

Contemporary changes in modern technology In Iraqi educational institutions

التغيرات المعاصرة في التكنولوجيا الحديثة في المؤسسات التعليمية العراقية

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Abstract:

The use of information technology has proven its role in developing the educational process and the ease of accessing information to the student without limiting it to the classroom, where computing has enabled it everywhere. Which has many benefits for the student and the teacher.

However, the process of integrating information technology in education may face some obstacles that relate to the resources and technological means that may disappear in the coming years with the development of different technology means and the widespread use of it among people and others related to people, which requires good training in the use of this technology in education to eliminate these There are some obstacles that must be addressed in the future, such as:

-1Security and privacy issues for the teacher and the learner, as all materials are now available online and accessible to all

-2The tremendous increase in the number of students of the higher academic stage and the possibility of absorbing it in an active manner to participate in the scientific programs, has become easy and possible at any time.

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And the researcher came out with the most important results after her survey of: University of Baghdad and Al-Mustansiriya*

First: The level of application of borrowing by adopting information technology to demolish the loan was 80% in Baghdad University / Jadriya, while its percentage in the Central Library / Al-Mustansiriya University was 78%.

Second: The level of application of modern technology in the indexing and classification unit at the Central Library / University of Baghdad was 63%, while its percentage in the Central Library of Al-Mustansiriya University was 60%.

Key words: information technology, educational technology, educational institutions, contemporary technology, technology and change

الملخص:

ان استخدام تكنولوجيا المعلومات اثبت دوره في تطوير العملية التعليمية وسهولة وصول المعلومة الى الطالب دون الاقتصار على الغرف الصفية حيث مكنت الحوسبة في كل مكان ذلك . مما له كثير من الفوائد على الطالب والمعلم .

الا ان عملية دمج تكنولوجيا المعلومات في التعليم قد تواجه بعض المعوقات التي ترتبط بالموارد والوسائل التكنولوجية التي ربما ستختفي في السنوات المقبلة مع تطور وسائل التكنولوجيا المختلفة وانتشار استخدامها المكثف بين الناس والبعض الاخر المتعلق بالانسان والتي تقتضي التدريب الجيد على استخدام هذه التكنولوجيا في التعليم للقضاء على هذه المعوقات وهناك بعض المعوقات التي يجب معالجتها في المستقبل مثل :

1- قضايا الامن والخصوصية لدى المعلم والمتعلم كون جميع المواد اصبحت عبر الانترنت وفي متناول الجميع .

2- الازدياد الهائل لعدد طلاب المرحلة العلمية العليا وامكانية استيعابه بشكل فاعل للاشتراك في البرامج العلمية اصبح سهلا وممكنا في اي وقت .

وخرجت الباحثة بأهم النتائج بعد استطلاعها المسحي لكل من : جامعتي بغداد والمستنصرية
اولا : كان مستوى تطبيق الاعارة باعتماد تكنولوجيا المعلومات لخدمة الاعارة بنسبة 80%
في جامعة بغداد / الجادرية ، بينما كانت نسبتها في المكتبة المركزية / الجامعة
المستنصرية 78% .

ثانيا : كان مستوى تطبيق التكنولوجيا الحديثة في وحدة الفهرسة والتصنيف في المكتبة المركزية / جامعة بغداد 63% في حين بلغت نسبتها في المكتبة المركزية / الجامعة المستنصرية 60%.

الكلمات المفتاحية: تكنولوجيا المعلومات، تكنولوجيا التعليم، المؤسسات التعليمية، التكنولوجيا المعاصرة ، التكنولوجيا والتغيير .

Introduction :

The introduction of information technology in educational institutions has become a prerequisite for the advancement of the level of its services in light of the vast amount of information and rapid developments in the production of modern technologies from computers, software, means of communication and information networks, especially the Internet, which has radically changed the environment of libraries and worked to transfer them from a traditional library to an electronic one from Through relying on web technologies and contemporary technological changes taking place on systems, software and modern means of communication, which contributed to developing their services and providing them in an automated manner and providing electronic information sources that meet the needs of the recipient Yen from researchers and academics in order to raise the level of services to be a modern library, able to face various challenges and to ensure continuity and benefit from them.

And since change is an imperative facing university libraries continuously, this must be reflected in organizational changes that include human resources, structures and technologies. Information technology is one of these essential ingredients for change, which contributes to improving and developing services inside and outside university libraries and educational institutions in general.

To achieve the goals of the research and answer the problems and challenges facing these educational institutions, the researcher divided the research into three sections:

The first: The research methodology included.

The second: introducing information technology, organizational and contemporary change of educational technology, and the advantages of integrating technology with education.

The third: It dealt with the basics of technological change in educational institutions and the most important challenges and obstacles facing education, while incorporating information and recommendations that came out with it.

The first topic

Research Methodology

The problem: The current era was characterized by the technological revolution and its expansion in many fields in a way that had not been witnessed by societies before, which resulted in many rapid changes. This led to the advancement of educational institutions, including university libraries, which were known as the major transformation as a result of the information explosion. Which necessitated her to develop its software and activate its operations and technical procedures to achieve the best internal and external results.

As a result of the increase in technical development, which caused great pressures on libraries to adapt to these developments and to ensure their continuity and exploitation and take advantage of the possibilities within them and to reduce the negative effects that lead to their ineffectiveness in achieving the wishes of the beneficiaries and face the challenges by providing a strong infrastructure for information technology that is dependent on computers as a basic tool. With all its programs and activation with the huge communication networks from the Internet, which affected and did the traditional work machine, it became automatic. It affected the office services by providing speed, accuracy and improving performance, which was imposed on them to the electronic library. To enable the beneficiary to access the sources of information through direct contact or using hard and floppy disks, which contributed to bringing about organizational, contemporary and technological changes to university libraries.

The research problem focuses on the process of understanding technological change from the side of workers and adapting to it first,

and what are the challenges that stand in the contribution of technological changes and developments in university libraries.

The importance of research: It comes from:

- 1- The importance of linking contemporary technological changes and developing university libraries on the one hand.
- 2- It is the importance of information technology as a resource that helps in conducting administrative and organizational work for university libraries.
- 3- As well as encouraging workers to adopt the information technology project and employ it in administrative and technical transactions for university libraries.

Research objective: The research aims to:

First: Encouraging university libraries in their application of information technology in order to bring about organizational and technical change and to impose their survival and permanence.

Second: Knowing the factors that led the university libraries and the urgent need to use them for information technology in order to bring about change in their technical and organizational procedures.

Third: The need to move from traditional methods and replace them with modern technologies to ensure the continuity and permanence of university libraries.

Methodology: The researcher adopted the (descriptive survey) approach

The second topic

What is information technology?

Information technology is known: it is a group of means, devices and programs that facilitate the transfer of information and exchange within the institution or between different institutions, and this

includes the collection, storage, comparison, analysis and planning of ease of use at the appropriate time ⁽¹⁾.

The organizational change of information is defined as the effect of making adjustments to the goals and policies of the administration in any of the elements of the work targeting one of the two things which are appropriate to the conditions of the institution and the methods of work of the administration and its activities with the changes and new conditions in the surrounding climate for the purpose of creating compatibility between the institution and environmental conditions or the use of conditions and methods New activities bring the institution a new advantage ahead of other institutions ².

Organizational change: It is defined as the radical or gradual transformation of structures, human resources, equipment and methods of work that includes the process of organizational development *.

Definition of university libraries:

It is a scientific, cultural and social institution that aims to collect and develop sources of information in various ways (purchasing, gifting, exchanging, depositing) and organizing them (indexing and classifying them)

And retrieve them in the shortest possible time or present them to the community of beneficiaries (readers and researchers) for their difference through a set of traditional services such as borrowing services, references, periodicals, photography, and modern services such as ongoing briefing services, selective broadcasting, through human resources qualified scientifically, technically and technically in the field of information science and libraries ⁽³⁾.

The Concept of Instruction Technology:

1-Qandilji, Amer Ibrahim. Carpenter, Hass. Information science, systems and technologies, _ Oman, Dar Al-Masirah, 2015, p. 87.

2- Ali Al-Salami, The Evolution of Organizational Thought, Cairo - Dar Gharib, (D.T.), p. 256.

* Michal /Barabel.olivier, Meron, Manager . Paris Dunod. 2006 , p.386 .

³Mabrook , Al-Saeed. University Library Regulations in the Digital Age, Amman, Al-Warraq Foundation, 2014, p. 65.

The term educational technology has emerged as a result of the scientific and technological revolution that began in the 1920s when the world launched (Finn) this name and means planning, preparing, developing, implementing and fully evaluating the educational process in all its aspects and through technical means working with it and in harmony with the human elements to achieve the goals of education¹.

There have been many and rapid developments, especially in the field of e-learning technology. The following definition of educational technology has emerged as “the study and ethical practice of facilitating education and improving performance by creating appropriate processes, technology sources, use, and management”².

Contemporary technology changes:

The field of change in technology is determined by the discussion factors that organizations face or creativity requirements. As organizations go to change in technology related to devices and repeaters or methods of work or automation or provide a new service such as (the use of new automation and advanced information systems or communication networks).

The change in technology can be seen through the organization's pursuit of its old repeaters with new ones that require new methods and processes, as well as it needs to schedule operations and set priorities for a new implementation and change in its internal design³.

So it is to focus on modifying work methods by re-dividing the physical elements from machines, equipment, and work methods.

Information technology requirements in libraries:

¹Hamid, RababShaaban, Activating the Role of Technologies in the Educational Process, 2015, p. 82.

²Al-Mallah, Thamer, The New Concept of Educational Technology, Faculty of Education, Alexandria University, New Education Blog on 9/9/2015.

³Al-Ghazali, Ismail, Change Management and Remedies, Ramah Center for Research and Human Resources Development, 2014, No. 1, pp. 6-7. http://ptuk.edu.ps/ptuk_library/pdfs/remahJournal13pdf

The application of employment of information technology in libraries requires adequate studies of what the library needs in order to achieve the information flow and achieve the desired goals behind its use of technology, and the most important of these requirements:

First: Providing specialists with a high degree of ability to think, plan, renew and create in order to enter the market of popular information that intensifies competition between libraries.

Second: Pay attention to management trends and the scientific content you use to support innovative technological change.

Third: The need to adopt social change as a basic means to provide a suitable climate for the application of information technology in libraries, and this requires paying workers and preparing them psychologically to absorb and understand the use of information technology and the desire to benefit from it to achieve various needs

Fourth: Developing a supportive culture and climate that facilitates the application of information technology, participation in information, and flexibility in the performance of roles in the realization of technical excellence and excellence. The library that loses this orientation fails to realize the new opportunities presented to it by information technology.

Fifth: The effective use of information technology often requires making some changes in the organizational structures and administrative systems that deal with technology ¹.

The pros of integrating information technology in education:

The use of modern information technology in teaching and learning has a major role in the development of the educational process where information is easily accessed and interactively processed and other positives such as:

1- The ease of spreading science through the learner being able to see various scientific sources, regardless of his location at the university,

¹<http://www.angetfire.com/a14/m51/emen/reserchmortada.html>

which often reduced the percentage of dropping the course in universities because the course is available online ¹.

2- The ease of exchanging information between students, which enriched their educational level and increased expertise.

3- Encouraging the student to accept the other by participating in joint projects in the educational process, which leads to encouraging academic cooperation at the university level ².

4- The teacher was able to diversify the methods used to present information such as photos, videos, animations, augmented reality technology and virtual reality, which in turn attract the attention of students and facilitate their access to information ³.

Barriers to integrating information technology in education:

The process of integrating modern information technology in the education sector faces some obstacles that may shift from the effectiveness of its use, which can be classified into two parts:

1- External Obstacles: which means those obstacles that are related to tools and materials and not to the human being, such as lack of resources, lack of time, poor absorption by institutions for modern technology methods or problems of the Internet and computer networks, and these obstacles can be eliminated by developing the infrastructure of information technology in educational institutions And provide internet permanently.

2- Self-constraints: These constraints are related to human related factors such as:

a. Lack of confidence among teachers, the reason why they refuse to use the new technological tools for lack of experience and fear of failure if students have a better background on the use of computers

¹Barbara Martinez, Computer Integration in Classrooms, 2010, 4/14/4

²Glen, Maria and D'Agostino, The future of higher education, What will education technology look like - New Media Union, 2008

³Schools Digital Strategy (2015-2020), Teaching, Education and Evaluation, 2015.

and modern methods, and this can be overcome with extensive teacher training on the use of this modern technology.

B. The lack of desire for change in the teacher, as he sees that there is no need to change his method of education and the use of modern methods, and this obstacle is not very much found in developed countries in which the teacher sees the use of technological means that have the greatest impact on students and the development of the educational process.

C. The cost of some software and electronic tools is high, which cannot be provided in underprivileged environments¹.

Challenges of using information technology in the educational process:

The use of information technology has proven its role in developing the educational process and the ease of accessing information to the student without limiting it to the classroom, where computing everywhere enabled it.

The process of integrating information technology into education may face some obstacles that are related to the resources and technological means that may disappear in the coming years with the development of various technology means and the widespread use of it among people. With regard to the human being and what requires good training in the use of this technology in education to eliminate these obstacles².

There are some challenges that must be addressed in the future, such as:

- 1- Security and privacy issues for the teacher and the learner, since all the material is now available online and accessible to everyone, so there is no privacy of information as a result.

¹Khalil Abdullah, Barriers to the Successful Integration of Information and Communication Technology in Learning Environments, Eurasia Journal of Mathematics, Science and Information Technology, 2009, pp. 235-245.

²Muhammad Al-Hadi, Information Technology and its Application, Amman, 1989, p. 45

- 2- High educational degrees such as masters and doctorate degrees, and how to treat them in the traditional way or applying modern teaching methods.
- 3- The tremendous increase in the number of students of the higher academic stage and the possibility of absorbing it effectively, as participation in scientific programs became easy and possible at any time.

Therefore, the number of students is increasing significantly, and there is a study showing that the number of students will increase by 25% in the coming years¹.

The role of modern technology in education in improving the level of university education:

The areas of development and improvement of educational technology can be summarized as follows:

- 1- The trend towards the use of a fast and enjoyable way: The increased demand for computers and related services has been reflected in higher education with increasing interest for universities and institutes by disseminating information about academic programs and the contents of scientific subjects, and this is an indication that these universities keep pace with the development of the level of education.
- 2- Providing a flexible learning environment: The use of educational information technology makes the student connected to educational programs at the appropriate time for him and this creates an independent learning environment from the student's point of view with temporal and spatial flexibility and enables them to use electronic discussion panels.
- 3- Creating new areas for learning: The offering of educational programs through information networks and the presence of many sources of information and the intensity of the volume of information offered by several parties, which differ in their

¹Horizon 2014 Higher Education Report, 2014 .

reliability and relevance, which makes the inventory of what is useful of information leading to creative thinking for the student user and this is what Gain skills in solving problems.

- 4- Expansion of the communication network: The use of education via the information network opens the way for a discussion of communication between a group whose members may belong to several countries or cultures and this broadens their perceptions and opens up for them new fields and horizons for learning and knowledge of different cultures across the world and access to research results published on websites.
- 5- Contributes to research and development processes: developments in research and the dissemination of scientific research as a result of the use of education and communication technology, thanks to the use of technology to transfer between interconnected ideas in the book automatically using the language of introductory texts, as this technology enables him to communicate with other books electronically¹.

The strategy of contemporary technological change in university libraries:

Educational technology and the Internet have contributed to the ability to browse international libraries and obtain references, articles, magazines and newspapers simply and at the lowest cost.

It also provided technological education via the international information network to the emergence of the so-called virtual universities through distance learning for all levels, as well as the entry of researchers on various websites and the collection of data and information from various sources, strengthened the sobriety of scientific research and the emergence of specialized websites for electronic publishing and in the field of specialization, and the

¹Noura, Qunayyah and Asma, Qaraqosh, an intervention in modern information and communication technology between the real and the prospect scientifically, the second national forum on computer and information technology in higher education (2014) Algeria.

possibility of translation To various languages to access the research published through search engines ¹.

Developments in the field of information and communication technology applications have contributed to the development of knowledge organization, storage, access and retrieval with ease and high accuracy. This technological development has led to the development of public libraries and university libraries in particular in all aspects of the work environment to workers and employees as well as groups and services, so that computers become computers Information networks and electronic resources are an integral part of the library's structure. These technological changes, which are growing at an accelerated rate, represent trends towards knowledge rivalry, and library managers cannot predict future trends. to her ².

Types of technological change in libraries:

The concept of technological change in libraries can be defined as: the term used to describe the processes of adopting projects and the use of modern technology to achieve the advantages of continuous improvement by working on the dependence of various information technology applications that contribute greatly to the optimal investment of the various library resources ³, and here we can refer to three Types of technological change that can be observed in libraries are:

- 1- Progressive technological change: It is a change that occurs in a gradual and sequential and regular stages. This change tends only to be phases and the type of changes at each stage of it are small and at relatively long periods but in their entirety lead in the long term to improvement in the general performance of the library and without affecting workers In a negative way, it also does not

¹Faisal Alwan, Department of Technology Change in the Iraqi University Libraries, Iraqi Journal of Information Technology, Vol. 6, No. 1, 2014 - p. 7.

²Faisal Alwan, previous source, p. 6.

³Definition of technological change , reported in technology dictionary , www.dictionaty.refrence.com/browse/technology , see at 12/1/2016 .

intersect with the library's methods of work or methods of providing services ¹.

- 2- Comprehensive strategic technological change: This type of change is considered an absolute fundamental transformation in the library with which the business environment or organizational structure of the institution often changes or the type and direction of services provided to beneficiaries. This type of change may come as a response to a crisis in work or change Comprehensive in the library's organizational strategy so that the library, its divisions and services after this type of change look completely different from what it was in the past ².
- 3- Intermittent unstable technological change: This type of change differs from the previous two types in that it represents a unique case and describes a state of turmoil in the library's business, which requires effective and different management skills with it. It presents to the manager the challenges of leaving the group of mistakes of previous administrations and not Stability among workers due to the failure of technology change projects or their failure, and by this description the library administration will need to use innovative administrative methods to overcome these obstacles³.

Information technology and library automation:

The proliferation of technological means of computers, software and means of communication linked with each other has led to the emergence of the concept of information networks and works to transfer information through the use of different communication methods, especially with the emergence of the Internet that enabled users to access a huge amount of information at any time and any place in different forms From texts, pictures and video where a new

¹Stevan R. walk . Quantitative technology forecasting techniques. technology change'.

<http://www.intechopen.com/books/technological-change/quantitative-technology-forecasting-techniques> see at 2/12/2013

²Aurora Teixeira Technological change , INTEACH: shanghai , 2012 , p.199.

³Michael Quinton Smith , The impact of information and communication technology change on the management and operation of academic libraries, Research project submitted impartial fulfillment for the degree of magister in library and information science , 2005 , p.9.

type of library has emerged called the electronic library, which enables users to obtain electronic information sources through communication networks in the least time and effort and possible cost¹.

Recommendations:

- 1- Greater interest in increasing the efficiency of using educational technology and its role in the quality of higher education and setting future strategies and plans for developing and updating information in Iraqi universities.
- 2- Increasing cooperation between Iraqi universities and between international universities and scientific forums, and encouraging researchers to publish in the Scopus database, Google, Scholar, and others, in order to exchange and learn about global cultures.
- 3- Connecting the Iraqi higher education institutions to the internet, transferring their scientific research achievements on the university's website to find intellectual communication with the world, linking libraries to international networks, and converting their contents online for easy browsing and constantly updating.
- 4- The importance of standardizing computing systems for library work among Iraqi universities in general, which could pave the future for cooperation among them in the field of training, exchange of experiences, and providing services for beneficiaries.

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