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Requirements for Achieving Competency-Based Education to Keep Pace with The Era of the Knowledge Economy

المعرفة اقتصاد عصر لمواكبة الكفايات على القائم التعليم تحقيق متطلبات

(العنوان ترجمة دقة من التأكد برجاء)

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Abstract

The study aimed at: identifying learning and teaching skills in the era of economy; identifying their achievement requirements to meet the knowledge economy age from the viewpoint of a purposive sample of public education experts. The descriptive method was used with the qualitative approach through a semi-structured interview with (10) experts. The study's findings revealed a set of requirements for achieving global competency-based education to keep pace with the knowledge economy era. They were classified into six main requirements regarding: The aims of learning, learners, teacher, educational content, educational environment, teaching methods and strategies. The female participants emphasized their necessity in the educational system, to develop the learners in light of the requirements of the knowledge economy age.

Keywords: *Requirements, Learning Aand Teaching Competencies, Knowledge Economy.*

INTRODUCTION

Enormous and accelerated cognitive and technological progress in various spheres of life, in general, and in education, in particular, poses enormous challenges for societies to keep up with development, which calls for radically revisiting educational systems and how educational outputs will turn out. The study seeks innovative ways, targeted projects, creates opportunities for learners to develop their skills, to benefit them and to meet their needs and abilities, i.e. to cope with cognitive, technological and economic transformations that had a significant impact on the individual's abilities and skills.

The development of education to harmonize the requirements of global transformations and progresses entails reconsidering of the educational process elements. That is to ensure acquiring the teaching and learning qualifications identified by many educational research and organizations and studying the qualifications suited to knowledge economy age requirements. The World Bank study (2008) showed many challenges that the educational systems in some developing countries are facing; hence raising the level of learners in language, sports and scientific skills. To meet these challenges, societies should make progress in reducing illiteracy and narrowing gender gaps in access to basic literacy and numeracy skills, especially among young people; as it is the way to realize science and technology, enhance professional skills and develop society according to knowledge economy requirements, so as to compete in the global labour market (UNESCO, 2012, 12). UNESCO, the Organization for Economic Cooperation and Development (OECD) and other educational institutions concluded that the present reality requires people with different skills than those considered appropriate to the industrial age. People with multiple knowledge, skills, science, and innovators are now seen as the basis for progress in the knowledge economy era (C21Candn, 2012). Moreover, OECD conducted a follow-up study on the development of key competencies in the years 2009, 2013, 2015, which concluded that educational systems in the 21st century must help learners build their skills for their development and social progress (Jian, et al.,2019).

It is obvious that knowledge is changing so rapidly in some areas. So, in this era, the skills and knowledge of the new graduates entering the labour market are rapidly undervalued. Educational and learning systems can

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no longer emphasize the specific skills of an education mission, but rather they introduce training and continual learning, and individuals need to constantly update their skills (World Bank, 2008). This is what is called the learners' possession of global competencies for education and learning.

Competency-based education is one of the most important educational theories that the educationally advanced countries seek to adopt in their schools.

The "competencies" programme aims to transform the competency-based method and modernize teaching, learning and evaluation methods by enhancing knowledge, skills, trends, values and ethics within the educational process, and creating a typical learning environment in which the students interact with the teacher inside and outside the classroom. The programme also aims to enhance teaching and learning processes and activation and further investment of different sources of knowledge, contributing to the student's transformation from a vessel to receive and preserve information to understanding them, and to benefit from them in their daily lives. This is done according to a philosophy that defines the role of each of the basic learning elements, namely "students", "teacher", "curriculum" and "learning sources from textbooks and others.".

In achieving its objectives, the programme relies on best practices that help to improve students' levels, using many methods of research and self-learning, most notably differentiated education and flapped classroom, as well as building instructional scaffolding and vocational learning teams. https://www.spa.gov.sa/1918930.

Competency-based education is referred to as: the ability of education to acquire the learners' knowledge, skills, abilities and composite trends, leading the learners to recruit them in order to confront and solve a problem in a specific situation. http://www.khayma.com/almoudaress/educ/kifayat.htm.

The criterion of success of any type of education is its ability to empower learners in the global competencies of education and learning and to apply their learning in new and different contexts from those they have acquired and applied in solving problems (Goddard, D., & Marilyn, L., 1992).

Accordingly, many countries have initiated a shift to a competency-based education system as a result of their recognition of the need to invest in individuals to increase productivity, effectiveness and responsibility; and the need for future individuals with skills different from those which the current education system focuses on.

The shift to a competent system in such States also responded to some issues and problems in education, such as poor student participation, poor integration into education and the need for individual learning that proceeds according to students' own speed and abilities, is compatible with their needs and desires, and qualifies them for the labour market. Political, social and economic changes in post-industrial societies have also created three categories where the gap is increasing: The first category is partially functional, the second category is fully functional, while the last category does not work at all. This calls for the development of education aimed at developing the skills and capacities required to take part in labour sector; and requires radical changes in education and training and the policies that support it (Centre of Excellence in Education and Learning, 2018).

According to such motives, many States had already begun to change their educational systems. At the level of developed countries, Singapore, Canada and Australia begun to feel that literacy and numeracy skills were insufficient for the challenges of globalization and for the transformation into a knowledge economy, and that there was a need for 21st century skills and a tendency to think about competence-based education, to suit the needs of digital learners and technical, research, and scientific developments, and are highly qualified, flexible and capable of responding to knowledge economy requirements.

Although developed countries have converged on the motivations for the adoption of "competency system", they have been uneven in determining the competency underpinning point of their education system under a major public umbrella called "twenty-first century competencies" (ibid., 6).

At the Arab level, Jordan's Ministry of Education implemented the Educational Development Project towards Knowledge Economy, which was implemented in 2003 in two phases, and ended in 2015, with a view to making Jordan's education system an information technology hub by investing human resources and empowering it as a knowledge capital - by initiating a change and transformation in Jordan's pre-university education system to

create qualified graduates with the knowledge, skills and competencies required for knowledge society (Zeodi, 2012).

"Competency-based education" marks a qualitative shift in the Kingdom's education process, develops its outputs and prepares students according to the 21st century skills and competencies and the demands of the renewed labour market through the shift from knowledge-based education to skills-based education, and an evaluation focused on outputs. https://www.spa.gov.sa/1918930.

In keeping with its Vision 2030, Saudi Arabia endeavored to develop its educational systems in the light of the Human Capacity Development Programme, which seeks to develop individuals' capabilities and prepare them for the future by focusing on promoting values, developing skills and knowledge, paying attention to educational outputs and creating the necessary requirements; to develop learners' skills and enhance their efficiency.

The Vision 2030 also affirmed its interest in students' skills and abilities as one of the most valuable resources of the Kingdom, stating in the axis of a prosperous economy that it seeks to develop students' skills and acquire new skills to help them achieve their goals. To achieve that goal, it will continue to invest in training and education, provide students with the skills and knowledge needed for future jobs, train and qualify teachers and educational leaders and develop the curricula.

Hence the Ministry of Education's interest and alignment with the Kingdom's Vision 2030 orientation in improving learning outcomes and preparing a creative, intellectual and productive generation. In 1440H, the Ministry adopted the Competency-Based Education Programme, implemented in cooperation with the University of Melbourne Australia.

The programme aims to develop the philosophy of teaching and learning, by training teachers to change their role and method of teaching. The teacher's possession of a number of general and specialized teaching skills that can be acquired, developed and then evaluated and redeveloped, can effectively contribute to the learner acquiring the required knowledge and skills, and building the positive trends towards learning and the school environment in general. https://www.spa.gov.sa/1918930.

The development of educational systems in the light of the requirements of the age of knowledge economy requires reconsidering the elements of the educational process, including: teacher, curriculum, legislation and educational environment; in order to ensure that students have the global competence to teach and learn. Many organizations interested in education and work have identified skills for individuals, pacing with the transformations of the twenty-first century, such as OECD, Educational Testing Service (ETS) and Learning and Measurement Skills for the 21st Century (ATC212), national standards for education technology and the European Union's Lisbon Centre for Economic Competitiveness and Community Renewal (Lisbon Council), the International Society for Education Technology and the Student Measurement Programme (PISA). In addition, UNESCO's conferences and reports, especially the Education for All, the most important of which was the Dakar Conference, at which a number of skills should be acquired. Each of the aforementioned organizations or associations identified the skills appropriate to their field of work in the context of the twenty-first century transformations (Abdulshafi, 2013).

Based on the foregoing studies, research and reports from such organizations and bodies, it was indicated that the three foundations of education are the 3Rs, i.e. reading, writing and arithmetic, and they are no longer enough, although they are necessary for everyone to have the opportunity to develop literacy and use mathematics at the required level, so they can work. Lack in these skills impacts the individual's position in employment, learning capacity and continuity in acquiring new and renewed skills, thus preventing the learners from updating. It even goes beyond their inability to contribute in active participation in economic growth and productivity in the country (Janssens, 2002). These three foundations of education need the twenty-first century skills and are called 7Cs. All of its words in English begin with the letter "C": critical thinking, creativity, collaboration, awareness of multiculturalism, communication, computing, craft and self-reliance. Combining the 3Rs with the 7Cs produces the 21st century skills (Trilling, 2005). that individuals must acquire, to make progress and succeed in education and work. They are associated with science, technology and mathematics

(STEM), and the soft competencies needed for professional and personal success: Learn how to learn, leadership and teamwork skills, communication skills, problem-solving skills, resilience and adaptability skills, interaction skills, critical thinking skills, motivation and creativity skills, and lifelong learning follow-up skills. All these competencies enable individuals to work more effectively in knowledge economy era (World Bank, 2008).

These competencies are interrelated and interconnected with each other, and each competency supports the other. Language, reading, arithmetic and ICT skills are essential for learning and supporting learning skills how to learn. These competencies appear within a general knowledge framework, skills and trends that an individual should possess: Critical thinking, problem solving, creativity, initiative, ability to play different roles and working in a team (Jamal-Din, 2013).

Several studies on different educational organizations and institutions identified basic skills to keep pace with the twenty-first century requirements, as follows:

Table 2. Learning and Measurement Organization's Skills for the Twenty-first Century ATC21s

The twenty-first century categories	The twenty-first century skills
Ways of thinking (learn to know)	creativity and innovation .1 critical thinking, and problem-solving, decision-making .2 learn how to learn beyond knowledge .3
Working methods (learning for work)	communication .4 engagement with others at work (work teams) .5
Working techniques (learning to be)	information literacy, including: (research and sources, evidences, approaches) .6 ICT literacy .7
Living in the world (learning to live together)	local and international citizenship .8 life and career .9 individual and social responsibility, including cultural awareness and competencies .10

Source: Suto, L.; 21st Century Skills: Ancient, Ubiquitous, Enigmatic, Cambridge, University of Cambridge, Local Examination Syndicate, 2013. pp 6-7

The above table shows that there are levels of possessing the basic skills or categories: ways of thinking category that fits into the first basis of lifelong learning in Jack Delor's report: Learn to know where it encompasses all the thinking skills; the second category is the working methods, which fits with learning to work. They include communication skills and engagement with others at work. While the third category, working techniques, which fits into learning to be, and it includes the basic skills that allow individuals to deal with information technology, which is primarily used in communication with others and self-formation. The fourth and final category is living in this world and fits into the Learning to Live Together report of Jack Delor, which includes relationships with the society surrounding human beings, rights and duties.

Global competencies for teaching and learning are characterized by (Centre of Excellence in Education and Learning, 2018).

Considering each students' different capacities and levels; and the students' different previous information or tribal knowledge, and providing them with the opportunity to better integrate into the learning and skill proficiency according to the speed appropriate to their abilities and potential. Additionally, creating more than one path for enabling students' to graduate when they complete their studies according to the strategy followed, and is linked to the student's actual skills acquired rather than hypothetical. Moreover, creating a unified vision for universities and colleges around the world; so students can move between the world's universities and develop their knowledge on a single level and concept.

A characteristic of global competence of education and learning (Farhawi, 2011) is that they are a transferable scientific product based on inclusiveness. They are also characterized as competencies with a specific context in the sense that they grow and evolve only within a particular context that suits them, and they are of a synthetic nature and flexible, are applicable in new and different contexts from those acquired by students. Moreover,

they are adaptable, based on a set of knowledge and skills that are integrated; to achieve the necessary quality and mastery in each achievement that aims to solve a problem and act appropriately toward social environment.

Some studies summarized the elements of competency-based education in the following (Scheopner, 2015; Schwartz, 2015): Students' progress is linked to skill proficiency before moving to the next level, transparency about where the learner stands for competency to enable them and their teachers to design better educational opportunities for their individual needs, and continuous flexible assessment of the learning cycle. Also, the learning outcomes focus on competencies and their application, and lifelong learning ability.

As for the role of education in the acquisition of education and individuals' learning skills, any educational and training system that needs to develop society must determine its future needs for competencies. They should be prepared in strategies, using multiple methods to predict future needs of competencies. These methods include predicting the professions' characteristics, information systems transformation, labour market, employment services and performance analysis, with the need for constant coherence to a community dialogue, and emphasizing the adaptable basic skills, specifically the learners' skills development, which is the basis of individuals' development (International Labour Office, 2012). In the light of identifying future needs for skills, educational systems should develop their educational objectives, from one's development in all its aspects to the development of one's capacities for transforming and spatial, social or intellectual change (Ibrahim, 2008).

The new model of competency-based education in the economy era requires comprehensive transformation of education systems, guided by a comprehensive and integrated road map, covering school curricula, new teacher recruitment, training strategies, leadership skills development and technology integration (Cisco, 2008, p.4).

Problem and Questions of the Study

The shift towards a knowledge economy era, information, expertise and productive services requires a great deal of planning efforts from societies to achieve their objectives. One of the most essential efforts is to invest the enormous human capacities and potential at all levels. Possessing the means of knowledge in the right manner directed, and investing it effectively by integrating advanced technical skills and tools of knowledge, constitutes the basis for the shift towards transformation and transition to a knowledge-based economy (Al-Badui, 2021).

Perhaps the most important skills in the current era are critical thinking and problem solving, which have been included in the classification of employment, especially after the emergence of new inputs into the labour market. Due to rapid development of the diverse skills required for employment as a result of technological development, university education is no longer the end of acquiring skills. Individuals must acquire creativity skill. The findings of a study conducted in the United States of America indicated that the application of literacy, and critical thinking skills are sufficient for the mandate to maintain its competitiveness in the global economy. So, creativity is an important skill over the next half decade. (Jerald, 2009). The findings of a study by the Canadian Education Association (CEA) showed a grim picture of the ability of the government's education system to attract the digital generation for positive mental interaction within the classroom. The study recommended that public education should be changed and developed to align with today's learners' thinking. (C21 Canada, 2012). As a result of high youth unemployment and the desire to continue with post-secondary education, educational systems focused on linking secondary school to the labour market through competencies. The Mayer Basic Skills Commission of Australia (1992) indicated that the world of work requires skills that are broader than the specific and specialized skills. The global skills for education and learning in general aim to bridge the gap between work and learning. Also there is focus on students' learning according to a comprehensive system and skills that are not interspersed with gaps resulting from the expiration of the time set for studying the course. Additionally, competence-based education is a key factor helping to move towards individual learning, which focuses on student-centered education, as it provides flexibility in the way a student gets acquired modules (Center of Excellence in Learning and Education, 2018).

Accordingly, it is noteworthy that despite the Arab States' efforts to develop their educational systems to cope with knowledge economy, UNESCO's report (2004) showed a deep gap between what Arab States have achieved in the preparation and qualification of educational outputs and those of East Asia: South Korea ,

indicating weak public education outcomes in Arab countries and weak competitiveness at the level of domestic economic output. The World Bank's report (2008) showed gaps between what educational systems have achieved in the Arab world and what the region needs, to achieve its current and future development goals, and to the existence of many problems and shortcomings in education: lack of compatibility between secondary education outcomes and labour market needs, low internal and external efficiency of the secondary education system, and poor preparation of students to pursue university education optimally (Al-Qarawe'ah, 2013). The second Arab Human Development Report (2003) also indicated that the hope for traditional reform methodologies in Arab States is minimal unless tangible reform methodologies that meet their current and future needs and strengthen the relationship between educational institutions and the community are crucial (Al-Obaidi, 2004). Some studies' findings confirm that the traditional educational system could not respond to the current challenges. It is a linear system suited to the industrial age. Students study the same materials simultaneously in a way similar to the Assembly Line at a factory. Knowledge in this system is weak, fragmented and unrelated to reality, its outcome is a poor incentive for learning, and it is difficult to apply it in the daily situation (Mahmoud, 2016, as stated in Al-Saleh, 1429H).

There have also been calls to answer the readiness of education in the Arab States to simulate the requirements of the knowledge economy of competencies, skills and trends. The World Bank report, in cooperation with the Islamic Educational, Scientific and Cultural Organization (ISESCO) (2013), indicated that engaging in the knowledge economy model requires Arab States to implement a number of key reforms in various sectors, the most important of which are more skilled labour, improved innovation and research capacity, and expansion of ICT and its applications (Ramadan, 2015). In this context, Gee (2004) states that the knowledge economy era has made individuals learn in new and innovative ways for future goals, which calls for school and teachers to react positively to this fact. Individuals seek to develop their abilities, skills and experiences to create new opportunities. Edward and Usher (2008) add that the global transformations currently taking place in the world require the development of new skills, experiences and the individuals' knowledge, thus requiring the school to play a relevant important role.

Mohammed (2007) also emphasized the need to arm an individual graduating from an educational system, including: Attention to obtaining knowledge from its primary sources, producing it through human or electronic sources, disseminating it and advocating its utilization, being able to communicate with others and work on a team, and a number of educational skills which the students must acquire: the ability to make decisions and solve problems to be able to cope with knowledge economy era.

Although education is important in strengthening the competencies of the knowledge economy age, some studies' findings indicated that its role is below the required level for this stage. Al-Ghamdi's findings (1420H) showed that the secondary education curriculum content in Saudi Arabia is incompatible with the labour market requirements and does not work to prepare students to work in various fields of life. Al-Zimiti (2011) also confirmed that the components of Egypt's general secondary education system face many problems in achieving its objectives, and it needs to be updated to suit the knowledge economy era requirements. Ramadan (2015) found that the degree of availability of students' cognitive economics skills was average on all axes of questionnaire and the total degree from the faculty's point of view. Tony (2014) aimed at identifying the extent to which universities teach the skills required for the knowledge economy, and it revealed some findings: difficulty of predicting future types of work and businesses; but universities should incorporate knowledge economy skills into their academic programmes and continually develop them to ensure that they are the skills required in the knowledge economy.

The findings of the Al-Qaisi (2011) also indicated that the replication of the field of mental development in the content of forensic science courses of the project for the development of secondary education in Saudi Arabia ranked fourth. Ramadan (2015) found that the degree of availability of student's cognitive economics skills was moderate on all axes of questionnaire and the total degree from the faculty's point of view. While the findings of Al-Saotari et al. (2010) confirmed that King Saud University students' possession of problem-solving and thinking skills ranked last of the cognitive economics skills identified by the study. The study of the National Centre for Manpower Development (2010) emphasized that students do not have sufficient scientific and

mathematical skills, and they suffer poor scientific thinking skills required for such stage. Niaz's findings (2019) indicated that the female secondary teachers' role in the mental skills development of female secondary students was moderate (2.5), and the obstacles encountered in fulfilling their role was high (3,22).

Considering the pursuit by public education institutions to achieve the objectives of the National Strategy for the Development of Public Education, education has to build roles that contribute to the development of human wealth in line with the world of informatics, the development of their minds and capacities for scientific thinking, critical thinking, innovation and creativity, and information and technology communication skills.

The current study was conducted in response to some previous studies' recommendations: The National Strategy for the Development of Public Education aims to develop a generation with knowledge and skills necessary for the knowledge economy era. The developmental role that contemporary education should play in achieving the strategy's objectives. Emphasis on the importance of education in the preparation of human capital in accordance with the requirements of the knowledge economy era. Ramadan (2014) recommended that further field studies should be conducted in the field of acquiring students in cognitive economics skills. The current study also responds to the recommendations of the Arab Teacher's Role in the Age of Knowledge Flow Conference held at the University of Jerash (2009) and the Knowledge Society Conference: "Social, cultural and linguistic challenges in the Arab world at present and in the future", held at Sultan Qaboos University (2007). Accordingly, the study problem can be elaborated in the following questions:

What are the teaching and learning skills needed to keep up with the knowledge economy era?

What are the requirements for achieving competency-based education to keep pace with the era of the knowledge economy from the point of view of the study sample?

Objectives of the Study

The study aimed to identify the competencies of teaching and learning in an economic era and the requirements for achieving them from the point of view of a purposive sample of public education experts.

Significance of the Study

The significance of the present study stems from the importance of the topic. The qualifications required in educational systems are modern trends in line with the features of development and change as a recent trend in the field of education. The findings of the study can also contribute to the development of educational frameworks consistent with the twenty-first century requirements. It benefits decision makers in the Ministry of Education - curriculum developers, educational supervisors and teachers - to help them develop and design curricula, teaching methods and strategies and evaluate learners. This study can also contribute in incorporating the teaching and learning skills in teacher training programmes at all levels. Studying the educational competencies in general education helps to diagnose weaknesses if any or propose solutions for those concerned before the graduates join the labour market or enroll in university education. It also helps to diagnose the schools' potentials, means and requirements that help to apply competency-based education and learning.

Definition of Terms

Competency: ability to adequately apply learning outputs, not only to cognitive elements that include implicit cognitive theories and concepts, but also to functional and applied aspects, and personality attributes of attitudes and ethical values "(Jian et al.2019)

Procedurally, Competency can be defined as: a set of knowledge, skills, attitudes and behaviours that the researcher expects that teachings helps learners acquire, who are able to apply in a variety of contexts and different from those from which the students have acquired.

Limitations of the Study

This study is limited to identifying the teaching and learning skills through theoretical literature, studies and research by international organizations and institutions interested in education and skills, and the requirements

for achieving them to cope with the knowledge economy era, based a deliberate sample of general education experts in Jeddah.

Study Methodology and Procedures

This study employed the qualitative descriptive method to determine the requirements for achieving competency-based education to cope with the knowledge economy era. The study population included female teachers, leaders and supervisors of public education in Jeddah. A purposive sample (10) was selected. In choosing the sample, it was decided that they have a comprehensive knowledge of global skills for teaching and learning. To achieve the study's objectives, the semi-structured interview was used to identify the requirements for achieving competency-based education consistent with the requirements of the knowledge economy; Since the competency-based education composition is based on the learner, the teacher, the educational content, and the educational environment, the interview questions included open questions related to those pillars, and the interview guide was designed via an app (Muntani) for experts and through personal communication after the researcher had reviewed the Arabic theoretical literature and the translated literature. The interview guide contained primary information for the interview and participants, and an introductory question about the participants' experience in competency-based education and four of them about the requirements for achieving competency-based education consistent with the knowledge economy requirements. The main interview questions correspond to tracking questions that generate requirements for education goals, other requirements on teaching strategies and methods, and a space for recording observations related to the voice and participation emotions.

The objective data analysis method, which is one of the methods used in qualitative data analysis, where the researcher organizes and develops data in specific topics or categories, and then the researcher explains and interprets it analytically to find an answer to his research question. (Brown & Clark, 2012). Objective analysis is done by focusing on the shared commonalities of data, explaining the coding mechanisms, systematically analyzing the qualitative data, and can therefore be linked to broader theories or concepts.

Table (3) Description of the Purposive Sample of Study of Female Experts

Female teachers	Education leaders	Education supervisors
4	3	3
Total		10

Answer to the second question: On the requirements for achieving competency-based education to keep abreast of the age of knowledge economy

Through objective analysis of the interviews with study participants, there was a set of requirements for achieving competency-based education to keep pace with the age of knowledge economy, which can be classified into six main requirements specific to: The objectives of education, learner, teacher, educational content, educational environment, and teaching methods and strategies. The participants in the interview emphasized the need for them in the educational system in order to prepare the learner in the light of the requirements of the age of knowledge economy, (P7) stated: "The learner needs teaching and learning skills; because they are the basis for her development and ability to keep pace with changes and transformations in science and work". (M3) indicated that "learning and teaching skills are essential for an educational product capable of functioning effectively, capable of communicating positively with others". One of them compared learning and teaching to fuel (A5), "When a learner comes to school with her car equipped to bring her to school and there is insufficient fuel, she cannot access school to learn and acquire skills, as skills such as fuel are necessary to prepare her for the future".

These requirements will be presented in an objective module for each requirement, mentioning the most prominent opinions of the study participants, as follows:

Requirements for Education Goals

Educational and training systems should incorporate these competencies into the objectives of any educational programme and should not only aim at the individual's development for coexistence in his or her society, but

should aim at developing the individual's changeability, transformation and social vulnerability to expected social changes. Thus, among the educational objectives, the learner must acquire many previous skills, perhaps the most important of which are: the skills of creativity and problem solving, research, critical thinking, community building, cognitive empowerment, assessment and acquisition of knowledge, production and investment of knowledge, negotiation and communication skills and other aforementioned competencies; to enable them to learn for life, P2 reported: "In order for a student to live in this changing world effectively and positively, one of the objectives of any educational system must be to develop the student's teaching and learning skills." and it is important to develop the students' ability to continuously learn so that it can keep pace with the requirements of the knowledge economy era. P1 mentioned: "For female student to become leaders in the future, education must achieve the goal of lifelong learning among them." The goal of knowledge competency is one of the objectives of educational systems to keep pace with the age of the knowledge economy. P4 affirmed on such objective: "The knowledge depth, the scientific and cultural potential of the student and her knowledge of a language other than her mother tongue, Arabic, will ensure her creativity in knowledge empowerment and use in different contexts." (P8) referred to one way of reaching the scientific depth by saying: "Conscious reading of paper and electronic books and new research". P6, P3 and P2 indicated the importance of incorporating the objective of "female students learn how to learn" all learning activities in educational and training programmes. While P1, P4, P5, P6, P7 and P8 indicated the importance of the goal of developing the communication skills of female students. P5 stated the following: "The goal of communication skills will help the student to deal effectively with her colleagues, teachers and future work colleagues both locally and internationally," P6 said: "communication skills enhance the confidence of the student and thus bring her success in working for the future".

These objectives as a whole are to provide the world's competent learners with education and learning; Therefore, educational institutions must provide a free environment that ensures that students develop their abilities and skills in an atmosphere of freedom of thought, expression, opinion, dialogue, debate, intellectual autonomy and a critical mind, building a capacity to discover and search for the truth while guaranteeing various forms of human rights (Arab Educational, Cultural and Scientific Organization, 2009).

Learner-specific Requirements

Through data analysis, the sample of the study agreed on the need to focus on the knowledge and skill aspect of the learners. For learners graduating from any educational system to be armed with the global educational skills needed to live in this highly diverse, intertwined and unique world, they must realize that these skills are constantly renewed; therefore, learners acquire lifelong learning skills, to keep pace with this renewal and evolution in the field of global educational competencies. P3 stated: "It is very important that the teacher, curriculum, school management and community instill the learners that skills are in constant regeneration. To be able to keep pace with change and renewal, they must acquire lifelong learning skills; because it is the way to develop their capabilities, trends and skills". While P9 focused "on the behavioural practice of skill". Whereas P7 emphasized "on the requirement to continue learning and apply what they learn in solving the problems they face in all fields". P5 said: "Lifelong education is an area of enhancing learners' competencies, and thus their ability to keep up with changes in the cognitive, technical and vocational fields." P10 emphasized on "the need for the learners to be trained to apply what they learn in solving the problems encountered". P6 emphasized that "the learners must be armed with a number of languages, notably English as it is the language of communication globally, and acquire communication skills of many kinds; to be able to follow global progress and development in ICT". Whereas P1 emphasized the importance of "training the learners to reproduce and present knowledge in a new form, and the learners not only preserve and transfer from multiple paper or electronic sources; and she emphasized the need to develop the learners' linguistic, written and expressive skills". To achieve these features of the learners, the objectives and content of the curriculum must be built in the light of the skills of scientific thinking, problem solving and investigation. Achieving learners' acquisition of skills is crucial in shaping their future abilities and potential. These requirements are consistent with Abdulshafi (2013) which stressed the importance of ongoing learning for the learners in the light of the transformations of the 21st century, and with Mohammed (2007) which emphasized the need for individuals

graduating from any formal or informal education system, must be armed with some elements: the production, dissemination and utilization of knowledge, the ability to express opinion orally and in writing.

Teacher-specific Requirements

Their answers were the need to identify the tasks and roles that the teacher should play in the development of the global skills of education and learning among students. This requires the teacher's possession of the skills and contemporary professional requirements of the academic, educational and cultural aspects; the need to intensify training courses for the various skills and professional requirements and to continue them throughout the teacher's service, to keep up with developments in science, modern learning theories, and pre-service and in-service education technology, and to understand his or her role in the educational process in the light of the twenty-first century. A teacher is the guide for learners, and s/he is a partner in the learning process and a partner in the process of changes in education. P1 stated: "Some female teachers do not know the criteria for teaching and learning skills, so the Ministry of Education, in cooperation with training institutions interested in the subject of skills, should intensify courses for teachers to describe the nature of the skills and train them on how to achieve them in the educational situation", while P4 said: "The need for teachers' courses on appropriate teaching strategies for the skills". P8 affirmed what P1 said: "the need for setting criteria for describing skills. A teacher may know education and learning skills, but s/he does not possess the criteria for applying them and therefore cannot develop appropriate methods to achieve them". This requirement was in consistent with what was suggested in the report of the committee (Finn, 1991) that a conceptual framework of standards should be designed to describe the nature of these skills at a number of levels, enabling teachers in schools to focus on preferred outputs and develop their curricula and practices. This framework allows for the development of a standardized and continual method for evaluating these competencies. This conceptual framework also serves as a means of linking education and training with the world of work and as a means of clarifying the expectations of employers for adolescents and young people and education and training agencies. While P6 claimed: "English courses to be able to participate in global networks for vocational training in the field of competencies and to benefit from their expertise in methods of achieving competencies". P7 clarified the importance of "the Ministry of Education providing courses aimed at enhancing their efficiency in integrating skills into the educational content provided to learners, and training them on appropriate teaching strategies to effectively achieve competencies". P3 stated, "It is not important that a teacher be trained on how to acquire learners' competencies. It is important to have contentment and belief in the importance of competencies for a renewed and changing world in all areas". Attention to these requirements will help the teacher realize his new roles that are in line with the requirements of the age of knowledge economy. A teacher, according to human development scientists, is the primary source of the cultural, economic and social development of nations through his or her role in building intellectual and knowledge capital. The more a teacher succeeds in increasing learners' educational levels, the higher the levels of knowledge. Thus, the overall level of production in society has increased, which in turn is reflected in the increased income of members of society and their social and economic well-being (Al-Qarni, 2009).

Requirements for Educational Content

The study sample stated that educational content should be limited to the knowledge aspect. And the applied aspects of these global skills must be incorporated through systematic and non-systematic activities on which learners are trained. The content should be flexible so that the teacher has the right to develop and improve it in accordance with students' learning patterns and achieve the goals. The professional team in each school should improve the content in line with the latest knowledge and class students. The educational content should include the basic literacy and mathematics skills and competencies of teaching and learning; in addition to other competencies identified by organizations and bodies interested in the topic of competencies, including: the different ways of thinking and working, information literacy skills, communications and information technology, and the world's living skills of local and global citizenship, life and occupation, individual and social responsibility and effective communication, intercultural interaction and community participation. P1 said: "It is important to integrate teaching of educational competencies into the content of all educational curricula". While P3 stated: "To achieve competence among learners, it is very important that educational content focuses

on practices so that education is more positive and realistic". P6 indicated the need to "fully integrate the competencies of the twenty-first century into kindergarten curricula to ensure that the high school graduates are competent in labour market and able to communicate globally". P8 and P10 stated that: "the curricula according to competence-based education must contain topics related to creativity, innovation and entrepreneurship." P9 emphasized the need for educational curricula to contain subjects, including 21st century skills, such as global consciousness, English and some global languages, local and international citizenship. P5 emphasized: "technology should be incorporated into all school curricula". P5 also encouraged: "long-term teacher training programmes provided by global experts in the field of educational skills". P9 also stressed on: "the provision of professional courses for teachers in the field of learning and teaching skills". The results of the interview analysis also indicated the importance of building competencies among teachers through the application of competencies. In the view of P4, "a teacher should pair teaching with the application of competencies. Application is the best means of acquiring competencies and thereby contributing to their earning to students". P5 noted: "the need to establish associations of learning and teaching skills necessary to share experiences and emerge with a view to achieving competencies among learners". These requirements are consistent with the World Bank report (2008).

Requirements for the Educational Environment

That is through the provision of all appropriate educational needs and learning methods for each student. This requires the improvement of the environment within the classroom, with the need to expand the use of ICT and both teachers and learners should be able to use it; because it is the way to knowledge at present. The participants P4, P5, P8 emphasized that: "there should be an optimal investment of technology in the educational environment to enhance the skills of learners". While P3 highlighted the importance of: "providing educational hardware and software in all schools". P2 stated: "In many schools, the Ministry has provided laptops and projectors, but there is no Internet point of contact in the school; therefore, we have not been able to optimize IT recruitment within the classroom". P1 indicated that there should be clear criteria for using technology in the educational environment.

Requirements for Teaching Strategies and Method

That is through diversity in strategies and their modalities to match all learners equally, and the adoption of the Five-Jam Strategy (participates, explains, explores, develops, understands), with the need to build a development plan to improve and develop teaching methods, as emphasized by P1, P3, P5 and P8. While P2 stated: "a teacher has to diversify teaching methods and strategies to ensure that the students' educational and learning competencies are developed in such a way as to enable students to apply them in reality". P6 indicated the necessity of "female teachers to use legislators or problem solvers method. It is essential to use learner-centered teaching methods to participate in the educational process". P10 emphasized the need to "focus on self-learning and collaborative learning" and P9 called for "incentives for female teachers who use strategies and methods which suit the teaching and learning competencies". Such requirements are consistent with the findings of Ahmed (2007), from the need to shift from traditional to active, effective and self-learning methods. These requirements are also consistent with the World Bank study findings (2008), which found that competency-based education requires a comprehensive change of academic standards, curricula and teaching methods and strategies so that they provide skills that suit the transformations and changes of this century and that such education is primarily directed in accordance with the learners' interests and needs.

Recommendations

In the light of the study's findings and discussion, the following recommendations may be proposed:

Integrating general teaching and learning competencies as an essential part of all educational curricula offered to female students at the secondary level.

Students' possession of basic and public teaching and learning skills is a fundamental criterion for evaluating female students to achieve the principle of lifelong learning.

Holding training courses for curriculum drafting committees that take into account the teaching and learning skills in the formulation and development of curricula.

Training learners on future thinking methods based on the free choice of alternatives and on how to build, produce and apply knowledge in different situations so that they can keep up with the age of knowledge economy.

Conducting further field studies in the field of students' acquisition at all educational levels of skills and the development of proposed perceptions

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