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Degree of Availability and Utilization of Information Technology by Jordanian School Principals

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Introduction

No doubt that the most striking features of this century is the technological revolution: Computers, communications and other electronic mediums are main components for any developing program in the educational field. Therefore, the Ministry of Education in Jordan adapted an educational reform program aimed at utilizing information technology in schools. The program was called “Educational reform for Knowledge Economy” (ERFKE).

School’s administration was one of (ERFKE) domains. For the importance of Information Technology, the Ministry Of Education did its best to broaden the use of computers in all Jordanian schools (Al Heleh, 2001) as part of reaching its goal of an “electronic school.” Using technology by principals is one way of developing and enhancing their leadership performance by saving time and effort. In addition, the revolution in using communication networks and new information systems, which, of course, require the use of computers and advanced technology, may determine the competitive advantage of any country (Tesurey, 2006), and helps in closing the divide between developed and developing countries in what is called “digital divide.”

Al Hirsh, Gazawi, &Yameen (2003) indicated that there were many ways of using information technology in school administration. One of these ways is building databases for their students (scores, medical records) and their teachers. Also, information systems like student affairs, employee affairs and stores systems may be used by principals (Daloa, 2007). They may benefit from computerized library systems in their school teaching and learning process. Also, they may use the internet in their researches and in their communications especially with parents (Al Najar, Al Hersh, Gazawi and Najar, 2003).

To succeed, in utilizing information Technology, principals should have in their schools, the necessary information Technology infrastructure as well as have the ability and the attitudes and desires to use it themselves (Hamdy, 1998). So the question is “dose information technology available at Jordanian schools and if so, is it used by school’s principals?

Problem of study

As Information Technology is one of the main important ways to develop and improve the school administration performance, this study came to find out the extent of availability and the degree of usage of information technology in the Jordanian schools administration. Precisely, this study tried to answer the following questions:

1- What is the degree of availability of information technology at Jordanian schools from teachers point of view?

2- What is the degree of Information Technology usage by Jordanian schools’ principals from their teachers point views?

3- Are there any significant statistical deference's in the principals utilization degree of Information Technology as perceived by their teachers referred to by gender, experience, and school's level?

Importance of Study

The importance of this study comes from the fact that it will provide information for decision makers about the availability and the degree of use of technology by school principals. This information will be helpful for improving the effectiveness of using technology in school's administration.

Methodology

This study based on a survey conducted at Irbid educational district, where a random sample of 514 teachers was selected from the study population of (5239) teachers. The sample consisted of 234 male teachers and 280 females. Two hundred and forty six teachers were in elementary and middle schools, while 168 teachers were in high schools.

The researcher developed the questionnaire of the study based on a previous publication of Al Nadaaf (2002). The final draft of the questionnaire consisted of 28 statements measures the availability and the degree of utilizing information Technology in schools.

To test the validity of the questionnaire, I consulted 10 of the experts to review it and make changes. For consistency, the questionnaire was put for test re-test process. The questionnaire was distributed to 20 teachers out side the study sample twice and for 2 weeks period between the first time and the second time. Person correlation was calculated for the two tests and was (0.87). In addition, Kronpah alfa was calculated and it was (0.91).

The study had three independent variables (gender, school level, and level of experience) and two dependant variables: availability of information Technology and information technology utility.

In order to analyze the data and answer the study questions, the statistical package for social sciences (SPSS) was used. Mainly, means, standard deviations, T-test, and 3 ways ANOVA were used in the analysis.

Results and Discussion

There was a high return of questionnaires, of the (525) handled to the participants, (514) were returned. Table (1) shows demographic information about the sample and frequencies and percentages of independent variables:

Table 1: Study Demographic Information and Frequencies and Percentages of Independent Variables:

Variable		Freq.	%
School Level	Secondary	168	32.7
	Basic	246	67.3

	Total	514	100
Gender	Male	234	45.5
	Female	280	54.5
	Total	514	100
Experience	Less than 5 years	58	11.3
	From 5 to 10 years	114	22.2
	More than 5 years	342	66.5
	Total	514	100

The results for the first question:

The first question was “What is the degree of availability of information technology at Jordanian schools from their teachers’ point of views?

To answer this question, the researcher found that the frequencies and percentages of availability of information technology aspects as perceived by the sample members, table 2 shows these results:

Table 2

Frequencies and percentages of the availability of Information Technology at schools from teachers point of view (N= 514)

		Available		Not Available	
		Freq.	%	Freq.	%
1	Computers	476	92.6	38	7.4
13	Excel	450	87.5	64	12.5
14	Access	446	86.8	68	13.2

2	Printers	442	86	72	14
15	Power point	440	85.6	74	14.4
5	Floppy drivers	432	84	82	16
12	Microsoft Word software	426	82.9	88	17.1
3	Head phones	416	80.9	98	19.1
6	CD- Rum	410	79.8	104	20.2
25	Paint program	404	78.6	110	21.4
4	Microphones	380	73.9	134	26.1
9	Data show proj.	380	73.9	134	26.1
16	Photoshop	368	71.6	146	28.4
19	Score system for students	368	71.6	146	28.4
17	Internet explorer(Browser)	340	66.1	174	33.9
10	Internet	332	64.6	182	35.4
7	DVD-Rum	286	55.6	228	44.4
8	Scanner	280	54.5	234	45.5
21	Student’s Registration system	270	52.5	244	47.5
24	Edu-wave program	264	51.4	250	48.6
18	Computerized storage system prog.	262	51	252	49
20	Grades sectional(bifurcation system)	254	49.4	260	50.6

28	E-Mail	254	49.4	260	50.6
22	Employees Affairs System	248	48.2	266	51.8
23	Accountants System	210	40.9	304	59.1
26	Administration Information System	202	39.3	312	60.7
27	Decision Making support System	194	37.7	320	62.3
11	Light Pen	186	36.2	388	63.8

Table (2) shows that 92.6% of Jordanian schools have computers. Also, schools have the software like excel program (87.5%), Access (86.8%), Power Point (85.6%) and printers (86%); other applications such as paint programs, edu-wave, and grade systems are available at more than 70% of the schools. These results can be understood by the fact that Jordanian society as a whole is exposed to information technology and especially the education system. Also, this basic technology is part of the goals of the educational reform program (EREFKE).

On the other hand, the results showed a lack in some equipments and software like light pens which was available for only 36% of schools and decision making support programs (38%) and information systems programs for high administration (39%), accountants system (41%), and emails (49%). The lack of these items can be explained by the fact that they are not used frequently in schools, even school principals might not use them much as they might not know how to use them because they require high technical abilities and training. In addition, these softwares are expensive (decision making support programs; information systems programs for high administration), and hard to provide and maintain.

Results for the second question

The second question was, “What is the degree of Information Technology usage by Jordanian schools’ principals from the teachers’ point of views?

To answer this question, frequencies and percentages of the statements that measure the principals’ utilization of Information technology as perceived by the teachers were considered. To determine the utilization degree, the following three standards scale was used:

Low Degree is less than (2.33); Medium Degree from 2.33 to 3.66; and High Degree is more than 3.66.

The following Table (3) shows the means and standard deviations for the sample responses:

Table (3): Frequencies and percentages for principal’s utilization of Information technology as perceived by their teachers

N	IT component	M	SD	
1	Computers	3.12	1.31	
2	Microsoft Word software	3.11	1.41	
3	Excel	2.96	1.37	
4	Printers	2.85	1.3	
5	Power point	2.79	1.31	
6	Floppy drivers	2.72	1.24	
7	Access	2.7	1.38	
8	Score system for students	2.68	1.35	
9	Edu-wave program	2.67	1.40	
10	CD- Rum	2.57	1.23	
11	Data show projector	2.45	1.31	
12	Paint program	2.38	1.26	
13	Internet	2.37	1.27	
14	Photoshop	2.35	1.26	
15	Head phones	2.33	1.21	
16	Employees Affairs System	2.33	1.28	
17	Student’s Registration system	2.33	1.24	

18	Internet explorer(Browser)	2.27	1.25	
19	Grades sectional(bifurcation system)	2.26	1.26	
20	Microphones	2.16	1.17	
21	E-Mail	2.11	1.18	
22	DVD-Rum	2.06	1.11	
23	Computerized storage system program	2.03	1.19	
24	Accountants System	2.02	1.10	
25	Light Pen	2.00	1.27	
26	Scanner	1.96	1.10	
27	Administration Information System	1.86	1.03	
28	Decision Making support System	1.84	1.00	
	Total	2.4	.82	

Table (3) shows that the degree of Information Technology utilization as a whole was 2.4 (medium) which is very near to the low degree(less than 2.33).The highest degree of utilization was for computers (M=3.12) , followed by computers applications like Microsoft word, Excel, PowerPoint, and Access with means: 3.11, 2.96, 2.79, 2.7 respectively.

On the other hand, the lowest degree of utilization by principals was the Email as a means of communication between them and others, with mean of 2.11. Also, other information systems like Employees Affairs System (M= 2.33) and Students Registration System (M= 2.33) were used very low. The researcher thinks that these results reflects the fact that school principals did not have more than the classical applications like word soft ware or excel and power point . Mostly, they did not use the internet because they did not have the time. Also, they did not have Administration Information Systems like Employees Affairs System and Students Registration System. In addition, some principals did not have the abilities for using some kind of technology applications.

Results of the third question: The third question was “Are there any significant statistical deference’s in the principals utilization degree of Information Technology as perceived by their teachers referred to gender, experience, and school’s level?”

To answer this question, means and standard deviations were calculated for the degree of utilizing technology by principals as perceived by their teachers and in respect to the independent variables. Table (4) shows these calculations.

Table 4: Means & Standard Devotions for the Sample Responses According to Independent Variables

variable	Sub/variable	Mean	SD
School level	Basic	2.26	.83
	Secondary	2.7	.72
Gender	Male	2.42	.74
	Female	2.38	.88
Experience	Less than 5	2.54	.71
	From 5-10	2.42	.67
	More than 10	2.37	.88

Table (4) shows that there are apparent differences among means for basic schools compared by secondary schools .also, between males and females, and for experiences. To test the significance of these differences, ANOVA was used. The results are shown in table (5):

Table (5): ANOVA Analysis for the Sample Responses According to Independent Variables

Source of deviation	Sum of Squares	DF	Mean of Squares	F	Sig
School Level	22.73	1	22.73	35.64	000.
Gender	1.35	1	1.35	2.13	145.
Experience	1.35	2	679.	1.06	346.
mistake	324.59	510	318.		

Total	3328.27	513			

Table (5) shows that there is no significant deference in utilizing technology by school principals in respect to the gender or years of experience, while there was a significant deference for the school level variable and in preference to the secondary school level. This result can be explained due to the fact that the school level determines the level of technology to be used and secondary schools mostly required more abilities for utilizing technology. While variables like gender and experience are not making any differences as most of the utilizing was for the classic applications.

Conclusions and Recommendations

It can be concluded that the results of the study showed that the degree of availability of information technology was high, while the degree of usage was low. In the light of the results, the researcher suggested that principals must pay more attention to the role and importance of information technology in facilitating their work. Furthermore, the researcher recommended that principals should be trained on how to use and apply information technology in developing the administrative process.

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