

# The Role of Computing Process in Development of Education System in Secondary Schools in Jordan from 2005 to 2015, Empirical Study

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## Abstract:

**T**he development of scientific research institutes and institutions of higher learning in innovative ways not possible without creating and improving the infrastructure of information, which is primarily in the intellectual activity of information through the use of information and telecommunication technologies. This paper deals with the role of information technology (IT), the study of implementation problems, the development and use of modern IT in science and education. Also, it is worth nothing to mention that this paper is aimed at the investigation of the role of computing the educational system in Jordan from 2005 to 2015.

**Key Words:** Computing, education in Jordan, computerization, modern education.

## I. INTRODUCTION

Plenipotentiary of the education authorities in the Hashemite Kingdom of Jordan (from now on - Jordan) is the Ministry of Education (MOE). This establishment uses the modernization of the educational system is for the development of the country. Ministry of Higher Education and Scientific Research delegated the following powers - the development of higher education policy and submitting it for approval to the Cabinet of Ministers, the allocation of public funding to public universities, the adoption of the directions and programs at all levels, the registration of institutions of higher education (Joseph, 2009). As well as monitoring the activities of the universities, the approval of the annual admission criteria and the number of students. Determination of requirements for accreditation of higher education institutions and control of their implementation within the competence of the Accreditation Council. In 2009 in Jordan by the Law on Higher Education was formed Board Of Higher Education, and Accreditation Council, reporting to the Ministry of Education.

The level of literacy in the Kingdom of Jordan is ninety-three percent. Among the developing countries and the Arab literacy rate in Jordan is in the first place. The education system, according to official figures, occupies the eighteenth place in the world. More than twenty percent of the budget is spent on maintenance of educational institutions (Moore, Dickson-Deane, & Galyen, 2011). About research, Jordan ranked first in the Arab world. Per million inhabitants, two thousand scientists. By world standards, the country occupies the thirtieth position in this matter. By the number of the place of Jordan Engineers defined as ten, and in the Arab countries took again first by the number of graduates of technical colleges.

Nearly one hundred percent of the population entire primary and secondary schools and about eighty percent of the graduates receive a higher education and then. This level is very high for a country with very middle-income countries. Jordan topped the list of Arab countries regarding content on the Internet, the proportion of it is exactly three-quarters. Secondary education consists of several stages. After a ten-year basic course, students can continue their studies either in the direction of a professional or academic, which gives the right to enter the university. At the end of the vocational course, students can go to college. Instead, you can choose any international educational programs, which are often offered by private schools. They are trained about a quarter of all the country's students.

From the reform of 2009 higher education has a clear dual structure: the program of the university sector of higher education implemented in universities; professionally oriented programs of post-secondary education - college ("الأردن | Jordan | U.S. Agency for International Development", 2017). In the academic sector of higher education programs are implemented following levels: programs leading to a bachelor's degree, master's degree or postgraduate diploma and doctorate. Admission to higher education programs in public universities by the results General Secondary Education Certificate and entrance examinations for four subjects. For certain professions (medicine, dentistry, pharmacy, engineering) both in public and private universities is set to receive a high enough passing score results General Secondary Education Certificate.

In professionally oriented educational programs of post-secondary education with the standard duration of 2 to 3 years, implemented in the field of banking, commerce, medicine, pedagogy and electronics, take the holders of the certificate of secondary education. Upon completion of training graduates, subject to passing the exam receive a diploma Intermediate (Intermediate Diploma). This qualification, as a rule, intended for access to the labor market.

## **II. LITERATURE REVIEW**

Modern Information Technology is defined as continuous treatment processes, storage, transmission, and display information to make efficient use of information resources, equipment, and funds of computational data in the management systems of various classes and purposes. Information Technology impact on all aspects of human activity, significantly increasing the degree of automation of information processes, which is a prerequisite for accelerating the pace of scientific and technical mastery of progress.

Information Technology plays a significant role in providing information interaction between people in the preparation, processing, and dissemination of information in the processes of development and accumulation of new knowledge (Bush, 2012). Most IT implemented using software and hardware systems, consisting of personal computers with the necessary set of peripheral equipment, included in the local and global computer networks and provided with the necessary software, which increases the degree of automation enhances the efficiency of both the educational process and scientific research.

Modern IT is the foundation on which it is possible to build a modern university or work of other educational institution. Also, the system of higher education is an active participant in the IT development process (Garrison & Anderson, 2003). IT significantly increases the level of efficiency of work in science and teaching by simplifying and accelerating the processing, transmission, and presentation of information (Rosenberg, 2004). Also, ensure the accuracy and quality of tasks and possibilities of implementation of previously unsolvable problems.

In the field of technology and research activities of the educational process quite a lot in common. This applies to information security, the application of mathematical and intellectual and logical problem-solving methods, presentation of results, and management of these processes. The quality and efficiency of research are primarily related to the level of computer usage. In modern conditions the unique opportunity of realization of computing algorithms by the so-called supercomputers.

The system approach research begins with the collection and preliminary processing of scientific and technical information on research, to minimize or eliminate the risk of unnecessary time to have solved the problem, to study in detail the whole range of questions on the subject in question and find the most efficient scientific and technical solution (Pinker, 2015). Automation of procedures for collecting and processing science and technology information provided by the use of specialized information retrieval systems with libraries and research institutions, research programs on the Internet, search in databases (Januszewski & Molenda, 2008). The complexity of the organization of which can be significantly reduced with the use of optical character recognition systems ensuring the processing of scanned documents and export them to the database. Widely used computing capabilities for logical, functional and structural modeling, and the use and universal application of the system, such as Excel, QuattroPro, MathCad, and by Feature software Finally, the researcher can build and unique cybernetic process, based on algorithmic languages lower level (Rich, 2013). Preparation of scientific papers, saturated mathematical and chemical formulas that have several levels is achieved using a special editor for scientific documents, integrated systems for mathematical and engineering calculations (e.g., MathCad system).

## **III. METHODOLOGY**

In this paper is used the analytical survey of investigation of the educational system in Jordan. In this paper is analyzed the stages of education of every person in the country. It is mentioned above in the text. At the stage of processing the results of the largest application of research finding software to ensure execution of mathematical calculations using probability theory, the theory of errors, mathematical statistics, vector and raster image analysis. Processing of research data, which is often, represented in a tabular form, and very efficiently executed using table processors. Spreadsheets are used in all stages. Most effectively the problem of computerization of research implemented within the framework of the automated systems of scientific researchers. Computer processing of the results of scientific and other research - a necessary and significant stage of their submission. Including presentation in graphical and textual forms. Of particular note area of a public presentation of material: Reports, reports, lectures (Moore, Dickson-Deane, & Galyen, 2011). Here we have not merely to simplify and accelerate the preparation of illustrative material, but also a major qualitative improvement. There was the possibility of extensive use of color, sound, and animation. It is hard to overestimate the importance of these new opportunities in the educational process. Computerization of university education - a necessary condition for a qualitative training of future specialists in modern conditions of intensive development of information and communication technologies, and improve the competitive level of the university in the educational market. In the development process of informatization of education are trends form a continuous system of education, the creation of a consistent information educational space, active introduction of new means and methods of training. Furthermore, focused on the use of data processing techniques, textual, graphical and numerical information; multimedia and "virtual reality"; artificial intelligence, and distance education. Educational multimedia technology (providing information in the form of video with animation and sound) and hypermedia technology (computer representation of different types of data, which is automatically supported the semantic connection between the selected concepts, objects or partitions) are the development of programmed instruction techniques. Virtual reality as a means of non-contact information exchange is realized with the help of sophisticated multimedia environments, creating the illusion of direct entry and presence in real-time stereoscopic views "screen world" (Joseph, 2009). Educational computer telecommunication networks allow for distance learning, where the teacher and the student are separated by space and (or) in time, and the learning process is carried out using telecommunications. The most commonly used means of training in to become a network educational aid, computer training systems in a multimedia version, audio video training

and informational materials. The primary object of the system of education is the learner. In this case, the main task of education is to give him the necessary information for the study discipline, ensuring its storage and the development of the ability to use knowledge in practice. Students' knowledge can be obtained as a declarative (computer manuals, test and control programs, reference and educational databases, training videos), as well as procedural Informatics (simulation models, object-oriented environment, and developed based on these laboratory courses, fitness center, game programs) methods.

To sum up, everything mentioned above, from my point of view, it can be concluded that this country has a great prerequisite for success in the educational field. This educational system meets all international standards and develops along with the leading countries of the world. Also, it is worth nothing to mention that in this country from 2005, there are a big amount of changes in educational process listed above.

#### IV. CONCLUSION

The comprehensive development for any country depends on development of many sectors such as economic, agriculture, and education sector, these vital sectors contribute shaping the matrix of the country. Previous decade witnessed a significant improvement in the educational process in Jordan; it was reached all the academic levels, to increase the ability of students for thinking and achieving the success. This paper focused on the role of computing process in developing the educational process in secondary schools that increasingly show the improvement in academic performance for the students.

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