# Availability and Utilization Level of Information Technology among School Principals of Irbid Second Directorate

**By**

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**Abstract**

This study aims to identify the availability and utilization level of information technology among school male and female principals of Irbid second directorate, in light of some variables. A random sample of (350) male and female teachers have been selected from Irbid second schools for the second semester of (2017-2018) academic year, questionnaires were distributed on them, and (335) of those were retrieved, where a researcher develop a questionnaire with two aspects availability and utilization, and also extract the sincerity and consistency of study tool. Study results show low utilization level among school male and female principals, while the availability level was large. Also, there were not any statistically significant differences in the experience levels of availability and utilization. In relation to the sex variable, it found statistically significant differences in favor of males with the availability, but it was not any statistically significant of utilization. Study stage variable had statistically significant differences of the utilization and availability level, in favor of high schools.

**Keywords:** Availability level, Information Technology (IT), Irbid second directorate, school principals, utilization level

## Study Background & Introduction

This century marked with the scientific and technological revolution, and called IT knowledge explosion era, where computers invaded all aspects of human activities, such as political, cultural, and economical, and became a player of significant and important role in all the aspects of everyday life. Particularly, in education a lot of educational institutions have showed and adopted the utilization of such technology as transfer medium in the educational communication process, due to its help in creating an effective educational process whether in the educational or the administrative aspect. IT translated into human an attractive reality, where individuals were impress by it and took what he could from it, and bravely changes many theories.

It known that current age illiterate is no longer who doesn't know writing or reading, but became the one who isn't proficient in foreign languages, and the one who doesn't use or invest in IT. The interest in IT increase due to several reasons, some of those are: increase the influence of knowledge and information in modern societies, increase the influence and authorities of employees and managers in modern administrations, and the development and enhancement of communication networks and microprocessors. In addition, the emergence of new information systems based on the utilization of electronic computer machines and advanced communication networks, as well as the role of information and knowledge today to make the competitive advantage (Taishoury, 2016). Due to the importance of IT, Ministry of Education in Jordan is striving to generalize the experience of computerizing schools and educational institutions, for the success of electronic school idea.

(Al-Hirsh, Ghazawi, Yamin, 2013) refer to the areas of using computers in school administration, where it has been used to keep record of each student, and distribute students according to the class in each school term. It used to distribute the teaching schedule on teachers, keep record of every teacher, employee, or user at the school, keep a medical record for each student, and keep record of school furniture. The computerization of school libraries and connecting it to a network will also facilitate the process of dealing with it, follow up students' activities, measure their progress, monitor students' grades, and retrieve the school results. In addition, using computers at school will help to publish the students' results on the web, keep school budget and distributed on the school curricular and extracurricular activities according to the allocated proportions of each activity, contact students and invite parents through e-mail, use the computer in studies, researches, and writing, and curriculum printing and development.

Those things all together managers need to practice their businesses, functions, and jobs, and for their success in practicing these functions they must have some kind of understanding and assimilation of IT nature and its significance level in the management development. It must formulate a unified new visions of staffs and managers that bypass the traditional methods, where it will concentrate on the core aspects of linking IT with the objectives and management needs of information, reports, and statistics which facilitate the decision making process. It must also change the staffs thinking method in dealing with information, finding new methods of working based on the available technology, and training the users of this technology to transfer and exchange information between the departments and other management levels and sections.

(Taishoury, 2016) refer to benefits of IT to the managers and management levels, where it works on developing the skills of managers, employees, and investors, and strive to reduce the size of administrative party, reduce costs, and expand and activate the network communication, and through it management will dedicate itself for the strategic tasks, lessening the burden of routine, and adjusting and adapting with the changes, as a result of its speed. It also creates new products, develop new marketing techniques, create new and sophisticated styles in management, help in the

grouped decisions making, and allow greater degrees of delegation. In addition, it will lead to fast movement, flexibility, speed of development, and higher performance, and therefore customers and citizens will be satisfied, waste and corruption will be reduced and public funds will be protected, and finally unite the viewpoint and method toward the issues that face the management and manager, and therefore unify the solutions.

The school as an educational institution need a sophisticated and capable management that respond to the demands of development plans and benefit from the modern technology, especially after the success of educational institutions became also dependable on following these rapid scientific, educational, and technological development by using an advance and new theories, methods, and tools to keep up with the developed countries in its working techniques and modern methods that based on the scientific method in diagnosing the reality of school management and identify its problems. It also involve changing the concept of school administration from a primitive process that depend on diligence and personal capabilities to a sophisticated modern management, which becomes more achievable by using the technological methods and its devices, such as: computers, scanners, printers, plotters, data readers, Fax, developed phone, photocopiers, and others, in addition to the technical methods which are scientific policies, executive procedures, scheduling, future educational planning, databases, spreadsheets, desktop publisher, data processing, and graphics software (Farouk 2008).

The current administrative technology which tied with the use of computers is capable to provide the school principal with complete and accurate information that will lead to reduced time and effort, and improve performance quality and level. The benefit of technological methods should achieve the highest possible level of targets, allowing school principals to have enough time to practice their leadership role and watch over their schools. Due to the entrance of IT to the world of school management, it requires the development of policies and regulations that are effectively consistent with the use of these technologies, considering that the use of scientific methods which are joint with the utilization of modern technological methods in management should improve the working methods, therefore raise its efficiency and in the same time save time, effort, and resources. Currently, education face major challenges and the most important of those is increasing the demand on education, due to the belief that education can bring the prosperity and strength to societies, and also the demand to expand the utilization of modern technology in the educational institutions.

Education in Jordan has witnessed rapid development and improvement during the last 50 years, which form a successful breakthrough in comparison with other countries. The role of school management grow in present time and school principal has to carry all of the administrative responsibilities, perform the optimized educational process and develop it, and avoid any deficiency in the educational assignment output.

Today, we live in a new technological and competitive environment, where things are managed and processed by the internet and e-mail, and if we look closely to most government institutions we see that IT exist in it, but what its availability and utilization level in the school administrative sector, where there is no evidence of its adequate availability in schools and its sufficient utilization. Therefore, this study came to try to identify the availability and utilization level of IT among school male and female teachers and principals of Irbid second directorate

## 1. Study Problems & Questions

Modern trend calls for the introduction of IT in educational sector, due to its enormous benefits and therefore this study came, as an attempt to identify the availability level of this type of

technology and its utilization level in the school administration, and this study seeks specifically to answer the following questions:

– What is the utilization level of materials and devices required for IT at Irbid governorate schools, from the viewpoint of male and female teachers and principals?

– What is the availability level of IT among male and female principals of Irbid second directorate schools, from the viewpoint of male and female teachers and principals?

– Are there any statistically significant differences in the sample members' estimations of utilization level, due to (sex, stage, experience,) variables?

## 2. Study Objective

This study aims to identify the availability and utilization level of information technology among school male and female principals of Irbid second directorate, from the viewpoint of male and female teachers and principals.

## 3. Study Importance

The study importance comes from its concentration on identifying the availability and utilization level of IT in the school administration, where this study considers importance by providing information to the decision makers about the utilization level of this technology and its availability level at schools, in order to address the shortage in it and ensure its effectiveness, and therefore make the necessary decisions for it.

## 4. Previous Studies & Theoretical Background

We now live in the information age, where the continuity of organization's success at the different activities become dependable on the availability of good information systems that provide leaders with the immediate and accurate information and in timely manner. Information systems have become one of the modern administrative activity fundamentals, due to the ongoing technological development and the impressive progress in communication methods like satellites and mobile phones. Computers consider the backbone of modern information systems, where it's the major driving force for the various information systems that allow its users; whether they were individuals or organizations to store, process, and retrieve information quickly and in timely manner, therefore computers consider an essential part that intersect with the daily life activities.

We can say through what has been previously mentioned, that IT is a new science that facilitate dealing with information and it can be used in all areas, such as education and school administration, and it's a reason for societies to continue its superiority and advancement, where there is a close link between technology and the advanced societies luxury. IT includes storage and retrieval technology, and modern communications technology, and there is no doubt that educational areas can gain big benefit from IT, given its wide scope and large volume of information available on it.

Rao (2011) mentioned that education can benefit from IT in three ways: first, as a teaching and learning tool through the computer; second, as a traditional learning or online education through the computer science materials; and third as an instrument of planning and management for school principals and teachers. Rao also says that education technology is mainly IT applications in the classroom, where the use of computer in the classroom, as the most important tool in IT either for teaching or learning supports that education technology is an application of IT.

Dallou (2016) conducted a study entitled "The implementation level of computerized information systems in the directorates of education and their schools in Jordan, and the difficulties that face it, from the viewpoint of educational leaders", where the study aimed to measure the implementation level of computerized information systems in the directorates of education and their schools in Jordan, and the difficulties that face it, from the viewpoint of educational leaders, and identify the impact of some variables in this implementation. The study sample consisted of (351) educational leaders and the study tool consisted of a questionnaire, where paragraphs were divided into six areas: administrative and financial transactions, organizational structure, organizational communication, decision making, business stationery or office work, and training. The study showed that implementation of computerized information systems in the directorates of education and their schools in Jordan were at medium degree, and that utilization level of computerized information systems differ from directorate to directorate, where the results were in favor of the directorates and its schools in Irbid governorate in comparison with Al-Mafraq, Ajloun, and Jarash governorates.

Al-Najar (2012) indicate that IT have been employed in several management areas, such as keeping students records, where instead of using the paper records that are difficult to store, retrieve, and modify , the computer will be used to facilitate the way we deal with these records, computer will also be used to allocate students according to classrooms, by making list for each class, keep record of the weekly study schedule for teachers, facilitate the files reporting process that contain lists of students, keep health records of students and staffs, school budget record, school furniture record, computerization of school libraries, monitoring of student grades, educational researches, and curriculum evaluation and development. There also the computer-assisted training and education program, which help to increase the student's achievement and activate their role as one issue that school administration gives it a large importance.

Rao (2011) outlines the uses of IT by school principals to manage the education on the classroom level, teacher and student records, financial plans, and classroom schedules. Information represent the backbone of any activity because it considers one of the essential resources that administrative functions of planning, organizing, recruiting, directing, and controlling rely on, where the success of any institution depends on its management efficiency level to benefit from the modern technological developments and the huge amount of information, and the impact of IT to achieve the institution desired goals.

The existence of communications, computers, and electronics technological revolution, and its control over most areas of life require change in the management methods and procedures, considering that the proper use of technology in school administration will increase the effectiveness of production and quality. The most important technology methods that school management can benefit from are PERT method for planning and monitoring, and planning, programming and financing method, in addition to expand the use of technology to store data and information, and provide school principals with the latest in school management by providing the required administrative machines and devices, and the trend toward making managers capable of creating an environment that help school staffs to use technology in a way that align with the management purposes (Al-Salmi refer to in Farouq, 2008).

The superior manager work according to a clear technological management approach based on the fundamentals that are coming from identifying the needs and requirements, in light of the organization orientations and guidelines, and inventory the technologies that are already available, which can be obtain from the local market, study the cost-benefit analysis for the new technological applications, and also follow the development and innovation, and keep great deal of personal,

technical, and scientific information for all school teachers and retrieve it quickly and accurately. In addition, monitoring of the students grades in all subjects, keeping accuracy of information and results, and keeping records, lists, reports, and questions of exams, and also preparing and organizing the financial budget, preparing the needed human resources of teachers and staffs, ordering the needed books and furniture, preparing the study programs, and distributing courses and classes on the teachers.

There are several modern communication methods that came after telegraph and telephone, which were used for signals and to send telegrams as internal and external communication methods, now the entire human society become open as a result of the numerous methods of communication, especially after the introduction of satellite communications service. The new communications technology can be distinguished by combining the telecommunication and computer (Farouk, 2008). Communication takes a big part of manager's time since it's a way for them to perform their tasks and various functions, with the fact that school is a social organization that communication spread in it all over aspects of life, where pupils, teachers, and administrators perform their work inside the school through communication. The successful manager is the one who can direct the inside and outside school communication, in a way that achieves the greatest payoff, and the communications technology provide new facilities especially for management, where it's possible now to hold business meetings between individuals across the continents via telephone and video links.

Organizing is structuring individuals and connecting them with working relationships and authority to enable the organization of achieving its goals, where it helps to create a system within the group, and improves the efficiency and quality of work performed by each individual, and as a result improve the communication between members of the organization effectively and efficiently.

Controlling is the leadership follow-up on the administrative process to ensure that it had achieved its objectives with the highest possible efficiency and least effort, cost, and time. The computerized controlling process shows in identifying the positive or negative deviations from the proposed plan, analyze it, and give direction for solving it to benefit from it in the future plan. The computer has an important role in controlling by providing better information to assist in the preparation of controlling standards, or clear performance styles, in a short time and to provide adequate information about the actual performance and achievements. Controlling and decision making consider major tasks of management, and have four steps: diagnosis, research, presentation, and selection, and there is extensive and important impact of computer on the decision making process of management, due to the benefits of computer in decision making, and some of those are: rapid access to an accurate data, validity and integrity of information, and management help in decision making through the statistical reports and improving the management communications.

Al-Alawneh (2017) conducted a study entitled "Reality and effects of using the computerized information systems, a field study at the Jordanian Ministry of education center" that aimed to identify the utilization level of computerized information systems at the Jordanian Ministry of Education center. It also aimed to identify most common information systems, in term of knowledge degree, utilization degree, in addition to identifying the main reasons for limiting the use of these systems at the center of Ministry of education. Study aimed to identify the existence of statistically significant differences between the knowledge degree, utilization degree, utilization areas, and reasons for the utilization weaknesses, and sources of knowledge of the computerized information systems, due to the personal variables of sex, age, scientific degree, service period, academic specialization, job level, and work department. Study also aimed to identify the existence of positive or negative relationships between the knowledge degree, utilization degree, utilization areas, and reasons for the utilization weaknesses, and sources of knowledge of the computerized information

systems. Researcher follow the descriptive analytical approach in this study by adopting two methods, first the theoretical method, and second the field study method.

The study population contain all (800) employees at the Ministry center, and the sample include (200) male and female employees, and distributed the questionnaires on them. Researcher found the following results: knowledge degree and utilization degree came, in descending order as follows: office automation systems (word processor, graphics, databases, spreadsheets, and e-mail) in the first rank, in term of knowledge degree and utilization degree, followed by functional information systems (accounting, salaries, and monitoring), and then came the human resources systems (employee records), and then management information systems, where the area of printing, secretarial, and statistical reports came first as a field of using the computerized information systems followed by the decisions making area, and the area of keeping information on employees came last.

Therefore, this study came to identify whether if all schools in Jordan actually have been computerized, and we are in 2017, and if that have been done we need to identify whether if using IT in secondary schools are more than the basic school, and if sex variable isn't statistically significant at the utilization level of IT, even if reality show that females tend to use IT more than males.

## 5. Study Methodology & Procedures

### *6.1 Study Limitation:*

This study is limited to the public schools of Irbid second directorate for the second semester of (2017-2018) academic year.

### *6.2 Study Terms:*

Level: respondents' expression of their technology utilization level.
Availability: level of technology existence and its utilization accessibility.
Utilization: use of information technology at work to serve the management process.
Technology: optimal utilization, implementation, and employment of the scientific knowledge for human service and their comfort.
Information Technology***:*** software, hardware, telecommunications, database management, and the operational information technology used in computer based information systems to find the appropriate methods and tools to store, organize, retrieve, and display information in the best useful form that help to make the appropriate decisions.
School Administration: (Abdul-Aziz who referred to in Al-Amaireh) mentioned that school administration or management is a coordinated efforts performed by a team of educational professionals to achieve the educational goals within the school, in line with the government objectives, which include raising and nurturing their children correctly, and on the right basis.

### 6.3 *Study Methodology:*

Study population consists of all male and female teachers at the government schools of Irbid second directorate of education, for (2017/2018) school year. They amount to (5239) teachers, with (1545) male teachers and (1620) female at the basic schools, and (1051) male teachers and (1023) female teachers at the secondary schools.

### 6.4 *Sample Study:*

Study sample include (350) male and female teachers at the basic and secondary schools, with (108) male teachers at (5) basic schools and (79) male teachers at also (5) secondary schools. It also

includes (108) female teachers at (5) basic schools and (55) female teachers at (5) secondary schools. Table (1) shows the study sample distribution according to its variables:

Table (1): study sample distribution by variables

| Variable | | Frequency | Percentage |
|---|---|---|---|
| School | Basic | 205 | 67.3 |
| | Secondary | 130 | 32.7 |
| | **Total** | **335** | **100** |
| Sex | Male | 185 | 45.5 |
| | Female | 150 | 54.5 |
| | **Total** | **335** | **100** |
| Experience | Less than 5 yrs | 40 | 11.3 |
| | From 5-10 yrs | 98 | 22.2 |
| | More than 10 yrs | 197 | 66.5 |
| | **Total** | **335** | **100** |

### *6.5 Study Tools:*

Study tool is a questionnaire that was developed from the previous questionnaire by Naddaf (2012), where the researcher used it to identify the availability level and utilization degree or level of IT among male and female school principals of Irbid second directorate. Researcher has developed it in light of the theoretical literature and the previous studies, where the questionnaire consist of (28) paragraphs spread over two parts, the first part measure the availability level of IT, and the second part measure the utilization level of IT in these schools.

### *6.6 Tool Sincerity:*

The sincerity of the tool content was confirmed by passing its paragraphs on a group of arbitrators from Yarmouk University faculty members.

### *6.7 Tool Consistency:*

To verify the tool consistency, researcher implemented it on an exploratory study from the study population, and from outside the study sample members. This sample consisted of (20) male and female teachers at the basic and secondary stages, and implement the tool once again after two weeks, and then used the Pearson correlation coefficient to calculate the differences between the two tests, and where between (0.81-0.85), and also the internal consistency coefficient (Cronbach Alpha) was extracted for the areas and the tool, as a whole and its value ranged between (0.79-0.82), and these ratios are acceptable for the purposes of this study.

### *6.8 Study Procedures:*

Researcher identify the problem and wrote the proposal for it, then identify the study population and the sample that will implement the study on it, then the study tool was developed and its sincerity and consistency were confirmed, then the questionnaire was implemented on a group of basic and secondary schools for male and female, and finally the statistical analysis (SPSS) was used and came out with the study results.

### *6.9 Study Variables:*

The study contains a set of variables:

***First:*** independent variables:

Sex: have two types (male, female).

Stage: have two levels (basic, secondary).

Experience: have three levels (less than 5 yrs / between 5-10 yrs/ more than 10 yrs).

***Second:*** one dependent variable, which is the availability and utilization level of IT at schools of Irbid second directorate.

### *6.10 Statistical Analysis:*

Frequencies and percentages were calculated, and then calculate the standard deviations and arithmetic means for the sample member responses on each paragraph of the questionnaire. (One-Sample T-test) was also used to detect the statistical significance of the availability and utilization level of IT in the basic and secondary schools. In addition, the variance analysis (Three-way-ANOVA) was implemented to calculate the differences, due to sex, stage, and experience variables, and also use the (One-Way ANOVA) variance analysis.

## 6. Study Results

The results were presented according to the order of study questions:

**Results related to the first question:**

"What is the utilization level of materials and devices required for IT at Irbid governorate schools, from the viewpoint of male and female teachers and principals?"

Arithmetic means and standard deviations were calculated for the paragraphs that measure the utilization level of IT among male and female teachers and principals of the public schools at Irbid second directorate, table (2) shows that:

Table (2) Arithmetic means and standard deviations for the utilization level of IT among male and female teachers and principals at the public schools of Irbid second directorate

| Number | Paragraph | Mean | STDEV | Rank |
|---|---|---|---|---|
| 1 | Computer Hardware (devices) | 3.12 | 1.31 | 1 |
| 2 | Printers | 2.85 | 1.30 | 4 |
| 3 | Headphones | 2.33 | 1.21 | 15 |
| 4 | Microphones | 2.16 | 1.17 | 20 |
| 5 | Floppy disk player | 2.72 | 1.24 | 6 |
| 6 | CD-ROM player | 2.57 | 1.23 | 10 |
| 7 | DVD-ROM player | 2.06 | 1.11 | 22 |
| 8 | Scanners | 1.96 | 1.10 | 26 |
| 9 | Data Show (Projector) | 2.45 | 1.31 | 11 |
| 10 | Communication tools & Internet | 2.37 | 1.27 | 13 |
| 11 | Light Pen | 2.00 | 1.27 | 25 |
| 12 | Word processing (English/ Arabic) | 3.11 | 1.41 | 2 |
| 13 | Excel | 2.96 | 1.37 | 3 |
| 14 | Database (Access) | 2.70 | 1.38 | 7 |
| 15 | Power Point/ slides show | 2.79 | 1.31 | 5 |
| 16 | Photoshop program | 2.35 | 1.26 | 14 |
| 17 | Internet Browsers like Explorer | 2.27 | 1.25 | 18 |
| 18 | Computerized supplies software system | 2.03 | 1.19 | 23 |

| | | | | |
|---|---|---|---|---|
| 19 | Students marks monitoring system | 2.68 | 1.35 | 8 |
| 20 | Classroom sub-division system | 2.26 | 1.26 | 19 |
| 21 | Students registration system | 2.33 | 1.24 | 15 |
| 22 | Employees & users system | 2.33 | 1.28 | 15 |
| 23 | Accounting system | 2.02 | 1.10 | 24 |
| 24 | Edu-wave program | 2.67 | 1.40 | 9 |
| 25 | Paint program | 2.38 | 1.26 | 12 |
| 26 | Senior management information systems | 1.86 | 1.03 | 27 |
| 27 | Individual & group decision support systems | 1.84 | 1.00 | 28 |
| 28 | E-mail | 2.11 | 1.18 | 21 |
| | **Overall Total** | **2.40** | **0.82** | |

It shows from table (2) above that the higher arithmetic mean for measuring the utilization level of IT among male and female teachers and principals of the public schools at Irbid second directorate was for the paragraph "computer hardware" with an arithmetic mean of (3.12), followed by the arithmetic mean (3.11) for the paragraph "Word processing", then came the arithmetic mean (2.96) for the Excel program, while the lowest arithmetic mean (1.84) was for the paragraph "Individual & group decision support systems".

The results indicate that the utilization level of IT among male and female teachers and principals of the public schools at Irbid second directorate is weak at (2.4), which is less than the average, due to the fact that a lot of school teachers and principals don't recognize the importance of this technology and how to employ it.

**Results related to the second question:**

"What is the availability level of IT among male and female principals of Irbid second directorate schools, from the viewpoint of male and female teachers and principals?"

To answer the second question of the study, the frequencies and percentages were calculated and the arithmetic means and standard deviations were also calculated for the paragraphs that measure the availability level of IT among male and female teachers and principals of the public schools at Irbid second directorate, table (3) shows that:

Table (3) Arithmetic means and standard deviations for the availability level of IT among male and female teachers and principals at the public schools of Irbid second directorate

| Number | Paragraph | Mean | STDEV | Rank |
|---|---|---|---|---|
| 1 | Computer Hardware (devices) | 1.92 | 0.26 | 1 |
| 2 | Printers | 1.85 | 0.34 | 4 |
| 3 | Headphones | 1.80 | 0.39 | 9 |
| 4 | Microphones | 1.73 | 0.43 | 12 |
| 5 | Floppy disk player | 1.84 | 0.36 | 6 |
| 6 | CD-ROM player | 1.79 | 0.40 | 10 |
| 7 | DVD-ROM player | 1.55 | 0.49 | 19 |
| 8 | Scanners | 1.54 | 0.49 | 20 |
| 9 | Data Show (Projector) | 1.73 | 0.43 | 12 |
| 10 | Communication tools & Internet | 1.64 | 0.47 | 17 |
| 11 | Light Pen | 1.36 | 0.48 | 28 |
| 12 | Word processing (English/ Arabic) | 1.82 | 0.37 | 8 |
| 13 | Excel | 1.87 | 0.33 | 2 |
| 14 | Database (Access) | 1.86 | 0.33 | 3 |
| 15 | Power Point/ slides show | 1.85 | 0.35 | 4 |

| | | | | |
|---|---|---|---|---|
| 16 | Photoshop program | 1.71 | 0.45 | 14 |
| 17 | Internet Browsers like Explorer | 1.66 | 0.47 | 17 |
| 18 | Computerized supplies software system | 1.50 | 0.50 | 22 |
| 19 | Students marks monitoring system | 1.71 | 0.45 | 14 |
| 20 | Classroom sub-division system | 1.49 | 0.50 | 23 |
| 21 | Students registration system | 1.52 | 0.50 | 21 |
| 22 | Employees & users system | 1.84 | 0.50 | 6 |
| 23 | Accounting system | 1.40 | 0.49 | 24 |
| 24 | Edu-wave program | 1.70 | 0.45 | 16 |
| 25 | Paint program | 1.87 | 0.41 | 11 |
| 26 | Senior management information systems | 1.39 | 0.48 | 26 |
| 27 | Individual & group decision support systems | 1.37 | 0.48 | 27 |
| 28 | E-mail | 1.49 | 0.50 | 24 |
| | **Overall Total** | **1.66** | **0.26** | |

It shows from table (3) above that the higher arithmetic mean for measuring the availability level of IT among male and female teachers and principals of the public schools at Irbid second directorate was for the paragraph "Computer hardware" with an arithmetic mean of (1.92), followed by the arithmetic mean (1.87) for the paragraph "Excel", then came the arithmetic mean (1.86) for the database (Access), where the availability of "printers" and "Power Point" got an arithmetic mean of (1.85) for each of them, and the availability of "Floppy disk player" and "Employees & users system" got an arithmetic mean of (1.84) for each of them, while the lowest arithmetic mean (1.36) was for the paragraph "Light Pen".

The overall total of arithmetic means for the paragraphs that measure the availability level of IT among male and female teachers and principals of the public schools at Irbid second directorate was high at (1.69), and to detect the statistical significance of the arithmetic mean, ( One-Sample-T-test) was implemented for the independent samples, It shows a large availability of IT among male and female teachers and principals of the public schools at Irbid second directorate, from the viewpoint of teachers and researcher attributed that to the interest of Ministry of education in IT and its continuous effort to provide it in the basic and secondary schools.

**Results related to the third question:**

"Are there any statistically significant differences in the sample members' estimations of utilization level of IT, due to (sex, stage, experience,) variables?"

To answer the third question of the study, the arithmetic means and standard deviations were also calculated for the paragraphs that measure the utilization level of IT among male and female teachers and principals of the public schools at Irbid second directorate, from the viewpoint of teachers, due to the personal variables, (Three-Way-ANOVA) variance analysis was implemented, and table (4) and (5) shows that:

Table (4) Arithmetic means and standard deviations for the personal variables (school, sex, experience)

| Variable | Category | Number | Mean | STDEV |
|---|---|---|---|---|
| School | Basic | 346 | 2.26 | 0.83 |
| | Secondary | 168 | 2.70 | 0.72 |
| Sex | Male | 234 | 2.42 | 0.74 |
| | Female | 280 | 2.38 | 0.88 |
| Experience | Less than 5 yrs | 58 | 2.54 | 0.71 |
| | Between 5-10 yrs | 114 | 2.42 | 0.67 |
| | More than 10 yrs | 342 | 2.37 | 0.88 |

It shows from table (4) there are virtual differences in the utilization degree and level of IT among male and female teachers and principals of the public schools at Irbid second directorate, from the viewpoint of teachers, due to the personal variables (school, sex, experience), and to detect these differences, (ANOVA) variance analysis test was implemented, table (5) shows that:

Table (5) (ANOVA) variance analysis results to detect the differences in the utilization degree and level of IT among male and female teachers and principals of the public schools at Irbid second directorate, from the viewpoint of teachers, due to the personal variables

| Source | Sum of squares | DF | Mean squares | F-value | Sig |
|---|---|---|---|---|---|
| School | 22.730 | 1 | 22.730 | 35.642 | 0.000 |
| Sex | 1.359 | 1 | 1.359 | 2.131 | 0.145 |
| Experience | 1.357 | 2 | 0.679 | 1.064 | |
| Error | 324.596 | 510 | 0.318 | | |
| **Total** | **3328.278** | **513** | | | |

The following results shows from table (5):

**1.** F-value for the school variable amount to (35.642) at a statistical significance of (0.000), it's a significance value at level ($\alpha = 0.05$), which indicate the existence of differences in the utilization level of IT among male and female teachers and principals of the public schools at Irbid second directorate, from the viewpoint of teachers, due to the school variable and in favor of secondary schools, where the arithmetic mean for secondary schools amount to (2.70), while the mean for the basic schools was (2.26).

**2.** F-value for the sex variable amount to (2.131) at a statistical significance of (0.145), it's not significance value at level ($\alpha = 0.05$), which indicate no differences in the utilization level of IT among male and female principals of the public schools at Irbid second directorate, from the viewpoint of teachers, due to the sex variable.

**3.** F-value for the experience variable amount to (1.064) at a statistical significance of (0.346), it's not significance value at level ($\alpha = 0.05$), which indicate no differences in the utilization level of IT among male and female principals of the public schools at Irbid second directorate, from the viewpoint of teachers, due to the experience variable.

In regard to the experience variable, it didn't show any statistically significant differences for both experience levels of utilization and availability, and this doesn't agree with the study of White (referred to in Dallou, 2014), who indicate that modern school principals prefer to use computers,

and in the stage variable there were statistically significant differences for both stage levels of utilization and availability, in favor of secondary schools, which agree with the study of Barrett (referred to in Dallou, 2014). Researcher attributed that to the priority Irbid directorate gives to the secondary schools by providing IT in it, in comparison with the basic schools

## Recommendations

According to the results of this study, the researcher recommends the following:

1- The Ministry of Education should supply schools with more computers and other educational technology.
2- Technology Usage degree in schools should be enhanced.
3 - Special care should be paid to basic stage schools regard using educational technology.
4- A training programs should be administered for schools` principals.
5 - Special care should be paid to train principals in communication skills and email and other media usage.

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