

Determinants of teacher's readiness to implement e-learning in the University of Fallujah

^aNawja Baqer Yakoob , ^bSofia Estelles-Miguel , ^cMarta Peris-Ortiz 

^aUniversity of Fallujah, Anbar, Iraq, najwaalani67@gmail.com; ^bUniversitat Politècnica de València, Valencia, Spain, soesmi@omp.upv.es; ^cUniversitat Politècnica de València, Valencia, Spain, mperis@doe.upv.es.

How to cite: Baqer Yakoob, N.; Estelles-Miguel, S.; Peris-Ortiz, M. 2022. Determinants of teacher's readiness to implement e-learning in the University of Fallujah. In the proceedings book: International conference on innovation, documentation and education. INNODOCT/22. Valencia, November 2nd-7th 2022. <https://doi.org/10.4995/INN2022.2022.15821>

Abstract

The study aimed at exploring the determinants that influenced teacher's readiness to implement electronic learning in a public university in Iraq. These determinants were classified into three categories including (teacher personality, institutional factors, and situational factors). A questionnaire was distributed to (200) lecturers who constituted the sample of the study at the faculties of the University of Fallujah in Iraq. Based on the hypotheses, the study revealed that there isn't a statistically significant positive effect of teacher's personality on their readiness to implement e-learning. As well, the study indicated that there isn't a statistically significant positive effect of institutional determinants on teacher's readiness to execute e-learning. Finally, the study concluded that there isn't a statistically significant positive effect of situational determinants on instructor's readiness to apply e-learning.

Keywords: *e-learning, determinants of electronic learning, teacher's readiness.*

Introduction

The development in Information & Communication Technology (ICT) has made great changes in life and has also largely increased the speed of life; learning, certainly, can't wait. In today's accelerated changing information society represented by the current online learning environment, the face-to-face traditional learning style is not sufficient anymore (Hamalainn et al 1996).

The main ICT plan is to help people to focus on using technology in their everyday life. This involves the e-literacy (home user), the e-commerce (commercial sector), the e-government (the different government agencies) and education (Depradine, Colin, 2007).

It is clear that integration of ICT as an instructional tool in academic lessons has increased rapidly (Becker, 2000). Also, Ruzgar (2005) confirms that by saying that it became common in colleges and universities to supply online resources to support traditional teaching methods.

It is not important whether technology is capable or advanced, its successful implementation requires that users attitude towards it is positive (Rogers 2003; Teo 2011). After all, successful e- learning implementation in education depends largely on lecturer's readiness to apply it (Avidov et al, 2011; Teo & Ursavas2012).

In this regard, Vrasidas (2015) confirms that just providing the resources doesn't mean that Information & Communication Technology can be easily applied but other factors should be available, one important factor is staff readiness. Likewise Yunus (2007) asserts that before effective integration of ICT, teachers should be enrolled in adequate support and training in pedagogy and ICT. It is no doubt that teachers' readiness and motivation are important in implementing successful integration of technology in higher education institutions.

Therefore, the purpose of conducting this research is to explore the determinants of applying e-learning in the University of Fallujah according to the following elements (teacher personality, institutional factors and situational factors).

1. Research Objectives, Hypothesis and Methodology

1.1. Research Objective

To explore the readiness of lecturers to implement electronic learning.

To explore the influence of determinants (teacher personality, institutional factors, and situational factors) on teacher's readiness to apply electronic learning.

1.2. Research hypothesis & Conceptual framework

The purpose of this research is to investigate the determinants influencing teacher's readiness to apply electronic learning at a public Iraqi university. Based on the review of literature presented above, we used the determinants that have been recognized by many researchers and theorists, these elements were classified under three categories: teacher's personality, institutional elements and situational elements. The association between the dependent variables and independent variable was investigated.

H1 There is a statistically significant positive effect of teacher's personality on their readiness to implement e-learning.

H2 There is a statistically significant positive effect of institutional factors on teacher's readiness to implement e-learning.

H3 There is a statistically significant positive **effect of situational factors on teacher's readiness to implement e-learning.**

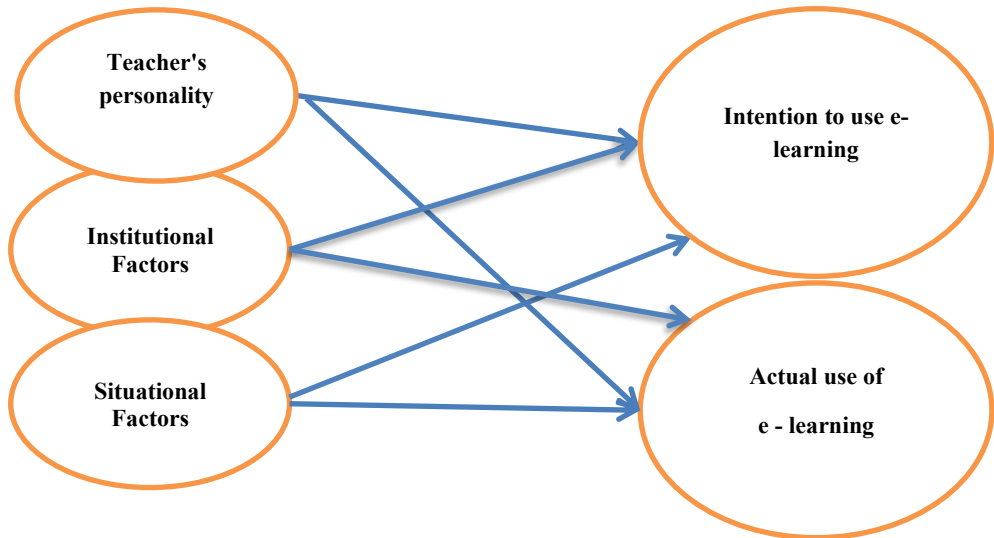


Fig. 1 Conceptual Framework. Source: Authors

1.3. Research methodology

The sample of the research consisted of (200) lecturers at the university of Fallujah. A quantitative approach was used through a questionnaire. We send (200) questionnaires to the respondents and we get back (200) questionnaires. After we eliminated (5) incomplete ones, we kept (195) complete surveys to be analyzed, the response rate was (97.5%). To determine the stability of the scale, we used Cronbach's alpha to test the reliability of the questionnaire, its value appeared to be 0.869, which showed the reliability and strength of the research instrument. Data were analyzed by using SPSS. To investigate the impact of independent variables on dependent variable, simple regression analysis was used. In order to measure the relationship between independent variables and dependent variable, Pearson Correlation Coefficient was used. We used a five point Likert scale to measure the questionnaire's questions ranging from 1) strongly disagree 2) disagree 3) neutral through to 4) agree and 5) strongly agree. After reviewing literature, we developed the research model which included the independent variables categorized under three categories (teacher's personality, situational factors and institutional factors) that affect the dependent variable (teacher's readiness to implement online learning).

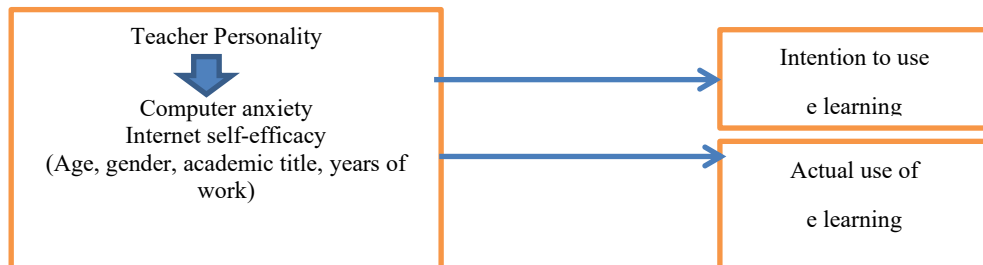


Fig. 2 Teacher Personality. Source: Authors

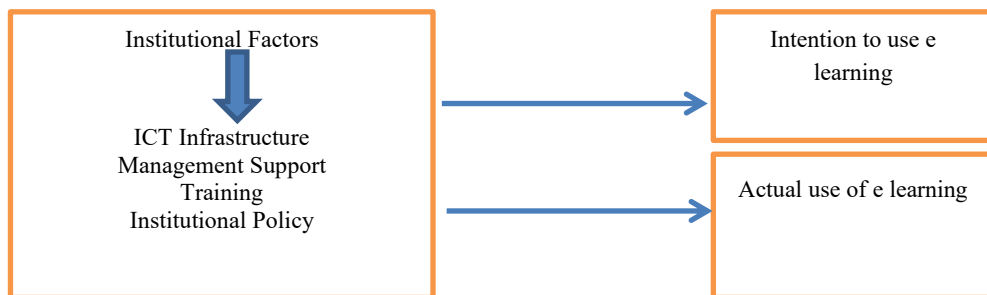


Fig. 3 Institutional Factors. Source: Authors

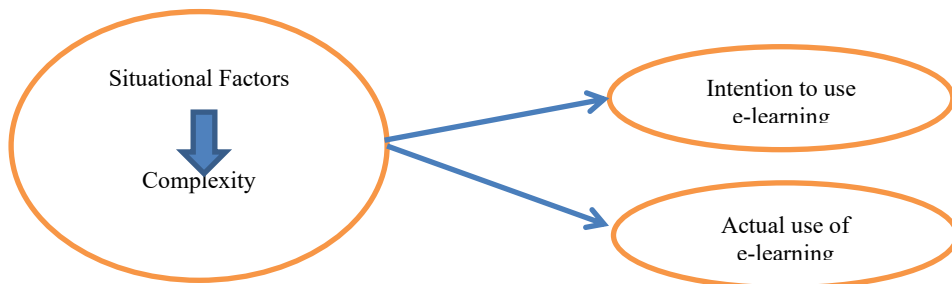


Fig. 4 Situational Factors. Source: Authors

1.3.1. Cronbach's Test

The reliability of the questionnaire was measured by using the Cronbach's alpha test, which shows the reliability of the questionnaire whether it was applied to different samples, and its value appeared to be 0.867, which reflects the strength and reliability of the questionnaire.

2.Results

To accomplish the statistical inference of the research hypotheses, which represent the effect relationship of the independent variables previously defined on the dependent variable, the simple linear regression method was used.

In respect of the **first hypothesis** which represents the relationship between the independent variable (teacher's personality) and the dependent variable (readiness to implement e-learning), it is clear from table 1 that represented ANOVA that the p-value of the independent variable (teacher's personality) is 0.568. Since the p-value is greater than 0.05, therefore it can be said that the teacher's personality does not have effect on teacher's attitude towards e-learning, so R2 value is 0.002, which indicates that the teacher's personality explains 0.2% variation of the readiness to implement e-learning. We think that teachers always work hard to develop their skills and abilities and cope with Information technology because they know that this is the era of technology. Accordingly, age, gender, academic titles and their job experience are not correlated to their readiness to implement electronic learning.

Table 1. Regression Analysis ANOVA table for independent variable (teacher's personality) and dependent variable (readiness to implement e-learning)

S. O. V.	Sum of Squares	DF	Mean Square	F	p-value	R ²
Regression	12.387	1	12.387	0.328	0.568	0.002
Residual	7638.789	202	37.816			
Total	7651.176	203				

Regarding **the second hypothesis** which represents the relationship between the independent variable (institutional factors) and the dependent variable (readiness to implement e-learning), it is clear from table 2 that represented ANOVA, that the p-value of the independent variable (institutional factors) is 0.098. Since the p-value is greater than 0.05, therefore it can be said that the institutional factors do not have effect on teacher's readiness to implement e-learning, so R2 value is 0.013, which indicates that the institutional factors explain 13% variation of the attitude towards e-learning. We find that teachers depend on themselves to deliver electronic lectures, they use their personal computers and they learn how to design virtual classrooms by themselves depending on the Internet. We believe that lecturers don't depend on their senior management in applying electronic learning.

Table 2. Regression Analysis ANOVA table for independent variable (institutional factors) and dependent variable (readiness to implement e-learning)

S. O. V.	Sum of Squares	DF	Mean Square	F	p-value	R ²
Regression	103.114	1	103.114	2.760	0.098	0.13
Residual	7548.062	202	37.367			
Total	7651.176	203				

In respect of the **third hypothesis** which represents the relationship between the independent variable (situational factors) and the dependent variable (readiness to implement e-learning), it is clear from table 3 that represented ANOVA that the p-value of the independent variable (situational factors) is 0.186. Since the p-value is greater than 0.05, therefore it can be said that the situational factors do not have effect on teacher's readiness to implement e-learning, so R2 value is 0.009, which indicates that the situational factors explain 0.9% variation of the attitude towards e-learning. We think that the complexity of the process of delivering lectures electronically will not curb the teachers from involving in this process. All the developed countries have used this technology and lecturers in other countries find they are ready and eligible to design and deliver lectures electronically especially that most countries around the world have proceeded in applying this technology.

Table 3. Regression Analysis ANOVA table for independent variable (situational factors) and dependent variable (readiness to implement e-learning)

S. O. V.	Sum of Squares	DF	Mean Square	F	p-value	R ²
Regression	66.144	1	66.144	1.762	0.186	0.009
Residual	7585.033	202	37.550			
Total	7651.176	203				

Conclusion & Recommendations

The research concluded that there is no statistically significant positive effect of teacher's personality on his readiness to apply online learning in teaching at the selected university. These findings don't agree with Houtz and Gupta (2001) who found a significant difference in the female attitude towards computer use. Also, in terms of personal features, the study doesn't agree with Marwan and Sweeny (2010)

who found a significant association between academic title, department and gender with teachers' readiness to implement e-learning. As well, the study found that there is no statistically significant positive effect of situational factors of instructor's acceptance to use e learning. As we are at the era of technology, students will not constitute an obstacle to implement electronic learning because they are already to be involved in ICT which became an integral part of their life, besides teachers are familiar with technology and computer applications. Accordingly, they will find no difficulties in preparing and delivering electronic lectures. Finally, the research revealed that there is no statistically significant positive impact of institutional factors on teacher's readiness to adopt online learning. Coping with UNESCO directions, international organizations supported lecturers to apply online learning. The lecturers at the University of Fallujah were enrolled in a training course sponsored by the International organization (IREX) which is concerned with developing educational sector in Iraq to introduce them to principles and approaches of electronic learning. Accordingly, they don't depend on their management in organizing training programs in this field. Also, they use their personal computers, even when they at home to deliver lectures electronically, they are concerned themselves with providing internet service. Furthermore, the lecturer is not limited to use a specific approach in teaching. Subsequently he or she can use blended learning without depending on the senior management.

References

- AVIDOV-UNGAR, O. & ESHET-ALKAKAY, Y. (2011). "Teachers in a world of change: Teachers' knowledge and attitudes towards the implementation of innovative technologies in schools" *Interdisciplinary Journal of E-Learning and Learning Objects (IJELLO)*, 7, 291-303.
- BARKI, H. & HARTWICK, J. (1994). "Measuring user participation, user involvement, and user attitude". *MIS Quarterly*, 18(1), 59-82.
- BECKER, H. J. (2000). "Who's wired and who's not: Children's access to and use of computer technology. *The Future of Children*", 10(2), 44-75. <https://doi.org/10.2307/1602689>
- DAVIS, F.D., BAGPZZO, R.P. and WARSHAW, P.R. (1989) "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*.", 35, 982-1003. <http://dx.doi.org/10.1287/mnsc.35.8.982>.
- DEPRADINE, C. (2007), "A role- playing virtual world for web- based application courses ", Department of computer Science, Mathematics & Physics , University of West Indies, *Computer & Education* 49, 1081-1096.
- GAUTREAU, C. (2011). "Motivational Factors Affecting the Integration of a Learning Management System by Faculty, California State University Fullerton", *The Journal of Educators Online*, Vol. 8, Number 1, January 2011
- GRASHA, A. F. (1994). "A matter of style: The teacher as expert, formal authority, personal model, facilitator, and delegator. *College Teaching*". 42, 142-149.

- HAMALAINEN, M., WHINSTON, A. B., & VISHIK, S. (1996). "Electronic markets for learning: Education brokerages on the Internet". *Communications of the ACM*, 39(6),51-57.
- HAMBRECHT, W. 2001. "E-learning: 2001 outlook for the learning management system market". *IsoDynamic*.
- KANUKA, H. (2006). "Instructional design and e-learning: A discussion of pedagogical content knowledge as amissing construct", *The e-Journal of Instructional Science and Technology*, 9(2).
- KELLER, C. (2009). "User Acceptance of Virtual Learning Environments: A Case Study from Three Northern European Universities". *Communications of the Association for Information Systems: Vol. 25, Article 38*.
- KUNDI, G. ; NAWAZ, A. & KHAN, S. (2010) "The predictors of success for e-learning in higher education institutions (HEIs) In N-W.F.P, Pakistan", *JISTEM Journal Of Information Systems And Technology Management*, 7(3), 545-578.
- LIAW, SS., HUANG, H.W., CHEN, G.D. (2007) "An activity theoretical approach to investigate learner's factors toward e-learning systems". *Computers in human behavior* 23 , 1906-1920
- NANAYAKKARA, C. & WHIDDETT, D. (2005). "A model of user acceptance of e-learning technologies: A case study of a Polytechnic in New Zealand", *4th International 17 Conference on Information Systems Technology and its Application (ISTA'2005)*, Palmerston North, New Zealand, GI.
- OSIKA, E. R.; JOHNSON, R.Y. & BUTEAU, R. (2009). "Factors influencing faculty use of technology in online instruction: A case study". *Online Journal of Distance Learning Administration*. 12(1)0
- PONTES, E., SILVA, A., GUELFY, A., KOFUJI, S.T (2012) "E-Learning – Organizational Infrastructure and Tools for Specific Areas". Department of Electrical Engineering Polytechnic School University of São Paulo Brazil Croatia, by InTech Janeza Trdine 9, 51000 Rijeka, Croatia.
- REBMAN, C.; CEGIELSKI, C. & KITCHENS, F. (2004). "Web-Based Instructional Course Development: Lessons Learned and a Proposed Model", *Journal of Informatics Education Research*, (6:2), Summer 2004.
- ROGERS, E. M. (2003). *Diffusion of Innovations* (5th Ed). New York: Simon & Schuster, Inc.
- RUZGAR, N. S. (2005). "A Research on the Purpose of Internet usage and learning via internet". *The Turkish Online Journal of Educational Technology*, 4(4).
- SALMON, G. (2011).*E-moderating: The key to teaching and learning online*(3rdEd). London: Routledge.
- TIMOTHY, T. (2009). "Modelling technology acceptance in education: A study of pre-service teachers". *Computers & Education*, 52(2), 302-312.

- VRASIDAS, C. (2015). "The rhetoric of reform and teachers use of ICT". *British Journal of Educational Technology*, 46(2), 370-380. <https://doi.org/10.1111/bjet.12149>
- YUNUS, M. M. (2007). "Malaysian ESL teachers' use of ICT in their classrooms: expectations and realities. ReCALL" : *the Journal of EUROCALL*, 19(1), 79-95. <https://doi.org/10.1017/S0958344007000614>