

# The role of modern technology as one of the means to improve the quality of university education in KSA

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## Keywords

Modern Technology - Electronic Valuation - Total Quality Management - Higher Education - Improve Performance.

## Abstracts

*Purpose: The purpose of this paper focuses on the use of modern technology for evaluates the performance of the student, achieving quality education, in order to develop, improve, and excellence in education, that is required nowadays in Saudi Arabia Universities. Also discussed the requirements and constraints of the use modern technology to evaluate the performance of a student. So, we can say that a use of modern technology in learning valuation, it is the real challenge that we will face all.*

*Design/methodology/approach: Relied on the descriptive approach which depends on the previous studies, reports, periodicals magazine and books related to the subject of the study. Therefore, it is possible to determine the mechanisms application that use of modern techniques in the tests and electronic evaluation by identifying a group of previous studies that dealt with it, a set of conclusions and recommendations which its entirety constitute a clear vision the role of modern technology as one of the means to improve the quality university education in the Kingdom of Saudi Arabia.*

*Findings: The results study proved, it is an important use of modern technologies to evaluate the performance, one of the fundamentals that achieve the application of Total Quality Management in Higher Education. At the same time, we recognize the importance of modern technology in developing, to ensure the quality of education and learning.*

## 1. Introduction

Our main objectives to identify, the concept of modern technologies in developing the quality education, a reality of e-learning in the Arab world challenges with how to solve them and the impact of using electronic assessment in Saudi Arabia universities.

The study problem can be identified in answering the following questions:

1. What is the concept of quality, total quality, and quality assurance?
2. What is the literature that deals with the relationship between modern technology and quality learning outcome?
3. Why does university need to follow the method of modern technologies in the education?
4. What is the concept of using modern technologies in the development the quality of university education?
5. What are the challenges that face of e-learning in the Arab world, and how to solve them?
6. What is the impact of using electronic assessment modern technologies in the development of the quality university education in Saudi universities?
7. Is it possible to develop education in Saudi Arabia to reach global standards by using technology?

## 2. The concept of quality in education

There are two aspects of quality in education: Quality of the education system as a whole (including schools, related organizations, teaching, learning environment and policies etc.), and Quality of what the system offers to the students/learners (quality teaching, learning process, and curriculum), Adams (1993). Nashwan (2004) indicated that quality is the reflection of the results to

be achieved, which it translates the needs of the students' and expectations. According to Hoy et al. (2000) quality education is an evaluation student performance in learning, to achieve and develop the education. Goddard and Leask (1992) highlighted the definition of quality as simply meeting the requirements of the students. Quality of education should also take consideration and determinants like the provision of teachers, building, curriculum, equipment, textbooks, and teaching processes (Grisay and Mahlck 1991).

Therefore, the quality of education has a three-dimensional approach comprising quality of human and material resources available for teaching (inputs), teaching practices (process), and results (outcomes). Further, according to them, there are some indicators—repetition, dropouts, promotion, and transition rates—which are frequented by planners to arrive at an approximate measurement of quality.

The concept of total quality in education has two interrelated meanings: one is realistic and the other is sensual, quality in its real sense means the commitment of the educational institution to achieve real indicators and standards such as promotion rates, internal efficiency rates, and cost of education. The sense of quality focuses on the feelings and feelings of the recipients of the educational service, such as students, their parents, and expresses the satisfaction of the beneficiary with the level of efficiency and effectiveness of the educational service (Mahmoud, 2009).

In addition to this, UNICEF also strongly emphasized the desirable dimensions of quality, Dakar defined Quality in Education' through five dimensions of quality: learners, environment, content, processes, and outcomes, founded on 'the rights of the whole child, all children, to survival, protection, development and participation' (UNICEF 2000). The Communiqué of the World Conference on Higher Education 2009 states that 'Quality criteria must reflect the aim of encouraging in student's critical, independent thought and the capacity of learning throughout life. They should encourage innovation and diversity' (UNESCO 2009).

Thus, it is clear that quality is not a unitary concept but involves multiple perspectives. A study by Reddy (2007) shows that world over, school effectiveness and quality has been viewed in terms of cognitive outcomes by student's achievement that is easily measured through standardized tests.

Actually, the primary concern of schooling, it needs to be stressed that school quality should be defined not only in terms of the cognitive achievement of children but also by non-cognitive/affective outcomes such as attitudes and values which are so critical.

According to Education for All (EFA) report 2014, one of the key challenges facing the education system is the quality-related deficiencies at each stage of education, resulting in an unsatisfactory level of student learning.

### **2.1 The importance of Total Quality in Education**

The challenges of the technological information revolution facing the modern world have made the overall quality system the best solution to meet its productivity problems. This method has proved its worth. Therefore, all institutions of the world today, including educational institutions, need to increase productivity and improve quality to meet these challenges and changes. Going in the race to stay for the better (Nashwan, 2004).

TQM in education surfaced in 1988 at Mt. Edgecombe High school in Sitka, Alaska, when David Langford, the school's technology teacher/coordinator, applied Total Quality concepts in his classes. TQM has become increasingly popular in education, as evidenced by the plethora of books and journal articles since 1990 (Tucker 1992). TQM has also spread into the mainstream of educational organizations. The Association for Supervision and Curriculum Development, for example, devoted its entire November 1992 issue of its journal, Educational Leadership, to the quality movement in education.

In support of the TQM initiatives in education, Crawford and Shutler (1999) applied Crosby (1984) model to suggest a practical strategy for using TQM principles in education. Their strategy

focused on the quality of the teaching system used rather than on students' examination results. They argue that examinations are a diagnostic tool for assuring the quality of the teaching system. To satisfy the educational needs of students, continuous improvement efforts need to be directed to curriculum and delivery services. From such a perspective, various root causes of quality system failure in education have been identified. These include poor inputs, poor delivery services, lack of attention paid to performance standards and measurements, unmotivated staff and neglect of students' skills (Ali and Zairi 2005). One of the weaknesses of such a perspective is in its concentration on the student as a customer whereas TQM in education should concern the customer beyond students. Literature available points to a growing interest in applying TQM in education and for a wide variety of reasons (Thakkar, 2006 and Temponi 2005). Some of the reasons include: pressures from industry for continuous upgrading of academic standards with changing technology; government schemes with allocation of funds, which encourage research and teaching in the field of quality; increasing competition between various private and government academic institutions; and a reduction in the pool of funds for research and teaching, implying that only reputable institutions will have a likely chance of gaining access to various funds.

Total Quality Management (TQM): Marquardt, D. (1984) is a philosophy and a set of procedures for management. TQM is known in a number of industries and firms by a number of different names, but the guiding principles are essentially the same. The key to Total Quality Management is a focus on quality rather than pure productivity as the driving force of management. Widely credited with creating the Japanese miracle, TQM has also proved an extraordinarily effective approach within multinational finance, small family businesses, and corporate entities in many other countries. Most of the concepts and indeed the implementations of TQM have to date been found in the manufacturing sector. However, the success of transferring the ideas to various administrative and service sectors has more recently become very marked so the role of IT in improving the impact of TQM in other sectors of business or organizational behavior.

Quality Assurance: Wadsworth et al. (2002) defined it as a system of activities which assures that the overall quality control is done effectively. It is a before and during-the-event process. Here the focus is the prevention of defects rather than just detecting them. Stephens (2003) argues that it is a process of evaluating the extent to which the institution is delivering on its promises. However, quality assistance is a process of preventing defects which is not an end in itself rather a means towards satisfying customers.

### 3. Literature

The technology and cognitive revolution of the end 20th century, and the first decade of the 21st century, resulted in the emergence of a new concepts and approaches in high education, such as re-engineering, restructuring and focus on it, which required to development of knowledge, skills acquired in high education, in time, form appropriate, and the ease of use to achieve higher levels of learning outcome (Hamoud, Khudair, 2010).

The Higher Education Sector is called with all its strengths to develop its functions and improve learning outcomes in line with the requirements of international quality, in order to raise the social, drive it strongly towards improvement and development. This requires renewal in several areas, including evaluation the performance of the higher education sector, to reach the level of graduates that required globally and locally.

The number of students is increasing year after year, the resulting in difficulty of evaluating learning outcomes, effective and continuous communication to assess student performance. New type has emerged in assessing student performance by re-assessment based on modern technology (E-learning services) in the form of electronic tests, evaluation and the provision of modern methods of assessment according to the expected educational outcomes, through question banks containing a set of standard questions directly related to the applied methodology, with statistical tools to analyze test results at the level of each student. This concept is related to the quality itself, which

indicates a set of qualities and characteristics related to the quality of service to achieve the outcomes of education. (Validosat, 2009).

Ben Jeddo (2014) focus on the role of technology in the Development of Higher Education Methods, he aims to shed light on the technologies that serve the educational process, that the university education in our country at various stages benefit from these media in the required and adequate manner, and despite its use in some cases it is very limited, and it is necessary to keep abreast of developments because of what It requires scientific and technological changes. Al-Khalidi (2012) aimed to explain The Role of Quality of Service Dimensions and E-Learning Capabilities in Developing a Culture of Excellence in high education, he identified the role of the dimensions of service quality and the capabilities of e-learning in developing the culture of excellence. He reached a number of results, highlighting the existence of a relationship between the modern technology and the development of the culture of excellence in high education. Darwaza (2011) aimed to know the impact of e-learning on the elements of quality culture in high education and evaluate the impact of e-learning on the elements of quality culture in the companies that received the King Abdullah II Excellence Award in the private sector and then to compare between the companies that received the award and companies that did not.

Hislop, (2010) aimed to understand the usefulness of knowledge management in the decade from 1998 to 2008. he used academic databases to investigate the academic benefit of knowledge management as well as corporate web pages and found that the level of academic benefit for knowledge management that took place between 1998 and 2008 was not Trace a bell-shaped curve but follow an upward curve, yet it can be said that it is still too early to say categorically whether the knowledge management has become institutionalized to the extent that it is developed in the field of democracy and continuity to achieve academic requirements. Al-Serera & Assaf (2008), "Total Quality Management in Higher Education Institutions", The study indicated that higher education institutions should adopt a mechanism to implement TQM in order to improve their performance, raise the level of their productivity and improve the quality of their graduates who are scientific, practically and technically qualified to serve the society, achieve its objectives, catch up with high progress and development.

Al-Buhaisi (2006), entitled: Modern Information Technology and its Provision for Decision-Making in Business Organizations. He discusses the advantages that business organizations can achieve as a result of their use of information technology, especially Internet and network technology. He recommends the need to transform the traditional management information systems used in companies in addition to keeping pace with modern technological developments, with the need to develop the capabilities of managers with managerial skills in how to use modern technology.

#### **4. Results of analysis of previous studies**

In the previous presentation of the studies that dealt with different aspects of quality requirements in education, development, labor market and outputs of higher education, studies have pointed to the requirements of development, the labor market and the use of modern technologies from the basics to achieve the application of good evaluation in higher education, the studies, experts and those interested in the field of education The most important results in education lie in quantitative expansion without attention to quality and non-standardization at all levels.

While I see that my studies focused on the contribution of the application of the use of modern technologies in achieving the development of the quality of university education.

**5. The reasons for the need to follow the method of modern technologies** in the application of total quality in higher education, who interested in educational put high hopes on the role technology in the educational process and they believe that the use of modern technology in education will lead to:

1. Educational Technology achieves a positive participation of students in the educational process.
2. Improve the quality of education and increase its effectiveness by solving the problems of overcrowded classrooms and lecture halls to face the shortage of qualified faculty scientifically and educationally
3. Taking into consideration individual differences among students and combating illiteracy, which is an obstacle to development in various fields.
4. Training teachers in the areas of preparing goals, teaching materials and prepare exam by using modern technology methods.
5. Will increase the student's positive participation in gaining experience, developing his ability to think and accuracy of observation and follow scientific thinking to reach a solution problem. This method improves the quality of education and raises the level of student performance.
6. It has become necessary for those interested in education to face the challenges age through use modern technology to achieve the quality of education in order to carry out its responsibility in the development of society.

#### **6. The concept of modern technologies in the development of the quality of university education**

The expression technology refers to the organization of technical skill. It means technology that has been applied to techniques, skills or arts, to study skills logically to perform a specific function. Technology is the systematic application of scientific knowledge or organized knowledge for practical purposes. While some see in modern technology a great culmination of the success of the human mind in the control of nature and adapted to the benefit of man and human, we find that others see the same technology as a frightening ghost threatening the environment pollution and destruction, and human destruction (atomic war, chemical and the life of the disappearance... etc. (Antonius, 1982)

We conclude that technology is a systematic method that follows knowledge. Technology as Processes means the systematic application of scientific knowledge and technology as product means the tools, devices, and materials resulting from the application of scientific knowledge, technology as a process and products together and used in this sense when the text refers to Processes and their outputs together, such as computer technologies.

#### **7. The reality of education in the Arab world and challenges**

Today, the world is witnessing an unprecedented revolution in information, facilitated by its breadth and spread, and the tremendous progress in the means of communication and information technology, changing the concept of time and space, and taking globalization, openness and freedom of flow of information, materials and individuals, etc., forcing the countries and peoples of the world to deal with These data and respond to their requirements, and make the most of them to be able to live in the safe in the twenty-first century.

The Arab countries are the most needed to deal with these variables, where the gap between them and most of the worldwide, although the various life institutions demanding excellence and keep pace with development, the educational institution is the first such a claim, Which is responsible for preparing a generation capable of absorbing and dealing with contemporary developments, leading change towards progress and development, and enabling our Arab nation to take its role in the world of the twenty-first century. (Malkawi, Najadat, 2007)

The revolution of information and technology in the world forces us to move quickly and effectively to join this revolution. For those who lose their place in this scientific and information race, they will lose not only their leadership, but they also lose their will. This is a possibility that we cannot tolerate. <http://ar.wikipedia.org/wiki>

### 8. The technological challenges facing Arab education and how to solve them:

The first challenge is to prepare the staff capable of achieving this great transformation, which requires the creation of an educational structure through which the student builds his educational experience by teaching him how to the use of all sources of knowledge and all means of assistive technology. Therefore, schools and universities must be equipped with multimedia, advanced science labs and a reception hall to broadcast educational channels and then train faculty members in local training centers in the governorates, specialized central training, advanced science laboratories and distance education, e-learning.

### 9. The impact of the application of electronic testing and evaluation systems using modern technologies in the development of the quality education in Saudi universities.

Based on the literature of the study through the descriptive method used in the study, the collection of studies, reports and books related to the subject of the study requires all universities in the Kingdom of Saudi Arabia to reconsider the methods of student assessment and update, development and to be generalized using modern technology in the measurement of direct output and others directly.

### 10. Conclusions

1. There is a gap between the developed countries and the developing countries, due to progress in science, technological development and methods of education, which has become characteristic of the age.
2. There are many constraints facing technological development in the Arab world such as political, administrative, financial, social and cultural.
3. Professor of the university has great roles and effective in the process of technology development, and he can lead the society to the ranks of developed countries.

### 11. Recommendations

- E-Evaluation is an urgent need to achieve the continuous development for a student, the faculty member, the curriculum and all other means used to achieve the goals and mission of the University.
- Coordination between Arab countries in the fields of education and technological development.
- Importing suitable technologies and adapting them according to the conditions of our Arab environment.
- Training of university professors within the Arab world or abroad to improve the quality of education.
- Developing educational, research and technological policies in the Arab world.
- Reduce the brain immigration outside the Arab world who need encouragement to develop modern technology.

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