Computer Literacy with Skills of Seeking for Information Electronically among University Students

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Zainab Hazim Ibrahim(✉), Ban Hassan Majeed, Lina Fouad Jawad
College of Education for Pure Science / Ibn Al-Haitham, University of Baghdad, Baghdad, Iraq
zainab.h.i@ihcoedu.uobaghdad.edu.iq

Abstract—Computer literacy is an urgent necessity for university students, given the rapid development in the means of communication in which we live in this era, and the flow of abundant information. Mainly on the computer in all administrative and academic transactions, where first of all the registration for the semester is done through the computer. Computer culture has many characteristics and advantages that distinguish it from other sciences, including the concept of computer culture that cannot be defined absolutely, and it is difficult to define its levels, because the specifications of the computer-educated individual differ from one individual to another, and from time to time also, you find it a luxury in a country What, and you find it necessary in another country. In order to measure and know the level of computer culture among university students, a computerized scale of (40) items with five multiple-choice alternatives were built. In order to know that they have the skills of searching for information electronically, a computerized scale of (21) items were prepared, and a five-point Likert scale was adopted. Results showed that they have computer literacy and therefore they have skills of searching for information electronically at all.

Keywords—computer literacy, skills; seeking for information, electronically, university, students

1 Introduction

Our current era is called the era of the scientific, information and technological revolution, the era of the knowledge explosion, the emergence of technological inventions, the most important of which is the computer. Where the computer entered all fields of contemporary human activity and its use accelerated, and this was reflected on the education organization with all its elements [1]. “CL” concept is a useful for students and faculty members for flexible and easy learning and teaching. It gives students many opportunities to know their strengths and weaknesses to create a customized learning experience that suits the needs of each student and gives the ability to manage classes, whether they are in-person or online, in order to create a desirable interactive learning environment. It helps in planning, executing, and communicating instructions in multiple forms because it is organized around learners' needs and is relevant to their digital

skills. It provides the opportunity to understand, learn from each other and enhance the learning process [2].

2 Computerized Literacy (CL)

Literacy is the cumulative growth of the techniques, habits, and beliefs of a people. This cumulative growth is transmitted to the younger generation through parents and through educational processes. As for computer literacy, it is the basic information and skills necessary to use computers so that students can benefit from them [3-6]. Computer culture is not limited to specialists and those working in the field of computers. An individual who is not a computer specialist can be computer literate, although it is not a field for his specialization and his work, especially since the sources of computer culture have become available through the media and the Internet [7-9]. It is a contemporary functional culture, which is not an end in itself, but a means in serving the individual and contemporary society in solving problems and keeping pace with development. It represents an appropriate amount of computer-related information, skills, and attitudes [10-12]. CL has received, and continues to enjoy, great care from researchers, due to the importance it occupies in the life of the individual and society after the use of computers spread in various fields. Therefore, "cl" spread in the eighties of the twentieth century, as the follower of scientific periodicals in the field notes that this concept was not widespread before that period. This concept indicatives, like other concepts related to the computer, such as technological culture or information culture, and other concepts. This concept has developed to suit the needs of individuals to interact with a computer-based society. So, studies have confirmed the importance of computer culture and the importance of using computers in the educational process [13-15]. Computer literacy for students was considered the focus of educational researchers in the United States of America, and great efforts were made in France, Britain and Japan to eradicate computer literacy. Also Researchers in Italy were interested in searching for The best topics of content that can be presented to students in the field of computers during the different educational stages, and the best methods that can be used in teaching content to students [16-18]. It is difficult to achieve computer literacy in a short time, as it is one of the long-term goals that require a relatively long time to achieve, and this depends on the required level of computer literacy. It changes with the change of time, due to the rapid development in computer science [19-21]. The importance of computer literacy is believed that computers have many positive effects in our lives. This does not negate the existence of a group of people trying to focus on the negatives of using a computer without the positives. This may be due to the nature of humanity to resist change and highlight the negatives at times, but the most important reason is computer illiteracy and lack of reading and practice. These people are often blamed. The computer, and they express their anger at it, especially if mistakes occur that affect their lives directly or indirectly, but these mistakes are attributed to the user of the computer and not to the computer itself. If the process of entering information and data is correct, as is the case for processing operations, the results must be correct and accurate [21,

22]. Accordingly, looking at the computer and its fields of use is closely related to culture in general and to computer culture in particular. This means that the computer culture helps to break the barrier between the individual and the computer with its physical components and software, which makes him accept to use the computer without fear or hesitation. And the more his computer culture grew and his knowledge in this field increased, the more his confidence in the computer became established and the greater its effectiveness in using it and its contribution to harnessing it to serve the community [23-25]. CL has different dimensions, the cognitive dimension includes the information necessary to understand the nature of computer technology, its characteristics, principles, and its relationship to science and society. The skill dimension includes the mental and practical skills necessary to deal with technology, and its applications. The social dimension includes the positive and negative effects on individuals and societies that result from technology. Ethical dimension means setting limits for dealing with technology, adhering to those limits, and resolving legitimate and legal issues when these limits are exceeded [26-28]. Components of "CL" are Knowledge of computer hardware and software components and its accessories; understand the computer and its uses; connect to the internet or other networks, if any; use application programs with high efficiency; program a computer or deal with one of the programming languages; change the file name; select a non-sequential group of files; open a website on the Internet; browse websites easily; create my own E-mail [29, 30]. There are a set of computer literacy standards that a student must meet in order to be computer literate, including the ability to use windows applications such as word, excel, use the mouse and keyboard, edit and format texts, save and open files, Typing, clicking and dragging, cutting and pasting, navigating between menus and toolbars, minimizing and maximizing, moving and resizing windows. Manage files, create folders, copy and move files, delete them, rename them, find out their types, how drives work, and how all storage devices work. Getting rid of a computer system, by installing and uninstalling software, installing hardware, dealing with and preventing problems, working on operating systems, and how hardware components work. Using the Internet, so that it sends and receives e-mail, surfs the web, uploads and downloads files, how networks are configured, IP address, server and client, and how they are routed through the information network [31-33]. Figure 1 shows standards for education technology from Ohio State.

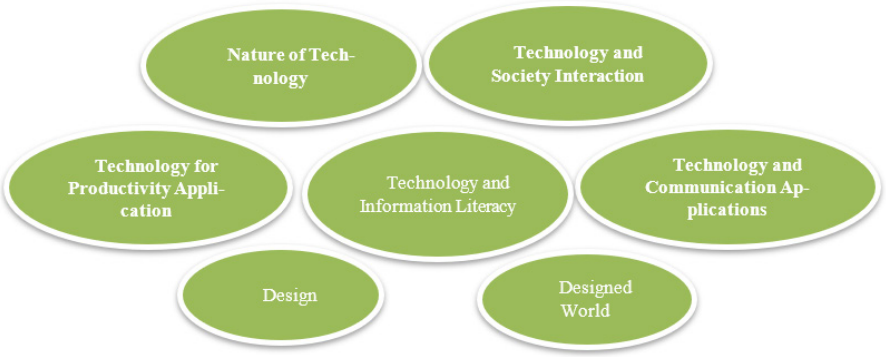

Fig. 1. Ohio State Standards for Technology Education

3 Information electronically

The very rapid technological progress helped to disseminate information from electronic books, electronic magazines and databases on the Internet, which facilitated the process of exploring and collecting information from all over the world while the individual sits inside his office. So the variety of sources of electronic reference materials and obtaining information requires the use of direct contact research, discussion through forums, electronic databases, reading electronic books, CD-ROMs, or the Internet, where the latter provides many services, most important of which are search engines and directories, the World Wide Web (Web) communication technology e-mail which is a technology for transferring files or multimedia or electronic periodicals and magazines [15].

The six major skills model, which is called the information problem-solving model, as it includes a list of the basic steps of the model, which are the basis for information culture, namely (defining the task - defining strategies for searching for information - locating and accessing information - using information - the stage of collecting information (installation) - Evaluation) developing by [34].

Skill of searching for information electronically is procedurally defined as the student-teacher possessing a number of skills represented in defining the task and strategies for searching for information, location, accessing information, using information and compiling it, i.e. (its composition and evaluation), addition to acquiring the skill of summarizing from electronic sources [35]. Strategies and skills for searching for information are the skills for using electronic information sources were classified into four main parts (internet communication skills, Internet search skills, e-mail skills, database use skills) [36].

Through various methods and methods supported by multimedia technology with its various components, to provide educational content through a combination of written and spoken language, static and animated visual elements, and various audio-visual effects and backgrounds, which are presented to the learner through the computer,

which makes learning interesting and enjoyable, and achieved with the highest efficiency, With the least effort, and in the least time, which leads to the quality of education[37, 38].

4 Methodology

The site of the current study is University of Baghdad, College of Education for Pure Science / Ibn Al-Haitham. To describe the study sample, a random sample was selected from (120) students attending the first semester in com. department. The electronic questionnaires were collected, which numbered (240) valid questionnaires for analysis. For the study variables, the first questionnaire contained (40) items that were adopt-ed as scale for measuring "CL" for university's students. Through the test items, general information is known about the student, his gender, major, stage of study, whether he owns a personal computer, whether he is connected to the Internet, whether he has an e-mail account, Facebook, and others. Social media, hardware and tools, operating system and software, networking, communication, use of search engines, knowledge of the steps to be followed to solve a specific problem, ability to use application computer software, i.e., a combination of practical skill and intellectual awareness. In this context to determine digital literacy, the Digital Literacy Scale was used to assess students' digital literacy skills, their habits in using information technology, their demographic information, and their ownership status of IT tools. Second questionnaire contained (21) items that were adopted with five-point Likart scale for measuring skills of seeking for information electronically for university's students [39]. There are 7 skills (Define the task, determine strategies for searching for information, Location and access, Use of information, installation, Evaluation Summing up) [40].

4.1 The computerized test

To implement it, we use a program in a visual programming language to design the test and make it computerized [12]. Such a project is considered the most appropriate because it provides services easily to all users, which will be responsible for storing all data and information and making calculations for it to find out who has a “cl” about who does not, in a way that ensures that this information is not lost. In addition, this program provides freedom to its users, whether they are students of computer science or from other scientific departments and large numbers of users at one time and with high efficiency. So the test is in this well-known, simplified language, is available to students, faculty members, and anyone who wants to take the test and measure the level of his computer literacy.

The research team designed a program in the visual pro-gramming language for measuring the level of computer litera-cy, plus skills of seeking for in-formation electronically, and how to use it, especially when it is used by students of the college departments which are not from computer science dep.; Visual programming language is a language with a vi-sual design, i.e. with a (gra-phical inter-face) unlike other languages such as (assembly) with a black screen. It contains com-mands, and an easy to

implement. It has been developed from the old version to this version DOS which works under the Basic environment that runs under the Windows environment [41].

5 Results and discussion

5.1 CL scale

The first hypothesis, "there is no statistically significant information on the level of the significance content (0.05) in the level of computer literacy among the students of the research sample". To test the validity of this hypothesis, the (t-test) was used to detect whether there was a statistically significant difference based on level of significance as shows in Table 1; below the results of the t-test.

Table 1. SMA and t-value

Number sample	120	
Items	40	
Hyp. Aver.	120	
SMA	178.333	
Std. Dev.	48.405	
DF	119	
t-value	***Cal.***	13.203
	Tab.	1.662
Statistical function (0.05)	Sig.	

First questionnaire contained (40) items, that were adopted with five-point Likart scale for measuring "dl". From the above table we find that all sample students have digital literacy. This is mainly due to the sample being students of the Department of Computers, and therefore because of their continuous dealing with computers and their responses to technological situations, communications and networks. They have knowledge, even if it is simple, as most of them own com-puters and possess information about operating systems, software, and use social media plus e-learning platforms through their scientific materials that receive during their academic years. Which facilitates their acquisition of "CL"? So, students of the computer department are more fascinated by computer communication technology than others, and are interested in developing their computer skills, especially in light of the increase in their motivation to use the computer to enter the Internet and benefit from its various advantages. This agreed with the results [42].

5.2 SIE scale

Second questionnaire contained (21) items, with five-point Likart scale for measuring skills of seeking for information electronically for university's students. From the

table below we find that all sample students have these skills, which is due to their expertise when they use their own computers in searching for science information that use in their studies. As in Table 2.

Table 2. t-test results for independent samples to indicate differences in the level of "SIE"

Sample	120	
Items	21	
Hypothetical Mean	63	
Arithmetic Mean	84	
Std. Dev.	21.173	
DF	119	
t-value	***Cal.***	10.869
	Tab.	1.662
Statistical function	Sig.	

5.3 The relationship between the two variables

There is a relationship between the variables, since searching for information electronically makes the student have a huge number of skills that make him computer-literate; and this is clear in Table 3.

Table 3. Correlation coefficients between both var. and correlation significance

	SMA	**Std. Dev.**	**Corr. Co.**	**t-value**		**DF**	**Indication level**
				Cal.	***Tab.***		
CL with SIE	178.333	48.405	-0.330	37.945	1.662	118	0.05
	84	21.173					

The value of the calculated correlation coefficient is (-0.330) and it is a negative weak correlation coefficient; meaning that any increase in one of the two variables is offset by a decrease in the other. Beside the calculated value of (t) is greater than the tabular value; means a rejection of the null hypothesis and accepting the alternative one, thus, there is a correlation between the two variables, but it is in the opposite direction. The searching for information which learners are required to obtain specific information to solve a problem, after providing them with the possibility of accessing various sources of information (electronically), with the aim of discovering and identifying them. So students may have skills of collecting information like (defining the task - knowing the strategies for searching for information - determining the location and access to information - using the information - gathering information "synthesis" - evaluation), in addition to acquiring the skill of summarizing from electronic sources. While computer literacy means the extent to which students possess the knowledge and skills they have acquired from the best use of the computer in life, education, and the ability to solve the problems that they face in employing and using the computer. So, whoever has the ability to search for information electronically, he has some skills that make

him aware of searching on the net and has an organized and organized procedural performance, but he may not be considered a computer literate.

6 Conclusions

The importance of computer literacy for students lies in making public education more realistic and relevant to the student's environment and daily life; and encouraging thinking based on accurate calculations generated by the computer. University's students in have a good degree of computer literacy. Also, they have good skills for seeking electronically on information. There is a connection between them in general.

7 Recommendations

Just like every field, the development in (IC) technology has effects on universities and research centers in it. This dense and rapid technology has called digital literacy and skills into question for educators and students alike. For this reason, universities and academic institutions have a responsibility to educate all their users as digital technology is widely used. Such as Preparing students to be useful members of society by acquiring positive attitudes that help them participate and produce. Motivating students to discover and express their creativity and inclinations. Accrediting computer literacy courses in high schools and university institutions to coincide with the development taking place in the light of scientific and technological changes. Prepare students for a life in which there is an increasing reliance on computer and information technology.

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9 Authors

Zainab Hazim Ibrahim, She is a Lecture in in Curricula and Teaching Methods and one of the faculty member in the Department of Computer Science, College of Education for Pure Science / Ibn Al-Haitham, University of Baghdad, Baghdad, Iraq (E-mail: zainab.h.i@ihcoedu.uobaghdad.edu.iq).

Ban Hassan Majeed, She is an Assistant Professor in Mathematics Education and one of the faculty member in the Department of Computer Science, College of Education for Pure Science / Ibn Al-Haitham, University of Baghdad, Baghdad, Iraq (E-mail: ban.h.m@ihcoedu.uobaghdad.edu.iq).

Lina Fouad Jawad, She is presently Assistant Professor Dr. in Methods of Teaching Mathematics and one of the faculty members in the College of Education for Pure Science /Ibn Al-Haitham, Computer Department, University of Baghdad, Iraq (E-mail: lina.f.j@ihcoedu.uobaghdad.edu.iq).

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