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Computer Utilization among Teaching Staff at Princess Nora University in KSA

Noor Saleh Alrshaied Princess Nora University in KSA.

ARTICLE INFO	ABSTRACT
Article history:	In general technologies in the field of education have a significant history. The
Received: 4 April 2016;	focus of this study was to determine the level of computer use among the teaching
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2 May 2016;	participated in this study. Data was collected from academicians through a survey
Accepted: 7 May 2016;	consisting of demographics variables, and level of computer use. Questionnaire
	results were analyzed quantitatively. Findings of the study showed that teaching
Keywor ds	staff at Princess Nora University generally had a high level of computer use.
Computer Use,	However, a in depth research is required, in order to investigate the factors
Teaching Staff,	affecting the use of computer technology among the teaching staff. As this study is
Demographic Variables.	limited to a particular setting and particular participants, further study is needed.

1. Introduction

It is well known that there is a tremendous growth in the Information and communication Technologies (ICT) during the last two decades. The utilization of information and communication technologies (ICTs) in the educational process in higher educational attracts the attention of many researchers and educators all over the world. Governments, universities and educational institutions are spending considerable amounts of money to create information technology infrastructure in order to support the processes of teaching and learning. Integrating technologies in teaching and learning practices is often found to be at best inconclusive in its benefits for better teaching and learning outcomes. The level of integration of information and communication technologies by faculties is considered as an important indicator of the actual use of information and communication technology. In the kingdom of Saudi Arabia, the goal of higher education institutions is to produce competent graduates with a range of competencies in various fields, especially technology. The fact is, there is a little known about the actual level of information and communication technologies use in Saudi's higher education. Therefore this study aimed to address such issue by trying to identify the level of technologies use among the faculty members at Princess Nora University in KSA.

2. Literature Review

In general technologies in the field of education have a significant history. In the high technology revolution of the 1990s, computers, television, the Internet, and allied information technologies (IT) are changing our lives (Rai & Lal, 2000). The current literature review reveals several studies related to the role of ICT in higher education. However, during the past years, many researchers confirmed the importance of using technologies in the field of education. It's the truth that the most important innovations recently are related to the introduction of new technologies in educational systems.

1.2 Technologies in Higher Education

In terms of higher education the new technologies are becoming increasingly important tools to support educators in designing, stimulating, and controlling teaching and learning processes. According to Means (1997), technologies hold great promise to reform instructional programs and the use of technology creates a shift in a classroom's control structure. Furthermore, there is a large amount of literature which examines the relationships between ICTs and the process of learning and teaching, also technology does add value to teaching and learning (e.g. Adrian & Linda, 2006). The integration of technology can improve academic performance, and promote learning and teaching process (Martin, 2004).

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For example, the World Wide Web offers educators a new medium to deliver teaching and learning material one which can bring new and exciting ways of learning, and an alternative to traditional teaching techniques (Allen, 1998). Since the emergence of film in the 1920s (Larry, 1986) to television in the late 1940s (Heather, et al, 2004), computers in the 1980s (Thomas, 1987), information technology as well as internet in the 1980s (Machart & Silverthorn, 2000), and the developments in communication systems in the early 1980s (Avi, 2003) educators, policy makers, teachers, include students expect a great contributions by using these technologies in the field of education which might enhance teaching and learning process. Integrating technology in teaching practices is often found to be at best inconclusive in its benefits for better learning (Parr, 2003). Thus, ICTs are emerging as a powerful tool for development of nations.

Networks in education offer many ways to access knowledge, offer many possibilities for networking people and developing collaborative work and enhancing the collective intelligence (Khakhar, et. al, 2007). Therefore, considerable claims have been made about the potential contribution of technologies to learners' outcomes in particular and the process of teaching and learning in general by policy makers and researchers.

Tele: E-mail address: nwerrra@hotmail.com

Chen (2004) stated that the emergence of computers and information systems is certainly the single biggest factor impacting education during the past couple of decades. In fact, technologies have become a powerful catalyst in promoting learning, communications, and life skills for economic survival in today's life (Jennifer, et. al, 2003).

2.2 Computer Technology in the Educational Process

The new technologies continue to modernize all the sectors of life, include the field of education. The new development of ICTs services and networks are transforming the way people live, work and learn, thus as a result of this development the world is rapidly becoming smaller and smaller. In recent years educators and researchers have been looked into the integration of ICT tools in schools as an essential part to enhance education in general and student's achievement in particular. Research on the impact of computer technology on teaching and learning outcomes has produced unequivocal evidence that the use of computer learning environments improves teachers' performance and learning outcomes for students. According to Bena and James (2001), there are a number of reasons for investing in technology: (1) To increase students ability and interest in applying authentic settings, what district and s states have identified as learning and tasks that students should know and able to do; (2) To prepare students for success in a technology centered world of work, and; (3) To prepare students to manage and use information so they can be productive lifelong learners and responsible citizens.

During the past few years, several large studies have documented the successful integration of computer technology in higher education. The integration of new ICTs in the field of education has increased individuals interest in the educational systems. For nearly a century outsiders have been trying to introduce technologies into high school classrooms, with remarkably consistent results (Steven, 1993). According to Chris (2001) ICT is changing the face of education, and the early research supported this relationship between technology and education that was founded on the transmission of information. In point of fact, the use of ICTs in the field of education has become widely extended over the last 25 years.

Effective integration of technology needs a process requiring continuous refinement. Pierson (2001) defined technology integration as teachers utilizing content and technological and pedagogical expertise effectively for the benefit of a student's learning. Byrom and Bingham (2001) report that the presence of technologies in education allow new teaching and learning experiences; promote deep processing of ideas; increase student interaction with subject matter; promote teacher and student enthusiasm for teaching and learning; free up time for quality classroom interaction, in sum; and improve the pedagogy. Pierson (2001) argued that true technology integration involves: (a) students constructing their own learning while using both hardware and software tools; (b) teacher's content knowledge; and (c) teacher's pedagogical knowledge. Duffield and Moore (2006), found that the most prevalent and successful strategies for technology integration are: (1) Professional development; (2) Collaboration for curriculum reform, and; (3) Incentives.

Results of a study conducted by O'Donnell (1996) on the integration of computers in teaching and learning processes indicated that the majority of teachers failed to utilize computers in direct classroom instruction. In technology integration process in the classroom, teacher becomes in a key figure of this process, and for this reason, teacher must have a range of competencies which let him/her implement ICT in the teaching process (Almerich, et. al, 2005).

3. Method

The purpose of this quantitative study was to examine the overall level of computer utilization among teaching staff at Princess Nora University in KSA. Method used in this paper includes description of participants, instrument materials, and process to collect data. Explanation of the method was presented as follows:

3.1. Participants

A total of 80 teaching staffs were participated in this study. The participants were working at Princess Nora University in KSA during the second semester in the academic year 2015-2016. The demographic profile of the participants includes, age, experience, and level of education.

3.2. Materials

A survey was distributed to academicians. This instrument was used to investigate the level of computer use among the teaching staff at Princess Nora University in KSA. This questionnaire consists of two sections. The first section includes information about staff demographic background (age, highest degree, and years of teaching experience). The second part contains a questionnaire originally developed by Isleem (2003), there are 17 items developed to measure the overall level of computer use. In the questionnaire and for each item there were five scales: one (N-Never), two (R-Rarely), three (S-Sometimes), four (O-Often), and five (VO-Very Often). After the questionnaires were completed, each item was analyzed and the score can be considered as nominal data.

3.3 Data Collection

The researcher collected data as follows:

1. A set of questionnaire was distributed to 100 teaching staff at Princess Nora University in KSA. The questionnaires were numbered to facilitate the researcher in the data collection process.

2. The researcher collected the questionnaires in 2 weeks. The total number of the questionnaire was 100 copies.

3. The researcher checked for the correctness and completeness of the questionnaires before evaluating. The incomplete ones were removed.

3.3. Procedure

The questionnaire was piloted before the conduction of the real study and the Cronbach coefficient alpha of the adapted questionnaire was computed as 0.85. Therefore, the overall reliability of the instrument was satisfactory.

3.4 Data analysis

All the data collected with this research are analyzed by using SPSS 20 packet program. For the analysis of the data; percentage, mean, standard deviation, and T-Test analysis were performed.

4. Results

1.4 Demographic Information

The questionnaires were coded and analyzed using the SPSS version 22.0 computer software. The personal or demographic information for the 80 academicians from different collages were calculated using descriptive statistical technique. Therefore, descriptive statistical techniques were used to obtain frequencies, analyze and summaries data before making inferences. Of 100 total surveys submitted to academicians, 80 surveys were returned. This study collected specific demographic information on participants including age, years of experience, and academic qualification.

Data from the demographic part of the survey revealed that, 25.0% of the total participants were aged between 25 and 30 years, 50.0% of the participants were between 31 and 35 years, 22.5% were between 36 to 40, and 2,5% are above 40 years. The statistical data indicate that the majority of the participants in the current study were aged 31-36 years. Of the survey participants, 15 had 1-5 years of teaching experience, 50 had 6-10 years of teaching experience, 13 had 11-15 years of teaching experience. Furthermore, categorization of participants by their educational qualifications was as follows: 40 % had a Master's Degree, and 60% are PhD holders. The academicians with a PhD Degree constituted the majority in the study sample.

Variable	Category	No. of	Percentage		
		Academicians			
Age	25-35	20	25.0		
	36-45	40	50.0		
	46-55	18	22.5		
	Above 56	2	2.5		
Years of	1-5	15	18.8		
Service	6-10	50	62.5		
	11-15	13	16.2		
	M ore Than	2	2.5		
	16				
Qualifications	Master's	35	43.8		
	PhD	45	56.2		

 Table 1. Demographic Information.

2.4 Computer Level of Use

Data was collected from academicians through a survey consisting of demographics variables, and level of computer use. Academicians were asked how they perceive their level of computer use. Questionnaire results were analyzed quantitatively. Results are given below. Participants of the study were asked to answer 17 items in a Likert type questions about their level of computer use. They expressed their computer level of use for each item as Never, Rarely, Sometimes, Often or Very Often. Frequencies and percentages of each item were calculated and a general idea of academicians' level of computer use was revealed. The descriptive statistics related to the level of computer use (percentages, Frequencies, Mean, and Standard Deviation) are represented in Table 2.

PowerPoint) (Mean=3.95, SD=1.27), E-mail (i.e., sending and receiving electronic messages) (Mean=3.91, SD=1.11), CD-ROM, DVD and/or web-based interactive content (i.e., maps, encyclopedias, dictionaries) (Mean=3.88, SD=1.11). Internet/intranet content (i.e., browsing/searching the world wide web) (Mean=3.86, SD=1.22), Drill and practice (i.e., using software for repetitive practice) (Mean=3.81, SD=1.30), Graphics (i.e., storing, manipulating pictures, diagrams, graphs, or symbols) (Mean=3.68, SD=120), Word processing (i.e., creating, storing, retrieving, and printing electronic text) (Mean=3.63, SD=1.23), Desktop publishing (i.e., designing and producing print documents) (Mean=3.62, SD=116), Tutorials (i.e., providing instruction that uses exercises and (Mean=3.60, SD=1.25), Spreadsheets practice) (i.e., manipulating/organizing numbers) (Mean=3.58, SD=1.30), Database management (i.e., designing, creating, manipulating, updating, and querying data) (Mean=3.57, SD=1.14), Classroom management (i.e., grade books) (Mean=3.35, SD=1.21), Simulations and games (i.e., reproducing the characteristics of a phenomenon, system, or process) (Mean=3.03, SD=1.40).

Finally, from the table, result showed that the least frequent use of computer was Integrated software (i.e., Microsoft Works/AppleWorks) (Mean=2.35, SD=1.30), Authoring (i.e., programs creating interactive multimedia or CAI) (Mean=1.93, SD=1.19), Other (non e-mail) communication tools (i.e., chat rooms, listservs, etc.) (Mean=1.86, SD=1.13), Discipline-specific programs (i.e., your academic subject) (Mean=1.83, SD=1.13). The findings indicated that the levels of computer use among the teaching staff at Princess Nora University in KSA were found to be at high level (M=3.29, SD=0.67).

5. Conclusions

The focus of this study was to determine the level of computer use among the teaching staff at Princess Nora University in KSA. Findings of the study showed that teaching staff at Princess Nora University generally had a high level of computer use. However, a in depth research is required, in order to investigate the factors affecting the use of computer technology among the teaching staff. As this study is limited to a particular setting and particular participants, further study is needed.

Table 2. Computer Level of Use.

Qs	Ν	%	Μ	%	S	%	0	%	VO	%	Μ	SD
1	5	6.0%	10	12.5%	20	25.0%	19	23.8%	26	32.5%	3.63	1.23
2	13	16.3%	20	25.0%	16	20.0%	13	16.3%	18	22.5%	3.03	1.40
3	12	15.0%	27	33.8%	13	16.0%	17	21.0%	11	13.0%	2.85	1.30
4	37	46.3%	27	33.8%	6	7.5%	4	5.0%	6	7.5%	1.93	1.19
5	10	12.5%	4	5.0%	20	25.0%	22	27.5%	24	30.0%	3.57	1.30
6	5	6.3%	8	10.0%	20	25.0%	21	26.3%	26	32.5%	3.68	1.20
7	7	8.8%	6	7.5%	6	7.5%	26	32.5%	35	43.8%	3.95	1.27
8	5	6.3%	8	10.0%	20	25.0%	26	32.5%	21	26.3%	3.62	1.16
9	8	10.0%	4	5.0%	25	31.3%	18	22.5%	25	31.3%	3.60	1.25
10	3	3.8%	8	10.0%	12	15.0%	29	36.3%	28	35.5%	3.88	1.11
11	4	5.0%	3	3.8%	20	25.0%	22	27.5%	31	38.8%	3.91	1.11
12	38	47.5%	29	36.3%	4	5.0%	4	5.5%	5	6.3%	1.86	1.13
13	6	7.5%	7	8.8%	9	11.3%	28	35.0%	30	37.0%	3.86	1.22
14	3	3.8%	12	15.0%	21	26.3%	23	28.8%	21	26.3%	3.58	1.14
15	6	7.5%	9	11.3%	13	16.3%	18	22.5%	34	42.5%	3.81	1.30
16	7	8.8%	11	13.0%	26	32.5%	19	23.8%	17	21.3%	3.35	1.21
17	38	47.5%	31	38.8%	3	3.8%	2	2.5%	6	7.5%	1.83	1.13
Averag											3.29	0.67

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This study was conducted with 80 teaching staffs. In future studies, a larger number of participants can be used to verify the results of this study. To collect data in this study a questionnaire was used. It is recommended that further studies can add other data collection techniques such as interview and observation. Finally, this data should be considered when planning the training of the teaching staffs.

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