences that concern EPE can, with varying degrees and emphasis, permeate the different disciplines according to their nature. The humanities and social sciences can emphasize the skills of analysis and open-mindedness. ICTs, on the other hand, can highlight the skills of self-learning and innovation, while pre-vocational education is obviously aimed at preparation for the world of work.

1.5 Secondary education: structure and content

Unlike basic education, secondary education in Jordan, which spans grades 11 and 12 and caters for the age groups 16 to 18, is streamed and non-compulsory, although the participation rate exceeds 80% of the relevant age groups.

Being streamed, with several academic and vocational paths, secondary vocational education potentially caters for those individual differences that are among the basic foundations of EPE. Nevertheless, the implementation aspects do not seem to take full advantage of such diversification, especially because a large number of students find themselves placed in streams that are not their own choice or priority, and without effective guidance and counselling services. A brief description of the two major streams of secondary education follows:

1.5.1 Secondary academic education

The academic stream of secondary education incorporates several paths or sub-streams, principally the literary and scientific streams. Since it requires specialized teaching, EPE can best be catered for by permeating the different disciplines and teaching methodologies with the relevant skills, experiences and mindsets, as referred to above for basic education. As will be seen later in this study, assessment has shown that, despite some positive impact, more effort is required to assimilate the subject of EPE into secondary education in general and in secondary academic education in particular.

1.5.2 Secondary vocational education

Secondary vocational education consists of several specialized paths, including the industrial, agricultural, home economics and hospitality streams. Vocational education at this level is available in two systems: the first is the school system, which is run by the MOE and where most if not all of the practical components

are carried out in school workshops; and the second is applied secondary education (dual or co-operative) or the apprenticeship system, which is run by an autonomous agency-the Vocational Training Corporation. For this second system, most of the practical component takes place at the workplace, i.e. in an industrial firm, hotel, farm, etc., according to the specialization. This co-operative system is more suitable for incorporating the requirements of EPE since the learners are exposed to them both in the school and in the workplace. Another positive element in this respect is that learners are learning about the information and skills related to self-employment and the establishment of micro- and small enterprises, where entrepreneurial skills and attitudes are needed. An evaluation study could assess the effectiveness of such aspects of applied secondary education (apprenticeship). Secondary vocational education can thus teach more EPE skills by establishing strong links with employers and enterprises and by incorporating self-employment and entrepreneurial skills.

1.6 Curriculum and assessment tools

In 2003, the MOE in Jordan started a comprehensive educational development plan-the "Educational Reform for the Knowledge Economy" (ERfKE) project. The design and implementation of new, high-quality curricula and assessment tools was a major component of the reform plan. After endorsing the new "General Framework for Curriculum and Assessment", the Board of Education approved new curricula for all school subjects in basic and secondary education in 2004.

The officially declared objectives of the new curricula included such characteristics as being outcome-based, student-centred, results-based and multi-media-based. Official documents referred to the need for the new curricula, textbooks and assessment tools to enhance the learners' competences in such fields as critical-thinking, problem-solving, entrepreneurship, self-learning, etc. It is clear that if these characteristics and competences were introduced successfully, it would make a major contribution to EPE in the education system. During the period 2005-2007, new textbooks and teachers' guides were produced for all grades (1-12) and teachers were trained to utilize them effectively. In addition, the MOE has made the content of some school subjects, especially mathematics, available in an electronic form so that it is available for self-learning and e-learning in schools.

To assess how the curriculum, textbooks, assessment tools and teaching methodologies can support EPE in practice, it is necessary to find answers to the following questions:

- Is the nature and quality of the learning activities included in textbooks motivating, practice-oriented and guiding learners towards higher-order thinking?
- Do assessment tools, including tests and examinations, help learners to develop their analytical, critical-thinking, problem-solving and other soft skills? And do they provide them with the opportunity for self-assessment and reflection on their learning?
- Do textbooks and teachers' guides provide for individual differences? And how are such differences catered for?
- How is the e-content and the utilization of ICT resources and tools in general helping to enrich and consolidate the learners' different higher mental skills, including self-learning, self-assessment, initiative and entrepreneurship?
- How effective are the teaching methodologies employed by teachers in supporting EPE through such means as project work, the use of different sources of knowledge, teamwork, catering to individual differences, etc.?

These and other relevant questions were the subject of a comprehensive review that was conducted in 2008 to assess the extent to which the new curricula, textbooks, teachers' guides and teaching methodologies fulfilled the declared objectives of the reform, many of which were in line with the objectives of EPE.

As expected, the results of the evaluation study revealed some strengths and some weaknesses. The results related in particular to EPE can be summarized as follows:

- The knowledge and information component of the teaching/learning process is still predominant at the expense of the other components related to skills and attitudes. There has been little progress in this respect, with noticeable variations among schools and teachers.
- The diversification of the sources of knowledge was minimal. The textbook and the teacher were still the major input for students, despite the availability of other sources in almost all schools, ranging from school libraries to the Internet. Some breakthroughs were observed in some schools.

- Although some improvement was observed in the involvement and initiative of students in the teaching/learning process, such improvement was modest and did not seem to affect the whole school environment.
- The activities and tasks provided in textbooks were generally of a good standard and many were oriented to support the students' initiative, self-learning and critical thinking. Nevertheless, the impact was still modest because the way such activities were exploited was far from adequate.
- Teachers' guides were in general comprehensive and of good standard and could support teachers in fulfilling the reform objectives, including the elements related to EPE, but it seems it will still take some time to make a real difference.

1.7 Teacher education and training

The teacher, through the appropriate classroom teaching methodologies and evaluation techniques, can be the most influential source of EPE. Almost all the skills that enhance the learner's innovative and entrepreneurship skills and attitudes can be targeted and developed through the utilization of adequate teaching methodologies. Such skills include innovation, self learning, problem solving, self evaluation, critical thinking, utilization of ICTs, etc.

Pre-service preparation, as well as the in-service training of teachers, can be an effective vehicle to equip teachers with the necessary knowledge, skills and attitudes to be able to impart and/or enhance the learners' entrepreneurial skills, and hence be active players in EPE.

In Jordan, an evaluation study carried out in 2007 to assess the effectiveness of in-service teacher training programmes provided the following interesting results:

- 33% of teachers encourage students to debate and dialogue in class;
- 60% link learning to life situations;
- 65% take into account individual differences;
- 53% utilize reasoning questions that develop students' analytical thinking;
- 70% use the discussion method;
- 53% use the working-group method;
- A small percentage utilized methods such as project-based learning, analysis and criticism of study topics, self-learning, and learning through workshops.

More effort is generally needed through in-service training programmes so that teachers are able to enhance the innovative and entrepreneurial skills and attitudes of their students. It is clear that most of the strengths, weaknesses and needs that were referred to in the section 1.6 above are expected to be reflected in the performance of teachers, and hence in their training needs. This applies in particular to such issues (that were stated in the questions requiring answers above) as assessment tools, teachers' guides and teaching methodologies.

1.8 Financing

Financing policies and funding priorities can be a potent factor in supporting EPE in the education system, whether directly or indirectly. The financial implications of educational legislation can be judged in general by the provisions in educational laws. In Jordan, the Education Act of 1994 clearly paves the way for funding plans, activities and systems that support EPE in the education system. Actual applications through tools, such as curriculum development, teacher training, governance, etc., showed that the achievements in this respect have been modest according to the relevant evaluation studies. More direct means were therefore adopted for this purpose through special funds directed to support innovative and entrepreneurial activities. The following are some of these funds:

1.8.1 *Educational Innovation Fund*

This fund was established by the MOE in 2004 with the following objectives:

- Improving the educational environment through more innovative initiatives and linkages between education and life.
- Upgrading the efficiency of the education system by addressing individual differences among learners.
- Encouraging and universalizing innovations and initiative at the level of the basic education unit—the school.
- Encouraging schools to initiate continuous and sustainable development.
- Providing extra sources of income for schools through income-generating activities.
- Enhancing teamwork through involving students and teachers in participatory projects and activities.
- Creating healthy competition among schools to launch innovative and creative initiatives.

Entrepreneurship skills and attitudes are further enhanced through the criteria adopted by schools for assessing the projects submitted. Such criteria include innovation, quality of design, sustainability, usefulness to the community and to the learner, and cost and project economics.

As shown in the relevant documents of the MOE, the Educational Innovation Fund provides grants to finance projects submitted by schools on a competitive basis in four major fields, all of which can be utilized to enhance the entrepreneurial spirit, environment and quality of activities at the school level. These are:

- School governance, including planning, administration, decision-making, capacity-building, etc.
- Curriculum development, including relevant out-of-class and out-of-school activities.
- The utilization of e-learning and ICT tools to support the learning process.
- Sustainable professional and personal development of school staff.

To give an idea about the extent of school involvement in the Educational Innovation Fund, more than 1,000 schools submitted projects in 2008, of which forty-eight schools were accorded grants for the implementation of their projects amounting to a total of about US\$150,000. According to the governing rules, single grants of up to 10,000 Jordanian dinars (US\$15,000) can be obtained for projects submitted by a single school or group of schools.

Examples of successful projects submitted by schools included those that had an impact on the environment, teaching methodologies, e-learning, professional development, community service, guidance and counselling, student clubs, astronomical observatories, water conservation, agricultural products, art, drama, support for slow learners, services to talented students, recycling of materials, animal husbandry, etc. In general, the projects that were assessed dealt with:

- Improving teaching and learning processes within the classroom environment;
- Enhancing R&D skills;
- Improving problem-solving skills;
- Linking learning to life activities;
- Developing communication skills;
- Utilizing ICTs in learning;

- Encouraging teachers and students to be innovative;
- Enhancing good administrative practices.

It is clear that almost all of these areas contribute in one way or another to EPE, although on a scale limited to the schools involved.

One evaluation study that was implemented to assess the extent to which the first round of projects financed by the Educational Innovation Fund contributed to the fund's various objectives showed that, in general, successful projects did indeed make a contribution to EPE. Nevertheless, it was too early to assess the sustainability and long-term impact on the concerned schools, and even more so on the education system as a whole.

1.8.2 E-TVET Fund

This fund was established according to the provision of the "E-TVET Fund By-Law, No. 95 (2002)". The main financial source for this fund is a 1% tax on the net profit of private sector enterprises. This tax was abolished recently and replaced by a fee that has to be paid by employers who recruit non-Jordanian employees.

Article three of this by-law defines the objectives of the fund as supporting TVET activities, developing the various training operations in private and public establishments, and enhancing the participation of these two sectors in educational and training activities.

Article 9 of the by-law, on the other hand, defines the main fields of expenditure for the fund. Items (b) and (d) of these fields can in practice be utilized to support EPE in the TVET sector. These are:

- Development of training programmes, as well as support of retraining or supplementary training in private and public establishments.
- Contributing to expenditures directed towards campaigns for occupational guidance with the aim of raising awareness among citizens.

So far, the fund has been extensively utilized to support the implementation of TVET programmes in the various sectors with the objective of preparing skilled workers equipped with the necessary skills, knowledge and attitudes for their work. No specific inclusion or reference to EPE skills can be found.

Nevertheless, and apart from the potential to incorporate EPE skills, the fact that almost all training programmes supported by the fund are implemented on the basis of public/private partnership opens the door for the trainees to be exposed to the world of work and associated skills.

1.9 Private sector and NGO initiatives

In general, efforts and initiatives to enhance EPE in education systems are usually expected to be supported by ministries of education. Nevertheless, the private sector and NGOs are also expected to play an important and effective role. Such a role can either be fulfilled by undertaking educational activities, as major players in both in formal and non-formal education, or by providing services and facilities to schools and supporting some of the schools' special needs. As expected, some of the efforts and initiatives undertaken by the private sector and NGOs help to support innovations and entrepreneurship, especially at the school level, whether through the school administration, the teaching profession, the student body or any combination of these. The "award" system is a well-known tool in this respect. Awards provide incentives to fulfil the aims that are set for them. In the field of education in Jordan, half-a-dozen awards exist that, with varying approaches and means, help to enhance innovation and entrepreneurship in the education system. The following are some of the most relevant awards.

1.9.1 Queen Rania Al-Abdullah Award for Outstanding Teachers

This annual award, which is managed and operated by an NGO (Queen Rania Al-Abdullah Association for the Award of Excellence in Education), was initiated in 2006 with the objective of enhancing the culture of innovation and entrepreneurship by spreading awareness about excellent performance concepts and providing incentives for outstanding teachers. The award model is based on transparency, fairness, targeting students, operations and outcomes. Innovation and entrepreneurship are distinct elements of the criteria for the award, in addition to other elements that include teaching effectiveness, sustainable self-development, management of resources, participation of parents and the local community, performance, etc. The number of participants in the award is quite high. In 2009, for example, 1,298 teachers, or 2.5% of the teacher population, were candidates. It is clear that this award supports EPE through the enhancement of teachers' abilities and merit, and is expected to reflect their performance and teaching methodologies (www.queenraniaaward.org).

1.9.2 Queen Rania Al-Abdullah Award for Outstanding School Principals

This annual award, which replicates many of the objectives, methods and criteria of the award for outstanding teachers, was initiated in 2009 when 269 school principals (about 10% of the target population) participated.

As in the case of teachers, this award supports EPE in the education system through the enhancement of school principals' abilities and merit, and thus is expected to reflect on their administrative performance, which supports the overall school environment (www.queenraniaaward.org).

1.9.3 El-Hassan Youth Award

The El-Hassan Youth Award Scheme started in Jordan in 1984 to provide opportunities for Jordanian youth between the ages of 14 and 25 years to enrol in out-of-school, self-challenging educational and non-educational programmes in services, skills, trips and physical recreation to help achieve the development of a balanced personality.

The scheme incorporates values related to personal and social development. The aims and objectives include participation, team spirit, active citizenship, self-reliance, perseverance, creativity, social responsibility, a spirit of adventure, life-skills, etc. It is clear that many of these aims and objectives are closely related to innovation and entrepreneurship (www.hyaward.org.jo).

1.9.4 Madrasati (My School) Initiative

This initiative was launched in 2006 by Queen Rania Al-Abdullah and is managed and operated by an NGO—the Jordan River Foundation. The major objective of the initiative is to establish close links and channels of communication between the individual school on the one hand and a partner in the wider community on the other. Such a partner could be an NGO, an industrial firm, a bank, etc. The partner provides two kinds of services to the selected school. The first concerns the upgrading of the school's material environment through the implementation of major maintenance works, new facilities, repairs, etc. The second is concerned with a group of continuous activities and contacts between the school and the community. Such activities help to expose the teachers and learners to the world of work and to out-of-school life in general, thus helping to widen their visions and expand their life experiences.

The initiative targeted 500 of the neediest schools. To date, 200 schools have either already benefited from the initiative or are in process of doing so. An evaluation study is planned to assess the impact of the initiative on the schools, including the administration, the teaching/learning process and the learners. Needless to say, some aspects of EPE will be subject to exploration and evaluation (www.madrasati.jo).

1.9.5 INJAZ

“INJAZ” is an NGO project launched in Jordan in 1999 with the mission of inspiring and preparing young Jordanians to become productive members of their society and to be able to compete in a global economy.

INJAZ brings various capacity-building courses from the community to classrooms around the country. Such courses are directed to enhance learners’ leadership, business, financial, entrepreneurial, communication and soft skills.

INJAZ places special emphasis on volunteer services and on creating and sustaining partners that include donors, the private sector, non-profit organizations, educational institutions, ministries and other stakeholders at the national, regional and international levels.

The aim of such partnerships is to extend the programme’s reach, ensure a strong impact, develop new initiatives, and encourage collaboration and efforts among all stakeholders, particularly the private sector so that it can play a greater role in creating employment opportunities. This is especially important taking into consideration that 70% of young people who have been out of school for one year are still unemployed. Apart from slow economic growth, one of the important reasons for the high unemployment rate among these young people is the weak relevance of their education to the requirements of the labour market. In addition, these young graduates have not been introduced to general entrepreneurial life-skills, including workplace and entrepreneurial skills that would have facilitated their integration into the labour market.

The courses provided by INJAZ to any group of students consist of eight to ten meetings/workshops held over a couple of months. The elements of entrepreneurship education can be indicated by the following titles:

- My place and role in the community.
- The principles of economics.

- Management of my business.
- Tourism skills.
- Economics for success.
- How to be a leader.
- Skills for success.
- The establishment of an enterprise (www.INJAZ.org.jo).

1.10 Regional initiative

This initiative has been undertaken by one of the technical arms of the Arab Labour Organization (ALO), namely the Arab Centre for Human Resources Development (ACHRD), which is located in Tripoli, Libya (www.achrd.com). This initiative targeted Arab countries with the overall objective of supporting the national economy and enhancing social security through the reduction of unemployment and poverty. This would be achieved through enhancing and encouraging the culture of entrepreneurship and by improving the performance of small and medium enterprises. The programme of the initiative had two components that were closely related to EPE:

- The training of entrepreneurs; and
- Capacity-building for those responsible for planning and operation in the field of small and medium enterprises (SMEs).

The training-of-entrepreneurs component involved the preparation of training programmes and manuals, as well as building a pro-active website to enhance e-learning. The training programmes consisted of four parts:

- Knowing the world of work and small enterprises.
- Establishing a small enterprise.
- Managing a small enterprise.
- Developing a small enterprise.
-

As for the capacity-building component, the ACHRD developed twenty training modules to enhance the abilities of those responsible for planning and operation of SMEs.

1.11 Conclusions and recommendations

The following are the main conclusions and recommendations that can be derived from the case study on entrepreneurship education in Jordan:

- ***Education and training system***

Although many elements, aspects and dimensions of EPE are catered for as part of the education system, or as efforts and inputs from outside the system, EPE as a comprehensive and multi-dimensional system that can potentially permeate all components, inputs and processes of the education system is not adequately catered for in the Jordanian education system. It is therefore recommended that the Ministries of Education, Higher Education and Scientific Research, and Labour adopt EPE as a comprehensive and all-embracing concept and reflect it in the various inputs and processes of the education and training system.

- ***Curriculum, textbooks and assessment tools***

This case study and the relevant evaluation studies have highlighted some of the strengths, weaknesses and needs of the education system concerning curriculum, textbooks and assessment tools. It is recommended that the results of the evaluation studies be taken into consideration and reflect, where appropriate, the need to adopt EPE as a comprehensive and all-embracing concept within the education system.

- ***Teachers***

In order to fulfil its objectives through the teaching profession, EPE has to be incorporated both in pre-service and in-service teacher-training programmes. Both of these aspects of teachers' qualifications seem, at present, not to be adequately catered for in a comprehensive and systematic manner. The one-year pedagogical training programme for the teaching profession can be utilized for his purpose.

- ***National stakeholders role***

National stakeholders from outside the education system, especially NGOs, seem to be playing a positive role in supporting some elements and dimensions of EPE in the Jordanian education system. It is recommended to expand and further encourage such a role, and to make it focus more on the objectives of EPE as a comprehensive concept.

- **Regional approach**

Regional organizations can undertake a useful role in supporting EPE in the Arab States through such activities as the development of educational materials, capacity-building and learning activities (conferences, workshops, etc.). Such organizations include the Arab Labour Organization, the Arab Centre for Human Resources Development, the Arab League Educational, Cultural and Scientific Organization, the Union of Arab Universities, etc.

- **International approach**

Several EPE initiatives exist at the international level, such as those undertaken by UNESCO and the ILO. It is recommended to make full use of such initiatives on the national and regional levels, and to benefit from any relevant experiences.

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2. A Case Study of Tunisia

by Mohamed Jemni

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2.1 Introduction

Profound changes in the fields of knowledge, information and communication technologies (ICTs) and employment have confronted the mission, function, methods and organization of the school with a strong challenge. This has raised a crucial question: What kind of school do we need for the knowledge society?

The answers to this question lead to the emergence of a new educational paradigm. To respond adequately to the new needs of societies and individuals, the mission of schools can no longer be limited to the transmission of knowledge.

In this context, Cadix (1982) defined the new objectives of the school as follows:

Given the speed of renewal of knowledge and complexity of problems, the first objective is to learn to learn, and learn to adapt [...] It is not so much to give to the child, the adolescent or the young some knowledge that will be obsolete a few years after [their] entry into professional life, than to teach [them] behaviours, attitudes (spirit of curiosity and entrepreneurship, enthusiasm for risk and responsibility) [...] as it is to provide the society not with followers but entrepreneurs.

New concepts are appearing in the area of education. The most controversial are the concepts of competency, cost, quality, employability and entrepreneurship.

The debate brings those who believe that the school cannot avoid its responsibility for the “professional” future of the youth face to face with those who hold the traditional view that the primary mission of the school is to educate and communicate knowledge. The new ideas continue, however, to win ground and many countries are beginning to orient their education systems toward building

skills at the school level. Among the new skills to be taught are those called “life-skills”, which include initiative, decision-making and entrepreneurship.

In Tunisia these issues have been discussed since the mid-1990s. Three important events have taken place since then:

- Testing the competence approach in Tunisian schools from 1995 to 1999 and the subsequent system-wide implementation of this teaching approach (2000);
- Establishment of a National Commission of Reflection on the “school of tomorrow” in 1998, whose work has been subject to wide consultation. The adoption of the competency-based approach was one of the recommendations of the general report of the board of consultants;
- In 2002, the adoption of a new dedicated educational reform: Act No. 2002–80 of 23 July 2002 (MOET, 2002b).

Several innovations were introduced by this reform. Those which concern the promotion of entrepreneurship education in Tunisia are:

- Redefining the functions of schools in Article 7 of the Act, namely that the school provides the functions of education, instruction and qualification.
- Article 10 describes the qualification function in terms of cross-curricular competencies for learners to acquire the ability to:
 - utilize their acquired knowledge and skills to find unusual solutions and alternative approaches for the issues they confront;
 - adapt to change;
 - develop a spirit of initiative and creativity;
 - cultivate group work; and
 - adhere to lifelong learning.

However, the most explicit article is No. 57, and in particular its paragraph 3, which states that schools must provide students with “entrepreneurial skills” that develop a spirit of creativity and enable them to conceive projects and to plan how to implement and assess them using goal-oriented criteria. These skills are to be acquired through individual and group activities in all courses within the education system. Thus, the acquisition of entrepreneurial skills is, by law, an educational objective that the school must pursue. The main question now is how entrepreneurship education (EPE) is implemented in educational programmes and activities.

The objective of this study is to assess the status of EPE in Tunisia by targeting basic and secondary education, as well as technical and vocational education and training (TVET) within the formal education system.

2.1.1 Definitions of entrepreneurship education

Entrepreneurship education has many definitions. In this paper, we will adopt the following one from the working paper prepared in January 2009 for the meeting on the Partnership for Entrepreneurship Education Project (UNESCO, 2009):

Entrepreneurship education is about creating an entrepreneurial mindset/culture that fosters innovation, problem-solving and active citizenship and where individuals have the self-confidence and belief in their ability to succeed in whatever they choose. The objective of entrepreneurship education is to assist young people become innovators and active participants in the labour market. Entrepreneurship education is made up of all kinds of experiences that give students the ability and vision to access and transform opportunities of different kinds. It is about increasing individuals' ability to anticipate and respond to societal changes and encourages individuals to develop and take initiative, responsibility and risks. Not every person who undertakes entrepreneurship training will become an entrepreneur and be self employed, but the skills acquired, especially when linked with practical skills in demand, will surely make a contribution to personal empowerment and increase individual capacities for employability and citizenship. Indeed, the European Commission calls entrepreneurship a "new basic skills".

The methodology adopted in this case study is based on the collection and analysis of relevant official documents, including laws, official reports of the Ministry of Education and Training (MOET), official web-sites of relevant ministries and agencies, as well as interviews and discussions with a number of current and retired senior officials of the MOET who participated in the most recent reform of education in Tunisia.

The case study is organized as follows: in the next section, we present the Tunisian context followed by an overview of the education and training system. Then we will present in detail, with arguments, statistical and legal references, and all aspects, elements and indicators related to EPE, either directly or indirectly.

2.2 Context

2.2.1 The demography

With a population of 10 million in 2004 and an average population growth rate of 1.21% over the decade 1994–2004, Tunisia is considered one of the few southern Mediterranean countries to have mastered its demographic growth through declining birth rates.

Nevertheless, profound changes in the demographic structure in the recent past were accompanied by the emergence of new constraints, including those affecting the labour market. There was mounting pressure from the working-age population (15–59 years), which made up 48% of the population in 1966, 53.6% in 1984 and 62.0% in 2001.

2.2.2 The employment challenges

From the 1960s to the 1980s, Tunisia experienced high birth rates. Due to this, the proportion of the working-age population will increase in the next decade to around 65% (max. 66.6%, min. 63.4%) of the general population.

After opening up its economy to the world market in 1992, Tunisia had to increase investment in human resources by strengthening vocational training programmes as well as higher education. Indeed, the transition to an open economy had a social cost—the level of education did not match the manpower requirements of companies (50% of the unemployed had not attended school beyond primary education). It is envisaged to facilitate the transition to “employability” through support programmes, particularly through vocational training and rehabilitation measures.

Shortly, Tunisia will face another social challenge: large numbers of higher-education graduates will be seeking jobs on the labour market 80,000 young people each year, with 55% of them being university graduates (UNESCO, 2007).

2.3 Overview of the education and training system in Tunisia

2.3.1 Education and training strategy

Since independence in 1956, education and training in Tunisia have continuously developed as a result of appropriate policies and a strong social demand.

Tunisia has always remained sensitive to changes in society. For example, in 1995, the President of the Republic called for:

a methodical and thorough renewal of the mission of the school [...] in a world known to undergo profound changes affecting the organization of societies, the structure of knowledge, the methods of work and the means of production, in order to prepare us properly for the future.

Following this, primary, secondary and vocational education underwent radical changes in their mission, structure, methods and strategies. This change is governed by the Reform Law of 2002.

This law is the legal framework for the renovation and revitalization of Tunisian schools. The enrolment of young people in primary school in Tunisia reached nearly 100%. In 2004, over 85% of the employed population could be considered literate. This development has been accompanied by successive reforms, the most recent one introducing the “basic school” (nine years), the reform of secondary education through the consolidation of basic education, and finally the promulgation of the Guidance Law on Vocational Training designed to transform the former vocational training certificate into a recognized and valued national vocational qualification.

Having solved the problems of universal education, the Tunisian education system now faces the challenges of quality, equity and efficiency. The ambition of the new reform is to prepare schools to meet these challenges. Thus, the 2002 law sought to review all aspects of the education system.

The reform of secondary education started in the autumn of 2004 in response to the increasing flow of students at this level. It resulted in improved access to secondary education, but also increased retention within primary education. It relies on several principles, including the upgrading of vocational education and improving communication between the various TVET institutions, etc.

2.3.2 Basic education

The number of pupils enrolled in primary education has undergone a slight decrease. This is not due to policies designed to limit access, but results from the demographic transition and falling birth rates. The situation in Tunisia is indeed unique in the Maghreb region. The number of students enrolled in primary education has decreased by 400,000 in ten years (1999-2009), as shown in Table 1.

Table 1: Evolution of the number of pupils enrolled in primary education (grades 1–6)

School year	Schools	Classrooms	Pupils	Teachers
1983/1984	3 066	36 160	1 191 408	33 026
1988/1989	3 676	43 466	1 326 150	43 921
1993/1994	4 164	46 995	1 467 411	55 720
1998/1999	4 441	47 299	1 432 896	59 877
2003/2004	4 487	47 532	1 215 888	58 761
2008/2009	4 513	45 374	1 006 488	59 011

Source: MOET, 2009.

Efforts to increase access to basic education in Tunisia were sustained in the period from 1990 to 2000, but have ebbed in the recent decade, since primary education has been almost universal since the mid-1990s, with crude rates actually exceeding 100% for girls and boys (Table 2).

Table 2: Rate of schooling in primary education at age 6 and for ages 6–11

Enrolment rate (%)	1998/1999			2003/2004			2008/2009		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
6 years net enrolment	99.1	99.1	99.1	99.0	99.0	99.0	99.2	99.2	99.2
6–11 years net enrolment	97.2	96.8	97.0	96.8	97.0	96.9	97.4	98.0	97.7

Source: MOET, 2009.

2.3.3 Secondary education

With the achievement of universal primary education (Table 3), the question of further studies at higher education levels comes to the fore, as the future of these students also needs to be addressed. There is increasing pressure on secondary education as enrolment increases (Table 4).

In Tunisia, secondary education is divided into a first cycle of three years (referred to commonly as the second cycle of general basic education) and another four-year cycle.

Table 3: Rate of schooling in secondary education (1998/1999–2008/2009)

Enrolment rate	1998/1999			2003/2004			2008/2009		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
6–16 years net enrolment	88.2	87.2	87.7	90.0	91.0	90.5	90.4	92.4	91.4
12–18 years net enrolment	68.8	68.0	68.4	73.5	77.5	75.4	72.1	78.9	75.4

Source: MOET, 2009.

Table 4: Evolution of the number of pupils enrolled in the second cycle of general basic education (grades 7–9) and in secondary education (grades 10–13)

School year	Schools	Classrooms	Pupils	Teachers
1983/1984	335	10 801	364 492	17 943
1988/1989	485	14 411	477 795	23 300
1993/1994	665	17 618	605 935	26 817
1998/1999	938	25 381	874 814	39 148
2003/2004	1 161	33 103	1 076 238	55 717
2008/2009	1 325	36 245	1 006 143	71 880

Source: MOET, 2009.

2.3.4 TVET

In Tunisia, around 10% of pupils are enrolled in technical and vocational training. Unlike other countries, the numbers are higher at the first level of secondary education than at the second level. “Training” covers several different areas, namely:

- Technical and vocational secondary education;
- Apprenticeship;

- Dual education;
- Training of employees at work.

It includes, therefore, all forms of acquiring a first qualification leading to employment, as well as those designed to maintain or improve skills.

Statistics indicate that 80,000 new jobs will be needed in Tunisia each year. It will be difficult to ensure an appropriate level of training and qualification for both the current workforce and new labour-market entrants.

The reform of vocational training, which began ten years ago, aims at meeting this challenge. The capacity of this type of education has been improved through the creation or restructuring of facilities and improved operation of existing capacity, particularly through the extension of training in companies. This has doubled the flow of new entrants, as well as the number of graduates in just five years (1999–2004).

2.3.5 Sector management

In terms of sector management, Tunisia has developed an education sector plan. A sector plan is the culmination of a process based on national policy choices and defines a coherent set of policies, strategies, activities and investments to achieve interrelated sets of national goals following a specific timetable. It can record all actions in favour of the education system in a common framework irrespective of the nature of expenditure (capital or operational), the source of funding (national or foreign) or the channel of financing (aid project, programme aid, targeted or comprehensive budget support). It then defines the strategies in the long-term, ensuring continuity in the development sector. This continuity is accompanied by a dynamic that allows the introduction of changes and the gradual adaptation of plans and annual budgets, while the sector plan is focused on results rather than on means.

2.3.6 Public expenditures

The expenditures (operating and capital) devoted to basic education and secondary education, as a proportion of the State budget, reached nearly 20% in 2005 and nearly 16.25% in 2009, as well as representing nearly 6% of gross domestic product (GDP) in 2005 and 5% in 2009. In the early 1980s, these rates had been around 10% and less than 4% respectively.

As the objective of universal access to primary education has now been reached, the country now spends an increasing part of its education budget on secondary education. The cost per student (as a percentage of GDP per citizen) in 2005 amounted to 16% in primary, 26% in secondary and 68% in higher education.

2.4 Promotion of EPE in the education and training system

2.4.1 The institution/school level

Tunisia has a good retention rate in primary education. Almost all children enrolled in the first grade will enter the last level of primary education. The transition rate to secondary education experienced a significant improvement (over 20 percentage points between 1999 and 2005), such that 90% of primary school graduates enrol in the first level of secondary education.

Table 5: Evolution of the average number of students/classroom

School year	Basic education		Secondary
	First cycle (6 years)	Second level (3 years)	
1983/1984	32.9	34.6	32.3
1988/1989	30.5	34.4	31.4
1993/1994	31.2	35.4	33.0
1998/1999	30.3	34.6	34.3
2003/2004	25.6	32.8	32.1
2008/2009	22.2	28.6	26.9

Source: MOET, 2009.

The quality of learning is a major issue in the educational debate in Tunisia. The low level of student achievement and the weakness of teacher training in basic skills have been noted. Unfortunately, the available data is scarce and often insufficient to allow a detailed analysis of the skills acquired. It also does not allow for comparisons.

The Tunisian education system has now satisfied the quantitative aspect, particularly at the basic education level where a net enrolment rate of children

aged 6 has reached the 99% mark and that of 6–16 year olds attains 90.93%. This clearly shows that the universalization of education is no longer a challenge. Attention is now turned to the quality of education, covering the aims and objectives, curricula, methods, teaching approaches and evaluation. This qualitative change is clearly laid out in the framework law of 2002.

In 2003 and 2006, Tunisia participated in the Programme for International Student Assessment (PISA). This initiative, unlike other international programmes, does not target different levels of education but particular age groups. Thus, PISA sought to assess the acquisition of reading skills, mathematic and scientific literacy of pupils aged 15 in the thirty member countries of the Organisation for Economic Co-operation and Development (OECD) and its partner countries. The aim of PISA was to assess the acquisition of knowledge and skills essential to daily life as students approach the end of compulsory schooling. In 2003, in the three areas studied, Tunisia ranked consistently in the last two or three out of forty countries and is well behind compared to the performance of other OECD countries. For example, in mathematics, Tunisian students had an average score of 359, while the twenty best-performing countries had average scores above 500. This difference is quite considerable.

2.4.2 Assessment and evaluation

The length of schooling in basic education has been explored through extended national consultations. The result has been a reduction in the weekly school period, particularly in the fourth grade of primary education.

The concept of learning/assessment/remediation has gained significantly in importance through the adoption of the competency-based approach as a learning process as well as a teaching method. This resulted in a revision of curricula and teaching methods, the renewal of textbooks and educational materials, and the renovation of the evaluation system. In recent years, the role of science has been reinforced, particularly in the first level of secondary education to be in tune with the international criteria for evaluation following attention drawn to the gaps in student performance by the Third International Mathematics and Science Survey (TIMSS) and PISA international assessments. Note, however, that Tunisia has suspended extending competency-based approaches at the first level of secondary education, despite excellent experiences. The reasons for this include the increased workload on teachers and the reluctance of parents who did not understand the process.

Among the decisions taken in the context of the implementation of the action plan of the “School of Tomorrow”, we can mention those relating to the need to provide learners with a digital culture from the beginning of their time in school so that they become familiar with new ICTs.

2.4.3 The teacher

The beginning of this millennium has been characterized by a slight reduction in the number of primary school-teachers in Tunisia (Table 6).

Table 6: Evolution of the number of teachers (some school years from 1983/1984 to 2008/2009)

	1983/1984	1988/1989	1993/1994	1998/1999	2003/2004	2008/2009
Primary education	33 026	43 921	55 720	59 877	58 761	59 011
2 nd cycle of basic education & general secondary education	17 943	23 300	26 817	39 148	55 717	71 880

Source: MOET, 2009.

This should not be interpreted as a reduction of the commitments of the State or in the quality of education. The decline in the number of teachers is the result of lower demand for education. The latter, due to the strong demographic transition, decreased by 16% over the period 1999–2005, and in this light the decline of only 2% in the number of teachers can be interpreted more positively. Student enrolment declined faster than that of teachers and, for this reason, the pupil/teacher ratio has improved over the period (i.e. from 25:1 to 21:1 students/teacher between 1999 and 2005) (MOET, 2009).

2.4.4 Teacher training

The profound changes experienced by the education sector and the new requirements are directly reflected in the role of the teacher and the characteristics of the teaching profession. In reaction to this situation, teachers can also benefit from the training organized by particular structures of the

Ministry of Education and Training. Teachers are also being encouraged to employ the competency-based approach.

The Tunisian teacher-education/training system is oriented toward raising the academic standards of teachers in basic education through a decision to recruit in the future holders of masters' degrees or an equivalent degree (Baccalaureate + 4 years of study)-see Table 7.

Table 7: Teacher qualification/certification

Year	1 st cycle of basic education			2 nd cycle basic education and general secondary education		
	Total number of teachers	Certified teachers ⁽¹⁾		Total number of teachers	Certified teachers ⁽²⁾	
		Number	(%)		Number	(%)
1983/1984	33 026	7 413	22.4	17 943	9 244	51.5
1988/1989	43 921	15 212	34.6	23 300	13 805	59.2
1993/1994	55 720	22 051	39.6	26 817	18 005	67.1
1998/1999	59 877	30 260	50.5	39 148	31 158	79.6
2003/2004	58 761	39 477	67.2	55 717	44 553	80.0
2008/2009	59 011	44 630	75.6	71 880	63 504	88.3

⁽¹⁾ Basic education (professor/teacher, senior application teacher, teacher).

⁽²⁾ Basic education, second cycle and secondary education (associate professor/teacher, out-of-class senior professor/teacher, senior professor/teacher, out-of-class professor/teacher, professor/teacher).

Source: MOET, 2009.

2.5 Collaboration at the national and regional levels

2.5.1 Promoting the entrepreneurial spirit

Complementing the good efforts being made within the formal system, the Tunisian education system also hosts non-formal entrepreneurial learning (i.e. activities not subject to formal assessment by the State), such as the CEFE-ANETI (*Création d'entreprises et formation d'entrepreneurs-Agence nationale pour l'emploi et le travail indépendant*) coaching framework for micro-enterprise

development. One initiative stands out in providing training built on know-how transfer: self-employment promotion through a German/Tunisian co-operation project (the FORTI initiative). Another good practice initiative, particularly with regard to women's start-ups, is a training and wider support package for rural women on micro-enterprise development. A high-profile national award (*Prix du Président de la République*) ensures good press coverage for this initiative (www.etf.europa.eu/web.nsf/).

Several governmental institutions and non-governmental organizations have developed programmes to promote an entrepreneurial spirit within universities and among semi-governmental companies with a large number of employees.

The Tunisian Bank of Solidarity (BTS) was created through a decision by the President of the Republic in 1997 to help the State in its job-creation programme (Ben-Gacem, 2007). It allows individual entrepreneurs without capital to benefit from small loans as an encouragement for entrepreneurship. BTS is the first Tunisian bank specialized in small loans for small entrepreneurs (maximum US\$60,000). Loans are provided to university graduates or graduates of technical schools at an interest rate of 5% without any guarantees-the lowest market rate. Thus, BTS encourages young graduates with no financial support to launch business ventures.

2.5.2 INJAZ Al-Arab Initiative

Under the partnership agreements signed in 2008 between the Tunisian Agency for Vocational Training, the foundation INJAZ Al-Arab and Shell-Tunisia, the programme "INJAZ" was launched on 31 March 2009 at the Ariana Training Centre for Graphic Arts and Printing. The fifteen programmes INJAZ aims to organize with support from Shell-Tunisia are intended to develop the spirit of entrepreneurship among young people. This includes training sessions on leadership and entrepreneurship through a practical approach covering all aspects of business life, including roles, decision-making, production, marketing and commercialization. The training sessions of this pilot phase are led by senior volunteers from Shell-Tunisia.

2.6 Collaboration at the international level

2.6.1 *International Labour Organization-KAB*

In 2003, the International Labour Organization (ILO) introduced the training programme KAB (Know About Business) to teach entrepreneurship in Tunisia. The main objective of this project is to introduce entrepreneurship training at the vocational, secondary and higher education levels. Today, it has been implemented in fifty countries in Asia, Africa, Latin America and the Arab region.

This programme is implemented in two phases. The pilot phase (duration two years) involves the presentation of the KAB programme to policy-makers in the education sector, and the selection of institutions that are interested in participating in the pilot phase in order to test (for one year) the entrepreneurship training with students. Teachers are trained for two weeks prior to the course conducted in their respective countries. An evaluation is carried out at the end of the pilot phase. This assessment allows educational policy-makers to take a decision on the wider introduction of this programme. The second phase involves the training of a number of teachers needed for the extension of the programme.

Co-operation was established in January 2008 between the University of Sousse and the ILO. The aim was to make the KAB programme available to students in Tunisia through distance-learning courses from January 2009, and to introduce students (engineers, economists, doctors, managers and the literary fraternity) to the idea of becoming entrepreneurs after graduation.

In Tunisia, the KAB project in basic, secondary education and TVET now involves twenty-five vocational training centres and twenty-five secondary schools. From July 2008, there has also been a KAB project for higher education involving some 1,000 students and twenty-three tutors in four universities. The project has three phases:

- The first step is to transform the content of the KAB programme to an online version.
- The second phase is to launch educational pilot programmes in selected academic institutions for two semesters.
- The third phase is to evaluate the pilot project and study the possibilities for extending the programme to other Tunisian universities.

2.6.2 The curriculum of KAB

The educational programme on entrepreneurship with specific adaptations for vocational education, secondary education and higher education is designed in the form of 80 to 120 course hours. The training content of KAB consists of nine modules. Each module represents an important area of business life and is divided into several themes, each corresponding to a certain number of course hours.

- Module 1: What is entrepreneurship?
- Module 2: Why entrepreneurship?
- Module 3: What is the profile of an entrepreneur?
- Module 4: How does one become an entrepreneur?
- Module 5: How to find a good business idea?
- Module 6: How to start a business?
- Module 7: How to run a business?
- Module 8: What are the steps to becoming an entrepreneur?
- Module 9: How to develop one's own business plan?

2.6.3 The KAB Project across North Africa

In North Africa, this project began in January 2008. Expected results include:

- Developing the national capacity of trainers and teachers of KAB in four countries (Algeria, Egypt, Morocco and Tunisia);
- Providing KAB training in each country in at least twenty schools or training centres and four universities;
- Training at least 8,000 students and students with comprehensive KAB; and
- Establishing a regional network programme for participants in KAB.

2.7 Relevance to the labour market

The enrolment rate of 19 to 24 year olds in education will exceed 50% in 2010 (it was only 6% in 1987). The increasing access to university is more to the benefit of girls than boys because the former represent 56.5% of the total number of students.

The dramatic rise in enrolment in the higher levels of education can lead to a decline in educational standards and worsen the already significant problem of unemployed graduates. Trends show that if the current pace continues, the number of students enrolled in higher education could nearly quadruple

in Tunisia between 2004 and 2015. Such enrolment growth requires the government to find answers at both the internal university level (the availability of local and qualified teachers) and the external level (real possibilities of integrating these new graduates into the labour market).

Although population growth is under control, a strong increase in the labour force is expected in the coming years through the arrival of many new job-seekers on the labour market and from the increased participation of women in the workforce.

The Tunisian employment policy was based on an approach focused primarily on accelerating the pace of growth, promoting investment, encouraging private initiative and entrepreneurship, and establishing and strengthening a set of labour-market programmes and instruments. With a view to improving the employability of job-seekers and facilitating their integration into working life, and following the 1998 establishment of the Tunisian Solidarity Bank and the establishment of the micro-credit system in 1999, the National Fund for Employment was created in 2000. Since their inception and until the end of 2006, these mechanisms have benefited nearly 911,000 beneficiaries. Along with these instruments, various measures have been taken to encourage companies to recruit in the first place graduates of higher education, while encouraging job-seekers to set up their own projects. Programmes promoting youth employment have been consolidated.

These indicators show that higher education graduates are placing increasing pressure on the job market not only due to their increased numbers but also because of the mismatch between the output of certain forms of education and the real needs of the labour market. Such a situation implies that additional efforts must be undertaken to boost the pace of job creation and increase the employability of higher education graduates, especially in areas with limited opportunities for their integration.

Unemployment is structurally high in Tunisia and a decrease in the coming years seems unlikely. In addition to the high rate of unemployment, a significant number of graduates are “underemployed”. However, it is difficult to obtain statistics on this matter. “Underemployment” is defined by the ILO as follows: “the duration or productivity of a person’s employment is inadequate compared to another possible job that this person is willing and able to occupy”.

2.8 Conclusions and recommendations

The main conclusions drawn from this study indicate that, regarding policies supporting entrepreneurship education and training, Tunisia stands out from other countries in the region for its emphasis on the promotion of an entrepreneurial spirit and key competences in all parts of the learning system (European Commission, 2006), which are enshrined within the 2002 national education strategy (updated in 2008). The potential of this policy framework affects primary and secondary education where key entrepreneurship competences and skills are being addressed.

In our opinion, Tunisia has made important strides in EPE at the legislative level, and this should constitute a legal ground to pave the way for the expansion of EPE and its inclusion in educational programmes.

Therefore, the main recommendation resulting from this study is to proceed as soon as possible to the actual implementation of the legislation and laws pertaining to EPE practice, especially the law on "Orientation, Education and School Education" (2002) and develop a strategic plan and a comprehensive process for the inclusion of EPE in formal programmes of basic, secondary education and TVET, in addition to a review of programmes and teaching methods and the training of teachers and trainers.

Moreover, regional and international co-operation can be important to help spread EPE in Tunisia by learning about successful experiences from other countries in the field, as well as benefiting from technical assistance. It is therefore recommended to take the maximum advantage of current projects (i.e. INJAZ Al-Arab Initiative, KAB) and to disseminate the results. It is also important to strengthen international co-operation in this area and to exploit all opportunities offered by regional and international co-operation. Potential partners include the European Union, UNESCO and the ILO, as well as a network of TVET centres in the Arab States (the UNEVOC Network).

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3. A Case Study of Oman

by Ahmed M. Al-Ghassani

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3.1 Introduction

Many people in Oman used to consider working in one of the government departments as the best job opportunity. This was due to the benefits offered by government organizations and the limited working hours. Planners and policy-makers in the country quickly identified this as an area of concern and therefore efforts have been made to change this culture. This has required a lot of planning and resources. One initiative involved modifications to the rules and regulations governing the private sector, followed by improvements to the labour law in Oman. Special attention was given to formal education and lifelong learning to enable the existing and future workforce to acquire the necessary knowledge, skills, attributes and competencies to work in the private sector. This change was designed to form Omani citizens who could become successfully self-employed or, if employed within an organization, would have an entrepreneurial mindset.

This report presents a case-study conducted to investigate how entrepreneurship education (EPE) is integrated within the education system in Oman, identifying good practices and at the same time highlighting the difficulties faced and the weaknesses encountered. It concludes with recommendations to improve EPE. For the purpose of this study, the joint UNESCO-ILO definition has been considered. This states that:

Entrepreneurship education is conceived in a broad sense, as a pedagogic approach to fostering self-esteem and self-confidence by stimulating and nurturing the talents and creativity of the individual, while building the relevant skills and values that will assist learners in expanding their perspective on schooling and opportunities beyond. Methodologies are

based on the use of personal, behavioural, motivational, attitudinal and career planning activities (UNESCO-ILO, 2006).

Initial information for the study was obtained by sending a questionnaire to the authorities concerned. This questionnaire was developed by National Centre for Human resource Development (NCHRD-Jordan). Four organizations were approached and all responded. The findings report the availability of initiatives that support EPE. Formal letters were also sent to the National Commission for UNESCO in Oman and other institutes to gather more information. The information obtained was analysed in meetings with policy-makers, managers, staff and students in the institutes concerned. Subsequently, the draft report was sent to the authorities concerned to share the findings, obtain clarifications on certain areas and expand on specific issues. This also helped to create awareness about the project.

The following case study starts with an overview of the education system describing its structure and reforms. It then highlights how EPE is promoted in the education system at different levels, namely basic education, post-basic education and technical and vocational education and training (TVET), with a focus on legislation, governance and management, curriculum and recently introduced innovative initiatives. It also gives information about how teachers are prepared during their university studies and in-service training to inculcate entrepreneurial skills in their students. The report also covers additional efforts that support EPE, including the involvement of non-governmental organizations (NGOs) and the private sector at national, regional and international levels. The report concludes by highlighting the lessons learned and provides recommendations on how EPE could be improved in Oman and regionally.

3.2 Overview of the education system

The education system in Oman, as in many countries, is divided into three main levels: pre-school, obligatory school and higher education. Pre-schooling is only offered in private schools but supervised by the Ministry of Education. Obligatory education consists of twelve years of formal study during which the Ministry of Education manages public schools and supervises private schools, and the Ministry of Manpower manages vocational training for grades 10 to 12. Higher education consists of various public institutes managed by governmental

organizations, and private institutes supervised by the Ministry of Higher Education. There are several public higher education institutes in Oman, such as Sultan Qaboos University (SQU), colleges of technology, colleges of applied science, health sciences institutes and nursing institutes. All programmes and institutes of higher education are accredited by the Oman Accreditation Council. After completing grade 12 in the regular school, a student can join one of the higher education institutes by applying on-line to the Higher Education Admission Centre (HEAC), which is responsible for ensuring that all students are treated fairly and are directed to the best available opportunities, based on their preferences and achievement in high school. Students from low-income families who have not been successful in securing a place in higher education institutes can apply to government-funded programmes to enter private training institutes or higher education institutes.

The development of the education system in Oman has been very dynamic. It has undergone several waves of modifications and reforms during the past four decades, covering both regular education and higher education. The latest changes to the education system were introduced in 1998 when the old general education system was replaced by ten years of basic education and two years of post-basic education. The new structure of basic education was first piloted in some schools before being generally introduced. Some changes also took place in higher education institutes. For example, some vocational training institutes were converted to colleges. Likewise, technical industrial colleges were transformed into colleges of technology and colleges of education became colleges of applied sciences.

Although these changes improved education in Oman, it was still necessary to review the whole education system from pre-school to university. In 1996, to further the Sultan of Oman's aim for a world-class education system, the Council of Ministers initiated a reform of the general education system. In 2003, the Council of Higher Education proposed to the Council of Ministers a project to prepare the Framework for a Strategy of Higher Education for the period 2006–2020. Approval was given for the Ministry of Higher Education to develop the framework. The mandate was subsequently extended to cover all levels of education. As a result, a major review took place during the period 2003–2006 covering the entire education system. An international conference was conducted in Muscat in 2006 to highlight and discuss "The Strategy for Education in the Sultanate of Oman, 2006–2020". This review covered the complete education cycle

and concluded with a detailed proposal for restructuring. The review focused on many important areas such as pre-schooling, supervision of higher education, governance, management and optimization of expenditure in education. A major part of the review focused on improving the quality of graduates and proposed different approaches that might provide them with entrepreneurial skills for the job market. Many of the strategic recommendations have been implemented or are being implemented. Others that need special resources or new legislation are being considered by the government.

Entrepreneurship and EPE are receiving increased attention in Oman. This attention takes different forms, such as research, expenditure, curriculum development, teacher training and collaboration with NGOs. As far as research is concerned, several research projects have been conducted or are still being carried out. Most of these projects are supported by SQU and The Research Council in Oman (TRC). One of the projects conducted in SQU aims at investigating the entrepreneurial attitudes and trends in high school students and to what extent the school system supports EPE (Al-Harathi & Al-Jabri, 2009). Another research project entitled "Towards Enhancing Entrepreneurship Development in Oman" highlights the emergence of EPE and training and reviews relevant programmes and activities in Oman (Khan & Al-Moharby, 2007). Other projects are also supported by the TRC.

The following sections describe how entrepreneurship is promoted within education in Oman.

3.3 Legislation on entrepreneurship in the education system

Oman designed its education system with the intention of supplying higher education and the labour market with students who possess the required knowledge, skills and attributes. This has been the purpose of the legislation developed and the practice of schools and higher education institutes. A shared "Vision Statement" was developed by the Ministry of Education and Ministry of Higher Education:

Our vision for education in the Sultanate stems from the commitment of citizens in Oman who strongly believe in the noble tents of Islam and who honour their traditional Arab heritage. They will take Oman forward into the global world as a fully modern nation noted for its contribution

to science and to the advancement of human civilization in the new era of knowledge. And this will be achieved through a new approach to education that supports the nation's economic and social development; that is relevant; that meets international standards; and that ensures that all citizens in Oman have the required skills and competencies for life and for the workforce; and that perpetuates lifelong learning (Ministry of Higher Education/Ministry of Education, 2006).

This Vision Statement reveals that Oman is adopting a new approach to education which "ensures that all Omanis have the required skills and competencies for life and for the workforce; and that perpetuates lifelong learning". Focus in the Vision Statement on the skills required for life, the workforce and lifelong learning stresses the commitment towards incorporating entrepreneurial skills within the education system.

The school system in Oman consists of basic and post-basic education where both are designed and developed to ensure that students are prepared to be good citizens who can exploit the skills they have acquired in school, whether they become higher education students, employees or even entrepreneurs. The aims of basic education include:

Aim 5: Provide a learner-centred education which furnishes the learner with appropriate life-skills through the development of self-learning, scientific and critical thinking and the ability to understand and apply contemporary scientific and technological innovations.

Aim 6: Ensure that students are adequately prepared for the requirements of further and higher education, the labour market and modern life in general (Ministry of Education, 2009).

Post-basic education provides an opportunity for students to continue the development of entrepreneurship skills required for higher studies, employment and career planning. It is based on the principles of the Philosophy of Education in Oman and is designed to address national and international expectations. The characteristics identified by the Ministry of Education as desirable for internationally recognized system include:

Characteristic 2: Student-centred, activity-based learning activities that allow students to develop understanding and problem-solving abilities which can be applied in a variety of real-life situations.

Characteristic 4: A core programme that emphasizes the development of employability skills and universal competencies.

Characteristic 5: Flexibility that permits the ministry, educational regions or even schools to adapt to engaging needs of the community in terms of Grade 12 graduate skills (Ministry of Education, 2008).

To achieve these characteristics, the Ministry of Education developed the “Aims of Post-Basic Education”. Aim 6 is: “To develop different types of problem-solving thinking and abilities, as well as employ scientific thought in practical real-life situations and arrive at relevant decisions”. This aim stems from the Vision Statement and is a continuation of the Aims of Basic-Education. It supports the continued development of problem-solving and decision-making skills, which are key elements in entrepreneurship.

The above presentation shows that the Ministry of Education’s legislation supports EPE.

This case study focuses on the school system and TVET. The vocational training centres and colleges of technology also have several legal guidelines that support EPE. The key ones of these are the “graduate attributes”, which are directly or indirectly relevant to EPE. Some of the graduates’ attributes for the colleges of technology are listed below:

Attribute 1: Discerning and disciplined individuals acting at all times according to ethical and moral principles.

Attribute 2: The ability to apply the knowledge and skills they have acquired in the work environment.

Attribute 3: The ability to think critically, analyse and solve problems.

Attribute 10: The ability to demonstrate and apply their entrepreneurial skills (Ministry of Manpower, 2008).

These attributes focus on three main areas that are crucial at the work place and support entrepreneurial thinking. First, they focus on respecting the values of the institute and following its rules and regulations at the same time as acting in accordance with ethical and moral principles. This encourages trust, commitment and stability at work. Secondly, these attributes support critical-thinking and problem-solving, which are needed by any entrepreneur to be successful, not only at work but also in life. This skill enables graduates to look

at challenges from different angles and analyse them in a logical and scientific way, hence finding proper solutions. The third area that the graduates' attributes focus on is the demonstration and application of entrepreneurial skills, which is a requirement for graduation. Through these entrepreneurial skills, students will be better prepared for higher education and for work.

3.4 Expenditure on education (schools and TVET)

The Government of Oman has increased its expenditure on education during the past four decades. This is reflected in the number of students, teachers and schools. Table 1 shows the growth in public schools over the period 1995–2008.

Table 1: Growth in Oman public schools over the period 1995–2008

Year	1995	2000	2005	2008
Schools	953	993	1 046	1 047
Classes	15 024	17 141	19 664	20 000
Students	488 797	554 845	568 074	540 000
Teachers	22 292	26416	37 500	43 000
Students/teacher	22	21	15	13
Students/class	33	32	28	27

Source: www.moe.gov.om

Table 1 reveals that there were 953 schools in the Sultanate in 1995, with a total enrolment of 488,797 students. The teacher/student ratio was approximately 1:22, and the average number of students per class was 33. In 2008, the number of schools has increased to 1,047 with over half-a-million students. The table shows a continuous increase in the number of schools, classes and teachers, although there was a slight decrease in the number of students between 2005 and 2008. Despite this decrease in the number of students, the number of teachers continued to increase, resulting in the teacher/student ratio gradually decreasing from 1:22 in 1995 to 1:13 in 2008. Also, the number of students per class dropped from 33 to 27. The budget allocation for education has always increased both in terms of GDP and GNP. This increase in expenditure

on education reflects the government's commitment towards improving the quality of education by introducing improved facilities, using new technologies, reducing the teacher/student ratio and supporting EPE.

Expenditure on TVET has also seen large increases. This resulted in the number of annual admissions to colleges of technology rising from 2,000 students per year in 2003 to 6,000 in 2006. In parallel, the number of vocational training centres and colleges of technology has increased to absorb the increase in students. For TVET, a large proportion of the expenditure was spent on reviewing and developing the curriculum, improving facilities and building new centres and colleges.

3.4.1 The institution/school level

In 1970, Oman had three schools with 909 male students, which by 2005 had increased to 1,045 schools with over half-a-million students. The school system in 1970 was divided into elementary, preparatory and secondary.

Schools in the old system were managed centrally by the Ministry of Education. This was a good system and resulted in consistency of implementation. However, the quantum leap in the number of students, teachers and schools resulted in delayed decision-making, while the adoption and implementation of new initiatives had become cumbersome. This resulted in school managers not being able to find creative ways of managing their schools or developing their staff. The need therefore arose to introduce a system that supported better management with faster and more efficient decision-making capabilities so as to produce quality graduates well prepared for the job market and for higher education.

In 1995, the recommendations in the report on the future vision for the economy of the country were adopted. The report, entitled "The Vision for Oman's Economy–Oman: 2020", became the main pillar in the strategy for the development of education (Ministry of Education, 2007). Beginning in 1998, a new basic education system for classes 1 to 10 was implemented in stages. Basic education was followed by post-basic (secondary) education, comprising grades 11 and 12. This reform supported the initiative of providing students with life-skills that prepare them for higher education and/or for joining the labour market.

Implementing the new system would require many resources, such as competent staff and the availability of an infrastructure employing advanced technologies. To allow for proper implementation of the new system and to identify its weaknesses and modify them accordingly, it was decided to implement it gradually, starting with grade 1 in a small number of schools, then moving to the next grade in the following year and gradually involving a larger number of schools. Decentralization of responsibilities was also carried out gradually to facilitate better school management and allow better teacher and staff development programmes. More information on the school education system in Oman can be found on the Ministry of Education website at (www.moe.gov.om).

3.4.2 Basic education

Basic education provides learners with basic and necessary knowledge, skills, attitudes and values. It comprises two cycles: cycle one for grades 1 to 4; and cycle two for grades 5 to 10. The term basic education refers to an alternative non-traditional education system designed to address the needs of a certain region or country. It supports learners in continuing their education and training based on their interests, aptitudes and dispositions to face the challenges of present circumstances and future developments in the context of comprehensive social development (Ministry of Education, 2009). This confirms that basic education promotes, at an early stage, an entrepreneurial attitude by focusing on linking theory to practice and providing learners with communication, self-learning and critical-thinking skills. It also equips them with work values and ethics and promotes flexibility and adaptability to change.

3.4.3 Post-basic (secondary) education

Post-basic education comprises grades 11 and 12. At this level, students are preparing for their future academic career, which may take them into vocational, technical or university education, or into the world of work depending on their aptitudes and career objectives. It aims at continuing the development of key skills, work skills and career planning skills. It also focuses on developing positive attitudes towards work, society and the environment. Post-basic education encourages more independence in learning and provides students with life-skills. At this stage, there is no streaming of students into science and arts. However, students are informed about the different specializations available in higher education and the subjects needed for each specialization. Career advisors in schools provide counselling to students to help them identify

their abilities and advise them on relevant career options so that they can decide which courses to take in grades 11 and 12. This provides students with entrepreneurial attitudes and encourages career planning at an early stage.

3.5 Entrepreneurship education in the school curriculum

The Directorate-General of Curriculum Development in the Ministry of Education is responsible for the development of the curriculum for public schools in Oman. The ministry also supervises the curriculum of private and international schools to ensure compliance with ministry requirements and strategies.

The curriculum in basic and post-basic education focuses on preparing the student for a productive life. Subjects taught at the basic level include: Arabic and English, mathematics, science, information technology (IT), life-skills, etc. In post-basic education the subjects taught include: business English, IT for communication and business, research methodology, life-skills, applied mathematics, etc. There are also subjects of an environmental or social value, such as: the use of natural resources, aesthetic appreciation, art, music and sport. The curriculum also covers work ethics, such as: honesty, self-appreciation, mastery of work, teamwork, and a positive attitude towards handicrafts and manual labour. Moreover, there is a focus on life-skills, such as critical and creative thinking, time management and self-learning to produce a self-sustaining generation of dynamic and progressive young entrepreneurs. Some of the subjects taught are briefly described below.

Applied mathematics is taught in grade 11 oriented towards the local economy and commerce. Topics in the first semester include transactions in financial markets, the financial system and its components, securities and stocks, bonds and bond rating, etc. In the second semester, topics include: introduction to the principles of economy, supply and demand, factors affecting demand, the law of supply, monopolies and monopoly types, inflation types, causes and effects, etc. Thus, thanks to applied mathematics, students are groomed in economic theories and practices at an early stage of their studies to help create entrepreneurial thinking through important subjects.

Life-skills: This subject is taught throughout grades 1 to 12 in basic education and post-basic education. It aims at consolidating confidence in honest and

productive work, providing students with positive work ethics, encouraging interest in Oman's traditional crafts and appreciation for people who work in them, helping students to acquire and master job skills by learning and practising in the local environment, and directing the students to work in different areas of production, as well as in Oman's industrial, agricultural, commercial and tourist sectors.

Other significant subjects taught include *information technology*, which is offered to grades 1 to 10 in basic education with the aim of providing knowledge and skills about ICTs.

In addition, *research methodology* is a course offered to help students acquire research skills using scientific approaches, so that they may continue to benefit from these skills and improve their knowledge even after they graduate.

Computer application in communication and business is a course taught to grade 11 students. They are taught communication applications found in business and how to use them.

English for business is another important subject that helps learners communicate in the local as well as the international context.

3.5.1 The National Career Guidance Centre (NCGC)

The NCGC was established to provide career guidance to students at their different levels of study in schools and to job-seekers. Each school with less than 500 students has a career guidance specialist. Schools with 500 students or more have more career guidance specialists. An important role of this centre is to provide training to career guidance specialists themselves in each school so that they can help students in the transition from school to higher education or to the job market. The process of career guidance involves students, their parents and teachers.

The centre supports schools that teach grade 5 up to grade 12. In each educational region of the country, there is a head of career guidance and some supervisors. Overall, there are fifty-five career guidance supervisors covering all parts of Oman. The NCGC has implemented several programmes that promote EPE. For instance, the NCGC participated in the Muscat Festival by sponsoring a colouring and painting competition in which young children focused on the environment

and culture, as well as professions and handicrafts. Several career-guidance activities are provided to assist the students in identifying their talents and abilities with a view to their future career. Some elements include: decision-making, steps to success, self-confidence, a positive view on life, college study, starting up small projects, skills for successful presentations, organizing and completing a student career file, etc.

The NCGC and its regional offices also provide training for career-guidance supervisors and specialists to help link the preferences and capabilities of the student with the demands of the job market. The NCGC participates in creating awareness by issuing several brochures, booklets and guides to support the students in planning their higher education and career futures and to provide them with entrepreneurial skills. These publications are used in activity sessions to support student guidance. One of these is *your career path* for grades 10 to 12, which promotes career guidance discussions. The activities covered include “My vocational tendencies and personal characteristics”, in which students are provided with an overview of entrepreneurial possibilities to help them identify any traits they may have that will help them develop into entrepreneurs. “My career future” and “My vocational plan” help students map their future life goals, plan these goals through education and learning, and directly promote the entrepreneurial spirit among students. Guides like *My educational desires and My study future* help the students decide upon their academic future and support them in achieving their goals. Voluntary work stimulates the students to use their skills in supporting the community’s efforts on behalf of the vulnerable. *The brochure entitled Problems and solutions* helps students use problem-solving techniques in their lives and careers. An effective communication skill helps them develop the communication base of students so they can succeed in careers as well as in enterprises. Time management shows students how to organize their time and use it effectively.

3.5.2 Technical and vocational education and training (TVET)

Vocational training plays an important role in preparing and qualifying school-leavers completing grade 10 or above so as to meet the country’s requirements for a qualified national labour force in various vocational areas. To achieve this goal, the Ministry of Manpower, represented by the Directorate-General of Vocational Training, has developed vocational training centres, which keep abreast of the requirements of the labour market in Oman for a semi-skilled and skilled national workforce.

Three levels of vocational qualifications are offered in vocational training centres, covering in total a three-year programme. Students who complete grade 9 at school can join the first-year programme in the vocational training centre, whilst those who complete grade 11 or 12 can join the second-year programme. To make the system more flexible and to enhance students' opportunities at finding jobs, students in vocational training centres can leave after completing any level. They can also return to continue their studies after spending some time working in industry. It is believed that this creates more entrepreneurial thinking within the study programme.

Blending training and work leads to the private sector in Oman which is playing a major role in ensuring that graduates are qualified technically and vocationally, so that they can play a considerable role in increasing efficiency and productivity in the various economic sectors and boost national development. The government has paid special attention to vocational training centres, which were expanded and developed to cater to more students and to continue providing the labour market with a qualified and well-trained national labour force (www.manpower.gov.om/en/vocatrain/v_introduction.asp). To ensure that adequate curricula are developed and that appropriate entrepreneurial skills are included, both the public and private sectors participated in the development of the curricula of these vocational training centres. This was possible through the involvement of the Sectoral Committees of Omanization, which consists of key representatives from the private and public sectors. After the curricula were developed, they were presented in a conference and a series of workshops to participants from different sectors in the country and representatives from local bodies, such as Majlis Al-Shura, Majlis Al-Dawlah and international organizations, such as the Arab Labour Organization (ALO), the International Labour Organization (ILO) and German Agency for Technical Cooperation (GTZ). The feedback received was taken into consideration before finalizing the curricula.

Following recommendations of the ILO to allow vocational training graduates to continue their studies by making the system more open, the better graduates from vocational training centres are now allowed to attend a one-year bridging programme equivalent to the foundation year in colleges of technology, after which they may join the colleges of technology to continue their studies in a regular way. Bridging vocational training and technical education is a new approach which was first implemented in September 2008. It resulted in several changes to the curricula of vocational training centres with more entrepreneurship skills being added.

Vocational training centres in Oman have also participated in several national and regional activities. One major achievement was participation in the Gulf Cooperation Countries' (GCC) Skills Competition, which took place in the United Arab Emirates in 2008. The GCC Skills Competition is a replica of WorldSkills and is designed to prepare GCC students to participate in the WorldSkills Competition. In the GCC Skills Competition, students in Oman won most of the gold medals.

3.5.3 Entrepreneurship education in the vocational training curricula

The Directorate-General of Occupational Standards and Curricula Development in the Ministry of Manpower has the task of developing the occupational standards, learning outcomes and curricula in vocational training centres to meet the requirements of the labour market in Oman. Such an objective is achieved through direct contact with the Centre for Occupational Standards and Skill Testing and other bodies. The Directorate-General also studies general vocational trends in the light of developmental progress and introduces mechanisms to meet their requirements.

Students in the vocational training centres study several subjects that have been carefully designed to provide the students with technical and life-skills. Recently, mathematics and information technology have been reviewed and improved to satisfy the needs of industry. *Mathematics* courses have been tailored to address the needs of the job market, thereby linking theory to practice in a way that shows students more approaches to use their mathematical and logical thinking skills in their lives. *Information technology* courses have been redesigned to address the new advances in technology in order to provide graduates with all the skills they need at work. Also, a course on *work ethics* has been introduced to help prepare students for the work environment. This course focuses on respecting work values, Islamic values and skills required to succeed at work, such as leadership, teamwork, etc.

3.5.4 Technological education

Apart from vocational training, the Ministry of Manpower is also responsible for providing technical/technological education. There are currently seven colleges of technology distributed across the country. A major change took place in these colleges of technology in 2003 when the qualifications structure and the programmes offered were changed. Furthermore, during the period 2001–2006 enrolment tripled from 2,000 to 6,000 students per year. A second surge is anticipated over the next few years.

Technical education comprising competency-based knowledge and skills is imparted to students in various technical subjects. Because teaching in colleges of technology is conducted in English, all students are first groomed in English-language skills through the foundation-level courses offered under the aegis of the English-language centres controlled by the English-Language Office at the ministry. During the foundation programme, students are required to work on communication skills in the form of presentations, debates, public speeches, etc. During the foundation programme, students are also offered skills courses in mathematics and information technology. The standards of these courses were developed by the Oman Accreditation Council. In addition, students are required to achieve certain scores in the institutional Test of English as a Foreign Language (TOEFL) and must pass the International Computer Driving License (ICDL) test.

Colleges offer more than thirty specializations in engineering, information technology, business studies, applied science, fashion design and photography. However, individual colleges do not necessarily offer all of these specializations as these depend on the requirements of industry in the vicinity of a particular college. After successfully completing the foundation programme, students are enrolled in a four-level programme, where they are awarded one of the following qualifications: certificate, diploma, higher diploma or bachelor of technology. Progression from one level to the next requires achieving certain grades at the previous level.

During the initial stages of their operation, colleges were managed centrally with most decisions coming from a governing ministry. As the number of colleges increased, the variety of programme offerings multiplied and the number of staff and students proliferated, it became increasingly necessary to give autonomy to these colleges. The Ministry of Manpower also realized that faster, more efficient and innovative decisions could only be made within each college. Gradually, more responsibilities were transferred to the colleges.

3.5.5 Entrepreneurship education in the curricula of colleges of technology

Academic departments in the colleges of technology prepare their students for an entrepreneurial career by providing knowledge, skills and attitudes. Curricula in the colleges of technology include several courses that directly or indirectly support entrepreneurship skills, whether in class or through extra-curricular activities in addition to specific training programmes.

On-the-job training (OJT), also called work placement, is compulsory in colleges of education although optional in many institutes. To make training more beneficial to students and to guarantee proper transfer of work and entrepreneurial skills to trainees, another initiative has also been added, namely enhancement practical training (EPT) which is referred to as compensatory training in some countries. Both OJT and EPT follow programmes that are closely supervised and monitored by assessors from the colleges and industry as described below.

On-the-job training: As colleges of technology are supervised by the Ministry of Manpower, there has been a lot of focus on developing an entrepreneurial culture within the study programmes. This resulted in several new approaches being implemented. OJT in colleges of technology is treated as an academic course with clear objectives and learning outcomes that vary according to the specialization of the student and his or her level of qualification. Each student undertaking OJT has two supervisors, one from the college and a second from the institution where the student is being trained. The student has to complete a training log book, which is signed by both supervisors. After training, each student makes a presentation about the training programme. In order to support this initiative, each college has an OJT department, which is supervised and guided by the college deanship and the Industrial Link Office in the ministry.

Enhancement practical training: As OJT depends largely on the institute to which the student is attached, it was found that in some cases not all the learning outcomes were covered during the training period. EPT was therefore designed to follow OJT. Enhancement training is completed over a period of six to twelve weeks and is conducted within the college to cover areas that could not be covered during OJT. Students spend some of their EPT training in their department of study and another period in other administrative and technical departments of the college according to a programme designed for this purpose. During the EPT period, there is more focus on entrepreneurial skills, so students get further training in many skills, including communication, job-seeking approaches and establishing their own business. At the end of EPT, students are required to make presentations about what they have learned.

In addition to OJT and EPT, many practical job skills have been included in the courses offered to students. Also, there are some new courses that have been added and generally offered to all students regardless of their specialization.

Some of these courses are: entrepreneurship, business ethics, job search techniques, formal logic and formal Arabic communication, which is the only course delivered in Arabic. These courses are described below.

Entrepreneurship: This course is offered only to students in the Business Department. The goal of the course is to create awareness and understanding of entrepreneurship amongst students. During the course, students are exposed to theory as well the experience associated with entrepreneurship. The course covers areas such as financial management and planning, legal regulations, concepts and tools in developing new ventures, and communication tools for small businesses (Ministry of Manpower, 2009). Thus, aspects of entrepreneurship are imparted to students enabling them to understand the vital role of entrepreneurs and small businesses in the global economy. They are made to understand the difference between entrepreneurs and business people and identify small businesses and the industries being carried out by small firms. They are able to compare the advantages and disadvantages of small businesses and analyse opportunities for entrepreneurs. They also assess challenges that can arise in the business environment. Students are taught how to run a small business, as well as concepts of family business, small business risks and government regulations. Business students also study the management process and management of small firms. Finally, students are required to develop a working model of entrepreneurship by creating a small business plan.

The following courses are compulsory for all students in colleges of technology. The aim is to promote entrepreneurial skills.

Job-search techniques: This course is designed to assist students in improving their chances of employment. In this course, emphasis is given to the various techniques used in looking for a job and the relevant strategies required in securing it. It also helps those who want to start their own business about the techniques for recruiting staff. Besides helping students to prepare their own resumés, it also helps them to compare resumés and shortlist job applicants. In addition, the course covers interview skills where the students simulate job interviews, alternately playing both the role of interviewer and interviewee.

Formal logic: Formal logic focuses on giving students the skills to use logic in their daily lives. It helps them to solve problems and improve performance at the

workplace. Through this course, students are also prepared to communicate rationally and logically, whether within an organization or outside. The course emphasizes logical communication, analytical skills and rationality in the thought process. To improve their entrepreneurial skills, argumentative skills are developed to make future entrepreneurs more persuasive. Reasoning and presentation skills are developed to give the students confidence and help them work effectively. These skills are taught using simulation games and exercises, during which students are provided with scenarios that require a logical approach and rational thinking to solve simple or complex problems.

Business ethics: Business ethics helps equip the students with the highest ethical standards to guide them through real-life dilemmas. Students are made to comprehend the concept of values, especially Islamic and Omani values that are at the core of the nation's social fabric. This includes realizing the importance of understanding the code of ethics or code of conduct of an institution and profession. The students are made to understand, appreciate and respect ethnic and cultural diversity encountered in the workplace and learn to be able to work with people from different ethnic and cultural backgrounds in a moral and ethical manner.

Formal Arabic communication: This is the only course taught in Arabic in colleges of technology. It helps students develop their formal Arabic business communication skills. The course covers basic grammar and syntax and teaches students to develop well-structured sentences, which are helpful in improving written and spoken Arabic. Students are taught formal writing in Arabic, as well as skills for speaking in a persuasive manner. They learn how to summarize, paraphrase and be concise in letter and report writing, as well as how to prepare a meeting agenda and write the minutes. In addition, they are taught how to participate and argue in meetings and discussions and to defend their ideas and proposals when they make presentations.

Labour Law in Oman: The Ministry is currently investigating the need to introduce a new course to all students, namely "Labour Law in Oman". This course would help graduates understand their rights and duties as employers or employees.

3.5.6 Business simulation centres (BSCs) in colleges of technology

Although OJT has been very successful in the colleges of technology in areas like engineering, it has been more challenging in specific areas such as business studies. This is due to the fact that some organizations perform most of their business activities in their head offices, e.g. accounting, human-resource planning and recruitment, which mean that students undertaking training in regional offices are less exposed to specific activities. Also, the nature of some commercial businesses does not allow student access to certain data or operations. These limitations inspired the development of business simulation centres (BSCs) in the colleges of technology to support learning and training using modern techniques (Ministry of Manpower, 2007). The Ministry of Manpower decided to pilot this initiative at Nizwa College of Technology and then to replicate it in the other colleges of technology in a phased manner.

The BSC is a unique project being developed at Nizwa College of Technology and funded by the private sector in collaboration with the ministry. The Ministry of Manpower considers entrepreneurship a key element for improving the chances of its students to earn a living after they graduate. The colleges of technology have taken a quantum leap by offering a real-life scenario to students to experiment with and experience true business skills under the aegis of a BSC (Nizwa College of Technology, 2009a).

The BSC aims to offer proper training and integrate entrepreneurial culture within the college academic programmes by providing an actual functioning business enterprise, totally managed by students. It offers college students a genuine experience with normal business practices not taught in textbooks or classrooms or even in the guarded environment of the industry during OJT. The BSC consists of a two-storey building with the outlet on the ground floor and the company administration on the first floor. It will be accessible to all college students, but the first stage focuses on business students. The second phase will include IT students, who will be responsible for developing and maintaining the software applications required for the enterprise, such as the accounting software, the inventory software and the human-resource management software. IT students can also create and develop IT solutions and sell them through the BSC. Also, an e-business company is being planned to be one of the centre's businesses. The last component will include engineering students who can produce merchandise and sell it through the BSC after agreeing on the marketing approach with students of marketing. All aspects of the centre will

be organized, managed and executed by the students. Minimal supervision will be provided by the college. Construction of the BSC has been completed and it is hoped that it will commence functioning in the first half of 2010.

3.6 Teacher education and training

Human-resource development is a high priority area for the Government of Oman. Two types of training exist for teachers: pre-service and in-service. Pre-service teacher training takes place in institutions, such as colleges of education administered by the Ministry of Higher Education, the College of Education at Sultan Qaboos University and in private universities. In-service training is the responsibility of the Ministry of Education.

3.6.1 Pre-service teacher education and training

Pre-service teacher training takes place in higher education institutes that provide educational programmes and prepare future teachers. These are a mixture of public and private institutions. Some of them were visited in the preparation of this study to establish if EPE is being considered in the programmes offered. It was found that many entrepreneurial skills are generally covered, including: communication skills, making presentations and IT skills. However, it was observed that EPE in teacher-training programmes is still at an early stage.

3.6.2 Teacher education and training for school-teachers

The Ministry of Education has several units that contribute to teacher training in entrepreneurial education. Several ambitious initiatives have been undertaken in this regard. The following units are directly or indirectly involved in teacher-training programmes: the Directorate-General for Human Resources Development, the Directorate-General for Curriculum Development, the National Career Guidance Centre and INJAZ Oman.

Although the Directorate-General for Curriculum Development is mainly involved in the development of curricula, supervisors from this directorate visit schools to explain to teachers how to approach each of the entrepreneurial skills covered in the curricula. Also, the National Career Guidance Centre trains the career guidance supervisors and specialists on how to transfer entrepreneurial skills to students, as described above. INJAZ Oman conducts a separate and

dedicated teacher-training programme for teachers who participate in the INJAZ programme and the programme consists of fifteen modules, most of which are geared towards equipping students with the skills needed to start a business. More information about INJAZ Oman is included later in this report. Although the above-mentioned initiatives are very useful, further development is still required for more comprehensive programmes designed to support EPE.

3.6.3 Teacher education and training for TVET instructors and teachers

Teacher training in EPE in the vocational training centres has focused on the implementation of the KAB (Know About Business) programme. Other training covers soft skills such as communication skills, IT and English. This area, however, needs further development as well-planned training programmes need to be established.

The colleges of technology have adopted several programmes for teacher training focusing on EPE in addition to other areas. The focus of the training programmes is on newly recruited teachers and lecturers. After recruitment, these teachers are sent abroad to follow a master's degree programme. They then spend a few months working in industry to gain occupational experience and to acquire entrepreneurship skills, followed by a few months of training within the college to learn modern teaching techniques and methods of transferring knowledge and skills to students.

Entrepreneurial education is a relatively new concept, somewhat removed from conventional teaching. Therefore, it is essential that teachers coming from conventional teaching backgrounds can adapt and are properly absorbed into this programme. They require orientation and specific training to be able to promote this concept among their students. All new teachers are provided with specific orientation programmes introducing them to the concepts and methods of teaching the different skills, including entrepreneurial skills. They are paired with experienced senior teachers who are involved with specific entrepreneurial skills subjects, and who act as mentors to brief, coach and support new teachers so as to polish their skills.

There are also programmes to train teachers involved in the KAB programme. These programmes prepare teachers for the delivery of KAB and encourage them to use techniques to stimulate student participation and proactive learning, including presentations, group discussions, work in small groups, case studies,

individual tasks, projects, brainstorming, role playing, guest lectures, business simulation games and interactive computer simulations.

Other training programmes include teachers who teach or supervise students in the business simulation centre. This training includes inviting business leaders from industry to train the college teachers so that industrial culture is transferred to the college.

3.7 The external dimension

3.7.1 At the national level

Career Awareness Programme (CAP) in collaboration with Shell Development Oman Many initiatives have been launched by the private sector to encourage young people to assume independent business options. One such initiative is the Career Awareness Programme sponsored by the Shell Oil Company and made available to students at different levels of study in schools, vocational training centres, colleges of technology, etc. This programme provides training to familiarize students and job-seekers with specialized skills allowing them to be more easily absorbed into the business world. The programme also offers students workshops, seminars and tutorials and provides concentrated training packages to enhance their skills, making them realize and appreciate their strengths while overcoming their weaknesses (Shell Development Oman, 2009). The programme develops soft skills such as personal goal-setting, career selection, resumé writing, and presentation and communication skills in an effort to provide new job seekers with better career opportunities.

SANAD Incubator Programme at Colleges of Technology

The SANAD project for national manpower employment was established as a result of the national forum on manpower employment to encourage entrepreneurship among young Omanis. It has been a successful programme all over Oman, promoting the launching of youth business ventures through the provision of loans and expertise to recent graduates. Strictly speaking, it is not an entrepreneurial education programme. However, it supplements entrepreneurial education by providing recent graduates with ways and means of starting their own businesses. Recently, SANAD has also become involved in promoting entrepreneurship activities in the colleges of technology through

the incubator programme. The SANAD incubator programme helps young entrepreneurs from technical colleges start their own enterprises through financial and technical support. These young entrepreneurs are expected to build their own businesses with a head start in the business world. This is a new initiative of the SANAD programme and is expected to pay dividends through EPE programmes. Colleges of technology are considering more interaction between BSCs and the SANAD incubator programme in the near future. It is expected that this interaction will create a new dimension in EPE.

3.7.2 At the regional level

INJAZ Oman in schools and colleges of technology

INJAZ Oman is a non-profit organization registered according to a decision (n°2006/2) of the SANAD chairman dating from December 2006. The mission of INJAZ Oman is to inspire and prepare young people to succeed in a global economy. INJAZ Oman is linked to Junior Achievement Worldwide. It provides hands-on learning experience to young people in enterprise education from school to university level. INJAZ Oman also works very closely with INJAZ Al-Arab, which was founded in 2003. The motto of INJAZ Oman is “Helping People Improve their Competitive Performance”, which is the number one priority of Arab business leaders as revealed by the Arab Business Intelligence Report (ABIR) published January 2006 by PricewaterhouseCoopers (PwC) and Moutamarat. INJAZ Oman has strong links to and support from the industry since the INJAZ Oman Board of Directors includes members from leading companies in Oman.

INJAZ started its programme in Oman in May 2005 with a pilot master class. The programme was actually launched in February 2006 in collaboration with INJAZ Al-Arab and the SANAD Programme. Initially, three schools were beneficiaries of the programme: two public and one private. A total of 212 students were enrolled and two programmes were implemented via “My economy” and “How to be a successful leader”. Later in 2006/2007, the INJAZ Oman programme was expanded to fourteen schools in Muscat and other regions, with fifty classrooms and over 2,450 students. In 2007/2008, Sultan Qaboos University (SQU) and the Higher College of Technology became involved in the Programme. INJAZ Oman relies on volunteers and involves them in all stages of the programme. Each volunteer is assigned a class in one of the schools. Every volunteer commits to one hour per week for an average of ten weeks during an academic semester. This is preceded by an orientation training workshop. At the end of the course, the volunteer evaluates his/her students.

Schools in Oman participated in the INJAZ “Best Arab Student Company 2007” competition in Jordan. In May 2008, INJAZ Al-Arab hosted the “Best Student Company” in Muscat when ten countries were represented by sixty-six students and where a student was given the award of “Best Student CEO”. In June 2009, a school in Oman participated in the INJAZ Al-Arab competition in Beirut where Oman once again won the “Best Student CEO” award, as well as “Best Company Project”.

Recently, INJAZ Oman linked up with the NCGC, which gave INJAZ access to over 240,000 students and over 4,000 classrooms. Currently INJAZ Oman is preparing to include students aged 13 and below, which will increase the number of students to over 500,000 per semester.

3.7.3 At the international level

Implementing KAB in the vocational training centres and colleges of technology Know About Business (KAB) is a package being offered under the aegis of the ILO to empower the young in acquiring skills that will help them to earn a livelihood. It is being implemented in vocational training centres and colleges of technology. The main focus of KAB is the training of entrepreneurs in management skills so as to develop an entrepreneurial attitude through EPE. It is being implemented in Oman, as well as in many other countries. The KAB programme seeks to develop the entrepreneurial skills of young people and, in the process, educate them not only to establish their own businesses at some time in the future, but also to work productively in small and medium enterprises (SMEs). In so doing, the overall objective of KAB is to contribute towards the creation of an enterprise culture in a country or society.

The KAB programme is being implemented successfully in vocational training centres and colleges of technology. It is offered to students before they venture out into the job market (Nizwa College of Technology, 2009b). The programme includes the training of teachers using specialized modules developed by the ILO for this purpose.

The implementation of KAB in Oman required customizing it so that it is delivered in a way that could easily be integrated within other programmes. KAB is delivered in Arabic in vocational training centres and in English in the colleges of technology. In colleges of technology, the implementation followed a systematic approach. First, the curriculum was divided into two parts, namely

KAB1 and KAB2. After consideration and discussion between the colleges, it was decided to offer the KAB programme during EPT.

Interviews with teachers and students elucidated that KAB does not necessarily encourage young people to begin their careers as entrepreneurs or self-employed workers. Rather, it gives them practical experience and an awareness of opportunities, challenges, procedures, characteristics, attitudes and skills needed for entrepreneurship. This makes it an interesting programme for all students, whether they plan to start their own business or seek a job. The programme is learner centred and consists of training and project games. What made it attractive to students is that it uses the latest techniques in teaching, training and learning, where the learner sets the learning objectives, works towards achieving them and also sets and follows the rules for the training. The programme promotes self-expression and communication and also focuses on teamwork and taking up responsibility.

3.8 Conclusions and recommendations

3.8.1 Conclusions

This report has aimed at presenting a case study about EPE in the education system in Oman. It shows that the education system in Oman is focused around an entrepreneurial spirit, and that major efforts have been made to reform the education system, improve curriculum development and launch new initiatives. Several lessons and good practices can be learned from the Omani experience. Reform of the school system into basic and post-basic education has resulted in a balanced mix of initiatives that promote entrepreneurship in education. This includes the gradual decentralization of school management, which has resulted in a change in the mindset of school administrators who became more open to supporting a stronger entrepreneurial focus in their programmes. In addition, new school curricula consist of a balanced mix of subjects and topics that enhance the entrepreneurial skills in an integrated way. For example, linking mathematics to the local economy in the applied mathematics course for grade 11 is a very effective way of incorporating entrepreneurship within the subject. Also, subjects and topics like “Life-skills” and “Your career path” cover many areas that support entrepreneurial thinking. The NCGC is another success story which has helped to create more entrepreneurial thinking within schools, providing students with many planning strategies as well as problem-solving and decision-making skills.

Vocational training and technical education have also seen several developments that support EPE. Introducing a third year/level in vocational training centres in addition to making the system more open by allowing students to graduate after completing any level and coming back to continue later on have changed the way students plan their future and reduced the risks they take by deciding to start their own business, as they can always rejoin the study programme at a later time. Also, incorporating entrepreneurial skills within subjects like mathematics and information technology creates yet another dimension of EPE. Colleges of technology have also adopted many successful initiatives. Changing the way on-the-job training is delivered and introducing the enhancement practical training changed the way that students perceive work. Compulsory OJT and EPT with planned outcomes and deliverables make it more business oriented. Adding subjects like entrepreneurship, job-search techniques, formal logic, business ethics and formal Arabic communication has shown to be another effective way of integrating entrepreneurship issues within education. The business simulation centre is a unique initiative that supports entrepreneurship. Also, participation in GCC Skills and WorldSkills Competitions creates more incentive for future entrepreneurs.

Several other initiatives that show additional efforts towards EPE have also been implemented. These include the Career Awareness Programme in collaboration with the Shell Oil Company, the SANAD Incubator Programme, INJAZ Oman and KAB. All of these have been implemented in schools, vocational training centres and colleges of technology.

Although this report reveals several good practices which have been summarized above, it is evident that there is still scope for further improvement in several areas. Recommendations are offered at national and regional level as follows.

3.8.2 Recommendations at the national level

The developments required at the national level to better integrate EPE into the education system include, but are not limited to, the following:

Legislation to support EPE: Although several entrepreneurship skills have been seriously considered in the legislation and development of curricula in schools and TVET, it is important to emphasize that just mentioning some of these skills in the legislation is not enough. The establishment of clearly defined legislation in this regard would further promote EPE and will ensure its continuity.

Assessment of the impact of integrating entrepreneurship in education: Although several improvements are evident in promoting entrepreneurship skills within the education system, especially curriculum development, the impact of such changes has not been assessed to identify how they have helped in moulding a generation that is well-prepared for the job market and future life. This may be due to the infancy of the new initiatives and hence the difficulty in assessing their impact. The impact of implementing some external programmes such as INJAZ and KAB also needs to be assessed. This is an area that must be addressed in the near future.

Teacher education and training: One of the most immediate actions required is the development of comprehensive teacher education and training programmes that help improve the entrepreneurial skills of teachers and enable them to transfer them to students. The importance of teachers should not be underestimated, and teacher education and training should be a central area around which all other developments are designed. This needs to be addressed at both the pre-service and the in-service levels.

Research on entrepreneurship education: EPE is a relatively new initiative and the literature reports very little research in Oman and the Arab countries in general addressing entrepreneurship and EPE. It is recommended that more research is conducted in this area. This will not only help to stimulate new ideas but will also promote more awareness about the importance of EPE countrywide.

Collaboration and information sharing: Collaboration and information sharing among all the authorities concerned will help in better practice and further integration of the different educational levels. It may be beneficial at this stage to form an “Entrepreneurship Education Network” that promotes EPE by sharing good practice, success stories and conducts awareness-raising activities among other things.

3.8.3 Recommendations at the regional level

Development of an EPE-Arab Portal: Information and knowledge-sharing is crucial. Therefore, developing an EPE-Arab Portal would support more collaboration among the different countries in the region. This would also encourage the sharing of success stories and help attract the attention of the community. The portal could also stimulate more collaborative projects between interested individuals, institutes and countries.

Conferences and accompanying workshops: Conferences and workshops are some of the most effective ways of sharing ideas about research outcomes and innovations. They also help in creating links between researchers and others. Therefore, a regional conference about EPE could stimulate more information sharing and lead to collaborative projects.

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4. A Case Study of Egypt

by Aboubakr A. Badawi

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4.1 Introduction

In 1974, Egypt embarked upon a wide restructuring reform of its economy, ending decades of public sector domination. Introducing the necessary changes was not easy and took much longer than anticipated. In fact it is still going on. One major area of the reform focused on reviving the entrepreneurial spirit and promoting the establishment and development of small and medium enterprises (SMEs). Over the years, the concept of entrepreneurship developed, and so did the related activities. In line with the prevailing concept of EPE during the past decades, the focus was on promoting, establishing and developing small enterprises. Recent developments of the concept suggesting that it should become a basic skill for all citizens necessitate re-examining current practices and adopting the new concept of entrepreneurship education (EPE).

The current report contributes to an EPE study organized by UNESCO and funded by the StratREAL Foundation (United Kingdom), implemented by the UNESCO-UNEVOC International Centre for TVET in Bonn, Germany, in collaboration with the UNESCO Office in Beirut and co-ordinated by the National Centre for Human Resources Development–Jordan.

The results of this study will be an important input for countries that aim to develop strategic plans for the incorporation of entrepreneurship education into their educational systems. They will also inform criteria to select countries for component II of the project (UNESCO Regional Bureau for Education in the Arab States, 2009).

As agreed among the regional research team, this report is limited to formal education at basic and secondary levels, including TVET, unless something else is germane to the contents of the report.

Education and training in all regions and countries are nowadays witnessing a continuous process of reform and adaptation to developments in society, technology and the labour market. The literature has already been flooded with research on the “twenty-first century skills” required by the “knowledge economy”. Most of these skills are related to “knowledge management”, which includes processes related to information selection, acquisition, integration, analysis and sharing in socially networked environments. Most of these skills are also linked to entrepreneurial skills and competencies in generic terms. The growing role of business and community in education and training is also on the rise, yet prime responsibility for education remains with governments.

Governments should make an effort to properly identify and conceptualise the set of skills and competencies required so as to incorporate them into the educational standards that every student should be able to reach by the end of compulsory schooling. [Systems of education are facing risks] of being irrelevant unless this set of skills and competencies becomes the very core of what teachers and schools should care about, and this can only be done by incorporating them into the national education standards that are enforced and assessed by governments (Ananiadou & Claro, 2009, p. 29).

Education should encompass both academic knowledge and practical skills to prepare young people for responsible citizenship and the world of work.

The Global Education Initiative (GEI) of the World Economic Forum (WEF) issued a report entitled *Educating the next wave of entrepreneurs* (WEF, 2009) explaining the need for EPE. It encouraged educational institutions at all levels (primary, secondary and higher education) to adopt twenty-first century methods and tools, including cross-disciplinary approaches and interactive teaching methods, to encourage creativity, innovation, critical thinking, opportunity recognition and social awareness. This requires a fundamental rethinking of the educational process. Academia should embed entrepreneurship not only into the curriculum, but also into the institutional paradigm. Goals, policies, outcomes, structures and rewards should encourage the educational approaches necessary for current and future generations of students. Policy-makers and governments should develop ambitious plans for entrepreneurship education at the national and regional levels. The private sector should engage with government and academia to help transform the education system.

4.1.1 Methodology

An analytical approach has been utilized in preparing the current report, in co-ordination with the Egyptian National Commission for UNESCO. Data were collected through an extensive review of related documents, as well as through open-ended interviews with a number of current and retired staff members of the Ministry of Education, Ministry of Higher Education, the Social Fund for Development, the ILO Sub-regional Office in Cairo and academics. The draft report was subject to consultation with the National Commission for UNESCO and selected experts in Egypt (especially those interviewed during the preparation of the case study).

4.1.2 The concept (definitions)

With recent developments in the concept of entrepreneurship education (EPE), the report starts with a brief review of the main definitions and the adoption of an operational definition on which the report will be based. Five main definitions were considered:

United Nations Educational, Scientific and Cultural Organization: Fostering entrepreneurship attitudes and skills in secondary schools raises awareness of career opportunities, as well as of ways young people can contribute to the development and prosperity of their communities. It helps reduce youth vulnerability, social marginalization and poverty (www.unesco.org/en/secondary-education/entrepreneurship-education/).

The Internet portal TVETipedia offers a good distinction between EPE and management education: What makes entrepreneurship education distinctive from for example management education, is its focus on realization of opportunity, where management education is focused on the best way to operate existing hierarchies. Both approaches share an interest in achieving “profit” in some form (which in non-profit organizations or government can take the form of increased services or decreased cost or increased responsiveness to the customer/citizen/client) (www.tvetipedia.org).

International Labour Organization: Entrepreneurship education is increasingly being recognized as an important element in the broader efforts to tackle the global youth employment challenge. National labour markets’ capacity to absorb the increasing numbers of new and young entrants, as well as provide decent and productive employment opportunities, is

far from sufficient. New strategies, which include an increased focus on entrepreneurship, are needed to better prepare youth for the transition from school to work (Rezende & Christensen, 2009).

Entrepreneurial Education Forum: Entrepreneurship is an employment strategy that can lead to economic self-sufficiency. Through entrepreneurship education, young people, learn organizational skills, including time management, leadership development and interpersonal skills, all of which are highly transferable skills sought by employers (www.entre-ed.org/_network/Forum).

Joint ILO/UNESCO Definition: Entrepreneurship education is conceived in a broad sense, as a pedagogic approach to fostering self-esteem and self-confidence by stimulating and nurturing the talents and creativity of the individual, while building the relevant skills and values that will assist learners in expanding their perspectives on schooling and opportunities beyond. Methodologies are based on the use of personal, behavioural, motivational, attitudinal and career planning activities (UNESCO/ILO, 2006).

The current report adopts the joint UNESCO/ILO definition. It should be remembered that although the definition starts relatively broadly (fostering self-esteem and self-confidence), it turns to identify the thrust of the definition (on schooling and opportunities beyond). A 2008 UNESCO Inter-Regional Seminar made an important distinction between prevailing definitions in developed and developing countries: "EPE in developed countries is creativity, innovation and thinking outside the box; in developing countries it is a way to develop positive attitude towards entrepreneurship and self-employment" (UNESCO–Bangkok, 2008). This distinction will also guide the current case study.

4.1.3 Education and training enrolment and challenges to introducing EPE

Formal education, as the main component of the education system in Egypt, comprises four main stages. Firstly, two years of pre-school education are not yet compulsory but are very much encouraged and promoted by the government. Secondly, basic education (compulsory) for nine years is divided into two stages (six years of primary and three years of preparatory education), with a tiny component of vocational schooling (grades 7–9) to cater for students who would not otherwise complete the general education track (i.e. until grade 9). Thirdly, secondary education (both general and technical

tracks) for three years, with some TVET schools lasting five years. Last but not least, post-secondary education takes place in a wide range of institutes, technology colleges, higher institutes and universities (both governmental and private). A good number of ministries and public bodies are offering educational programmes leading to a certificate (diploma) that is legally equivalent to the secondary school certificate. Non-formal and informal education programmes are also sizeable and diversified.

Adopting the joint ILO/UNESCO definition means that EPE would become an integral part of the national education system. Some of the major challenges facing the Egyptian education system would also affect attempts to implement the new EPE trend. The size factor is a major challenge, with more than more than 15 million students being enrolled in pre-university education, while another 2.5 million are already enrolled in post-secondary education. A second challenge is the vast area of the country, which amounts to 1.01 million square kilometres and creates disparities between urban, rural and remote areas. The Ministry of Education refers to discrepancies in education as follows:

One of the challenges in education, primary in particular, is the wide gap and disparities between rural and urban areas, as well as between boys and girls, especially in the Governorates of Upper Egypt. Discrepancies also exist between the middle and above-middle income families and the poor families where young girls and boys are expected to leave school very early to contribute to the family income through child labour (NCERD, 2007, p. 45).

EPE faces similar discrepancies. A third challenge is the quality of education, in particular in rural and remote areas of the country. With about 17 million illiterates, Egypt must consider practical methodologies to allow for entrepreneurial skills acquisition for this large group of the population. Table 1 presents some educational statistics that reflect challenges to the introduction of EPE in the educational system of Egypt.

Table 1: Egypt's population, education and employment highlights

Indicator	Total	Females	Males	Remarks
Population (million)	76 800	37 555	38 445	
Total area (km ²)	1.01 million			
Number of pre-university students (2006)	15 443 508	7 805,890	7 965 374	
Number of post-secondary students in governmental institutes and universities (2005/2006)	2 153 865	Not included in the report	Not included in the report	
Number of post-secondary students in private institutes and universities (2005/2006)	387 696	Not included in the report	Not included in the report	
% enrolment, post-secondary	29.2	27.7	Not included in the report	
Literacy rate (15–24 years)	85	79	90	
Illiteracy rate 10+	29.33	40.6	17	17 million illiterates
Number of illiterates 15–24	3 286 000	2 004 460	Not included in the report	(61%) are females
2006/2007 % enrolment, primary	92.5/83.6	94.3/84.6	90.9/82.6	Absolute/net
2005/2006 % enrolment, preparatory	92.2	100.1	Not included in the report	
2005/2006 % basic education graduates moving to secondary	88.9	Not included in the report	Not included in the report	
% enrolment, all secondary	77.2	73.1	Not included in the report	

% enrolment, general secondary	40.9	Not included in the report	Not included in the report	
% enrolment, technical secondary	59.1	Not included in the report	Not included in the report	
% enrolled in secondary compared to age group	29.2	27.7	Not included in the report	
% enrolment, post-secondary of secondary graduates	79.6	Not included in the report	Not included in the report	

Source: NCERD, 2007.

Developing/reforming education in Egypt has been a continuous process from the time of the “Temple School” preparing the priests of ancient Egypt up until today. Among, but not limited to, the most recent developments are three main initiatives namely: (a) the Higher Education Strategy of 2000; (b) the National Strategic Plan to Reform Pre-University Education 2007-08/2011-12; and (c) the anticipated reform of secondary education and university admission that arose from a May 2008 national conference, called for and inaugurated by the President of the country, including ten specific areas/projects of reform. The new system is aimed at those who would enroll in the secondary general and technical education in the school year 2011/2012.

4.1.4 Social and cultural issues related to EPE

Education influences and is influenced by social and cultural factors aimed at encompassing both academic knowledge and practical skills to prepare young people for responsible citizenship and the world of work. The author believes that introducing EPE without proper consideration of related core social and economic issues would lead to an outcome that was neither effective nor successful. In this section, a brief summary is presented.

Following decades of central planning and domination by public sector and para-State enterprises, the prevailing culture became that of working for the less-demanding and secure public sector, which included social security coverage. Social and economic policies during that era made the government responsible for placing every graduate of secondary schools or above into employment, either in the civil service or in public sector enterprises. Controlling prices and exchange rates to minimize inflation necessitated subsidizing public

sector companies and the relationship between cost and price became absurd. Subsidizing exports to build Egypt's international reputation as an industrial country was also a policy. Opposition to the notion of Egypt as an agriculture-based economy resulted in a general trend among youth to neglect agricultural work and migrate internally from rural to urban areas. The ratio of agricultural production in the national income declined, and Egypt became one of the countries importing a good percentage of its food, mainly wheat, rice, corn, sugar and cooking oil. These policies impacted negatively on the entrepreneurial spirit of youth during these decades.

Big public sector firms did not leave much room for SMEs. These giant companies not only focused on industry but also dominated the grocery and fast-food sectors, and almost all economic activities. Their management mentality became that of building their own islands and producing whatever they considered marketable and in many cases looking after their own maintenance and repair needs. In the absence of a meaningful cost/price relationship and the availability of subsidies by the government, these companies became a social refuge for new graduates rather than productive units in the national economy. With very high over-staffing to ensure employment for increasing cohorts of youth, accountability disappeared and the entrepreneurial spirit faded. The civil service and the public sector became the only "acceptable" form of employment, and those working in the remains of the old private sector or in self-employment/micro enterprises used to report themselves as unemployed, waiting for a less-demanding secure "public" employment opportunity.

Current attempts to re-align the economy with a free market and open economy rules started more than thirty years ago and are moving slowly to avoid possible social unrest. One of the main foci is abolishing automatic employment of graduates in the civil service and public sector, as well as privatizing the latter. In parallel, the promotion of SMEs aims at encouraging youth to consider this as a viable option for their future career. With economic restructuring, a considerable percentage of workers in privatized companies were encouraged to request early retirement, while employment opportunities for the newcomers in the labour market became slim. Youth, and in particular women, became the first victims of the change with youth unemployment rates ranging between 18-30%. Entrepreneurship is promoted to mitigate high youth unemployment rates and is defined in connection with the establishment or development of SMEs. The campaign attracted a good number of young people, most of them lacking

basic personal entrepreneurial traits, which resulted in a high percentage of failures. The informal economy mushroomed and migration to find work in other Arab and Mediterranean countries became popular among Egyptian youth.

It has been widely believed that the aforementioned decades of public sector domination destroyed the entrepreneurial spirit within the young generations in Egypt. Studies on countries like Viet Nam have found that:

Exploring cultural impacts on the private entrepreneurship in the post-Doi Moi Vietnam revealed that some important aspects of the traditional cultural values continue to have strong impacts on the Vietnamese society, and to a large extent to adversely affect the entrepreneurial spirit of the community (Quan-Hoang Vuong & Tran Tri Dung, 2009).

But according to the 2008 report of the GEM, the case of Egypt seems to be different,

The Egyptian population has a relatively positive attitude towards entrepreneurship. It ranks 12th among the 43 countries in the percentage of the adult population that considers entrepreneurship as a desirable career choice (73%). This reflects a favourable mindset towards entrepreneurship which may lead to ultimate engagement in entrepreneurial activity. A relatively high percentage of the population is also confident that they have the required knowledge and skills to start a business; 53% were definite that they have these skills, ranking Egypt in 14th place. However, only 40% of the surveyed population confirmed that they see good opportunities for starting a business in the next 6 months (surveys completed in July-August of 2008), ranking Egypt 27th among the 43 countries (Hattab, 2008).

Today, the percentage of those who opt to establish SMEs is on the rise. The GEM report for Egypt in 2008 reports

In the summer of 2008, 13.1% of adults in Egypt (18–64 years old) were either actively trying to start a new business (7.9%) or already owned and managed a business that was less than three-and-a-half years old (5.5%). This indicator is referred to as the Total Entrepreneurial Activity (TEA) rate. On this indicator, Egypt ranked 11th among the 43 countries covered by the report (Hattab, 2008).

Although the new concept of EPE is not only concerned with preparing individuals to establish and manage SMEs but consider entrepreneurship as a basic skill for all, current practices in almost all countries in different regions of the globe do include establishing SMEs as one of the objectives of EPE, but do not limit it to that objective. In this regard, Egypt is no exception.

4.2 Entrepreneurial education and training at the policy level

EPE and training is not a new term, but the concept behind the term has evolved recently into a more generic one. Educational literature and research used to differentiate between three main objectives of EPE, namely: (a) raising all individuals' awareness about establishing SMEs as a viable option for their career; (b) assisting those who already consider that option with specific competencies (knowledge and skills) to explore and pursue specific business ideas; and (c) helping those who decide to start their small enterprise in acquiring the necessary entrepreneurial and managerial competencies. A well-known application of this classification is the training package developed by the International Labour Organization (ILO), which includes three consecutive programmes—Know About Business (KAB), Start Your Business (SYB) and Start and Improve Your Business (SIYB). These terms are explained in Section 4.4. The new EPE concept is incorporating all of these objectives and even goes beyond them. In this section, the paper will explore the extent to which current policies and activities relate to the new concept, in spite of the fact that these policies and activities were developed and are implemented within the “classic” concept of EPE as preparation for a career in entrepreneurship.

The adopted definition of EPE includes “fostering self-esteem and self-confidence by stimulating and nurturing the talents and creativity of the individual”. Further explanation (see UNESCO–Beirut, 2009) states that “EPE is about creating an entrepreneurial mindset/culture that fosters innovation, problem-solving and active citizenship”. The UNESCO note goes further to identify the EPE objective as “to assist young people become innovators and active participants in the labour market”. It goes without saying that these explanations and objectives have been a part of many previous educational development initiatives and that fifty (or more) year-old education policies and practices already refer to these broad issues. The UNESCO National Education Support Strategy for Egypt (UNESCO, 2008b) includes much about the aforementioned objectives,

while not including a single mention of entrepreneurship or EPE. This is also the case for the National Strategic Plan to Develop Pre-university Education in Egypt. This paper will avoid being trapped in attempting to link everything to EPE. On the contrary, only policies and activities that naturally lend themselves to the new EPE concept will be presented (including EPE as preparation for entrepreneurship).

Over the last three decades or so, the Egyptian education system has positively and actively responded to international trends in education. Among the main policy and implementation responses are:

- Introducing practical subjects in basic education in the 1970s;
- Outreach programmes;
- Utilizing ICTs in developing education;
- Distance-teacher development;
- Schools with access to broadband;
- Smart schools;
- School-based reform;
- Effective school projects;
- Enhancing active learning projects;
- Establishing a professional training academy for teachers;
- Establishing the National Authority for Quality and Accreditation in Education;
- Developing school curricula to integrate twenty-one concepts related to citizenship, human rights, environment, gender equality and many others.

All of these initiatives could easily be linked to EPE but, as stated earlier, this case study will only focus on core issues related to EPE. In the remaining part of this section, the focus will be on efforts related to EPE in its classic form (preparation for entrepreneurship), which is still a part of the new concept.

Studies show that EPE is important because it influences not only the level of entrepreneurial activity but also the quality of the businesses started.

Of the non-entrepreneurially-active population in Egypt, adults who had never received any start-up training were much less likely than those who had to believe that they had the skills, knowledge and experience to start a business (51% for the former group compared to 75% for the latter group), especially

if that training was compulsory. Information collected through the current report shows that entrepreneurial education in Egypt is one of the weakest links in promoting entrepreneurship, if not the weakest (Hattab, 2008).

So, if EPE is to be implemented in Egypt, a lot needs to be done. This is also confirmed by the GEM report which compared thirty-four countries. The report concluded that Egypt has the second lowest rate for the percentage of the population that has received any exposure to entrepreneurship in the education and training system. Only 7.5% of Egyptians reported ever having taken any courses on starting a business as part of school-based activity, or participating in related training after leaving the formal education system (Hattab, 2008).

It is also important to keep in mind that studies show that it is not only EPE that matters, but that the average schooling and educational level of the population also influences entrepreneurial activity rates:

Total Entrepreneurial Activity (TEA) rates in the population generally rise with the level of education. So countries with large cohorts of highly-educated people may have an “entrepreneurial” advantage. Although Egypt basically follows the pattern of GEM countries—TEA rates are highest among adults with post-secondary education or higher—unfortunately, the average educational level in Egypt is relatively low, so the better educated people with higher TEA rates are in the minority. GEM studies have also found that entrepreneurs with higher levels of education are more likely to be innovative and growth-oriented. The major implication of this result is that the low level of education of Egyptians generally is a barrier to growth of the entrepreneurial population. In the medium-term, Egypt must continue to raise the average educational level of the population. In the short- and medium-terms, efforts should be made to reform the educational approach to foster creativity, self-sufficiency, personal initiative, and independent thinking, as well as to integrate entrepreneurship-related content into teaching materials and classrooms at all levels of the education system (Hattab, 2008).

An important OECD report also rings a bell for appropriate action on EPE, not only for Egypt but also for other Mediterranean countries:

While education and training are increasingly recognized as key contributors to competitiveness in all MED countries, learning systems generally lack the policy thrust required to ensure strategic inputs

into an entrepreneurial economy. The objective of Dimension 2 is to encourage those countries participating in the Charter to develop and promote entrepreneurial learning, in a lifelong learning perspective, as a central pillar in the wider effort to promote competitive economies. Entrepreneurial learning refers to all forms of education and training (both formal and non-formal), including work-based learning, which contribute to entrepreneurial spirit and activity, business creation and employability development (European Commission, OECD & ETF, 2008).

4.2.1 Policy

Most educational policies in Egypt have been developed quite recently, but this was before the new concept of EPE became internationally recognized. Meanwhile, Egypt is already co-operating with OECD and the European Union in promoting SME development and related EPE. A recent assessment by OECD and the EU of the enterprise charter with Mediterranean countries found that “turning to the human capital dimensions of the Charter, the assessment focused on Egypt’s efforts to promote entrepreneurship education and training (Dimension 2) as well as enterprise training activities (Dimension 3), both considered key to promotion of a more entrepreneurial and skills-effective enterprise environment” (European Commission, OECD & ETF, 2008). The following two paragraphs present some specific results of that assessment as related to EPE.

Firstly, the assessment explored the policy context for more developed entrepreneurship education across all levels of education. While some national strategies individually contribute to entrepreneurial learning (e.g. a youth employment strategy that favours self-employment), the Charter’s objective of a coherent strategic framework for lifelong EPE and training requires more discussion with key stakeholders. Of importance here will be how the contents of existing policies interface, including how the formal education system and the non-formal education environment can be improved and recognized. More specifically, the national education strategy still misses specific acknowledgement of entrepreneurship as a key competence. This will be important for progress on the secondary education indicators (ISCED 2 and 3).

Secondly, the policy position on employment and vocational training addresses only occupational skills. An entrepreneurship dimension could reinforce its objectives and potential. Furthermore, interviews with high-ranking officials of

the Ministry of Higher Education confirmed particular interest in developing “across-campus” entrepreneurial learning to build on existing efforts to foster entrepreneurship in technology and engineering faculties. This provides a good opportunity to ensure that the upper levels of the learning system (ISCED 5 and 6) are engaged in broader lifelong entrepreneurial learning. Given that the policy indicator is a driver for the remaining indicators of Dimension 2, the Egyptian authorities could consider an open discussion on how the various parts of the learning system (including enterprise) could co-operate with a view to creating a sequential or lifelong entrepreneurial learning framework. Given its nodal position, the Education, Training and Employment Observatory could guide this dialogue, but the leadership and support of both education ministries will be critical. The process would be significantly reinforced with the strategic engagement of the National Competitiveness Council (already pushing for a better contribution of the learning system to Egypt’s competitiveness drive). However, the Ministry of Education is pivotal to all systemic developments in entrepreneurial learning: it must engage with and be engaged by the other key stakeholders.

4.2.2 Legislation and regulations

In Egypt, planning to promote entrepreneurship started in the 1970s with the economic restructuring that followed the positive outcomes of the 1973 War. With international technical assistance, these efforts intensified during the late 1980s, 1990s and up to the present. 2004 was a landmark in the process, when special small enterprise legislation was approved by the People’s Assembly and issued by the President—Law No. 141 of 2004, Promulgating the Law on the Development of Small Enterprises. Article II of this Law reads as follows:

The Social Fund for Development is the body mandated to work on developing small and micro-enterprises, and planning, co-ordinating and promoting its expansion, and assisting in its financing and other services, in co-operation with ministries and their agencies public authorities – local governments and other bodies, the by-laws specify the Fund’s working system to undertake these responsibilities [personal translation from Arabic by the author of this report].

Social Fund for Development (SFD) was established in 1991 as the National Social and Economic Safety Net for mitigating the impact of the economic reform policies. The Executive Regulations of Article II, issued by the Prime Minister’s

decreed 1,241 of 2004, spell out the responsibilities of the SFD with regard to seven particular competencies, the seventh of which reads “establishing training centres to qualify enterprise owners or to prepare those who desire to set up enterprises through providing them with the necessary basic skills required for the sound management of such enterprises” (Egypt Prime Minister, 2004). EPE seems to be understood by the law as the training of entrepreneurs. Responsibility for promoting entrepreneurship and providing training for it is shared by a number of ministries. Figure 1 presents the institutional set-up.

Figure 1: Entrepreneurship institutional set-up in Egypt

Institutional set-up in Egypt

Ministry	Institution/unit	Enterprise policy priority	Strategy	Main activities
Interministerial	Social Fund for Development (SFD) established in 1991	Micro- and small enterprises (MSEs)	National Strategy for MSEs' development: 2008 - 12 National Strategy for microfinance	Provision of financial and business support services facilitation of administrative procedures
Ministry of Trade and Industry	Industrial Development Authority (IDA) established in 2005 Industrial Modernisation Centre	Industrial Companies	Industrial Development Strategy: 2005 - 25	Expanding export and upgrading quality in seven existing sectors Investing in technology and skills upgrading in six areas of niche development Allocating and equipping areas for industrial activities

Ministry of Investment	GAFI	Medium and Large enterprises	n.a.	Facilitating investment procedures, particularly for medium-to-large-scale business enterprises, assisting investors and promoting Egyptian investment opportunities
Ministry of Finance	SME Development Unit	SMEs	Errada, comprehensive tax reform	Simplifying all legal and administrative procedures

Source: European Commission/OECD/ETF, 2008.

Governorates and local governments, concerned ministries and several other main actors issued the necessary “regulations” to promote, support and provide financing to entrepreneurs. A good number of ministerial and governor’s decrees have come into force, including many dealing with the relationship with NGOs and other elements of society. The secretary-general of the SFD also issued a number of decrees organizing, inter alia, EPE and training. The SFD also adopted the “franchise” approach and established a special department to follow up its promotion. Franchisers have also stressed that training is necessary before their trade name can be granted.

4.2.3 Governance and management

According to Law 141 of 2004 and its explanatory note, the SFD is entrusted with the overall management of promoting small and micro project creation and development in Egypt, including training (Article II of Law 141/2004). The SFD established a database of entrepreneurial training providers and co-operating NGOs. According to joint SFD/NGO agreements, some partners (including Misr Technological Faculty in 6 October City) already started developing an EPE programme for university-level students.

In practice, quite a large number of EPE and training providers are working with minimal, if any, co-ordination or co-operation. A lot could be done to achieve better co-ordination that would in turn optimize the utilization of available resources, which are currently wasted in designing and implementing very similar training programmes. The utilization of training materials produced by international bodies (including ILO and UNESCO) and regional organizations (including ALO, ACHRD and the Arab Academy for Financial and Banking Sciences) is recommended to allow the optimum use of available resources in training the trainers/teachers (currently considered a weak link in EPE).

Although certification is not a major issue for entrepreneurs, who are merely looking to acquire the necessary competencies (rather than getting a certificate), an accredited training programme may assist in improving the social image of its graduates. Involving universities in offering accredited EPE programmes, in particular those capable of providing practical training rather than teaching pure academic theory may also attract future entrepreneurs and others interested in the topic and contribute to promoting EPE in Egypt.

4.2.4 Financing

Entrepreneurial education offered in the formal education system is financed through a number of schemes. Activities in public (governmental) schools are jointly financed by the Ministry of Education and initiatives supported by some donors. The ministry covers the wages of teachers and the utilization of the school's facilities for training (including field visits); while the donor-funded initiatives usually provide the learning materials, train the teachers and assist in evaluation and certification. Private schools usually cover the entire cost of the EPE they provide, although in some cases the donor-assisted initiatives also train their teachers and/or provide the learning materials. A main initiative in formal education is the ILO's Know About Business (KAB) programme, which is supported by the Canadian International Development Agency (CIDA). Further information on that initiative is provided in Section 4.5 of this report.

Many NGOs, consultant firms and private for-profit training institutions also provide EPE and training in which trainees pay a part, or all, of the cost. In some cases, the public budget is utilized to pay for the participation of trainees in these programmes. Also, a certain percentage of some soft loans can be considered as "vouchers" to be used by the client to obtain the necessary training. The SFD's financial support is usually linked to loan applicants.

4.3 Promotion of entrepreneurship in the education and training system

Although the importance of entrepreneurial training has been recognized by all officials in the education sector and beyond, and a considerable effort to establish EPE has already been ongoing for the last two decades, the formal education curriculum at basic and secondary levels does not contain official content related to EPE. This does not mean that students in public schools do not receive any EPE, but they receive it according to ad-hoc arrangements and agreements between the ministry and co-operating bodies, such as the ILO and CIDA as mentioned in Section 4.5 of this report. Officials consulted during the preparation of this report (some high-ranking) cite the ever-increasing number of educational initiatives that do not leave enough time and resources to implement them all properly. As examples, they refer to Education for All (EFA), education for sustainable development (ESD), environmental education (EE) and civic education. They rightly refer to the lengthy process of introducing changes in the curriculum, getting it approved by the concerned bodies, preparing learning materials and training the teachers and other concerned staff. The centralized system of education in Egypt, as in many other Arab and developing countries, makes it even harder to respond to this flow of accelerated changes.

In light of the above, the critical assessment of the current status of EPE in Egypt by a group of Egyptian experts in the field who were consulted during the preparation of the 2008 GEM report seems to reflect the normal situation:

Weaknesses in the education system with respect to entrepreneurship were reinforced by the national experts and reflected in Egypt's poor comparative standing relative to other GEM countries on the Education and Training EFC (last place). The education system in Egypt was assessed by national experts as being very weak in this area, at all levels of schooling, unlike the case in many other GEM countries where the government has made entrepreneurship education a priority (Hattab, 2008).

These conclusions are also supported by the sample of 18–64-year-old citizens who replied to a questionnaire on whether or not they received EPE during their schooling and after leaving school and whether the courses were compulsory or voluntary. Table 2 presents a summary of the replies.

Table 2: Percentage of the 18–64 population who received EPE during and after schooling

Country	Education during school			Education after school			All EPE training
	Voluntary	Compulsory	Total	Voluntary	Compulsory	Total	
Brazil	4.5	0.8	5.3	1.6	5.0	6.6	9.4
Egypt	3.8	0.9	4.7	2.1	2.1	4.2	7.5
Italy	6.0	4.2	10.2	5.3	3.7	9.1	16.5
UK	5.8	3.1	8.9	7.7	6.1	13.8	19.5

Source: Hattab, 2008, p. 21.

Comparing Egypt's relative performance in Assessment of Entrepreneurial Framework Conditions (EFCs) shows that research and development is the weakest link, followed by education and training. For both items, Egypt ranks last among the thirty-one countries included in the assessment. Table 3 presents a summary of the findings.

Table 3: Mean score and rank of Egypt on entrepreneurial framework condition (of thirty-one countries)

No.	Condition	Egypt's score	Egypt's rank
1	Financial support	2.27	21
2	Government policies	2.71	11
3	Government programmes	2.19	22
4	Education and training	1.79	31
5	Research and development	1.65	31
6	Commercial and professional services infrastructure	2.68	25
7	Internal market openness:		
	Internal market dynamics	3.57	4
	Internal market burden	2.47	15
8	Physical infrastructure	3.82	7
9	Cultural and social norms	2.40	22

Note: Mean scores are based on scale of 1 to 5 with 1 being the lowest score.

Source: Hattab, 2008, p. 45.

Further analysis of the framework conditions affecting education and training were explored through eight survey statements addressed to a group of national experts. The survey aimed at assessing the extent to which the educational and training system encourages and supports entrepreneurial behaviour and management skills. Experts were asked to rate, on a 1–5 scale, the extent to which each of eight statements applied to Egypt. The results of the Egyptian experts' opinions are presented in Table 4.

Table 4: Egyptian experts rating of the extent to which eight statements are true for Egypt

No.	Statement In my country (Egypt):	Score*
1	Teaching in primary and secondary education encourages creativity, self-sufficiency, and personal initiative	1.28
2	Teaching in primary and secondary education provides adequate instruction in market economic principles.	1.31
3	Teaching in primary and secondary education provides adequate attention to entrepreneurship and new firm creation.	1.36
4	Colleges and universities provide good and adequate preparation for starting up and expanding new firms.	1.47
5	The level of business and management education provides good and adequate preparation for starting up and expanding new firms.	1.97
6	The vocational, professional, and continuing education systems provide good and adequate preparation for starting up and growing new firms	2.00
7	Entrepreneurs in general need external assistance of their plans prior to start-up	2.06
8	There are enough public and/or private centres or agencies that can provide persons with adequate education and training on entrepreneurship independently of the formal education system	4.28

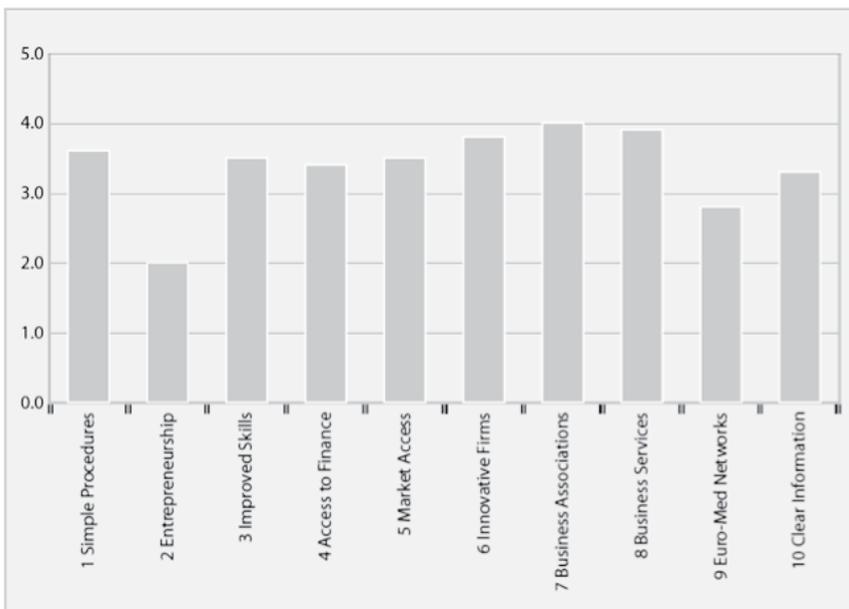
* On a 1–5 scale with 1 being the lowest score.

Source: Hattab, 2008, p. 52.

Regarding these scores on the level of attention and inclusion of entrepreneurship in the education system, Egypt ranks last with a mean score of 1.3 (experts' perceptions of the extent of EPE in primary and secondary schools) and about 1.8 (experts' perceptions of the adequacy of education and training support for new and expanding firms). However, experts estimate that the capacity to provide the necessary education and training is available independently of the formal education system.

Similar results appear in the EU/OECD/ETF report on the Enterprise Charter implementation (European Commission, OECD & ETF, 2008). EPE proved to be the weak link: "Egypt's performance reflects the significant progress made in developing a comprehensive enterprise policy approach across all 10 dimensions of the Charter with the exception of Dimension 2: Education and training for entrepreneurship".

Figure 2: Egypt's scores regarding the Euro-Mediterranean Enterprise Charter Dimensions



Source: European Commission/OECD/ETF, 2008, p. 96.

4.3.1 Formal education

As discussed earlier, EPE not only targets those who want to explore the possibility of becoming entrepreneurs or those who have already taken such a decision. The broad definition adopted reinforces entrepreneurial skills as a part of the basic skills to be acquired by every individual. With this in mind, EPE in formal education becomes a must. For those who still think that EPE should only focus on graduates and not be a part of formal education, a look at the demography of new entrepreneurs in Egypt may be useful. The 2008 GEM (Hattab, 2008) report identified that the 25–34 age group has the highest entrepreneurial activity rates, true for all GEM countries. The age group with the second highest total of entrepreneurship activity (TEA) rate in Egypt is that of the 18–24 year olds, which is not the case in most other GEM countries. Thus, these two age groups are the most significant pool of potential entrepreneurs from which the majority of new enterprises and jobs will be created in the coming years. Egypt, with its young population and young entrepreneurs, has a strong “entrepreneurial” advantage; this fact also demonstrates the importance of EPE in basic, secondary and post-secondary education.

It is clear that Egypt should do more to include EPE in formal curricula:

Considerable efforts should be made in Egypt to foster the development of entrepreneurial skills, ability, and know-how of young Egyptians. This should start early in the education system as part of the formal curriculum and extracurricular activities. Preparing them early will have an impact on developing entrepreneurial potential and on the quality of the enterprises eventually started. It should follow through with dedicated programmes to support young entrepreneurs in the start-up and early-stage growth process, such as exist in many other countries (Hattab, 2008).

4.3.2 Non-formal education

When examining the status of EPE in Egypt, it would be easy to draw the conclusion that the government has deliberately chosen to provide EPE through non-formal education. Although not supported by a formal policy or strategy document, mandating the Social Fund for Development (SFD) with the comprehensive responsibility of promoting SMEs led to a situation where the main thrust of EPE programmes is being implemented either in non-formal educational institutions (private and public) or as non-formal programmes. The main actor in this field is the SFD, which has agreements with more than 800 NGOs that offer services such as EPE and training. In addition, a

good percentage of the wide range of entrepreneurship training courses and programmes provided by NGOs and other initiatives in different settings and places is non-formal.

The diversity of EPE and training providers could be considered as enriching, but many specialists refer to weaknesses such as the lack of co-ordination, wasted resources when very similar educational programmes are designed and implemented, and the absence of objective monitoring and evaluation mechanisms. A comprehensive strategic approach to identify a national vision and articulate the mission of most, if not all, actors in the field could create a logical umbrella/framework for planning EPE and training, whether they focus on building entrepreneurial skills for all learners in schools or target those who are considering to become entrepreneurs.

4.3.3 Assessment and evaluation

A good deal of analysis has been provided in the previous sections of the report. This section focuses on some analysis/assessment aspects that have not yet been adequately covered, particularly the quality of EPE and training and entrepreneurship for women.

The quality of EPE: It goes without saying that issues regarding the quality of education are of the highest importance in all educational reform efforts and programmes. In the case of EPE in Egypt, which so far relies heavily on non-formal programmes and institutions, quality issues become even more important. Given the availability of quality learning materials prepared by international and regional organizations, such as UNESCO, ILO and ALO/ACHRD, the quality of EPE becomes more linked to teachers and trainers. Special attention needs to be given to the selection and training of trainers/teachers to avoid entrusting civil servants who have never considered self-employment or establishing their own business with the responsibility of training entrepreneurs. The new generic competency of EPE cannot be acquired through traditional teaching approaches and methods. Innovative approaches to participatory learning are crucial, and the selection of appropriate teachers/trainers must be given the highest priority. Also, appropriate funding for entrepreneurial training is important if the desired impact is to be achieved. Monitoring and evaluation aimed at improving all aspects of EPE and training should be considered. In the absence of widely accepted criteria for assessing EPE, it is difficult to judge how good the current efforts in this field are.

Women and entrepreneurship: There is consensus among development specialists that Egyptian women could better contribute to the economic development of their country. Statistics concerning the employment of women are rightly criticized for ignoring how the surveyed women perceive what constitutes a “working woman”. In most cases, women only report themselves as “working” when they are employed by an employer who is not a relative and are paid regular, monthly wages. Gender-sensitive statistics are not yet the rule, and the issue of data collection requires better attention (Badawi, 2006b). The issue of women’s entrepreneurship therefore remains a priority for research.

The 2008 GEM report looked into the matter and concluded that “women in Egypt represent a large untapped source of entrepreneurial potential and an economic force if that potential is encouraged and supported more fully” (Hattab, 2008). This could be achieved through:

- Articulating women’s entrepreneurship as an economic issue rather than as a gender or social issue and recognizing the contribution of women entrepreneurs as economic and wealth-creating agents.
- Launching cultural-awareness campaigns to address the social and cultural impediments facing women who would like to play a more active role in economic activity by starting their own business, and implementing special initiatives in post-secondary institutions and universities to promote entrepreneurship among female students.
- Implementing initiatives to promote entrepreneurship for women, including a systematic network of entrepreneurship and business-support services to help transfer the knowledge and skills needed to develop business ideas and new ventures (e.g. special programmes to mentor and coach women on starting-up businesses, expanded women’s enterprise centres, entrepreneurship training opportunities for women who are trying to break into the labour market, financial intermediaries and special loan products dedicated to women—thus, less rigid collateral requirements, tailored pay-back mechanisms).

Several other reports also suggest that more efforts should be made to target the entrepreneurial development of women: “Egypt’s large gender gap in the entrepreneurial activity rates of men and women is thus an area of concern” (Hattab, 2008). Proper EPE for all students at all levels of education would address this concern.

4.4 Implementation and technical support

Promoting successful entrepreneurship in general and EPE and training in particular is the responsibility of a wide range of national bodies, both private and public. Mutual support among these bodies is a must, for otherwise precious resources might be wasted with no impact on development. In this section, the report focuses on three key priorities: teaching methodologies; national partners in promoting and providing EPE and training; and some regional and international efforts that support Egypt in this endeavour.

4.4.1 *Teaching methodologies and teachers*

Although most faculties of education that prepare teachers in different disciplines did not so far respond to the need for skilling their students in the field of EPE, almost all teachers currently responsible for learning in this crucial area are well trained for the job through technical co-operation providers, such as the ILO KAB programme. As mentioned earlier, the selection of teachers/trainers who are capable of providing quality EPE/training represents a bottleneck and deserves special attention. Institutionalizing EPE as one of the main areas of teacher preparation in faculties of education, as well as extensive in-service training of the approximately 1 million teachers and trainers in Egypt, is paramount.

Several actual teacher-training programmes in Egypt include interactive and “learning by doing” activities, which are crucial to showing teachers how to use active methods. Extending the scope of such training to all teachers would greatly support EPE in Egypt. It should always be borne in mind that EPE and promoting entrepreneurial culture are not confined to some specialized teachers, but should be provided to all. The newly established Professional Training Academy (PTA) for teachers represents a golden opportunity to qualify teachers in EPE. With an annual intake of about 80,000 new graduates looking for employment as teachers, as well as a good number of in-service trainings, the PTA could play an important role in introducing the new EPE concept.

4.4.2 *National partners*

EPE and training is a very popular topic for many NGOs, as well as among academic and for-profit training institutions in Egypt. With the availability of soft loans through the SFD and/or other sources, the number of implementing bodies is ever-growing and now includes more than 800 NGOs and about twenty

universities, as well as a wide range of private and public training providers. Annual reports from the SFD identify main national partners in all aspects of entrepreneurship, including education and training. Most ministries, all governorates and many public entities are, according to the SME law, partners in promoting entrepreneurship, including training for it.

In addition to the more than 800 NGOs mentioned above, the list of main partners in EPE and training includes (but is not limited to): the National Centre for Building and Construction Research; the Egyptian Organization for Standardization and Quality (EOS); the Future Generation Association; the Industrial Training Council; and the Egyptian Group for Tourism Development. If there is well-planned and articulated mutual co-operation, this diversity of national providers can greatly support the objective of spreading the new concept of EPE widely.

4.4.3 Regional and international co-operation

Egypt is involved in a wide range of Arab and international co-operative activities in the area of SME development. The 2007 annual report of the SFD (2008a) lists nineteen major regional and international organizations that are active in Egypt (see list of acronyms in the Annex): AfDP, AFESD, ADF, CIDA, CBD, DANIDA, EU, FAID, GTZ, IDB, IFAD, the Italian Government, JBIC, JICA, KFAED, KfW, SFD, UNDP and the WB.

Some examples of regional and international efforts in the area of EPE and training are:

- The Arab Centre for Human Resources Development (ACHRD) in Tripoli, Libya, analyses needs, identifies the basic competences of entrepreneurs and is designed as an entrepreneurial training programme. The programme is available free of charge on the Internet and on CD-ROM. The training materials are currently converted into an interactive programme. The centre plans to introduce an initiative to train trainers for the programme and is considering a system to license them. The programme addresses four target groups (as indicated in Section 4.5.2).
- The International Labour Organization (ILO) is implementing its KAB programme in Algeria, Egypt, Morocco and Tunisia with the financial support of CIDA (further details can be found in Section 4.5.1).
- The joint UNIDO and Kingdom of Bahrain Arab Regional Centre for Employers and Investors Training (ARCEIT) in Bahrain. ARCEIT

was established in February 2001, following an earlier model (the Indian Regional Centre (IRC)). Responsibilities of the centre include increasing the number of entrepreneurs through educational, training and consultation programmes, as well as creating and disseminating the entrepreneurial spirit among youth in the Arab Region. Selecting trainees for the programmes follows a scientific approach and focuses on interviews, written tests and assessing the commitment of the applicant.

- The UNIDO Investment and Technology Promotion Network (ITPN) in the Arab States includes Bahrain (Manama), Egypt (Cairo), Jordan (Amman) and Morocco (Rabat) (and internationally Belgium (Walloon Region), China (Beijing and Shanghai), France (Paris), Greece (Athens), Italy (Milan/Bologna), Japan (Tokyo), Korea (Seoul), Poland (Warsaw), the Russian Federation (Moscow) and the United Kingdom (North-West region)). EPE is one of the areas handled by the ITPN.

4.5 Examples of EPE in Egypt

Three selected EPE practices in Egypt are mentioned below. The initiatives were chosen to demonstrate the diversity of existing practices. One project is about broadening the scope of the utilization of an entrepreneurial training programme, a second attempts to create free-of-charge, interactive learning materials on the Internet and the third is a policy level project that is being implemented in sixteen countries in South-Eastern Europe, North Africa and the Middle East.

4.5.1 ILO/CIDA KAB initiative

The ILO's KAB programme can be classified, as is reflected in its name, as an introductory programme that addresses all learners and aims to raise their awareness about entrepreneurship. The programme is one in a series that also includes the Start Your Business (SYB) and Start and Improve Your Business (SIYB) programmes (ILO, 2009). KAB consists of nine educational units and contains a trainer's guide, as well as the necessary learning materials for students, including worksheets. The package also includes a trainee's workbook and a business game. Several Memoranda of Understanding (MOU) were signed between the ILO and education/training providers in Egypt, which authorize six-month to two-year co-operation arrangements in applying KAB, including

the training of teachers, customizing the programme to local conditions and pilot implementation. The Ministries of Education and Higher Education, Trade and Industry, Manpower and Migration are among those benefiting from the programme. CIDA is financing this stage of the pilot implementation in Egypt, as well as in Algeria, Morocco and Tunisia.

4.5.2 ACHRD interactive learning materials

The Arab Centre for Human Resources Development (ACHRD) of the Arab Labour Organization (ALO) formulated this project, which has been adopted by the Arab Labour Conference as a priority for the Arab Region. The project started with reviewing available entrepreneurial materials and conducting an in-depth analysis of the competencies required to become an entrepreneur. A team of experts studied these competencies and divided them into four main stages as they relate to an enterprise, namely:

- Knowledge of the world of work and SMEs;
- Establishing an SME;
- Managing an SME;
- Developing an SME.

The competencies relevant for each stage were then translated into a training programme. Learning materials were developed, piloted and amended. The final beta version of the materials has been widely distributed at the Arab Labour Conference and was made available free of charge on the Internet, as well as on CD-ROM for those without regular Internet access. To promote wider use, the programme is, at present, being transformed into an interactive programme. Qualifying and certifying the trainers is planned as the next step of the project. Several Arab countries have already signed agreements with the ACHRD to implement the programme and customize the materials to their needs.

4.5.3 European Commission/ETF

Sixteen countries in South-Eastern Europe, North Africa and the Middle East have expressed interest in increasing opportunities for lifelong entrepreneurial learning as part of their commitment to the European Union Enterprise Charter. Together with the European Commission and other partners, the European Training Foundation (ETF) has been working since 2006 on a policy index that is designed to help countries meet the specific challenges of promoting an enterprise culture.

The project has three main elements. Firstly, it encourages the building of policy-making partnerships in Serbia and Lebanon. According to the charter's policy index, engaging all relevant stakeholders in designing policy is essential for developing lifelong entrepreneurial learning. Secondly, the project uses the policy index to help businesses better understand and articulate their training needs. This activity concentrates on Syria, but the resulting know-how will be shared with two neighbouring partner countries. Thirdly, the project is piloting a set of indicators for measuring how well universities are doing at delivering entrepreneurial learning in all disciplines and at generally promoting the spirit of entrepreneurship. This activity is also used as a way of promoting structured dialogue between Ministries of Education and the business sector.

4.6 Conclusions and recommendations

This section of the report draws on many of the recommendations in the reports to be found in the list of references at the end of the chapter. Based on the aforementioned analysis, the following set of directed recommendations is presented for the national, regional and international levels. A broader agenda of what could be done in this area can be found in "The Oslo Agenda for Entrepreneurship Education", which was prepared with input from thirty-three countries in 2006 (European Commission, 2006).

4.6.1 At the national level

Three sub-sets of recommendations are presented here, which focus on main areas of concern, namely the national education system, the need for a comprehensive national entrepreneurial education strategy and women's entrepreneurship.

The national education system: It is crucial that reforms will be undertaken in the education system to enable it to become a main driving force in the development of entrepreneurship. This will involve:

- Restructuring the education system to foster creativity and independent thinking (reviewing the curriculum at the elementary and secondary levels, introducing entrepreneurship materials into more schools and classes, integrating entrepreneurship classes in TVET programmes/courses, introducing entrepreneurship as a major in universities, encouraging a career advisory);

- Introducing management skills modules in secondary schools, vocational institutions and universities (non-degree programmes to enhance skills for starting up and expanding a business, enlarging offers of flexible entrepreneurship orientation, supporting qualified NGOs and business associations throughout the country);
- Raising awareness that an entrepreneurial mindset needs to be developed as a key competence, particularly at all compulsory education levels (Hattab, 2008).

Development of a comprehensive entrepreneurial education strategy: Formulating a comprehensive entrepreneurship policy and framework for action to serve as a cross-government roadmap enables the refinement and development of complementary policies, measures and actions to foster entrepreneurship as part of the economic growth agenda. The strategy should include (but is not be limited to):

- A regular and reliable monitoring system on enterprise training;
- Investing in developing entrepreneurial attributes that specifically target the development of young entrepreneurs; and
- Promoting entrepreneurial attitudes (such as creativity, autonomy and risk-taking) and specific entrepreneurial skills (such as bookkeeping and business planning).

Women's entrepreneurship:

- Launching cultural-awareness campaigns to address the social and cultural impediments facing women who would like to play a more active role in economic activity by starting their own business;
- Ensuring emphasis on gender-specific data collection and analysis in all economic areas, with a focus on start-ups and related fields.

4.6.2 At the regional level (Arab States)

Given the presence of the UNEVOC Network in the Arab States, active involvement of the ALO and ACHRD, and the interest of several regional bodies in the area of EPE in training, better co-ordination and information dissemination would enhance the impact of existing efforts. This should include:

- Establishing an information and/or co-ordination centre to institutionalize co-operation;
- Upgrading and utilizing current websites to present data and main outputs transparently for wider dissemination and better visibility of efforts;

- Formulating a high-level consultation mechanism that meets on a regular basis to direct co-operation efforts.

4.6.3 At the international level

Current efforts supporting Egypt in the area of entrepreneurship in general and EPE and training in particular may join hands to promote strategic planning and the formulation of a vision to guide further promotion of SMEs. Currently, various international partners play a great role in supporting specific entrepreneurial efforts. As an international initiative to promote co-ordination, exchange of information and transparency, these initiatives would greatly enhance effectiveness.

This current case study report agrees with recent reports, such as the GEM (Hattab, 2008) and the European Commission/OECD/ETF (2008) report that a lot is going on in promoting and supporting entrepreneurship and EPE and training at the implementation level in Egypt, while the policy/strategy level is not yet well devised. If the UNESCO/StratREAL project focuses on assistance at the policy/strategy level, it can optimize its impact and pave the way for further co-ordination and co-operation. This new initiative (for which this report is prepared) is well suited to lead such an important effort.

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5. Regional Synthesis Report

by Munther Masri

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5.1 Introduction

The background for this regional synthesis report, as well as the case studies that preceded it, is a partnership agreement between UNESCO and the StratREAL Foundation to co-operate in a project on the Arab States in the field of “entrepreneurship education” (EPE). The project consists of two components. The first component comprised the assessment of the status of EPE in some Arab countries through the development of four case studies covering Jordan, Tunisia, Oman and Egypt. These case studies helped to identify and assess the relevant national experiences and would support future efforts that are hoped to be directed towards the incorporation of EPE into Arab education systems. The first component is concluded with this synthesis report, which takes into consideration the findings and national experiences of the four case studies, identifies variations and common approaches, draws conclusions and highlights needs and priorities.

The project is considered as a regional input to a UNESCO initiative to support EPE in formal education systems which started in 2008.

The overall objective of the project is to support the integration of EPE in educational policies, systems, programmes and practices in the Arab States. It is expected that such integration will have an impact at the individual, enterprise and national levels:

- At the individual level, EPE enhances life-skills, widens experiences and prepares for the world of work. Consequently, EPE helps to promote higher income through income-generating activities, higher standards of living and satisfaction, and a sense of achievement.
- At the enterprise level, EPE is expected to support innovation, higher productivity, an enhanced level of competitiveness and a better work environment.

- At the national level, EPE can assist in obtaining higher economic growth and enhance the trend towards self-employment, leading to a reduction in unemployment, especially among young people.

The target audience for this report includes all those who are involved in education, within and outside it, and at all levels and variations of the education system. In particular, teachers and school administrators are responsible for the implementation dimension, while central authorities, whether at the ministerial or regional level, are mainly responsible for overall policies, legislation and co-ordination. In centralized education systems, as is the case in the majority of Arab countries, such central authorities are also primarily responsible for financing, curricula and teacher education.

5.1.1 Methodology

The methodology adopted for the preparation of this synthesis report included the following elements:

- A desk review of the four case studies related to Jordan, Tunisia, Oman and Egypt, as well as available information about the experiences of other Arab countries.
- Assessment of information on specific relevant initiatives and programmes that have so far been undertaken at the national and international levels.
- Discussions with researchers and senior officials of the relevant agencies and stakeholders.
- Discussions at two workshops (August and December 2009) with the research team who prepared the case studies and the co-ordination support team from UNESCO (Annex 1), as well as their comments and inputs during the preparation of the report.

5.2 Concepts and frameworks

Entrepreneurship education is very broadly defined and has economic, social and cultural dimensions. Many definitions exist for EPE, some of which emphasize the general higher mental skills that target the individual, such as innovation, initiative, problem-solving, etc., while others highlight preparation for the world of work and lay emphasis on employability skills.

In 2002, the European Commission adopted the following definition of EPE: “Entrepreneurship is a dynamic and social process where individuals, alone or in collaboration, identify opportunities for innovation and act upon these by transforming ideas into practical and targeted activities, whether in a social, cultural or economic context” (European Commission, 2010).

In 2006, UNESCO and ILO issued a joint publication entitled *Towards an entrepreneurial culture for the twenty-first century*. In this publication, EPE is defined as follows: “Entrepreneurship education is conceived in a broad sense as a pedagogic approach to fostering self-esteem and self-confidence by stimulating and nurturing the talents and creativity of the individual, while building the relevant skills and values that will assist learners in expanding their perspectives on schooling and opportunities beyond. Methodologies are based on the use of personal, behavioural, motivational, attitudinal and career planning activities” (UNESCO/ILO, 2006).

The scope of EPE in general, and the areas that permeate and are permeated by EPE, are varied and can comprise all aspects and dimensions of the education system, including the relevant inputs, processes and implementation practices (with varying degrees and approaches) in all educational disciplines and at all levels in formal and non-formal systems. At the macro level (central and regional), it encompasses inputs such as legislation, financing and governance. In centralized systems, as is the case in the majority of Arab States, it also comprises curricula, teacher education and the roles of the different stakeholders in the public and private sectors. At the micro or school level, it includes inputs such as teaching and learning methodologies, testing and certification, out-of-class and out-of-school activities, school administration, staff development and local community involvement.

The scope of the four case studies, and hence this synthesis report, was restricted to formal primary and secondary education, including technical and vocational education, as well as teacher education and training. It thus excludes non-formal education, pre-school and higher education, except in as much as they encompass cross-cutting issues with the adopted scope.

The following dimensions and inputs of education systems will be dealt with in this report:

- Policy, legislation and governance at the national level;

- Basic and secondary education, including technical and vocational education;
- Curriculum and assessment tools;
- Teacher education and training;
- Financing;
- Private sector and NGO involvement;
- Interaction with regional and international experiences.

Each one of these dimensions and inputs will be explored inasmuch as it explicitly or implicitly caters to EPE, with reference to national experiences wherever appropriate. Entrepreneurship education can, to varying degrees, be influenced by two kinds of factors.

5.2.1 Personal factors

One way to view the personal factors that impact upon an individual's entrepreneurship competencies is to classify them into three complementary categories that an education system can foster and take into consideration in the formulation of policies and relevant implementation practices. These categories are:

- *Professional (job-related) skills and competences*: These competences mainly include the requirements for the trade an individual is being prepared for, including relevant general and specialized knowledge, applied and practical skills, and the necessary attitudes, including, for example, in the areas of IT, occupational health and safety, teamwork, self-discipline and time-and-work management. They also comprise preparation for employment and the world of work, including self-employment and the establishment of micro, small and medium enterprises.
- *Communication skills and competences*: This category includes teamwork, work ethics, the ability to adapt to a work environment, as well as the skills needed to develop proper relationships with employers, employees, peers, colleagues and customers.
- *Developmental and higher mental skills*: This category comprises such soft skills as critical-thinking, problem-solving, innovation, initiative, creativity, calculated risk-taking, etc.

Needless to say, EPE is associated mostly with the higher mental and communication skills, while its effects impact on all professional skills. EPE is thus mostly concerned with the enhancement of attitudes and mindsets that foster relevant higher mental and communication skills.

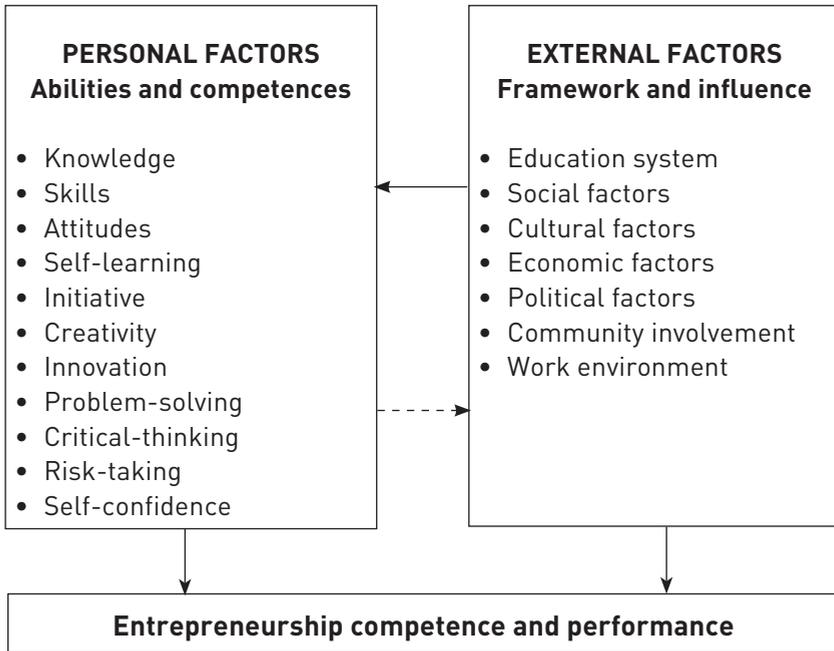
5.2.2 External factors

These factors include, to varying degrees and with different effects, the education system as well as the social, cultural, economic and political conditions that characterize and prevail in a society. They also include the work environment and community involvement. As expected, these external factors can strengthen or weaken efforts to enhance the personal factors referred to above.

Among all the external factors, the education system is the one that can most easily be designed and managed to systematically support entrepreneurship competences and performance through appropriate approaches and structures. In the Arab countries, the social, economic and political areas include weaknesses, such as specific social taboos, and economic adversity or deficiencies in the political environment. These impose limitations on individual efforts to develop entrepreneurship competences because they distract at least part of the effort away from the core goals of EPE. Community involvement through clubs, political parties, philanthropic societies, etc., can be a good channel for general entrepreneurship efforts and activities, although such involvement is often limited in its effect by the aforementioned social, economic and political factors. This also applies to a great extent to work environments and practices where entrepreneurship competences and performance are needed most to enhance productivity, competitiveness and satisfaction.

Figure 1 is a diagram of the personal and external factors that influence entrepreneurship competence and performance.

Figure 1: The personal and external factors that influence entrepreneurship competence and performance.



As indicated in the figure, external factors have an important influence on personal factors. Personal factors, on the other hand, are not expected to have such an influence on external factors, except possibly at work, unless an entrepreneurship culture becomes the norm at the society level and is no longer the exception.

5.3 Policy, legislation and governance

Policies, legislation tools and governance systems can be important instruments to establish a framework that supports EPE in education systems. The general objectives of education, which are usually spelled out through such means, can be targeted to have clear references to skills and competences that enhance the entrepreneurial spirit, mindset and abilities of the learner, and that need to permeate the education system. It is not unusual for policies, legislation tools and governance systems to refer explicitly to the need to develop the various aspects of the learner’s personality, including physical, mental, emotional and social components, many of which, if well reflected in the design and practices of the education system, can enhance the entrepreneurial spirit of the learner.

Governance systems that incorporate relevant management and administrative structures, approaches and practices can be particularly important to support EPE at the different levels, including the central (i.e. ministry), the regional (i.e. field directorates) and the school level. The school administration can play a major role, particularly if school empowerment is given high priority and schools are enabled to take initiative and undertake innovations that facilitate the integration of EPE in the teaching and learning process.

Nevertheless, and despite all that might already be incorporated in existing policies, in legislation and in governance systems that directly or indirectly support EPE, there is a need to develop a special strategy that explicitly targets entrepreneurship as a comprehensive and cross-cutting approach permeating all aspects of the education system, as mentioned earlier.

Box 1: Examples of references to EPE policies and legislative tools in some Arab countries.

- In Jordan, Article 4 of the Education Act (1994) defines the objectives of education which are, among other issues, to shape citizens who are endowed with human virtues and ideals and who can develop the various aspects of their personality: physical, mental, spiritual, emotional and social. Learners shall be able to acquire a wide spectrum of factual knowledge, applied skills and positive attitudes.
- In Tunisia, Article 57 of the Education Act (2002) states that schools must provide students with “entrepreneurial skills”, which include developing a spirit of creativity and goal-oriented project planning, implementation and assessment. These skills shall be acquired through individual and group activities in all courses, as well as in school activities.
- In Oman, the Strategy of Education (2006–2020) was developed jointly by the Ministry of Education and the Ministry of Higher Education. It states that the new approach to education should meet international standards and ensure that all Omanis have the necessary skills and competencies for life and for the workforce. Lifelong learning is a priority.

- In Egypt, Law 141 (2004) entrusts the Social Fund for Development (SFD) with the overall management of promoting small and micro project creation and development, including training. The SFD established a database on entrepreneurial training providers and co-operating NGOs. According to joint SFD/NGO agreements, some partners already started developing an entrepreneurial education programme for university-level students.

5.4 Basic education

Basic education, which is usually compulsory, lasts for nine or ten years in many Arab countries and caters for the age groups 6 to 15 or 6 to 16. This can be considered the best vehicle to incorporate a strong EPE component containing a wide spectrum of relevant skills and attitudes. This is so because basic education caters for all, or at least the great majority, of citizens (the participation rates in basic compulsory education are very high, approaching 100% in many Arab countries, although this is not usually the case for (upper) secondary and higher education).

In addition, it is usually not specialized and incorporates most, if not all, of the disciplines that may contain the necessary EPE skills. This includes the humanities, the social sciences, pure and natural sciences, physical education, arts education and computer science, as well as music education and pre-vocational and technological education. The various competences that support entrepreneurship (including knowledge, skills and attitudes) can, to varying degrees, be incorporated into the different disciplines. The humanities and social sciences can, for example, emphasize analytical skills, open-mindedness and self-confidence. Computer science can highlight independent learning skills, initiative and creativity. Furthermore, the pure and applied sciences can foster the skills of critical thinking and problem-solving, while pre-vocational and technological education can incorporate preparation for the world of work, learning through practical experiences and calculated risk-taking.

5.5 Secondary education

Secondary education in Arab countries is not compulsory and usually consists of academic and vocational streams. It lasts for two or three years, and covers the age groups 15 to 18 or 16 to 18. The age groups catered for, together with noticeable variations in the content and objectives of the different streams, need to be taken into consideration in any plans and efforts to incorporate EPE into secondary education.

As in the case of basic education, different degrees, approaches and dimensions of EPE can be incorporated into the various streams and disciplines of secondary education. The following are the main features that characterize EPE in secondary education:

- The basic concepts and theories of entrepreneurship can be catered for in greater depth at this educational level.
- Higher standards for out-of-class and out-of-school activities, as well as for involvement in community work, can be set and fit well into the programmes if well planned and implemented.
- Due to its academic and vocational tracks, secondary education potentially lends itself to cater for individual differences, which is one of the basic characteristics of EPE, especially if the educational track is chosen freely by the learner with the help of knowledgeable career guidance and counsellors.
- Learners at this stage are expected to be able to undertake high-level and high-quality initiatives, creative activities and work in teams, as well as demonstrating independence and self-confidence. This can be supported through the establishment of student clubs, committees, unions, forums, etc., as well through encouraging the development of hobbies and linkages with enterprises.

5.5.1 Secondary academic education

Academic streams in secondary education usually comprise several options in the literary and scientific fields. Because of their predominantly academic nature, EPE can best be taken care of in these streams through an emphasis on out-of-class and out-of-school activities that include strong links with enterprises and the community at large through productive services and projects. Knowledge of the characteristics of the world of work and the criteria for the establishment of enterprises, as well as the ethics and economics of working life can be major components of EPE competences here.

5.5.2 Secondary vocational education

Vocational education in many of the Arab countries is run according to two main systems: the formal school system, where most, if not all, practical applications are implemented in school workshops, and the dual (co-operative) system where the practical component takes place both at the school and at the workplace or exclusively at the workplace in co-operation with employers according to the apprenticeship system. As expected, vocational education at secondary level, which aims to prepare skilled workers and craftspeople, lends itself well to including EPE skills and competences that are mainly related to employability, self-employment and the establishment of new enterprises. If well planned, the co-operative system has the extra advantage of exposing trainees to both the school and the workplace environment.

5.6 Curricula, textbooks and assessment tools

Curricula, textbooks and assessment systems have important roles in integrating EPE concepts and competences into the education system. For this purpose, curricula and textbooks should be results and outcomes based, of multi-media nature, student centred and supportive of independent learning. Assessment tools, whether school-based or national tests and examinations, should be designed to enhance the learner's competences in such skills as critical-thinking, problem-solving and analysis. It is well known that the nature and content of tests and examinations greatly influences what is taught and how it is taught. Furthermore, the proper utilization of ICT resources and tools in this context will enhance such EPE skills as autonomous learning, creativity and self-assessment, as well as exposure to different sources of knowledge.

5.7 Teacher education and training

Teaching and learning methodologies are crucial approaches to incorporate EPE skills and competences in the education system, as are curricula, textbooks and assessment tools. Through the appropriate teaching methodologies and assessment techniques, the teacher can be an influential source for EPE. Almost all skills and competences that enhance the learner's entrepreneurship knowledge, skills and attitudes can be targeted and developed through the utilization of adequate teaching methods. All of this highlights the importance of teacher education and training, both pre-service and in-service, to enable

him or her to impart entrepreneurship skills and thus to be an active player in EPE. It goes without saying that the need for proper training of teachers applies to all those involved in the teaching profession, including school principals, administrative and managerial staff, as well as directorial staff at the central and regional levels. Teacher pre-service training programmes, which are usually undertaken by higher institutes and colleges of education, must be well staffed and equipped to impart the necessary knowledge, skills and attitudes to the teachers. This applies also to in-service training programmes.

5.8 Financing

The importance of practical skills and applied activities that accompany any successful effort to support EPE in the education system requires the availability of funds, irrespective of the source of financing. Funding policies and practices are of special importance in most Arab countries where the education systems are centralized with limited authority for schools to spend money. The nature of students' efforts and experiences that support EPE through out-of-class and out-of-school activities require the direct or indirect participation of external stakeholders to meet some of the costs involved. Such stakeholders include enterprises, NGOs, special funds and even individuals. Income-generating activities in schools can serve two purposes in this regard: Firstly, they secure some funds for the school to support its efforts to implement EPE and, secondly, income-generating projects provide good opportunities for the students to gain some fundamental knowledge about entrepreneurship, enhance entrepreneurship skills such as innovation, self-employment, teamwork and labour market skills, in addition to such employability skills as project budgeting, ensuring the quality of products, marketing, etc.

Reward systems and special funds can be a practical approach and a source of funding for EPE activities. The effectiveness of such sources of funding can be maximized through the following:

- Securing the sustainability of such funding sources to ensure the long-term impact.
- Involving external stakeholders such as enterprises, NGOs and even individuals, thus adding exposure to the community and the world of work.
- Developing relevant and clear criteria for funding EPE projects and activities and applying these criteria in the funding decisions.

- Setting up a monitoring and evaluation system for the follow-up and assessment of the outcomes and, eventually, the impact of the funded projects and activities.
- Encouraging joint projects through co-operation between schools in the design and implementation stages.

5.9 Community involvement

Any EPE strategy or action plan can only have credibility and relevance if active community involvement is secured through different types and degrees of participation, although efforts and initiatives to incorporate EPE in education systems are understandably expected to be initiated and adopted by education ministries and related institutions. Community involvement, including the private sector and NGOs, can either be secured by inviting them to be active players and undertake activities that incorporate EPE skills and competences, both in formal and non-formal education, or by the community catering for some of the schools' special needs. This can include providing facilities or services. As expected, some of the efforts and initiatives undertaken by the private sector and NGOs will help to support innovations, entrepreneurship and linkages with the world of work at the school level, whether through the school administration, the teaching profession, the student body or any combination of these. Examples of types of relationships between the education system/school on the one hand and external stakeholders on the other hand include:

- Twinning arrangements whereby the school has a special, long-term relationship with an enterprise or NGO, thus benefiting from a variety of services and facilities, preferably according to agreed-upon plans.
- Sponsorship arrangements according to which an external stakeholder sponsors a certain activity or service in a school. This can include sports, music, projects, etc.
- Secondment of teachers and/or students to enterprises or NGOs, thus helping to extend their experiences and secure exposure to the world of work.
- Field studies where students are entrusted with undertaking studies and research regarding specific community issues, e.g. related to gender, unemployment, services for individuals with special needs, political issues, etc.
- Participation of teachers and/or students in the various training programmes of institutions, enterprises and agencies.

5.10 EPE and gender issues

In principle, and taking into consideration the concept and objectives of EPE as well as the personal factors that influence entrepreneurship competences that were referred to earlier, the gender issue does not or should not need special consideration since it is already assimilated in such concepts, objectives and personal factors. Nevertheless, the external factors that influence the outcomes and impact of EPE, especially the social, economic, work environment and employment factors, can either support or impede plans and efforts to utilize EPE in actual life situations that include employment and the world of work in general. Consequently, the factors that concern gender issues and influence EPE can be divided into two major groups.

5.10.1 *Gender-supportive factors*

These factors tend to help women/girls benefit from EPE on the same footing as men/boys. They include:

- a) The quantitative aspects of education: participation rates. This factor represents the quantitative dimension of gender issues in the education system. In many Arab countries, including those that were examined in the EPE case studies, the rate of participation of females in education is roughly equal to that of males at all educational levels, and sometimes exceeds that of males. This creates a situation where as many female as male citizens are exposed to EPE activities and efforts.
- b) EPE objectives and content. The nature of EPE objectives and content lends itself to inherently providing competences and skills equally to all learners, while at the same time taking into account individual differences.
- c) Policies and legislation. As in other parts of the world, policy and legislation in Arab countries pay service (although sometimes merely lip-service) to gender equity in the different aspects of life, including education and work. This provides the necessary framework to deal with any negative aspects of gender issues in EPE. As expected, it is, in the end, up to the practices and implementation efforts to effectively translate such policies and legislation.

5.10.2 *Gender-impeding factors*

These factors tend to reduce the possibility of realizing gender equity in education, including in EPE. They include:

- *The qualitative aspects of education.* The optimism about gender equity in the quantitative aspects of education as represented in the participation rates is not reflected to the same extent in the qualitative aspects due to weaknesses and shortcomings, such as the image of women in textbooks and the under-representation of women in leadership and decision-making positions in the education system, both at the central and regional levels—despite the abundance of female teachers and school principals. This is in addition to the self-imposed restrictions in response to social influences and factors affecting males and females that impede females, as referred to earlier.
- *Employment.* The noticeable progress in the rate of participation of girls/women in the various educational cycles is not matched by similar participation in the labour market, especially in the private sector. In addition, and despite some progress regarding the employment of women, the unemployment rate among them is usually around double that of males in most Arab countries.

This situation stands in the way of one of the most important objectives of EPE, namely that of (self-) employment and the labour market.

5.11 Regional and international dimensions

A regional approach to many of the general issues related to EPE can easily be justified for the Arab States for many reasons, including:

- The nature and general content of the topic of entrepreneurship in general and EPE in particular is not expected to comprise major controversial issues. Special needs and issues at the national level, such as the sources of financing, the roles of different stakeholders, etc., can be taken care of through action plans at the implementation level.
- The great similarities in the general structure of the education systems in the Arab countries, as well as the common cultural background, including a common language, would greatly support regional efforts in this respect.
- The existing presence of regional organizations concerned with education and the labour market can secure credible ownership and fuel the initiation of a regional approach. The Arab League Educational, Cultural and Scientific Organization (ALECSO) could be at the forefront

of such a movement. Other relevant organizations include the Union of Arab Universities, the Arab Union for Technician Education and the Arab Labour Organization (ALO).

- Regional as well as international approaches to EPE, such as those initiated by the European Commission, UNESCO, ILO, etc., testify to the feasibility of a regional approach for the Arab countries.
- The project on “Entrepreneurship Education in the Arab States”, which is implemented jointly by the UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training–Bonn and the UNESCO Regional Bureau for Education in the Arab States–Beirut, and of which this regional synthesis report and the preceding four case studies constitute the first component, is obviously taking a regional, although limited, approach to EPE in the Arab countries.

5.12 Sharing EPE experiences

In addition to the four case studies presented here on Egypt, Jordan, Oman and Tunisia, UNESCO sent survey tables in Arabic and English to the National Commissions for UNESCO and UNEVOC Centres in the Arab region informing them about the launch of the project (June 2009) and asking them to complete the survey tables on existing EPE projects and initiatives in their country/cluster during 2005–2009. The survey tables requested information on the project type, period, level of education (basic, secondary, TVET, higher education), budget, implementing authority, source of funding, and a brief description of objectives and expected outcomes. During July–December 2009, UNESCO received sets of tables and short reports highlighting national efforts on EPE from various Arab countries.

5.12.1 Bahrain

EPE is mainly linked to curriculum reform in vocational and technical education (commercial and industrial education), the training of teachers, and involving students in project formulation related to business and industry. Most of the projects are implemented in co-operation with UN agencies (i.e. UNESCO, UNIDO) and the Japanese International Co-operation Agency (JICA). The Directorate of Technical and Vocational Education and the Directorate of Curricula at the Ministry of Education are the implementing institutions responsible for these projects. The budget for each project varies from \$7,000–\$14,000. Examples are:

- Preparation of a curriculum and textbook for small business creation in commercial education courses (2005);
- A vocational and career guidance programme for industrial secondary education (2007);
- E-learning and simulation for teachers and instructors (2007);
- An International Quantitative Linguistics Association (IQLA) initiative for secondary education students, in co-operation with business and industry associations (2009);
- INJAZ Bahrain, a member of the worldwide Junior Achievement organization, was established to provide young people with a business and economic education so they will have the knowledge, skills, tools and hands-on experience they need when seeking employment. The programme supports bridging the gap between education and the workplace;
- The Young Arab Leaders (YAL) programme is providing unique opportunities for young entrepreneurs in Bahrain. The programme was established in February 2004, as an independent Pan-Arab organization. The Bahrain YAL chapter and INJAZ are usually co-operating in providing students and youth with learning opportunities related to business and industry.

Students will acquire a set of competencies as a result of participating in such experiences. For instance, they will:

- Learn about the economy, competition, banking and businesses in general;
- Develop skills in leadership, communication, planning and teamwork;
- Become aware of labour-market demands and employment opportunities;
- Learn how to write a CV, acquire interview techniques and improve personal presentation;
- Gain enthusiasm and self-confidence, and develop a vision for their future career.

5.12.2 Lebanon

The UNESCO Regional Bureau for Education in the Arab States–Beirut, in co-operation with the ILO Regional Bureau–Beirut and the Centre for Educational Research and Development (CRDP)–Lebanon, organized a National Seminar on the Promotion of Entrepreneurship Education (EPE) in Lebanon (November

2009). The participants at the seminar discussed mechanisms of co-operation between international organizations, government authorities and NGOs in Lebanon. Examples presented at the seminar were:

- The UNESCO regional project on EPE in the Arab States (2009–2012) and the UNESCO modules on “Starting My Own Small Business” (which were developed in 2008);
- The ILO’s Know About Business (KAB) programme;
- The Skills for Employability project, which was initiated by the British Council in Lebanon;
- INJAZ Lebanon activities in schools and universities. A task-force was formulated to investigate the options of developing joint projects during the next five years (2010–2015) in areas related to developing EPE in Lebanon. The identified areas are: policy, curriculum development, training of teachers and instructors, facilities and equipment, and networking.
- The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) implemented a programme in Lebanon to help small and medium-sized enterprises (SMEs) face the challenges that arose from the civil war and the increased competition in today’s globalized economy. The programme supports innovation in legislation, vocational teacher-training institutions, promotes business development services and trains experts and middle managers to meet the demands of the labour market. So far, it has been successful in developing a demand-oriented TVET system. SMEs have access to qualified experts thanks to the use of modern teaching methods and the efficient design of co-operative (dual) initial TVET, training for master craftsmen and business-oriented short-term training. Teachers receive modern in-service training in specialized and didactic methods.

5.12.3 Morocco

Recent approaches to introducing teaching and learning experiences in the education system of Morocco that relate to business and industry have the following main objectives:

- Expanding and diversifying employment opportunities outside the public sector;
- Promoting the development of the local and regional economies;
- Providing opportunities for innovation and entrepreneurship;
- Enhancing management styles according to international standards;

- Developing local economic competition with emphasis on quality and market economies.

EPE in the education and training system of Morocco takes place in the following ways:

- Extra-curricular activities and projects in lower secondary education;
- Teaching and learning materials and units in upper-secondary education;
- Specialized courses in technical education and engineering programmes;
- Lifelong learning topics in several training programmes offered by NGOs, business and industry for integrating youth and education system graduates into the labour market.

(The information was provided by the director of the École normale supérieure de l'enseignement technique –ENSET, Rabat)

5.12.4 Palestinian Authority

The Ministry of Education and Higher Education, Ministry of Labour and the UNESCO Office in Ramallah have co-operated in the implementation of several projects related to the Palestinian education and training system. They include:

- Vocational awareness in schools and TVET centres, in co-operation with GTZ;
- A school-to-work programme and career/vocational guidance in basic education, in co-operation with USAID and Save the Children;
- The KAB programme in industrial vocational training centres (VTCs), secondary schools, technical colleges, and community colleges, in co-operation with ILO and UNDP;
- A vocational graduates tracking system at the Ministry of Education and Higher Education (MOEHE), in cooperation with UNESCO.

5.12.5 Sudan

The President of the Technical Education Corporation/Ministry of Higher Education and Scientific Research summarizes EPE initiatives and projects in Sudan as follows:

- The “Transformation Training Project of Graduates in Higher Education” (2007), with a budget of US\$250,000, which promotes self-employment and income generation through EPE courses and programmes;
- The “Agriculture and Animal Production Project” (2006), implemented by the Ministry of Labour, with financing from government banks and funds (Saving Banks Fund);

- Carpentry and cabinet-making workshops for vocational training graduates, funded by the Saving Banks Fund and Graduate's Employment Project.

5.12.6 Syria

The Ministry of Education/Directorate of Technical and Vocational Education, in co-operation with business and industry associations, is taking the lead in the implementation of EPE teaching and learning experiences within the education and training system of Syria. The activities include the following:

- A business-awareness programme for youth (entrepreneurial culture and career-oriented education);
- The KAB programme, in co-operation with the ILO Regional Office in Beirut;
- The "Starting My Own Small Business" modules (UNESCO), in co-operation with the UNESCO Regional Bureau-Beirut.

5.13 Regional and international co-operation

The on-going regional and international programmes and initiatives on EPE in the Arab region include the following:

5.13.1 Small and Medium Enterprises CD-ROM (ALO/ACHRD)

The Arab Labour Organization (ALO) and the Arab Centre for Human Resources Development (ACHRD)-Tripoli developed an active learning CD-ROM on "Small and Medium Enterprises" (2005), which targets technical and vocational education and training (TVET) programmes in the Arab region. The programme is comprised of nine training modules on the initiation and management of small and medium enterprises. ACHRD-Tripoli disseminated the CD-ROM to ministries of labour and vocational training corporations in order to enhance new skills in the job market, mainly for instructors and teachers in TVET programmes and specializations.

Several business and industry associations also approached ACHRD regarding the use of the CD-ROM in training programmes. More information on the CD-ROM and the training modules can be found at the ACHRD-Tripoli website: www.achrd.com.

5.13.2 Know About Business Programme (ILO)

The nine modules of KAB are implemented in more than thirty countries worldwide. The ILO Regional Office–Beirut is providing technical support for nine Arab countries for the use of these modules in TVET programmes. The implementation usually targets teachers and instructors and is applied in three stages: (a) orientation and preparation for the programme; (b) piloting of the modules; and (c) incorporating the modules into the curricula. More information on KAB can be found on the ILO website: www.ilo.org/seed.

5.13.3 Starting My Own Small Business (UNESCO)

The four modules of “Starting My Own Small Business”, developed by UNESCO, were adapted and translated into Arabic in 2008. The materials target teachers and students at the secondary level (formal and non-formal education). They were disseminated to UNEVOC Centres in the Arab region to promote the development of curricula and teaching/learning practices in the region. The link to the materials in Arabic, English and French can be found on the UNESCO website: www.unesco.org/en/tvet/toolkits-teaching-materials/.

5.13.4 Skills for Employability (British Council)

The global project “Skills for Employability” addresses the challenges of globalization and the demand for skills in a global economy. It aims at building strong relationships with industry and employers, governments and training providers across a number of regions. Several Arab countries are participating in the project through the British Councils in their country. The project focuses on three areas: policy dialogue; institutional partnership; and enterprise and technology challenges: www.britishcouncil.org/skillsforemployability.

5.13.5 INJAZ Al Arab

INJAZ Al-Arab is part of Junior Achievement International (JAI). It fosters linkages between education and the workplace, targeting youth and students (14–24 years old). The programme, which highlights personal and business economics, entrepreneurship, leadership and community service, is implemented in several Arab countries. Business leaders and experts visit schools and share their experiences for the orientation and guidance of the pupils. The website can be found at: www.INJAZalarab.org.

5.13.6 Aflatoun

Aimed at children between the ages of 6 and 14, Aflatoun is a programme that provides social and financial education. Children are taught saving, planning and budgeting, and they practice what they learn in real-life social and financial enterprises in their communities. In co-operation with a network of local partners, Aflatoun's programme is implemented in thirty-five countries, among them four in the Arab region (Egypt, Jordan, Palestinian Authority (West Bank and Gaza) and Sudan). Here, Aflatoun reaches about 19,000 children in sixty-three schools. The Egyptian Ministry of Education plans to expand the programme to the national scale and integrate it in all government schools. The Jordanian partner organization currently works on its own set of teaching materials adjusted to the cultural context of the region. In Sudan, the programme is still in its initial stages but will undergo expansion. To achieve this, a twinning arrangement with the Egyptian programme has been initiated. The programme is in a pilot phase in the Palestinian Territories. Four additional countries-Djibouti, Morocco, Tunisia and Yemen-are in a dialogue with Aflatoun to work out a partnership to implement the programme. The website address is: www.aflatoun.org/.

5.13.7 Small and Medium-sized Enterprise Promotion Programme

GTZ's "Small and Medium-sized Enterprise Promotion Programme" was conducted in Egypt between 2005 and 2008 to improve the competitiveness of SMEs in selected businesses and has also been implemented in Algeria. The programme advises the Ministry of SMEs and Artisans in Algeria on the formulation and the implementation of national promotion strategies. It is developing a demand- and market-oriented range of business development services together with the national SME promotion agency. The programme co-operates with private associations, chambers of commerce and industry, as well as with management consultancy firms and public promotion centres to implement these services. The programme is improving the range of financial services offered to SMEs by providing consulting on setting up a private financial institution especially geared towards the needs of SMEs. More information is available from: www.gtz.de/en/praxis/9695.htm.

5.14 The way forward

5.14.1 EPE strategy

It is not unusual to cite references to many of the components and skills that support EPE in Arab education systems. Such references are to be found in policies, legislative tools and objectives for the different educational cycles. Examples of such skills and competences include innovation, problem-solving, critical-thinking, lifelong learning, etc. In addition, education systems are usually explicit in emphasizing that education is a combination of knowledge, skills and attitudes, and aims to develop the personality of the learner in all its aspects: physically, mentally, emotionally and socially. Furthermore, there is no lack of direct references to the need for education systems to be compatible with development needs and labour-market requirements, thus involving the inclusion of employability skills and preparation for the world of work. All these are necessary but not sufficient conditions to have EPE securely rooted in the education systems. It is also crucial that a strategy is developed and adopted for this purpose.

It is therefore recommended that a special strategy that targets EPE as a comprehensive component in Arab education systems be developed and adopted with the intention of having entrepreneurship become a culture and a mindset in the education system and in society as a whole.

5.14.2 The regional dimension

The need to develop and adopt a strategy for EPE raises the question of whether such a strategy can be established for education systems on a regional level for the Arab countries, or whether individual national strategies are needed. In principle, an Arab regional strategy is a feasible proposition, first because of the topic and nature of such a strategy, which would hardly include any controversial issues and, secondly because of the great similarities among Arab education systems, not least regarding the cultural and linguistic dimensions. This should not, of course, downplay the importance of national efforts and action plans that address particular local issues and requirements. The agency that is most qualified to develop an Arab EPE strategy is the Arab League Educational, Cultural and Scientific Organization (ALECSO).

Furthermore, other regional organizations can assume useful roles in supporting EPE in the Arab countries through activities such as the development of training materials, capacity-building, supporting the exchange of experiences, and learning activities such as conferences, workshops, etc. In

addition to ALECSO, these organizations include the Arab Labour Organization (ALO), the Arab Centre for Human Resources Development (ACHRD), the Union of Arab Universities, and the Arab Union for Technician Education. The Islamic Organization for Education, Science and Culture, whose activities cover the Arab countries, can also have a useful role in this respect.

It is recommended that ALECSO take the initiative to develop a comprehensive Arab EPE strategy, taking into consideration relevant international experiences and encouraging all relevant regional organizations to be active partners in serving the objectives of EPE, and developing action plans and undertaking activities that would serve such objectives.

5.14.3 Curricula, textbooks and assessment tools

As expected, curricula, textbooks and assessment tools constitute some of the most important vehicles for the integration of EPE skills and competences in the education system. Assessment tools in particular, whether as utilized in textbooks or through school tests or national examinations, are of special importance in this regard.

It is recommended that any EPE strategy or work-plan should highlight the following dimensions in the national curricula, textbooks and assessment tools:

- Curricula, textbooks, teacher guides and assessment tools should equally emphasize the applied skills and attitude components and the relevant knowledge components.
- The quality of learning activities and tasks included in textbooks should be designed to be motivating, practice-oriented and assisting learners to be engaged in higher-order thinking.
- Curricula, textbooks and teacher guides should highlight approaches to the teaching and learning process that emphasize project work, teamwork, the use of different sources of knowledge, and the establishment of linkages with local enterprises and the community at large.
- Textbooks and teachers' guides should provide for individual differences. Teachers' guides in particular should show means to cater for such differences.
- Assessment tools, including school and national tests and examinations, should encourage learners to develop their analytical, critical-thinking, problem-solving and other soft skills. In addition, they should give the students an opportunity for self-assessment and reflection on their learning.

- The e-content in curricula, and the utilization of ICT resources and tools in general, should help to enrich and consolidate the different developmental and higher mental skills of the learners, including self-learning, self-assessment, initiative and creativity.

5.14.4 Teacher education and training

Teachers are the main implementation agents for EPE action plans and activities. Through the relevant classroom methodologies and the accompanying out-of-class and out-of-school activities (which are usually initiated, implanted and supervised by teachers), many EPE objectives, competences and skills can be achieved.

It is therefore recommended to incorporate EPE in both the pre-service education of teachers, as well as in their in-service training programmes. This requires that the agencies and institutions involved in the education and training of teachers be fully involved in and committed to any comprehensive approach or strategy for EPE in the education system.

The pre-service and in-service education and training of teachers should highlight the necessary EPE knowledge and skills. Examples include:

- EPE concepts and definitions;
- The influence of personal and external factors on the learner's acquisition of EPE competences and attitudes;
- International EPE models and experiences;
- The utilization of curriculum contents and assessment tools that incorporate EPE objectives, as well as the design of relevant experiences and projects, and the transmission of related skills.
- Assessment of out-of-class and out-of school activities and projects from the point of view of the degree to which they incorporate EPE competences and skills.

5.14.5 Studies and research work

EPE, as a comprehensive approach and strategy, is relatively new to the Arab region (it is also fairly new at the international level) and has yet to be acknowledged and absorbed by education systems. Consequently, various types of studies and research work are needed, both to support the evaluation and assessment of EPE, and to help educational practitioners understand the needs, objectives and approaches. Such research can also support efforts to develop strategies and action plans to integrate EPE in the different aspects of the education system.

It is therefore recommended to give special importance and pay particular attention to basic and field studies, as well as other research work on the various issues and components of EPE, including the influence of external factors, such as those related to the prevailing social, economic and political conditions in society. Such studies and research work can focus on national and/or regional efforts and conditions. Comparative studies can also be of special importance in this regard.

5.14.6 National stakeholders

The success of EPE depends upon the quality and relevance of involvement by the concerned national stakeholders, which include two groups:

1. Education and training providers in the public and private sectors at the various levels of responsibility, including ministries of education and higher education, field directorates of education and the concerned institutions that provide the education and training services.
2. Concerned stakeholders from outside the education system, especially enterprises and NGOs that can play an important role in supporting the various elements and dimensions of EPE in the education system, whether on their own initiative or at the request of the education system.

In this regard, it is recommended to encourage and expand as much as possible the role of external stakeholders, and to ensure the co-ordination and a common vision among all those concerned with EPE, either inside or outside the education system, to ensure synchronization and the realization of the EPE objectives through a comprehensive approach.

5.14.7 Financing

The availability of funding resources, together with supporting financial policies, can play an important role in serving EPE objectives and establishing the accompanying activities in the education system, inside as well as outside the school. The participation of stakeholders from outside the education system in the funding of EPE projects and activities serves two purposes. First, such participation fulfils one of the major objectives of EPE, namely the establishment of linkages between the schools and the community at large, including enterprises. Second, the diversification of financial resources helps to improve the funding policies and practices, and secures the implementation of the necessary projects and activities. Reward systems and special funds, if well designed and administered as explained earlier, can be important means

for financing EPE activities and projects. It is therefore recommended that any strategy or action plan for the financing of EPE should highlight the need for the establishment of strong links between the school system and the community at large, including enterprises, NGOs, etc. Such links can provide suitable venues for the implementation of EPE experiences and at the same time secure supporting funds for the accompanying projects and activities.

Care should be taken in the development of criteria for and objectives of funding EPE projects and activities so as to maximize the expected outcomes and benefits. Examples of such criteria and objectives include:

- Enhancing teamwork through the participation of students and teachers in the implementation of projects and activities.
- Encouraging activities that lead to income-generating activities for the school and the participating team.
- Encouraging the co-operation of schools in designing and implementing joint projects, while at the same time encouraging competition among schools or groups of schools.
- Enhancing innovative initiatives and linkages between schools and the community in general, especially enterprises.
- Targeting the various aspects and components of the education system, especially at the school level: mainly the learners, but also the school administration, the teaching methodologies, the capacity building of staff, the school environment, the curricula, ICT, research and development, etc.

5.14.8 Gender issues in EPE

Gender issues in EPE policies and work plans are varies from one country to another. The main factor in this area is the external elements, which usually have effects on the policies and work plans. Nevertheless, the external factors in most of the Arab countries that influence mainly the outcomes and impact of EPE, are the social issues and work conditions. Other external factors, such as policies and flexibility of the education system will limit the negative effects on gender and EPE plans.

The case studied adopted several measures to enhance gender issues in EPE:

- Consider gender issue in EPE strategies at the regional and national levels, and propose solutions for the difficulties that could face women and men in this area.
- Include qualitative dimensions in the education system, with reference to the role of women in the society and improve her participation in

developing policies and decision making. Many countries in the region had advanced in quantitative dimensions, especially access percentages (boys and girls).

- Enhance policies in relation to equity between men and women in employment, especially at the private sector, where women participation is far less than men participation in most of the Arab countries.
- Consider self employment and employment in SMEs as an area for women's work, through enterprises and production in the house.
- Improve work environment and conditions to accommodate women's needs, such as providing transportation to the work place.
- Promote the role of NGOs to support the role of women in EPE, and arrange partnerships with key NGOs to limit the effects of external factors in having negative effects on gender issues in EPE.

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Annexes

Annexe 1

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Annexe 2

Acronyms

ACHRD	Arab Centre for Human Resource Development
ADF	Abu Dhabi Fund
AfDB	African Development Bank
AFESD	Arab Fund for Economic and Social Development
ALECSO	Arab League Educational, Cultural and Scientific Organization
ALO	Arab Labour Organization
ARCEIT	Arab Regional Centre for Employers and Investors Training
BSC	Business Simulation Centre
BTS	Tunisian Bank of Solidarity
CAP	Career Awareness Programme
CGPA	Cumulative Grade Point Average
CIDA	Canadian International Development Agency
CBD	Chinese Bank for Development
DANIDA	Danish International Development Agency
EC	European Commission
EE	Environmental Education
EFA	Education for All
EFC	Educational Framework Conditions
EOS	Egyptian Organization for Standardization and Quality
EPE	Entrepreneurship Education
EPT	Enhancement Practical Training
ERfKE	Educational Reform for the Knowledge Economy

ESD	Education for Sustainable Development
ETF	European Training Foundation
EU	European Union
FAID	Fonds d'Aide Internationale au Développement
GCC	Gulf Co-operation Council
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GEI	Global Education Initiative
GNP	Gross National Product
GTZ	German Agency for Technical Co-operation
HEAC	Higher Education Admission Centre
ICDL	International Computer Driving License
ICTs	Information and Communication Technologies
IDB	Islamic Development Bank
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
IQLA	International Quantitative Linguistics Association
ISCED	International Standard Classification of Education
IT	Information Technology
ITPN	Investment and Technology Promotion Network (UNIDO)
JAI	Junior Achievement International
JBIC	Japanese Bank for International Co-operation
JICA	Japanese International Co-operation Agency
KAB	Know About Business
KFAED	Kuwaiti Fund for Arab Economic Development
KfW	German Bank for Development

MOE	Ministry of Education
MOET	Ministry of Education and Training
MOEHE	Ministry of Education and Higher Education
MOHESR	Ministry of Higher Education and Scientific Research
MOU	Memorandum of Understanding
NCERD	National Centre for Educational Research and Development
NCGC	National Career Guidance Centre
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
OJT	On-the-Job Training
PISA	Programme for International Student Assessment
PTA	Professional Training Academy
SFD	Social Fund for Development
SFfD	Saudi Fund for Development
SIYB	Start and Improve Your Business
SME	Small and Medium Enterprise/Small and Micro Enterprise
SQU	Sultan Qaboos University
SYB	Start Your Business
TEA	Total Entrepreneurship Activity
TIMSS	Third International Mathematics and Science Survey
TOEFL	Test of English as a Foreign Language
TRC	The Research Council in Oman
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

UNEVOC	UNESCO-UNEVOC International Centre for TVET-Bonn
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
UNRWA	United Nations Relief and Works Agency for Palestinian Refugees
VTC	Vocational Training Corporation
WB	World Bank
WEF	World Economic Forum
YAL	Young Arab Leaders