Effect of E-learning on Professional Development of University Teachers

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Abstract

This study investigated the effects of e-learning on professional development of university teachers. E-learning is a teaching and learning methodology that connects professionals (teachers) to the unlimited cyber world where teachers find enormous opportunities for learning and development. Studies reported that despite of the availability of e-learning facilities at university level, majority teachers in public sector universities of Pakistan show less interest in e-learning. This has created deeper concerns in the circles of researchers. Hence, this study was designed to examine the perceptions of university teachers on correlation between e-learning and their professional development. Using a correlation design, the study surveyed perceptions of 230 teachers from three public sector universities in Malakand division of Khyber Pakhtunkhwa, Pakistan. Regression analysis was used to find out the correlation between the variables. Results of the study showed a high correlation between e-learning and student in professional development of teachers.

Keywords: E-learning, teachers, professional development.

Introduction

Internet is a relatively recent phenomenon in our society and education. However in a short amount of time it has had an enormous impact on how we communicate, and exchange and access information[1,2]. Organizations routinely communicate and transfer data through the Internet and we are starting to use it more and more in our teaching. The idea of online knowledge dissemination for the development of teachers grew out of the need for a centralized source of regularly updated information that could be easily accessed by university teachers[3,4]. Web-based professional development offers teachers the flexibility of learning on their own schedules and at their own pace. This will help the teachers to update their professional knowledge and skills[5-7].

Online professional development has the benefit of supporting teachers in their daily practices and connecting them with a network of like-minded professionals so that they can learn and share with each other[8,9]. Fishman[10] found that teachers get the opportunity to take ownership of their pedagogical skills and strategies, increasing their use of technology, and deepening their content understanding. Teachers move from the more traditional model of being isolated in their classrooms to one where they collaborate with colleagues through online interactions[11-13]. The term E-learning is referred to network based or Internet based learning. It generally include text, video, audio animation or virtual environment. It can be a very rich learning experience that can even surpass the level of training that other teachers might experience in a crowded classroom. It is a self-paced and a hands-on learning[14,15]. E-learning is the unifying term to describe the fields of online learning, web-based training, and technology-delivered instruction[16,17]. Due to the diversity in needs of professional development it is necessary that university teachers should develop the skills of accessing to the knowledge and information available in the Internet which is updated and relevant[18,19]. E-learning is a stimulated environment from which university teachers can benefit a lot[20, 21]. E-learning is a self-paced and faster in terms of availability because learners can access it from anywhere and at any time. It can be easily managed for large group of students[22,23]. E-learning has definite benefits over traditional classroom training. While the most obvious are the flexibility and the cost savings from not having to travel or spend excess time away from work[24].

For example: among the many benefits one of the prominent merits of e-learning is that it can be updated quickly and easily because it is cheaper than reprinting manuals and retraining instructors. At the same it can be accessed from any location and any time so it is economical too[25,26]. Based on literature review and e-learning model of Laurillard's Conservational Model, the following framework was development for this current research study.

Research Objectives: The main objective of this study was to investigate the relationship between e-learning and professional development of university teachers in Pakistan. However, more specifically, the study wanted: i. To investigate the relationship between e-learning and teachers subject knowledge, ii. To investigate the relationship between e-learning and teachers teaching skills, iii. To investigate the relationship between e-learning and teachers professional attitude.
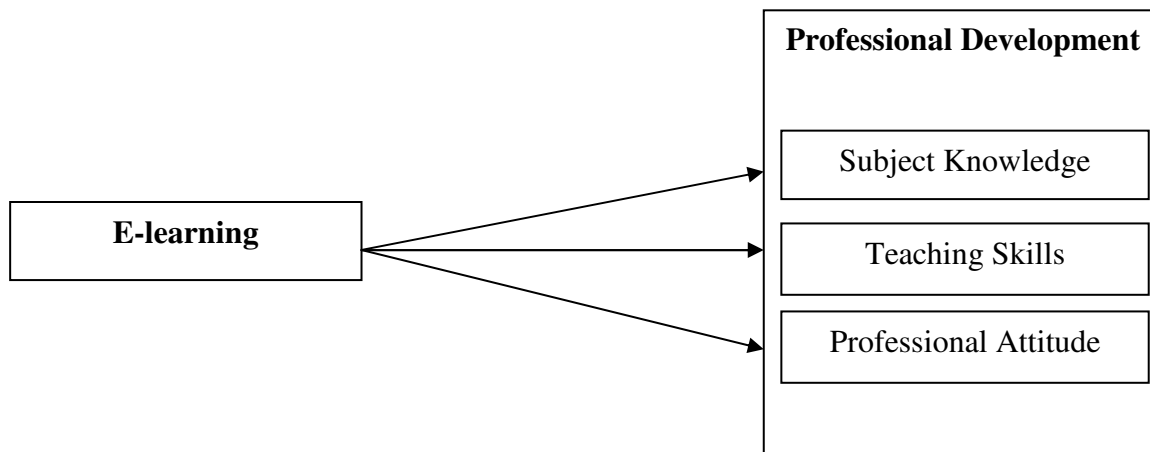
Figure-1
Research Framework

Research questions: The present research study attempted to answer the following research questions: i. Is there a relationship between e-learning and subject knowledge? ii. Is there a relationship between e-learning and teaching skills? iii. Is there a relationship between e-learning and professional attitude?

Hypotheses: Based on the research objectives and questions the following hypotheses were formulated. i. There is a positive relationship between e-learning and subject knowledge. ii. There is a positive relationship between e-learning and teaching skills. iii. There is a positive relationship between e-learning and professional attitude.

Methodology

The following methodology and procedures were adopted to conduct this study.

Design: Using a correlation design, this study surveyed perceptions of 230 from three public sector universities of Malakand division of Khyber Pakhtukhwa, Pakistan. Questionnaire was used for collection of data from the respondents on Fiver Point Likert Scale staring from strongly disagree to strongly agree. Statistical software SPSS was used to analyze the data. To see the relationship between the variables, ANOVA was applied along with Linear Regression Analysis.

Participants: Participants for this study were 230 from three public sector universities in Malakand division of Khyber Pakhtunkhwa, Pakistan.

Sampling procedure: The teachers were randomly sampled. Simple random sample helps in collecting data objectively. In this type of sampling every member of the population has the same chance of being selected which provides a wider opportunity for the researcher to reach out to a good

representative number of subjects which indirectly enhances the reliability of the data.

Data Analysis: The purpose of this study was to examine the effects of e-learning on professional development of university teachers in five public sector universities of Pakistan. Analysis of the data is presented in the below tables followed by findings and conclusions.

Correlation Analysis: Correlation analysis was conducted to examine the relationship between independent variable (e-learning) and the dependent variables (subject knowledge, teaching skills and professional attitude) of teachers.

Table-1
Correlation Analysis of E-learning and Subject Knowledge

Variables	E-learning	Subject Knowledge	Teaching Skills	Professional Attitude
E-learning	**1**			
Subject Knowledge	0.763*	1		
Teaching Skills	0. 77*	0.761*	1	
Professional Attitude	0.674*	0. 79*	0.82*	1

*Correlation is significant at the 0.01 level (2-tailed).

Table 1 show that e-learning is significantly positively correlated with subject knowledge and significant at p value of 0.01. E-learning has also a significantly positive relationship with teaching skills and professional attitude through Pearson correlation values and significant at p value of 0.01.

Regression Analysis: Regression analysis was measured by testing the research hypotheses. The results for each variable are discussed as under.

H$_1$: There is a relationship between e-leaning and subject knowledge: Table 2 show the value of coefficient beta is calculated as 0.82 which shows a significantly positive relationship between E-learning and subject knowledge. The value of R-square is calculated as 0. 684 showing 68.4% variation in the dependant variable (E-learning) is explained by independent variable (subject knowledge). The model's goodness of fit is shown by F-value that is 278.0. Hence, H$_1$ was accepted and it is confirmed that E-learning is significantly positively correlated with subject knowledge.

Table-2
Regression Analysis of E-learning and Subject Knowledge

Variables	R square	t-value	Coefficient	F-value	P value
E-learning	0. 684	14.33	0.82	289.0	0.00

H$_2$: There is a relationship between e-learning and teaching skills: Table 3 show the value of coefficient beta is measured as 0.67 which shows a significantly positive relationship between E-learning and teaching skills. The value of R-square is calculated as 0.671 showing 67.1% variation in the dependant variable (e-learning) is explained by independent variable (teaching skills). The model's goodness of fit is shown by F-value that is 284.1. Therefore H$_2$ is accepted and it is confirmed that e-learning has significantly positive relationship with teaching skills.

Table-3
Regression Analysis of E-learning and Teaching Skills

Variables	R square	t-value	Coefficient	F-value	P value
E-learning	0. 671	17.33	0. 67	294.1	0.00

H$_3$: There is a relationship between e-learning and professional attitude: The value of co-efficient beta is calculated as 0.79 which shows a significantly positive relationship between e-learning and professional attitude. The value of R-square is 0.772 showing a 77.2% variation in the dependant variable (e-learning) is explained by independent variable (professional attitude). The model's goodness of fit is shown by F-value that is 296.0. Therefore, H$_3$ is accepted and it is confirmed that e-learning is significantly positively correlated with professional attitude.

Table-4
Regression analysis of e-learning and professional attitude

Variables	R square	t-value	Coefficient	F-value	P value
E-learning	0. 772	16.31	0. 79	296.0	0.00

Results and Discussion

The purpose of this study was to investigate correlation between e-learning and professional development. The paper also aimed to find out the effects of e-learning on subject knowledge, teaching skills and professional attitude of teachers.

Major findings of the study are as follows; i. Firstly, the study found significantly positive correlation between e-learning and subject knowledge of students. It can be concluded on the basis of this specific finding that e-learning contributes toward enhancement of subject knowledge of teachers. Through e-learning teachers get the opportunity to take ownership of their learning and deepen their content understanding. ii. Secondly, the study found a significantly positive correlation between e-learning and student teaching skills. It can be concluded on the basis of this e-learning helps teachers improve their teaching skills. E-learning helps teachers improve their pedagogical skills and strategies, increasing their use of technology (Bishop, 2006). iii. Thirdly, the study found a significant positive relationship between e-learning and professional attitude. It can be concluded on the basis of this finding that e-learning positively shapes the professional attitudes of teachers, because, on daily basis come across different other professional online. This interaction provides good opportunities to teachers to learn new behaviours. Zibit (2006) highlights the fact that online professional development has the benefit of supporting teachers in their daily practices and connecting them with a network of like-minded professionals so that they can learn and share with each other.

Conclusion

On the basis of the above discussion, it can be concluded that e-learning plays an important role in professional development of teachers. Teachers can get access to vast knowledge on net that can enhance their subject knowledge and teaching skills. Furthermore, through e-learning, teachers get the opportunity to take ownership of their learning that will deepen their content understanding. E-learning helps teachers improve their pedagogical skills, increases their skills how to use technology in teaching and learning.

Future recommendations: On the basis of this study, it is suggested that future research should be conducted in other contexts. Additionally, the sample of this study was limited. It is suggested that future studies should be conducted with large sample size. This will ensure reliability of the results and its generalization.

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