A Survey Study of the Opinion of the Heads of Departments and Teachers in Kuwait Secondary Schools on the Use of Computers In Teaching

Dr. Ayda Al-Eidan
Dr. Hamed Aljabr
College of Basic Education kuwait

Abstract

This study aims to identify the views of Heads of Departments and teachers on the use of computers in the teaching process at secondary schools in the State of Kuwait. It aims to identify the extent of their use of the computer and whether there are differences between its use in administrative and technical aspects in secondary schools within the State of Kuwait according to the variables of the study. The study also highlights the constraints limiting the use of computers in the teaching process, i.e. the constraints related to teachers, students, curricula and teaching resources. To achieve the objectives of this study, a survey of (71) clauses has been used. The survey clauses were developed in escalated triple scale model and were categorized under three headings: (1) Uses of computers in teaching administrative and technical aspects, (2) Uses of computers as a tool in the teaching process and (3) Constraints restricting the use of computers in the teaching process. The third heading has been divided into four sub-headings, the constraints related to teachers, the constraints related to students, the constraints related to curricula and the constraints related to learning resources. During the academic year 2018/2019, a random sample made up of secondary school Heads of Departments and teachers teaching theoretical subjects working in the secondary schools of the the six educational districts was selected.

The study provided several results of interest, most important of which are:

- a positive attitude in the views of the Heads of Departments and teachers towards the use of computers in administrative and technical aspects,
- a positive attitude towards the use of the computer as a teaching aid in accordance with the Mean,
- the existence of constraints in the use of computer in teaching related to teachers, students, curricula and learning resources.

The results of the study also show that there are statistically significant differences among the variables of the study attributed to gender, and specialization.

Keywords: Computer – Teaching.

Introduction

The use of the computers and computer applications play an important role in all aspects of life. The use of computer has resulted in a breakdown of spatial or temporal barriers in the society and has played a prominent role in the teaching process since the middle of the twentieth century. The computer has been a very helpful tool for teachers in designing and planning for their lessons and in carrying out other tasks related to the educational process. It has given them the opportunity to demonstrate their lessons in a professional and interesting manner. It repeats drills and exercises repeatedily and constitutes an essential part of the curriculum. (Alkhalili et al, 1996). The computer is the most complex device, however, it is easy to use technology. It provides animation, image,

sound and drawings accompanied with the ability to interact with the learners through an instructional computer software (Leach, 2005).

The use of the computer has changed the role of the teacher in the classroom moving them from being the source of knowledge (lecturing) to mentoring and guiding students. This emphasizes the concept of individual learning and self learning, so that students learn according to their own capabilities and pace. This required the organization of the learning material in a manner that promotes every step of the process to be immediate and direct. In this type of learning, the student has to master every step before moving to the next. Thus, the learner becomes responsible for his / her learning (Binder, 1993).

The important role of computer in different educational situations such as exercising, practicing, explanations, problem solving and simulation. This helps exposing the learner to a different learning environment instead of the focusing on the use of traditional methods which rely mainly on textbooks. Therefore, the use of computer improves the effectiveness of education, reduces the time of learning and logically provides the information at any time (Almousawi, 2003).

Theoretical Framework

The computer plays an important role in both the teaching and learning processes. It enhances future career opportunities by preparing students for a world centered largely on advanced technology. The use of the computer improves the quality of teaching and learning and enables all to get familiarized with the latest scientific updates in all fields. (Alfar, 2002).

Through the study of compulsory courses offered by the Faculty of Education- Kuwait University and the Faculty of Basic Education in the Public Authority for Applied Education and Training (PAAET), which are the first and second level of computer principles curriculum, the educational technology course and teaching workshops course, student teachers can learn the basics of the computer system, computer languages and software. They also learn how to use the computer as a tool for data and information processing. In addition, the use of computer in the presentation of lessons such as softwares used for exercising, practicing, explanations, simulation and problems solving, particularly the use of "Power Point" software designed to teach lessons using slides which help to present the subject in an attractive and engaging manner for the learners (Trick, 2003; and Spring, 2009).

The computer plays a vital role in the teaching process since it helps teachers present their lessons both for individual and for collective lessons where interaction between the learners and the computer takes place. Interactive software used by teachers can be classified as simulation and educational games. (Alkarar, 2006).

Uses of Computer in the teaching process

The computer can be used in the teaching process by several means. It can be used as a teacher, an educational tool, a subject, a problem-solving tool, and a tool for lesson presentation; furthermore, it can play the role of a learner (Sultan, 2010). There are several reasons why the computer has been used in the teaching process among which are: the explosion of knowledge, the information flows, the need for speed to access information, the provision of manpower, and finding out solutions to learning issues and difficulties (Al-Eidan & Aljabr, 2018).

Generally, the computer can play three educational roles: 1- **learning about the computer**; 2- **learning from the computer;** 3- **learning with the computer** (Sabri, 2004).

Amongst the advantages of using the computer in the teaching process is that it is used in learning concepts and knowledge (Salem, 2004). The computer can process images, drawings and sounds and is able distinguish between them in terms of tone and sharpness. It allows the learner to progress depending on his/her level and means of learning (Syam, 2008 & Tejani, 2011). It provides a more positive environment for the learner, particularly for slow learners. because it is a very patient teacher; besides, it saves the learner any kind pof embarrassment as it can hide any unavoidable mistakes made by the learner. (Alrefaai, 2006).

Of course, there are some disadvantages of using the computer in the teaching process including: 1- the computer focuses on the cognitive aspect more than the skills and affective domains. 2- it may develop the introversion of the students. 3- teaching using the computer does not focus on all senses. 4- the difficulty for the learner to practice social, cultural and sports activities using the computer. 5- in addition, the use of computers in the teaching process requires the establishment of an infrastructure of PCs, labs and internet connections. 6- students are not able ask all the questions that might be in their mind as compared to the conventional classroom situation where disucssions can take place. (Salem, 2004).

Literature Review

A study was conducted by **Ali** (2009), aiming at identifying the difficulties faced by 10^{th} grade secondary male and female teachers in the use computer as a teaching tool at Ramallah and Beerah Governorates. The study also aimed, to determine the impact of the variables of gender, academic qualification, years of experience, subjects and the location of the school on such difficulties. The population of the study consisted of 212 male and female teachers. The results of the study showed that, male teachers faced great difficulties in the use of computer resulting in no statistically significant differences that can be attributed to the study variables. In his study, the researcher recommends that schools should be provided with PCs, and teachers should be trained to use computers in general, how to use Power Point to design activities and present subject related concepts in particular.

A study was conducted by **Alharsh et al**., (2010), aiming at uncovering "the constraints to the use of an e-learning system from the point of view of the secondary school teachers in Lewaa Alkurah". The results of the study indicated that the constraints related to teachers came in the first place. The constraints related to the administration came second. Then those constraints related to infrastructure and basic equipment and finally the constraints related to students. There were statistically significant differences attributed to the gender variable for male teachers related to the infrastructure and basic needs of e-learning system. The results also showed statistically significant differences attributed to the academic qualification variable in favor for master's degree holders and higher degree holders in the constraints areas related to the students. However, there were no statistically significant differences attributed to the effect of training courses in all areas.

Yassin and Melhem (2011) conducted a study aimed at uncovering constraints faced by teachers in the schools

of the Directorate of Education for Irbid District in the use of e-learning, the impact of gender, the qualifications and practical experience towards e-learning. The sample study size was made of (186) male and female teachers selected randomly, and a questionnaire consisting of (28) clauses was used. The results showed that all the clauses of the tool represented constraints to e-learning. Examples of which are the lack of infrastructure to establish adequate laboratories for the number of students, the educational system did not allow the use of e-learning, the lack of response from students to the pattern of e-learning as they were accustomed to the conventional style of learning which impacted their interaction with eLearning in addition to their belief that it is hard to link the outputs of eLearning with the outputs of the subsequent educational stage, the difficulty of controlling a large number of students in one class, and the concern of some teachers to use e-learning because of the lack of privacy and confidentiality in saving data. According to the gender variable, the results indicated that females showed more interest than males in seeking to develop their abilities and skills to achieve their job objectives and securing the job in the future. As for the variable of practical experience, there were no statistically significant differences in the constraints of e-learning as related to this variable. **Al-Awamla** (2012) conducted a study aimed at understanding the fact of using the computer in teaching in secondary schools in Balqa Governorate, identifying the adequacy of computers and their peripherals, and identifying the main constraints facing teachers in using and employing computer in teaching. The researcher developed a questionnaire and the results of the study indicated that there is a shortage of computers at some schools, some computers were slow, some are not suitable for use or needed maintenance, lack of use and employment of computer in teaching, and the limited use of computer to operating some software required by the the curriculum.

Al-Sarifi (2012) conducted a study aimed at identifying the impact of the use of e-mail in the teaching process on students' achievement and motivating learning on the students of the Faculty of Education - Dhi Qar University. The sample size was (30) students that were divided into two equal groups – a control group and an experimental group. Six learning topics were selected and presented to the two groups. The teaching process continued for six weeks, where the control group used the conventional method of teaching and the experimental group used the e-mail and the internet to communicate and access information related to the subject. The research concluded that the students of the experimental group were superior in their achievement and motivation to learn as compared to students of the control group.

Al-Bizerat and Al-Hayek (2013) conducted a study aimed at identifying the personal constraints that limit the use of the computer in the educational process among faculty members in the faculties of Physical Education in Jordanian universities. The sample consisted of (61) faculty members in faculties of Physical Education. The results of the study indicated that there were no instructions or decisions obliging the faculty members to use the computer in the educational process, and the absence of any material and financial incentives associated with the use of computer in the educational process. In addition, there was lack of training courses and seminars for faculty members concerned on ways of using the computer in the education process.

Murad (2014) conducted a study aimed at identifying the extent to which a group of the male and female teachers of

the Directorate of Education in Al-Shobak District are familiar with the basic applications and software of ICT, identifying how they use and employ ICT in the subjects they teach, and identifying the constraints that hinders their use of the computer. The researcher used the questionnaire tool applied to a sample of (101) male and female teachers randomly selected from all schools of the district of Shubak. The results of the study showed that the majority of the respondents practiced the applications and used the software sufficiently, however, their employment in teaching purposes was low. The results also revealed the constraints in their use in teaching; the most important of which were the lack of infrastructure and equipment, lack of training and the employment of technology in teaching.

Abdullah and Horin (2015) conducted a study aimed at understanding the role of education technology in achieving the requirements of sustainable development from the point of view of teachers in the city of Aleppo in Syria. The study tool was limited to the questionnaire which included 37 items on two sections. The questionnaire was applied to 100 male and female teachers in 6 public education schools. The findings of the study showed that: 93% of male and female teachers have positive attitudes towards the use of education technology in the field, 90% indicated their role in developing the learner's ability to self-learn to achieve the requirements of sustainable development. 70% of the male teachers indicated that the duration of the training courses was insufficient and 53% indicated a lack of equipment in the classroom environment.

Comments on the aims of this research study and its relationship to previous studies.

In light of the findings of the previous studies related to the use of the computer, we can conclude the following:

1. This study is a complementary to the previous studies on the extent of the use of computer in teaching; however, it differs from the previous studies in that it addressed the extent of the uses of computer in the administrative and technical work.
2. This study represents an addition to other specific studies that dealt with the difficulties faced by teachers in the use of computers.
3. The two researchers have not found any previous study conducted on the use of the computer in teaching in the secondary stage in the State of Kuwait.

The Study Problem

In spite of the interest both in the Faculty of Education at Kuwait University and the College of Basic Education of the Public Authority for Applied Education and Training (PAAERT) in the teacher education programs to provide graduates with the basics of computer use in the educational process. The efforts of the Ministry of Education in providing training courses for teachers to provide them with basic skills in the use of the computer; such as the International Computer Driving Course (ICDL) License. We can see that teachers do not make full use of computers in teaching, where they are still using traditional teaching methods or limited educational techniques. In addition, there is a lack of studies in the Kuwaiti society that explore the views of teachers on the use of computers in teaching secondary schools students. This study is intended to highlight the actual use of computer in teaching in the Kuwaiti context to contribute to guiding decision makers to achieve the ambitions in increasing the use of computer in the educational process.

The Study Questions

The study questions can be identified by answering the following:

1. What is the extent of the use of computers in administrative and technical works؟
2. What is the extent of the use of computers in teaching?
3. What are the constraints to using the computer in teaching in relation to the teacher, learner, curriculum and learning resources?
4. What are the different views towards the use of computers and constraints in using the computer in administrative and technical work, and as a means of teaching in accordance with the study variables (gender, and job, specialization)?

The study objectives

The study aims to achieve the following:

- To identify the uses of computers in the secondary stage in the State of Kuwait, indicating the differences in its uses for administrative and technical work according to the study variables.
- To identify the uses of computers as a teaching tool according to the study variables.
- To disclose of the constraints related to the use of computers in teaching in relation to the teacher, learner, curriculum, and learning resources in accordance with the study variables.

The importance of the Study

The importance of the study is driven by the importance of public education in building the human resources as the most important investment of the state and its endeavor to develop education as follows:

- The importance of the secondary stage as a basic and decisive stage for qualification to higher education and the university.
- It contributes to identify the strengths and weaknesses in the use of computer by the Heads of Departments and teachers in the administrative and technical works as well as teaching.
- It contributes to identify the difficulties faced by Heads of Departments and teachers in the secondary stage in the use of computers and propose solutions to overcome them by developing future plans to improve the educational process.
- The need Arabic research and studies in the Kuwaiti educational library that deals with the subject of employing computers in the educational process.
- To provide senior officials of administrative and technical supervisors as well as those involved in the development of general education curricula at the Ministry of Education in the State of Kuwait with proposals on how to increase the effectiveness of the use of computers in the schools of Kuwait.

The Study Approach

The two researchers adopted the analytical descriptive method in describing and analyzing the study data in order to address the study questions. The researchers also used the Statistical Analysis Program (SPSS) to calculate the Means and Standard Deviations. The quadratic variance analysis was conducted to answer the study questions.

The two researchers used this approach as it suits the subject of the study. The descriptive approach is based on defining the characteristics of the phenomenon, describing its nature, the quality of the relations between its variables, (Murad and Hadi, 2012).

The limits of the study

- **Time Limits**: The study was applied in the first semester of the academic year 2018/2019.
- **Human Limitations**: The application of the study tool was limited to a random sample of Kuwaiti Heads of Departments and teachers of both genders working in the secondary stage in scientific and literary disciplines.
- **Objective limits**: The study is limited to studying the reality of using computers in the secondary schools in the six educational districts in the State of Kuwait.

The terminology of the study

Computer

A computer is defined as a device or machine that receives, stores or processes data very quickly, using an operating system saved in its memory (Peter, 2008 & Ali, 2009). Simple and complex operations can be carried out quickly using the computer (Barakat, 2012).

The two researchers define the computer as an effective electronic device consisting of a programmatic entity and a physical entity. It has a high ability to receive, organize, store, analyze and retrieve information and data, and is highly accurate in data processing.

Learning Resources

Al-Laqani and Abu Sunaina (1999) identify learning resources as those sources other than textbooks such as boards, maps, statistics etc. Learning resources should be accessible to learners who participate in obtaining them and contribute to enriching the educational process and develop their various skills. Al-Omran (2007) defines learning resources as: Transmitted scientific messages in various types of means, such as printed materials, audio materials, visual aids, devices, methods, persons and data which the learner selects and interacts with to facilitate the learning process.

The two researchers identify the learning sources as the source that enables the student to obtain the information s/he needs, and which satisfies his/ her interests, whether it is educational, informational, recreational, or cultural.

General Education Schools

The total number of grades in general education (twelve) divided into three stages primary, intermediate and secondary levels (Wikipedia, the free encyclopedia)

Field study procedures

The study sample

A random sample was selected for the study community, which consisted of Heads of Departments and secondary school teachers for the following subjects (Islamic Education, Arabic Language, English Language, Science, Mathematics and Social studies) in the six educational districts of the Ministry of Education in the State of Kuwait for the academic year 2018 and 2019. (12) secondary schools in the six educational districts of the State of Kuwait were selected as represented by (6) secondary schools for boys (6) secondary schools for girls. The study sample was (301) male and female teachers. Table (1) shows the distribution of the sample members according to the different variables.

Table: (1) Distribution of the research sample according to the study variables

variable	percentage	
Gender	Male	Female
	%٣٨	%٦٢
Occupation	Heads of Department	Teacher
	%١٠	%٩٠
Specialization	Scientific	literary
	%٤٩	%٥١

The Study Tools

After reviewing the literature and studies related to the subject of the current study, a questionnaire was developed to achieve the objectives of the study. It consisted of (71) clauses, which have a three-dimensional scale, divided into three sections:

First section: Computer uses in administrative and technical work related to teaching with (16) clauses in total.

Second *section*: the use of computers as a teaching tool in teaching with (19) clauses in total.

Third *section*: the constraints of using the computer in teaching, which is divided into four parts related to the teacher, the learner, the curriculum, and the learning resources respectively containing (36) clauses in total.

Reliability:

To validate the tool, it was presented it in its preliminary form to a panel of faculty members from the Faculty of Basic Education in the Public Authority for Applied Education and Training, the Faculty of Education at Kuwait University and the Ministry of Education (secondary stage Technical Supervisors, Heads of Departments and Teachers). The panel reviewed the tool to ensure the clarity of its clauses, their linguistic accuracy, the relevance of the tool to the purpose of the study, its relevance to the collection of desirable data, the comprehensiveness of aspects of use and their domains. The arbitrators expressed their views and observations which referred to some modifications to some of the tool's clauses and the deletion of some. Adjustments were made in light of their proposals, then the tool was put forward for application.

Validity

The validity of the questionnaire: the questionnaire was verified by calculating the Alpha Cronbach factor after applying the questionnaire to a sample of 30 teachers. The following table shows the stability coefficients for each section of the questionnaire and the instrument as a whole.

(Table: 2) Determination of alpha-Cronbach parameters for instrument dimensions

Dimensions	No of clauses	stability coefficients
First section	١٦	.816
Second section	١٩	.854
Third section (Constraints related to the learner)	١٦	.878
(Constraints related to the teacher)	٨	.877
(Constraints related to the curriculum)	٦	.805
(Constraints related to the learning resources)	٦	.805
The tool as a whole	٧١	.890

In Table (2) above, it is clear that the values of the coefficient of alpha-Cronbach are high and statistically significant at (0.001). The value of the alpha-Cronbach coefficient of the instrument as a whole of (0.890) is a high stability coefficient, indicating that there is an internal consistency among the clauses. This confirms that the tool is viable and reliable to achieve the objectives of the study.

Statistical Processing

A set of appropriate statistical methods were used to process the data.

- Calculation of frequencies, percentages, Mean and standard deviation to describe the characteristics of the sample and to answer the study questions.
- T-test (T) to identify whether there are statistically significant differences between the views of the study members according to their personal and functional variables (gender, occupation, specialization).

The Study Findings

Question One: How often do you use the computer in the administrative and technical work? The frequency, percentages and Mean, and the standard deviation of the responses of the sample members on the uses of the computer in the administrative and technical work in teaching were calculated as shown in Table (3)

(Table (3)

Frequency, percentages, and Mean of respondents' responses to the uses of computers in administrative and technical work ranked descending by the Mean.

Sr.	Clause	mean	Std deviation	level
٧	Developing tests	2.81	.508	H
١٣	Designing certificates and reecognition letters for outstanding performers	2.79	.499	H
٢	Developing lesson plans	2.78	.513	H
٤	creating learners' data bases	2.78	.469	H
١٢	Issuing certificates for learners	2.78	.516	H
٥	Establishing lists of learners to monitor absenteeism	2.73	.586	H
١٠	Extracting learners' results	2.71	.621	H
١٦	Developing electronic records for school administration work	2.71	.573	H
٣	Planning lessons	2.65	.626	H
١	Distribution of classes among teachers	2.64	.673	H
١١	Developing classroom reports for learners	2.57	.633	H
٩	Recording tests scores	2.55	.752	H
١٤	Assessing learner's performance electronically	2.51	.740	H
٦	Create an electronic log to monitor learners' performance	2.50	.717	H
١٥	Communication with concerned stakeholders via emails.	2.48	.745	H
٨	Marking learners' responses to a test.	2.04	.870	M
Total		2.638		H

***Level: H = High & M = Medium**

The results displayed in Table (3) indicate that the views of department heads and teachers towards the use of computers in administrative and technical work were very positive . Their responses to the clauses of this section came with a total Mean of (2.638) which is high according to the Mean adopted. The arithmetical means of the responses of the sample members on all the clauses were calculated with the mean in the segment (2.04 -2.81), which are arithmetical means located at the high level of the classification of the values of the Mean.

These results reveal the positive views of the Heads of Departments and teachers towards the use of computers in the administrative and technical works related to teaching. In particularr, the use of computer in the development of tests, the planning of lessons as examples of technical work. The design of recognition letters and certificates, the creation of databases for teachers, daily attendance recording and learners scores, the development of electronic school records and reports and the evaluation of the teachers' performance as some examples of administrative work. These findings are in line with the findings of the study (Srifi, 2012; Murad, 2014; Abdullah and Horin, 2015).

The results also showed that a moderate percentage of teachers use the computer to score the learners' answers. This may be due to the lack of experience of some teachers in using the computer to score the test papers electronically. Some teachers may need some training in developing and scoring the tests electronically. There might laso be other reasons due to the policy of the ministry or the school that does not allow the scoring of tests electronically.

Some studies indicate that teachers are willing to receive computer training and use it in teaching related works. They lack sufficient training and adequate equipment with regular and permanent maintenance in schools (Yassin & Melhem, 2011; Awalma, 2012).

Question Two: What is the extent of the use of computers as a teaching tool?

The frequency, percentages, and Means of the responses of the Heads of Departments and teachers to the second question (second axis), as shown in Table 4, are as follows:

Table (4)

Frequency, percentages, and Means of respondents' answers to computer uses as a teaching method in teaching are ranked descending by Mean

Sr.	Clause	Mean	Std. Deviation	level
١	Storing information related to the subject	٢,٨٦	.388	H
٤	Designing lessons using) PowerPoint.(	٢,٨١	.489	H
١٣	Presenting lessons	٢,٨١	.457	H
٣	Using tutorials in teaching	٢,٨٠	.473	H
٢	Developing teaching aids	٢,٧٩	.484	H
٩	Re-present information to students	٢,٧٨	.495	H
٨	Browsing web pages to search for information related to the course content	٢,٧٧	.468	H
٦	Designing educational activities	٢,٧٠	.532	H
١١	Developing publications related to the subject	٢,٧٠	.553	H
١٥	Presenting information in a specific technical way	٢,٦٦	.٥٧٠	H
١٤	Presenting lessons using multimedia technology	٢,٦٥	.٥٦٨	H
١٠	Applying information using Excel Spreadsheet program	٢,٦١	.631	H
٧	Summarizing the subject	٢,٥٩	.635	H
١٢	Using CD-ROMs	٢,٥٧	.708	H
٥	Assigning students some activities	٢,٥٥	.691	H
١٩	Using the computer in classroom assessment	٢,٥٠	.٦٩٦	H
١٧	Designing websites that serve the subject needs	٢,٤٨	.٧٣٠	H
١٨	Designing virtual classrooms	٢,٣٢	.٨٢١	H
١٦	Using interactive books instead of paper textbooks	٢,٢٦	.٨٢٣	M
Total		**2.655**		**High**

***Level: H = High & M = Medium**

The results in Table (4) indicate that the views of the Heads of Departments and teachers towards the use of computers as a teaching tool were very positive. The respondents responses to the clauses of this dimension came with a total Mean of (2.655). The arithmetical Mean of the respondents' answers to all the terms were calculated with the mean of the calculations in the segment (2.86-2.26), which are arithmetical means located at the high level of the classification of the values of the Means.

These results reveal a positive attitude and approval of the Heads of Departments and teachers towards the use of computers as a teaching tool. The most agreed upon functions are: 1) The use of computers to save the information related to each subject. 2) The design lessons on the PowerPoint program. 3) The use of educational tutorials and software. 4) The design of teaching aids. The exploration of websites and searching for information relevant to the content of the course. 5) the presentation of lessons using multimedia technology. 6) Assigning students activities in classroom assessment; and 7) The design websites that serve the subject. While the lowest means in the agreed upon items was for the use of interactive books

instead of textbooks. The reason for this may be related to the use of the book in the assessment or solving exercises and activities. Other reasons may be due to the habits of the students to use paper textbooks instead of interactive textbooks. Teachers and students believe that using a paper textbook is the best and easiest method to use, teach, study and follow up.

These findings are in line with the results of the study (Ali, 2009), which confirm that the computer is used by teachers in teaching for several subjects and that its use has a positive effect on learners' achievement and teachers' performance through helping them to complete their work and activities.

Question three: What are the constraints to the use of computers in teaching in relation to the teacher, the learner, the curriculum and learning resources?

The frequency and Mean s of the sample responses on the tool were calculated in relation to the constraints to using the computer in teaching in relation to the teacher, the learner, the curriculum and learning resources. The results as shown in Table 5 are as follows:

Table: (5)

Frequency, percentages, and Mean s of respondents' responses to the constraints on computer use in teaching (teacher-related constraints), in descending order by Mean

Sr.	Clause	Mean	Std. Deviation	level
٢	Some teachers are not familiar with software used in teaching	2.70	.546	H
١	Some teachers don't know the basics of computer use	2.67	.583	H
٦	Intensity of the content	2.65	.637	H
٥	Teacher's extensive load	2.61	.660	H
٣	Some teachers are not convinced of the usefulness of computers in teaching	2.60	.645	H
١٠	The increase number of students in the classroom	2.59	.678	H
٨	Lack of incentives for teachers	2.55	.671	H
٩	Lack of time allotted for the subject teaching hours	2.55	.681	H
١٥	Lack of control on suspicious websites	2.55	.684	H
١٦	Negative use of computer and full dependence on it	2.52	.667	H
١١	The inability of computers to satisfy the emotional needs of the students	2.39	.766	H
٤	The use of computer in teaching requires a long time.	2.28	.796	M
١٢	The use of computer in teaching reduces teacher student interaction time.	2.26	.816	M
١٤	Weak classroom management ability when using the computer in teaching	2.19	.852	M
١٣	Fear of using the computer in teaching	2.14	.821	M
٧	The use of computer in teaching is a waste of time	1.95	.881	M
Total		2.472		High

***Level: H = High & M = Medium**

First: (constraints related to the teacher)

The results presented in Table (5) on the constraints of using the computer in teaching related to the teacher indicate that the approval of the Heads of Departments and teachers was very positive. Their responses to the clauses of this dimension were at a mean of high level according to the classification adopted to classify the levels of the Mean. The Mean of the responses of the sample members to the clauses are within the period (1.95 - 2.70). They are located at the intermediate and high levels to Mean of classification.

The results reveal that the rate of response of Heads of Departments and teachers towards the constraints to the use of computers was high. Some of the respondents' views explained that there is a number of teachers who are not familiar with the software and the basics of computers used in teaching. Others claim that the intensity of the content, the burden of teaching (teacher's load), the overcrowded classrooms , the lack of incentives for teachers, the lack of teaching time are some of the constraints facing the teacher in the use of computers in teaching. It also revealed that the use of computer in teaching needs time and it reduces interaction between the teacher and the student as (36.2%) of the teachers considered that the use of the computer was a waste of time. These results related to the training of teachers and the lack of time to use the computer in the class corresponds to the results of the study (Ali, 2009).

Second: (constraints related to the learner)

The results in Table (6) related to learner-related constraints indicate that the responses of the Heads of Departments and teachers towards the constraints to using the computer in teaching were Medium. Their responses to the clauses of this dimension were averaged according to the classification that was adopted to classify the Mean. The arithmeticmeans of the responses of the sample were based on the clauses are within the period (2.40-2.09). They are located at the intermediate and high levels of the classification of the Mean.

Table (6)

Frequency, percentages, and Mean of respondents' answers to the constraints on computer use in teaching (learner-related constraints), in descending order by Mean

Sr.	Clause	Mean	Std. Deviation	Level
٨	Students are accustomed to using the board	2.40	.717	H
١	Using the computer reduces participation in group work	2.34	.808	H
٧	Using the computer reduces interaction among students	2.34	.798	H
٤	Lack of seriousness of some students when the lesson is presented using the computer	2.33	.783	M
٢	Computer use reduces students' abilities to use basic skills such as reading and writing	2.32	.807	M
٦	Difficulties related to following up the learners' behaviors when using the computer	2.28	.799	M
٣	The computer reduces learners' attention	2.16	.857	M
٥	The computer reduces the learners' mental abilities when used in teaching	2.09	.853	M
Total		2.282		M

***Level: H = High & M = Medium**

According to the responses of the Heads of Departments and teachers towards the constraints of the use of computer as related to the learner. It was found that students are accustomed to using the board, the use of the computer during the session reduced interaction between students, and the students were not serious when the lesson was presented using the computer. The computer also reduces the ability of students to use basic skills such as reading and writing. (53.5%) and (40.9%) of teachers agreed that the use of computers in teaching reduced the mental abilities of students.

Third: (constraints related to the curriculum)

The frequencies and Mean of the sample responses were calculated on the clauses related to the constraints of using the computer in teaching as related to the curriculum. The results as shown in Table (7) are as follows:

Table (7)

Frequency, percentages, and Mean s of respondents' responses to the constraints on computer use in teaching (constraints related to the curriculum)

Sr.	Clause	Mean	Std. Deviation	Level
			.631	H
٢	Lack of educational software that serve the subject	2.49	.710	H
٤	Computer applications are suitable for some subjects only	2.44	.764	H
١	Learning content is inappropriate for computer applications	2.32	.820	M
٥	The organization of the textbook does not support computer use	2.28	.810	M
٣	The use of computer does not take into account the logical sequence of the learning content	2.22	.807	M
Total		**2.402**		**High**

***Level: H = High & M = Medium**

The results in Table (7) indicate that the responses of Heads of Departments and teachers towards the constraints of using the computer in teaching as related to the curriculum were **high**. Their answers to the clauses of this dimension came with a mean of high level according to the classification that was adopted to classify levels. The Mean of the responses of the sample were within the period (2.66-2.22). They are located in the middle and high levels of the classification of the Mean.

According to the responses of department heads and teachers about the constraints to using the computer in relation to the curriculum. The absence of a plan from the Ministry of Education to provide software that serves the school curricula is one of the highly rated constraints. This is followed by the lack of some educational software that serves the learning content, which is suitable for some subjects rather than the others. Other constraints include the inappropriate content of some subjects for computer applications and . the organization of the textbook does not help the use of computers and does not take into account the logical arrangement of the sequence of the learning content.

Fourth: (constraints related to learning resources)

The frequency and Mean of the sample responses were calculated on constraints of the computer use in teaching as related to the learning resources. The results as shown in Table 8 are as follows:

Table (8)

Frequency, percentages, and Mean of respondents' responses to the constraints of computer use in teaching (learning resource constraints), descending order by Mean

Sr.	Clause	Mean	Std. Deviation	Level
٣	Lack of maintenance necessary to the computer	2.73	.565	H
٦	High prices of off the shelf educational software that serve the course	2.66	.595	H
٥	Difficulty in obtaining software that serve the learning content	2.55	.674	H
١	Lack of suitable place to use computers in teaching	2.51	.765	H
٢	Lack of adequate computers in schools	2.50	.756	H
٤	Lack of data display devices (Data Show)	2.36	.795	H
Total		**2.552**		**High**

***Level: H = High & M = Medium**

The results in Table 8 related to learning resource constraints indicate that the responses of department heads and teachers to the constraints of computer use in teaching and learning resources were high on the clauses within the period (2.73-2.36) and are at the high level of classification of arithmetical mean.

According to Heads of Departments and teachers, It is found that the lack of availability of maintenance necessary for computers is one of the highest constraints (78.4%). Then comes the high prices of ready-made software that can serve the course, the difficulty of obtaining software, with the lack of a suitable place for the use of computers in teaching, and the lack of adequate computers in the school. These results are consistent with the results of the study (Harsh et al., 2010; Alawalma, 2012; Murad, 2014) Data Show was one of the lowest items approved by the Heads of Departments and teachers. In general, the order of responses of the Heads of Departments and teachers to use the computer in teaching and its constraints, are shown in Table (9) as follows:

Table (9)

The mean of teachers' computer uses and its constraints in descending order

Computer uses and its Constraints	Mean	Level
First section	٢,٦٥٥	High
Second section	2.638	High
Third section (Constraints related to the learner)	2.552	High
(Constraints related to the teacher)	2.472	High
(Constraints related to the curriculum)	2.402	High
(Constraints related to the learning resources)	2.282	Medium
The tool as a whole	2.500	High

Table (9) shows that the use of computers in teaching is **high** in total. The general mean on the scale is (2.500) out of (3) scores. This indicates the approval of Heads of Departments and teachers towards computer applications in general. The highest mean of the three axes in the study was the use of computer as a teaching tool, with the mean of (2.655) out of (3) score. The axis of the uses of

computer in administrative and technical work with a mean of (2.638) came second and the third place came to constraints. Constraints related to learning resources were the highest among the four constraints, with a mean of (2.552), then constraints related to the teacher with a mean of (2.472), and constraints related to the curriculum, which ranked third among the constraints (2.402). Finally, the Mean of the responses of the sample members on the constraints related to the learner reached a mean of (2.282) which is the only Mean among other means whose levels are high according to the mean adopted to classify the levels of the Mean. Based on these results, it was found that the computer is used as an educational tool and in administrative work. The most challanging constraints faced by the Heads of Departments and teachers are those related to the learning resources followed by those related to the teacher. The constraints related to the curriculum and learner came as the least challenging constraints.

Question Four: What are the different views of the questionaaire respondents towards the use of computers and the constraints facing its use in the administrative and technical works, and as a means of teaching in accordance with the variables (gender, occupation, and specialization)?

1. For the gender variable

The T.test was used to calculate the value of T to compare the means of the sample on the relevant axes in the tool. The results, as shown in Table 10, are as follows:

Table (10)

The results of the test (T) to show the significance of the differences between the means of the sample for computer uses and its constraints according to the gender variable

Dimensions	Gender	N	Mean	Std. Deviation	T	Df.	Sig.	Remarks
First section	Male	١١٤	41.25	6.195	1.048	٢٩٥	.113	Stat Insig.
	Female	١٨٣	41.93	4.986				
Second section	Male	114	48.57	7.665	2.799	٢٩٥	.000	Stat Sig.
	Female	183	50.63	5.074				
Third section (the learner)	Male	114	38.05	7.570	1.599	٢٩٥	.036	Stat Sig.
	Female	183	39.36	6.425				
(the teacher)	Male	114	18.37	4.921	.665	٢٩٥	.496	Stat Insig.
	Female	183	18.00	4.530				
(the curriculum)	Male	114	14.43	3.237	.344	٢٩٥	.906	Stat Insig.
	Female	183	14.30	3.228				
(the learning resources)	Male	114	15.27	2.766	.081	٢٩٥	.569	Stat Insig.
	Female	183	15.30	3.062				

Stat Sig. = statistically significant Stat Insig. = statistically insignificant

The results of the T-test show that there are statistically significant differences between the use of the computer as a teaching tool and the constraints to using the computer in teaching as related to the gender of the teacher (male/female). The (T) value was at the statistical significance level (0.05). The differences were in favour of the mean of the sample members of the group of female teachers, as their mean was higher

than that of male teachers. This means that female respondents have more interest on the use of computers as teaching aids and more constraints to the use of computers in teaching than male teachers.

While there were no statistically significant differences between the means of the gender sample in the other uses of the computer.

These results are consistent with the literature and previous studies; that females have more interest in the use of computers in artistic, administrative and teaching as an educational tool than males. Female teachers also face more constraints in the use of computer in tecahning than male teachers. Yassin and Melhem (2011) found that females are more interested in developing their abilities and skills in using computers to achieve educational goals. This may be due to the fact that females are the more competitive in providing all updates in teaching and in improving teaching through the use of computers in various fields, and since they use it they certainly face constraints while using it and they can observe these obstacles.

2. For the Occupation variable

The T.test test was used to calculate the value of T to compare the means of the sample on the relevant axes in the tool. The results, as shown in Table 11, are as follows:

Table (11)

The results of the test (T) to show the significance of the differences between the mean of the sample for computer uses and its constraints according to the occupation variable

Dimensions	Occupation	No	Mean	Std. Deviation	T	df	sig	Remarks
First section	HoD	26	41.46	5.330	.240	293	.843	Stat Insig.
	Teacher	269	41.73	5.506				
Second section	HoD	26	47.88	7.134	1.712	293	.508	Stat Insig.
	Teacher	269	50.08	6.159				
Third section (the learner)	HoD	26	39.53	7.409	.556	293	.286	Stat Insig.
	Teacher	269	38.74	6.924				
(the teacher)	HoD	26	16.69	4.722	1.671	293	.773	Stat Insig.
	Teacher	269	18.29	4.648				
(the curriculum)	HoD	26	13.73	3.447	.985	293	.904	Stat Insig.
	Teacher	269	14.39	3.243				
(the learning resources)	HoD	26	14.80	3.262	.764	293	.721	Stat Insig.
	Teacher	269	15.28	3.002				

HoD = head of department Stat Sig. = statistically significant Stat Insig. = statistically insignificant

Table (11) shows that there are no statistically significant differences between the mean scores of views of the sample members on the uses of computers and the constraints to using them in its four axes, in reference to the variable of the type of position (head of department - teacher) in all axes Where the values of (T) is not valid at the level of statistical significance (0,05), which means that the two samples of Heads of Departments and teachers have the same views about the uses of the computer and its constraints. The previous results revealed that the teachers' views on the use of the computer are high in general based on the values of means of sample

responses on the four different axes. The results indicated that the views of the Heads of Departments and teachers towards the use of computers in the administrative and technical work and in teaching were high. IOt also indicated that there are obstacles related to its uses. Therefore, the views of heads of the departments and teachers are similar, and the views about its uses and constraints are no different in the views of the Heads of Departments and teachers.

3. For the Specialization variable

The T.test test was used to to compare the means of the sample on the relevant axes in the tool. The results, as shown in Table 12, are as follows:

Table (12)

The results of the test (T) to show the significance of the differences between the mean of the sample for computer uses and its constraints according to the specialization variable

Dimensions	specialization	No	Mean	Std. Deviation	T-test	df	Sig.	Remarks
First section	Scientific	146	41.73	5.339	-.182	٢٩٥	.356	Stat Insig.
	literary	151	41.84	5.551				
Second section	Scientific	146	49.65	6.337	-.675	٢٩٥	.389	Stat Insig.
	literary	151	50.13	6.140				
Third section (the learner)	Scientific	146	38.98	6.585	.354	٢٩٥	.248	Stat Insig.
	literary	151	38.70	7.239				
(the teacher)	Scientific	146	18.11	4.676	-.078	٢٩٥	.994	Stat Insig.
	literary	151	18.15	4.721				
(the curriculum)	Scientific	146	14.39	3.079	.350	٢٩٥	.045	Stat Sig.
	literary	151	14.26	3.424				
(the learning resources)	Scientific	146	14.80	3.234	-2.614	٢٩٥	.021	Stat Sig.
	literary	151	15.71	2.733				

Stat Sig. = statistically significant Stat Insig. = statistically insignificant

The results of the T-test presented in table (12) show that there are statistically significant differences between the means of the sample on the constraints of using the computer in teaching related to the curriculum and the learning resources attributed to the specialization variable (Scientific, literary) where T value is (0,05). The differences in the constraints related to the curriculum in favour of the mean of the sample members of the scientific specialization, as their means were higher than their counterparts in the literary discipline. This means that the members of the sample of the scientific specialization have stronger view on (the constraints related to the curriculum on the use of computers in teaching) more than the views of literary specialization.

On the other hand, the differences in the constraints on learning resources were in favour of the mean of the sample members of the literary specialization, as their mean was higher than those in the scientific specialization on the constraints related to learning resources. This means that the members of the sample of the literary specialization have more agreement on (the constraints related to the learning resources about the use of computers in teaching) than those of the scientific specialization.

The study results also show the absence of significant differences between the means of the sample of scientific specialization on the use of computers in the administrative and technical work, and constraints to the use of computer related to the teacher and learner. This indicates that the samples of the two specializations have the same views about the computer and its constraints, which was revealed to a high extent in the previous results.

According to the open question concerning the suggestions and actions that should be taken by the Ministry of Education to increase the activation of the use of computers in teaching at the secondary level, the suggestions of the sample members of the study were as follows:

1. Providing intensive courses and workshops for teachers; preferably at schools.
2. Providing schools with devices, laboratories, display devices and specialized software which serve the course material and provide a system of protection against viruses.
3. Compelling teachers to use computers through setting it as one of the performance indicators in the annual performance.
4. Updating the curricula to be compatible with the application using the computer.
5. Providing teachers with incentives to use the computer.
6. Reducing the learning content of the subjects to match the time of use of the computer to enable the teacher to activate its use in all lessons.
7. Providing periodic maintenance of devices within schools and providing them with modern programs and applications.
8. Providing schools with the Internet and connecting them to each other for mutual benefit and exchange of information،
9. Developing websites per subject covering the curriculum from all aspects and update them continually.

Recommendations:

1. More attention should be paid to providing schools with computers, and other devices needed in terms of presentation and display.
2. Developing training programs aimed at providing the teaching staff with the skills necessary to use the computer programs, so that the teacher can use it as a learning tool.
3. The allocation of computer training rooms in each educational district, in line with the requirements of modern teaching in all fields. Training teachers on latest updates in the use of computers to develop their competences continually.
4. Providing teacher students with the necessary skills to use the computer in all fields of teaching and to compel them to use it educational workshops in the colleges in order to qualify them for its use in the field after their graduation.

References

- Abdullah, Mohammed Qassim; Horin Aisha Ahd. (2015). "The role of education technology in achieving the requirements of sustainable development from the point of view of teachers: a field study. *Jerash Journal for Research and Studies.* Jordan. 16(1), 221-240.
- Al-Eidan, Ayda Abdel-Karim; Al-Jabr, Hamid Saeed. (2018). *Introduction in educational technology*. Kuwait: The Khatt Printing Press. First publication
- Al-Far, Ibrahim Abdul Wakil. (2002). *The use of computers in education*. Amman: Dar al-Fikr al-Arabi.

- Al-Harash, Ayed; Mafl, Muhammad; Dahoun, Mamoun. (2010). constraints to the use of e-learning system from the point of view of secondary school teachers in the district of Koura. *The Jordanian Journal of Educational Sciences*, 6 (1). A working paper presented to the master's students in the ICT course, Sultan Qaboos University.
- Al-Heela, Mohamed Mahmoud. (2003). *Education technology: theory and practice*. Jordan: Dar Aman.
- Ali, Rania Mohammed Qassim. (2009). *The influence of computer on the child's social relations*. Alexandria: Alexandria Book Centre.
- Ali, Zamel Majdi. (2009). Difficulties faced by the tenth grade male and female teachers in the use of computer as a teaching aids in Ramallah and Al-Bireh Governorate. *Journal of Al - Quds Open University for Research and Studies*, Palestine. (16), 59-100.
- Al-Karar, Abdul Rahman Al-Sharif Mohammed. (2006). *The role of computers in education*. Research paper, Sudan: Omdurman Islamic University.
- Al-Laqani, Ahmed Hussein; Abu Sneineh, Odeh. (1999). *Methods of teaching social studies*. House of Culture, Publishing and Distribution: Cairo.
- Al-Omran, Hamad bin Ibrahim. (2007). *Learning Resource Centres in Saudi Arabia: A Study of current situation with the Planning of a Model Centre*. Riyadh: Riyadh University for Girls.
- Al-Srifi, Inaam Qassem khafeef. (2012). The impact of the use of e-mail in the process of teaching in the achievement of students of the Faculty of Education - University of Dhi Qar and their motivation to learn. *Journal of Literature Dhi Qar: Faculty of Arts* - University of Dhi Qar - Iraq. 2(5), 230-240.
- Awamla, Khitam Abdel Halim. (2012). The reality of computer uses in teaching from the view of principals, teachers and students in the secondary schools of Balqa governorate. Jordan: *Journal of Educational Sciences Studies*, 39(2),
- Barakat, Ziad. (2010). Constraints to the use of Internet among students. *Journal of the Arab Psychological Network*: 9 (25-26), Winter and Spring.
- Bazairat, Suhaib Khalaf; Al-Hayek, Sadiq Khaled. (2013). The personal constraints limiting the use of computer in the educational process among faculty members in the faculties of physical education in Jordanian universities. *Journal of Research and Studies, human and social sciences series*. Jordan: 28 (2).
- Binder, C. (1993). *Behavioral Fluency a new paradigm in Educational Technology*, 33, U.S.A, Englewood cliffs. Bevacqua, J. 2001. Utilization of a new computer Lap at Lincoln Elementary School. (California) MAI, 39/06 P 1463.
- Khalili, Khalil Youssef; Haidar, Abdul Latif Hussein; Yunus, Muhammad Jamal al-Din. (1996). *Teaching science in general education*. Dubai: Dar Al Qalam, first publication
- Leach, J. (2005). *Do ICT Enhance Teaching and Learning in South Africa and Egypt?Retrieved*, July26,from:www.Digitalopportunity.org/article/ view/1 25462/1./
- Mannai, Abdullah Salem. (1998). *Standards of Production and Evaluation of Educational Computer Software: Educational Research Centre*. Qatar : Qatar University, January.

- Murad, Odeh Suleiman Odeh. (2014). The Use of Information and Communication Technologies (ICTs) and the constraints to their Use in Teaching with male and female teachers of Al-Shobak Brigade schools / Jordan. *Al Balqa Journal for Research and Study*. 17 (1).
- Murad, Salah; Hadi, Fawzia. (2012). *Methods of scientific research "design and procedures"*. Cairo: Modern Book House.
- Peter, Collen. (2008). *Dictionary of ICT information communication Technology*, UK, London Bloomsbury, Publishing Plc.
- Rabee, Fallah Ahmed. (2009). *Education and training technology under contemporary trends*. Beirut: Al-Mahja Al-Bayda Publishing House.
- Rifai, Ismail Khalil. (2006). *Computer in teaching and learning*. Riyadh: Al Yamama Press Foundation, pp. 70-72.
- Salama, Abdel Hafez Mohamed. (2001). *Communication and Technology in Education*, 3rd Pub, Amman, Dar Al-Fikr.
- Salim, Ahmed Mohammed. (2004). *E-learning and teaching technology*. Al-Rashed Library, p. 298.
- Siam, Hani Ali. (2008). *The impact of a computerized program on the methods of private tutoring, training and practice to teach the energy unit on the scientific skills of seventh grade students*, Master Thesis (unpublished) Faculty of Education, Islamic University, Gaza.
- Sultan, Turki Ibrahim. (2010). *Information systems and computer use*. Cairo: Faculty of Computing and Information: Helwan University.
- Tijani, Ibn Al-Tahir. (2011). Computer and university education: the importance and fundamentals of its use as an educational medium. *Journal of Human and Social Sciences*: University of Qasidi Marbah - Ouargla: Algeria, Issue 6: 373-358.
- Wikipedia Free Encyclopaedia.
- Yasin, Bassam Mahmoud Bani, Melhem, Mohamed Amin. (2011). constraints to the use of e-learning facing teachers in the Directorate of Education for the first Irbid region. *The Palestinian Journal of Open Distance Education*: 3(5), January.