Impact of Using E-learning Skills by Academic Staff Members in their Teaching at Some Saudi Universities

Dr. Mishal. Okla. Al-Shammari,
Ministry of Education, Kingdom of Saudi Arabia
(E-mail: msh2_2007@hotmail.com).

Abstract: There has been a rapid increase in the use of information and communication technologies (ICTs) as teaching and learning tools in education. Electronic learning (E-learning) is fast becoming one of the most popular learning environments in the field of education in most universities globally, including in Saudi Arabia. The use of e-learning is now gaining common and popular approval, due to the fact that, as well as reducing classroom time it also creates its own impact on the stakeholders. The use of E-learning in the realm of education is a paradigm shift from traditional practice, brought about by technological development, such as the Internet and digital programmer-enabled mobile apps.

In addition, faculty members at many higher education institutions in the KSA are facing challenge in regards to the implementation of E-learning in their teaching. Hence, this paper will investigate the impact of use E-learning and ICT in the university level. A quantitative data approach was used with the analysis of 375 questionnaires. Validity and reliability of the questionnaire were checked and statistical treatments such as percentages, means, frequencies, standard deviation and analysis of variance (ANOVA) were conducted. The results from the quantitative data analysis identified statistically significant difference in favour of those who are holders of Ph.D. Degrees. Also, identified statistically significant difference in favour of those with between (15-24) years' experience.

Keywords*:* Impact, ICT, E-learning, faculty members and Saudi Arabia.

1. INTRODUCTION

Practical and theoretical progress in the field of information and communication technologies (ICT) is instrumental in the progress of a number of disciplines, as well as in the personal and social development of individuals. This is also true in the case of education, where ICT can play a key role in making learning accessible to students with particular personalities, as well as in improving the creativity of both students and teachers through the provision of diverse methods and teaching approaches. This can make the presentation of knowledge more interesting and attractive, with many aspects of the school curriculum being integrated into these systems. Perhaps the most important impact of the growing involvement of ICT in the educational process is as an attractive and advanced tool to encourage teacher diversity away from conventional methods of presentation, which will reflect positively on the educational environment, thereby stimulating learning. This chapter will provide an in-depth examination of the impact of ICT on teachers, learners and the learning environment as a whole.

The expansion in the presence, accessibility and content of the internet has resulted in a growing conversion to the use of e-learning with teaching practices in higher education. ICT offers many opportunities, such as lifelong learning and flexibility in education[1]. The use of these e-learning technologies has helped to improve communication and the level of freedom with institutions' outside community, with the flexibility of e-learning enabling geographical and temporal barriers to be broken, as well as enabling users to deal with rapid changes in knowledge [2].
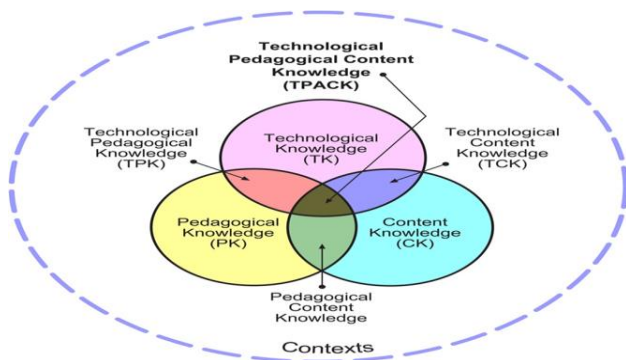
2. The Impact of E-Learning

2.1 The impact of ICT on Academic Staff Members

The diversity in the professional development of teachers and the provision of different ways of using information and communication technology is reflected in their increased confidence in their abilities to use modern technology to facilitate

learning, which provides a stronger pedagogical motivation for teachers to integrate ICT into their classrooms [3]. It has caused the teacher's role to evolve from one of indoctrination to providing innovation and creativity in the teaching process which encourages lifelong learning [4]. However, the adoption of ICT competencies impacts upon future teachers through the approaches that are available, encouraging them to devise practical and creative applications for ICT [5]. When teachers display greater confidence in their own ICT competency, they become more confident in using ICT in the classroom [6]. The use of information and communications technology in higher education plays an important role in the development of the skills of academic staff members [7]. One study of an online teachers training program followed 73 academics from nine higher educational institutions. Data were gathered using the Technological Pedagogical Content Knowledge (TPACK) model and the Teacher Beliefs and Intentions questionnaire using a pre- and post-test design; the results indicate that TPACK skills increased substantially. Time investment and belief in employability influenced training retention. Furthermore adoption of the appropriate technology and pedagogy approach determined content knowledge[7].

The TPACK model from http://tpack.org.

Figure 1. The TPACK Model

2.2. The impact of ICT on Higher Education institutions

E-learning offers solutions for many important issues facing educational institutions such as support, funding and student numbers [1]. In order to facilitate the exchange of ideas and information, many modern higher education science and technology institutions have recognized this urgent need to use ICT to facilitate communication [8].

2.3 The impact of ICT on the motivation of learners

A key feature of e-learning is its flexibility, with online education offering learners the choice of the most appropriate learning methods to suit their needs, which can have a very positive impact on learners' satisfaction [9]. The adoption of e-learning systems among university students through the training programming has proved to be effective, with the emergence of a number of important factors such as increased motivation, positive personal attitudes and a clear direction for the self-efficacy of the student [10] and [11]. Furthermore ICT has become an integral part of the daily lives of students, so professionals must be competent with the effective use of this technology. Therefore, there are strong arguments that ICT is indispensable [12]. A study of the use of ICT among school students in Finland found surprisingly low usage, with one reason for this being the lack of integration between ICT and the curricula in different areas [13]. This was because the e-learning tools were confined to computers in a lab separate from the classroom and access to them was through special courses, under the control of a teacher with expertise in ICT, which was a major impediment to students preparing themselves for the knowledge society.

It is therefore necessary to integrate information and communications technology into studies of different knowledge fields, and provide computers inside classrooms, in order to facilitate meaningful and intensive use of ICT in a pedagogical sense [13]. There is a recognized increasing demand for e-learning, and the wider adoption of information technology, especially amongst the younger generation, due to relatively low costs of implementation and broad applicability [14]. Therefore, conclude that positive perception of technology through e-learning influences students' satisfaction with courses, and demonstrate how satisfaction with flexible learning can be described by using concepts that explain acceptance of technological change and innovation [15].

2.3.1 The impact of ICT on university students in terms of motivation and learning strategies

Considerable efforts are being made to promote the incorporation of ICT in Higher Education (HE), in conjunction with placing emphasis on the cognitive and motivational components underlying the

learning process [16]. One study in this area analyzed two variables: (1) the relationship between different uses of ICT and learning in terms of outcomes and (2) the relationship between learning strategies and motivation and the use of ICT (*ibid*). The participants were 543 full-time first and second year undergraduate students of different subjects at the University of Salamanca. The mean age of participants was 20.36 years, and 66.9% of them were female. The following data acquisition instruments were used: (1) a questionnaire for the acquisition of Identification Data regarding the students' age, sex, educational status, etc. and (2) a Survey of European Universities Skills in ICT of Students and Staff (SEUSISS, 2003; Spanish version). The objective of the questionnaire was to collect information about the experience, skills, expectations and attitudes of students as regards the use of ICT. Three questions were incorporated, which aimed to estimate academic performance: performance (as reflected by number of student failures divided by the number of subjects they had signed up for); expectations of performance (the belief that the use of ICT will improve performance in the subjects), and expectations of satisfaction (the belief that the use of ICT will increase the students' satisfaction with their subjects). The findings of the study were very useful in showing the impact of ICT use on university students in terms of the relationship between motivation and learning strategies.

The use of ICT is highly variable among college students, from barely used tools, such as programs to design multimedia educational materials, to frequently used tools such as browsers or chat tools. This kind of variability is reasonable considering that students are not usually involved in the design of multimedia educational materials, unless specifically as part of an assignment. However, chatting allows students to communicate quickly and cost-effectively with members of their social networks. The results of the present work provide a classification of the different uses of ICT and their double relationship; on one hand with learning strategies and motivation, and on the other with academic performance. The results of the factor analysis revealed four well differentiated uses of ICT: social use, linked to recreational communication among students, either in its synchronic mode (chats) or in its asynchronous mode (forums), including reading newspapers; technical use, related to the use of data management programs (databases and

spreadsheets); web page design, and audiovisual programs; academic use, which describes the use of office programs related to academic tasks such as the elaboration and presentation of projects (word processors, slide presentations, *etc*.); and finally the EPU, which describes the use of the tools offered by an academic institution to provide students with virtual resources that will allow them to attain the competencies required in the subjects they study. These findings would enable the development of training programs that would be more in keeping with the real uses that university students make of ICT and at the same time permit an analysis to be made of the relationships with other training variables of interest.

3. Impact of ICT on teaching

Information and communications technology plays a major role in modern education through its effect on the diversification of teaching methods, improving the abilities and skills of educators to give lessons greater relevance and impact [17]. The positive attitudes of many students towards the use of computers and their past experiences with ICT will impact on teaching practices in the future (So *et al*., 2012). It has even been argued that the increased stability in the education process is due to the use of information and communication technology[18].

Peer and and Van Petegem (2011)[19] developed a model to describe the nature of ICT in teaching practice. Non-manipulative factors are gender, age and teaching subject. Influencing first-order manipulative factors are access to ICT, intensity of use, confidence, and skills. Second-order or internal factors are perceived values of ICT and conceptions of student learning which give an indication of the additional influence of contextual factors at the level of the individual teacher and the educational institution [19].

4. Impact of ICT in Education

Practical and theoretical progress in the field of information and communication technologies (ICT) is instrumental in the progress of a number of disciplines, as well as in the personal and social development of individuals. This is also true in the case of education, where ICT can play a key role in making learning accessible to students with particular personalities, as well as in improving the creativity of both students and teachers through the provision of diverse methods and teaching approaches. This can make the presentation of

knowledge more interesting and more attractive, with many aspects of the school curriculum being integrated into these systems. Perhaps the most important impact of the growing involvement of ICT in the educational process is as an attractive and advanced tool to encourage teacher diversity away from conventional methods of presentation, which will reflect positively on the educational environment, thereby stimulating learning. This chapter will provide an in-depth examination of the impact of ICT on teachers, learners and the learning environment as a whole.

The expansion in the presence, accessibility and content of the Internet has resulted in a growing conversion to the use of e-learning with teaching practices in higher education. Information and communications technology (ICT) promises the creation of many opportunities, such as lifelong learning and flexibility in education [1]. The use of these e-learning technologies has helped to improve communication and the level of freedom with institutions outside community, with the flexibility of e-learning enabling geographical and temporal barriers to be broken, as well as enabling users to deal with rapid changes in knowledge (Iris and Vikas, 2011);(Ageel, 2012) .

It is widely held that ICT has the potential to improve the quality of learning and teaching in contemporary schools. Studies have shown that since technology has permeated every aspect of life, in homes and offices alike, one of the primary roles of modern education is to provide ICT and ICT usage skills [20].

ICT increasingly pervades various aspects of our daily lives like work, business, teaching, learning, leisure and health, and as such every individual in a society should become technology competent [21]. This realization has motivated governments and learning institutions to initiate programs that integrate ICT into the curriculum through the use of educational software and interactive classroom technologies.

E-learning is learning through and being supported by the use of information technology. It therefore assumes that the user is able to exploit technology. Most education and training providers will offer a technology helpline so that if the student is studying at home or at a distance they can gain assistance. However, helplines assume the user has sufficient understanding of the technology to follow their instructions (Clark, 2008).

According to Clarke (2008) computers are powerful aids to learning and can help by providing:

- Ways to organise and store notes, references and materials (e. g. folders, files and databases);
- Tools to present work (e.g. word-processing, presentation graphics, charts and graphs);
- Tools to analyse data (e.g. spreadsheets);
- Tools to help create content (e.g. blogs and wikis);
- Equipment to capture evidence (e.g. digital cameras and scanners);
- Access to the enormous library of information that the World Wide Web represents.

5. THE TEACHER'S ROLE IN ICT

The significant role played by information and communication technology has had a considerable impact on various aspects of our modern life, including field teaching and learning (education). Accordingly the ICT era had made the inevitability of change and development of teacher's roles imperative making the role of the teacher quite different from that which was carried out in the past. In addition to enhancing teaching and learning, the integration of ICT can assist in delivering the curriculum by increasing enjoyment in lessons and making learning more attractive, which increases attention and motivation. It has surpassed the teacher's role with its impact on the use of information and communication technology in the twenty-first century in terms of knowledge transfer and lifelong learning for pedagogical innovation and institutional transformation [10]. Moreover, as an expansion of the use of ICT as a strategic partner in the education process for the teaching and learning process, the use of ICT in higher education plays an important role in the development of the skills of faculty members (Rienties *et al.*, 2013).

Teachers play a fundamental role in the education system and as future scenarios suggest a major change in the future of education and increased ICT usage, these will inevitably affect their role and their status in the system. Previous research on ICT provides some valuable insights. Various factors such as increased self-efficiency, enhanced self-confidence, pedagogical innovation, personal attitudes and perceptions have emerged from the

literature as inputs into the decision whether or not to integrate technology into one's teaching. However, when they are classified into two categories, internal and external factors, trends emerge that make them more understandable.

The role of technology is hard to predict in the short-term, without beginning to consider the future beyond the current horizons. Undoubtedly, technology will become a part of the world that future learners inhabit and therefore a part too of the pedagogical architecture through which they learn. However, essential that learning to learn does become a key feature of the future of education [22].

5.1 INTERNAL FACTORS

The are many common internal factors that influence a faculty member's decision to integrate ICT into their teaching, including enhanced self-confidence (Ward and Parr, 2010; Prestridge, 2012 and Peeraer and Van Petegem, 2011); increased self-efficiency (Valentín *et al*., 2013); enhanced positive personal attitudes (Bhuasiri *et al*., 2012); pedagogical innovation [10]&([11] [23]. through the assessment of available research assert that "teachers' personal beliefs, perceptions, attitudes, and orientations are correlated with (their) teaching practices" [23]. Thus beliefs influence the decision whether or not to integrate technology and the viewpoint the faculty member has towards various teaching practices and methods. Grasha and Hicks (2000, p.3) found that teaching styles are based on "needs, emotions, motives, beliefs, and attitudes of the teacher and these teaching practices, when used positively, are the force behind student success."[24]. In addition, diversity in the professional development of teachers and the provision of different ways of using ICT is reflected in increasing teacher confidence in their abilities to use modern technology to facilitate learning, which provides a stronger pedagogical motivation for teachers to integrate ICT into their classrooms (Ward and Parr, 2010). However, the adoption of ICT competencies impacts upon future teachers through the approaches that are available, encouraging them to devise practical and creative applications for ICT (Nechita and Timofti, 2011). As teachers display greater confidence in their own ICT competency, many have become more confident in using ICT in the classroom (Prestridge, 2012). Rovai and Childress (2002) state the significance of a having teacher training courses which build self-efficacy and expand their

knowledge of computers would minimise the anxiety they feel towards integrating technology into actual classroom situations, as such apprehension or anxiety is related to psychological factors which can be helped with the right instruction[25].

In addition, the positive attitudes of many students towards the use of computers and their past experiences with ICT is important as it will impact on teaching practices in the future [26].

Hence, the role of the teacher towards their students in the era of the evolution of information and communication technology has added new burdens for teachers today and it has become essential for them to keep pace with modern technology and apply multimedia in the teaching process to help students achieve educational outcomes (Vaughan, 2007).

Therefore, through the acquisition of additional skills by the teacher, such as skills of e-content and multimedia production and its implementation, is reflected in the improvement of student achievement of knowledge and expertise. Moreover this knowledge and its application can be helpful in the attitudes of working life [27].

Further, the role of the teacher has changed from that of expert to that of facilitator, manager and collaborator in the learning process. In addition, ICT is expected to play a major role in changing the traditional classroom, with the role of the student also changing as they are taught to learn independently[28];Muir-Herzig, 2004; [29].

Faculty members in Saudi Arabia, like their counterparts in other studies (Higgins and Moseley 2001), believe there are 'clear implications for professional development generally for teachers and with ICT in particular'. These include the promised benefits of ICT to their profession that they will no longer have to disseminate information in the form of lectures and textbooks [30].

Even though, information and communications technology is more available for faculty members now than ever before, many of them are still resistant to integrating technology into their teaching at classrooms.

Watson (2001) states two rationales for ICT use. The first is to provide students with the necessary knowledge and skills needed in the outside world; the second is to give students more confidence in

utilising ICT to perform everyday applications, to enrich and extend learning [31]. Al-Saif (2007) adds other rationales:

- Social rationale: as a result of widespread use of ICT in all aspects of life, ICT competence has become essential, especially in the workforce. Therefore, ICT competency is on some occasions an indicator of the social standing of individuals.
- Motivation rationale: a well-designed ready-made software motivates its users to create and invent new uses with the features it offers and that opens up new horizons to develop and improve their skills.
- Informatics rationale: besides the importance of manufacturing the component parts of ICT, it is equally important to prepare highly-qualified human resources capable of software engineering. That is the core of technological development on which developing countries are concentrating as it will have a positive impact on their economies.
- Special needs rationale: the requests of special educational needs students, including the gifted and talented, will be met by either artificial intelligence software or software which is designed based on constructivist educational methods to provide scaffolds and tools to enhance students' learning [32].

Therefore, based on the literature, internal factors are important motivating factors in faculty members' use of the technology. If attention is paid to faculty members' beliefs, competencies various factors such as increased self-efficiency, enhanced self-confidence, pedagogical innovation, personal attitudes and perceptions towards ICTs, there is a stronger possibility that they will integrate technology successfully into their teaching in classrooms. However, the internal variables discussed above are only the part of issue. Below we will discuss the issues surrounding faculty members.

5.2 EXTERNAL FACTORS

The external factors include faculty demographics, specifically age, computers provided, support, funding, teaching methods, training and institutional support. However, demographics such as age and gender may be primary factors that determine whether faculty members use technology [33]. Peeraer and Van Petegem (2011) developed a model to describe the nature of ICT in teaching practice. Non-manipulative factors are gender, age and subject taught. Influencing first-order manipulative factors are access to ICT, intensity of use, confidence, and skills. ICT offers solutions to many important issues facing educational institutions, such as support, funding and student numbers (Blin and Munro, 2008).

The role of the teacher and its impact on the use of information and communication technology in the twenty-first century, has evolved from the transfer of knowledge and lifelong learning to the level of pedagogical innovation and institutional support and transformation [10] [11]. State that at university level, faculty members who are in the middle of their careers can either be "allies or stubborn opponents as their institutions adjust to competitive pressures, revise programs to meet the needs of increasingly diverse students, and integrate new education; technologies" [34].

Faculty members need to receive continuous and ongoing support in terms of technology use and its integration into teaching as well as training. The management should encourage teachers' use of ICT through support and communication [35]. Information and communications technology plays a major role in modern education through its effect on the diversification of teaching methods and improving the abilities and skills of educators to give lessons greater relevance and impact (Ahmadi *et al.*,

2011).

Another external factor is that it is necessary to integrate information and communications technology into studies of different knowledge fields and provide computers inside classrooms in order to facilitate meaningful and intensive use of ICT in a pedagogical sense [13].

Finally, institutional support is a very significant issue facing many higher education institutions globally. It encompasses a wide range of topics including faculty development, ease of access for faculty members who wish to use technology, policies and procedures and support for technological issues.

Osika (2006) argues that successful technology programs require support from the entire

institution. There are significant differences between a traditional and an e-learning tutor. E-learning is often presented as learner-centred while traditional education and training is seen as tutor-centred.

6. METHODOLOGY

6.1 Data Collection Method

The data for this study were gathered from male faculty members of four universities (KSU, ALDM, HU and ALJU) through the questionnaire. Questionnaires are a widely-used and useful instrument for collecting survey information, providing structured, often numerical data, and being comparatively straightforward to analyse [36],[37]. They allow researchers to survey a population of subjects with the aim of "establishing a broad picture of their experiences or views" and to "seek to create generalizations from its data" [38]. The data collected through the questionnaires mainly concentrated on to what extent of the use of e-learning skills in teaching by academic staff in some Saudi universities, (see Table 1).

In the study, 410 faculty members (56%) responded to the survey, and the researcher discarded 35 questionnaires that were incomplete because they had major parts of the survey missing. Consequently, 375 faculty members (52%) responded to the survey in this study.

Before constructing the questionnaire, a review of the literature indicated the most important dimensions to be covered. The questionnaire was then piloted to ensure its validity. In addition, feedback on aspects of its validity was assessed through a group of specialists (a total of 15 faculty members) in measurement, evaluation, teaching methods, curricula, and educational psychology. Their suggested amendments were incorporated in the final version. Ethical approval was obtained from Durham University.

The respondents were asked to identify and rate the strength of possible attitudes from a list of 16 items. (See Table.1 for details).

Random sampling was the best way to obtain a representative sample of the population [39]. This allowed the researcher to make inferences about faculty members from two colleges, of four universities (KSU, ALDM, HU and ALJU). The population consisted of male faculty members from the universities. A simple random sampling technique was employed so that all members of the

faculties had an equal and independent chance of being selected (Gay et al., 2006). A simple random sample "is the most rigorous form of a probability sample" [40].

A simple random sampling technique from a list consisting of all members of the faculty was prepared and each faculty member was assigned a number from 0000 to 1099. A table of random numbers was used to select the sample. Then, the researcher chose an arbitrary number, with eyes closed, from the table. If the last four digits of the number that was chosen corresponded to a number assigned to a faculty member, then that faculty member was included in the sample. Numbers outside of the range 0000 to 1099 were ignored, and therefore, did not form part of the sample. This procedure was followed in succeeding columns until the desired number of faculty members was selected.

6.2 Measurement

The five-point scale ranged from '5' (strongly agree) to '1' (strongly disagree), with '3' as neutral.

The internal consistency was calculated by the correlation of each item with the axis to which it belongs and correlation between axes; the researcher used Cronbach's Alpha coefficient. The scale had a Cronbach-alpha coefficient of (0.864) indicating high internal consistency of the 16 items.

6.3 Data Analysis

A descriptive analysis of the data obtained from the questionnaire questions was carried out reporting percentages, means, frequencies, standard deviation and analysis of variance one-way ANOVA were conducted.

- Dependent variables: to what extent of the use of e-learning skills in teaching by academic staff in some Saudi universities.

-Independent variables:

1) Academic qualification.

2) Years of academic experience.

This paper will attempt to answer the statistical question as follows: Q. Are there any statistically significant differences in the score of factors which are perceived as attitudes towards to use e-learning in teaching by academic staff members, in terms of the following variables?

1) Academic qualification.

2) Years of academic experience.

7. RESULTS

To examine the attitudes of faculty members in some Saudi Arabian universities towards the use of E-learning in teaching, the weighted average and standard deviation (SD) of responses for each item were calculated. The items were listed in descending order according to their mean and SD values (see Table 1).

TABLE 1. PERCEIVED ATTITUDES TO USING E-LEARNING.

Items	N	Min	Max	Mean	SD
E-learning facilitates and improves communication between academic staff members and their students.	375	1	5	4.52	0.720
E-learning helps in the development of technical skills in the field of computers.	375	1	5	4.35	0.832
E-learning can enhance self-confidence to facilitate learning	375	1	5	4.34	0.745
E-learning helps diversity in modern teaching methods.	375	1	5	4.30	0.932
E-learning increases the efficiency of academic staff members in teaching.	375	1	5	4.29	0.873
E-learning encourages innovation and creativity in the application of information and communication technology	375	1	5	4.28	0.853
E-learning is characterized by efficiency through increased motivation for learning by learners.	375	1	5	4.28	0.871
E-learning saves time and effort for both academic staff members and students.	375	1	5	4.25	0.966
E-learning contributes to the development and promotion of skilled direction of knowledge content.	375	1	5	4.21	0.882
E-learning gives more stability and satisfaction in the educational process.	375	1	5	4.19	0.884
E-learning can engage the learners more than other forms of learning.	375	1	5	4.18	0.915
E-learning motivates students towards their educational practices	375	1	5	4.17	0.939
E-learning encourages giving greater importance and influence to the lessons.	375	1	5	4.15	0.955
E-learning helps to use blended learning model to improve the teaching skills and effectiveness of the quality of education.	375	1	5	4.10	0.858
E-learning encourages educational innovation.	375	1	5	4.03	1.014
There are difficulties in dealing with e-learning and therefore frustrating to use.	375	1	5	3.20	1.298
Valid N (listwise)	375			4.18	0.909

Tabl.1 illustrates the results of respondents' attitudes towards the extent of the use of E-learning. The weighted average of total score of dimension (M=4.18, SD=0.909) shows that the faculties agree regarding the positive effects of the use of E-learning in the students' learning and academic progress. Thus, to study this dimension in more depth we discuss the results of the first and last five items according to their order in Table 1 as follows:

The first item on Table.1 with weighted average, mean of 4.52 highlights the strong agreement of faculties that E-learning facilitates and improves communication between academic staff members and their students. The second item with weighted average of 4.35 shows that the faculties strongly agree that E-learning helps in the development of technical skills in the field of computers. Moreover, the third item also shows strong agreement with weighted average of 4.34 that E-learning enhances self-confidence thereby facilitating learning. The result of the fourth item shows that the faculties strongly agreed, with an average of 4.30, that E-learning helps to provide diversity in modern teaching methods. The fifth item also shows strong agreement that E-learning increases the efficiency of faculty members, with an average of 4.29.

At the bottom of Table 6.29, the twelfth item shows that the respondents agree, with an average of 4.17, that E-learning motivates students in their educational practices. In addition, the respondent agree, with an average of 4.15, on the thirteenth item that e-learning encourages students to give greater importance and influence to their lessons. Moreover, the respondents were in agreement regarding the fourteenth item with an average of 4.10 that E-learning helps to use the blended learning model to improve teaching skills and effectiveness of the quality of education. Furthermore, the respondents agreed regarding the fifteenth item with an average of 4.03 that the use of E-learning offers improvement in educational innovation. Additionally, respondents were neutral about the sixteenth item, with an average of 3.20, that there is difficulty in dealing with E-learning and therefore it is frustrating to use.

To test the significant differences among means of perceived attitudes towards using E-learning according to academic qualification groups, One-way ANOVA and F-test were used; the results are shown in Table.2 and Table 3.

Table 2. SIGNIFICANT DIFFERENCE AMONG PERCEIVED ATTITUDES TOWARDS Using E-LEARNING IN TERMS OF ACADEMIC QUALIFICATION, USING ONE-WAY ANOVA

The results in Table.2 show the average scores of staff members' e-learning skills according to their academic qualification, which reveals differences among the means; in order to test the significance of difference between means, F-test was conducted. The F value of ($F_{2,372} = 7.531$, p-value $.001 < 0.05$) shows statistical significant difference between the means at .05% level of significance. Thus, academic staff members' qualifications significantly affect their skills in E-learning. Moreover, the value of eta square is ($\eta^2 = 0.04$) so according to Cohen the effect of academic qualification on faculty members' skills in E-learning is small.

Table 3. SIGNIFICANT DIFFERENCE AMONG PERCEIVED ATTITUDES TOWARDS TO USING E-LEARNING IN TERMS OF YEARS OF ACADEMY EXPERINCE, USING ONE-WAY ANOVA.

Table.3 shows the results of the average scores of faculty members' use of e-learning skills according to their years of experience. There are obvious differences among these means, and to test the significance of differences, One-Way ANOVA and F-test were conducted. The F value ($F_{3,371} = 9.689$, P-value $0.00 < 0.05$) shows that there is statistical significant difference between the means at .05% level of significance. Thus, the years of experience of staff members in the field of e-learning significantly affects their skills in E-learning. Moreover, the value of eta square ($\eta^2 = 0.073$) according to Cohen conveys moderate effect regarding years of experience on use of staff members' skills in E-learning.

Academic qualification	Mean	Source of Variation	Sum of Squares	df	Mean Square
Bachelor	63.08	Between Groups	1031.059	2	515.529
Master	66.29	Within Groups	25466.019	372	68.457
PhD	67.92	Total	26497.077	374	
Total	66.84				
F	7.531	Sig.	0.001	η^2	0.040

Years of academy experience	Mean	Source of Variation	Sum of Squares	df	Mean Square
1-5	64.72	Between Groups	1925.101	3	641.700
6-14	66.06	Within Groups	24571.977	371	66.232
15-24	70.45	Total	26497.077	374	
25+	69.50				
Total	66.84				
F	9.689	Sig.	0.000	η^2	0.073

REFERENCES

[1. Blin, F. and M. Munro, *Why hasn't technology disrupted academics' teaching practices? Understanding resistance to change through the lens of activity theory.* Computers & Education, 2008. **50**(2): p. 475-490.

2. Iris, R. and A. Vikas, *E-Learning technologies: A key to Dynamic Capabilities.* Computers in Human Behavior, 2011. **27**(5): p. 1868-1874.

3. Ward, L. and J.M. Parr, *Revisiting and reframing use: Implications for the integration of ICT.* Computers & Education, 2010. **54**(1): p. 113-122.

4. Liaw, S.-S., H.-M. Huang, and G.-D. Chen, *Surveying instructor and learner attitudes toward e-learning.* Computers & Education, 2007. **49**(4): p. 1066-1080.

5. Nechita, E. and I.-C. Timofti, *Increasing independence versus increasing collaboration with ICT Support.* Procedia-Social and Behavioral Sciences, 2011. **29**: p. 1508-1517.

6. Prestridge, S., *The beliefs behind the teacher that influences their ICT practices.* Computers & Education, 2012. **58**(1): p. 449-458.

7. Rienties, B., N. Brouwer, and S. Lygo-Baker, *The effects of online professional development on higher education teachers' beliefs and intentions towards learning facilitation and technology.* Teaching and Teacher Education, 2013. **29**: p. 122-131.

8. Li, Y., C.-H. Tan, and H.-H. Teo, *Leadership characteristics and developers' motivation in open source software development.* Information & Management, 2012. **49**(5): p. 257-267.

9. Sun, P.-C., et al., *What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner*

satisfaction. Computers & education, 2008. **50**(4): p. 1183-1202.

10. Paechter, M., B. Maier, and D. Macher, *Students' expectations of, and experiences in e-learning: Their relation to learning achievements and course satisfaction.* Computers & Education, 2010. **54**(1): p. 222-229.

11. Liaw, S.-S., *Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard system.* Computers & Education, 2008. **51**(2): p. 864-873.

12. Kisla, T., Y.D. Arikan, and F. Sarsar, *The investigation of the usage of ICT in university lecturers' courses.* Procedia-Social and Behavioral Sciences, 2009. **1**(1): p. 502-507.

13. Hakkarainen, K., et al., *Students' skills and practices of using ICT: Results of a national assessment in Finland.* Computers & Education, 2000. **34**(2): p. 103-117.

14. Kim, K., et al., *The Impact of CMS Quality on the Outcomes of E-learning Systems in Higher Education: An Empirical Study.* Decision Sciences Journal of Innovative Education, 2012. **10**(4): p. 575-587.

15. Drennan, J., J. Kennedy, and A. Pisarski, *Factors affecting student attitudes toward flexible online learning in management education.* The Journal of Educational Research, 2005. **98**(6): p. 331-338.

16. Valentín, A., et al., *Motivation and learning strategies in the use of ICTs among university students.* Computers & Education, 2013. **61**: p. 52-58.

17. Ahmadi, S., A. Keshavarzi, and M. Foroutan, *The application of information and communication technologies (ICT) and its relationship with improvement in teaching and learning.* Procedia-Social and Behavioral Sciences, 2011. **28**: p. 475-480.

18. Otaghsara, M.K. and A. Mohseni, *The Role of ICT in-Service Training of Employees of Government Organization (Case Study: Institute of Water and Power Unit, Mazandaran).* Procedia-Social and Behavioral Sciences, 2012. **47**: p. 1985-1990.

19. Peeraer, J. and P. Van Petegem, *ICT in teacher education in an emerging developing country: Vietnam's baseline situation at the start of 'The Year of ICT'.* Computers & Education, 2011. **56**(4): p. 974-982.

20. Ageel, M., *The Role of Virtual Learning Environment in Improving Information and Communication Technology Adoption in Teaching Exploring How Virtual Learning Environments Improve University Teacher's Attitudes about the Use of Information and Communication Technology. Presented at International Conference on E-Learning & Knowledge Management Technologies.* Presented at International Conference on E-Learning & Knowledge Management Technologies, 2012.

21. Gulbahar, Y. and I. Guven, *A survey on ICT usage and the perceptions of social studies teachers in Turkey.* Journal of Educational Technology & Society, 2008. **11**(3): p. 37-51.

22. Higgins, S.E., *Learning to learn.* Retrieved May, 2009. **15**: p. 2013.

23. Kane, R., S. Sandretto, and C. Heath, *Telling half the story: A critical review of research on the teaching beliefs and practices of university academics.* Review of educational research, 2002. **72**(2): p. 177-228.

24. Grasha, A.F. and N. Yangarber-Hicks, *Integrating teaching styles and learning styles with instructional technology.* College Teaching, 2000. **48**(1): p. 2-10.

25. Rovai, A.P. and M.D. Childress, *Explaining and predicting resistance to computer anxiety reduction among teacher education students.* Journal of Research on Computing in Education, 2002. **35**(2): p. 226-235.

26. So, H.-J., et al., *Little experience with ICT: Are they really the Net Generation student-teachers?* Computers & Education, 2012. **59**(4): p. 1234-1245.

27. Gharaibeh, N.K., *The Impact of Teaching Two Courses (Electronic Curriculum Design and Multimedia) on The Acquistion of Electronic Content Design Skills.* The International journal of Multimedia & Its Applications, 2012. **4**(6): p. 45-52.

28. Al-Hadlag, A., *"Suggested strategy for ICT use as educational technology".* King Saud University Journal of Islamic and

Educational Studies, 1998. **10**(2): p. 167-214.

29. Wasserman, E. and Y. Millgram, *Changes in the approaches of teachers following computerization of schools.* Journal of Educational Computing Research, 2005. **32**(3): p. 241-264.

30. Higgins and Moseley, *Teachers' thinking about information and communications technology and learning: beliefs and outcomes.* Teacher Development, 2001. **5**(2): p. 191-210.

31. Watson, D.M., *Pedagogy before technology: Re-thinking the relationship between ICT and teaching.* Education and Information technologies, 2001. **6**(4): p. 251-266.

32. Al Saif, A.A., *Prisoners' attitudes toward using distance education whilst in prisons in Saudi Arabia.* Issues in Informing Science and Information Technology, 2007. **4**: p. 125-131.

33. Cooper, J., *The digital divide: The special case of gender.* Journal of Computer Assisted Learning, 2006. **22**(5): p. 320-334.

34. Peluchette, J.V. and K.A. Rust, *Technology use in the classroom: Preferences of management faculty members.* Journal of Education for Business, 2005. **80**(4): p. 200-205.

35. Ensminger, D.C., et al., *Factors contributing to the successful implementation of technology innovations.* Journal of Educational Technology & Society, 2004. **7**(3): p. 61-72.

36. Wilson, N.a.M., S *Questionnaire Design: A Practical Introduction.* Newton Abbey, Co. Antrim: University of Ulster Press., 1994.

37. Cohen, L., L. Manion, and K. Morrison, *Research Methods in Education* 2007, Routledge. London & New York.

38. Clough, P. and C. Nutbrown, *A student's guide to methodology.* 2002: Sage.

39. Gay, L.R., Mills, Geoffrey. E., & Airasian, P. , *Educational research: Competencies for analysis and applications.* Upper Saddle River, NJ: Pearson Merrill. , 2008.

40. Creswell, *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research.* Upper Saddle River, New Jersey: Pearson/Merrill Prentice Hall., 2008.

Author Profile

DR. MISHAL, OKLA AL-SHAMMARI

Received PhD from Durham University, United Kingdom – British at (Technology Enhanced Learning) in Education in 2016. He has Fifteen years of teaching experience. Also worked as head of school in secondary and high schools