

Article

Determinants of Teachers Readiness to Implement E-Learning in the University of Fallujah

Nawja Baqer Yakoob¹, Sofia Estelles-Miguel², Marta Peris-Ortiz³

1. University of Fallujah, Anbar, Iraq
 2. Universitat Politècnica de València, Valencia, Spain
 3. Universitat Politècnica de València, Valencia, Spain
- * Correspondence: najwaalani67@gmail.com, soesmi@omp.upv.es, mperis@doe.upv.es

Abstract: This study is aimed at measuring the readiness of lecturers to adopt e-learning and the factors that shape this readiness, including teacher personality, institutional characteristics, and situational factors. It specifically deals with the factors that shape the readiness of public-school teachers to introduce online courses in Iraq. Data for this study were collected through questionnaires distributed to 200 faculty members at the University of Fallujah. Findings showed that the readiness of using e-learning by teachers was not increased by the teacher's personality. Again, the findings were the same as there was no positive effect from institutional characteristics and situational factors towards teachers' adoption of e-learning.

Keywords: E-learning, Determinants of e-learning, Teachers' readiness

1. Introduction

The advancement of information and communication technology (ICT) has significantly accelerated life's pace and brought about significant changes; learning is undoubtedly urgent. The conventional face-to-face learning style is no longer adequate in today's rapidly evolving information society, which is reflected in the contemporary online learning environment (Hamalainn et al 1996).

Helping people concentrate on utilising technology in their daily lives is the primary goal of the ICT plan. This includes education, e-governance (the various government agencies), e-commerce (the business sector), and e-literacy (home users) (Depradine, Colin, 2007).

It is evident that the use of ICT as a teaching tool in classrooms has grown significantly (Becker, 2000). Additionally, Ruzgar (2005) affirms this by stating that providing online resources to supplement conventional teaching techniques has become commonplace in colleges and universities.

Technology's ability or sophistication is irrelevant; its successful application depends on users' positive attitudes towards it (Rogers 2003; Teo 2011). Ultimately, Lecturer preparedness is a major factor in the success of e-learning deployment in the classroom (Avidov et al, 2011; Teo & Ursavas, 2012).

According to Vrasidas (2015), only having the resources does not guarantee that information and communication technology can be used readily; other elements must also be present, one of which is staff preparedness. Yunus (2007) argues that instructors should have sufficient assistance and training in both pedagogy and ICT prior to the successful

Citation: Yakoob, N. B. Determinants of Teachers Readiness to Implement E-Learning in the University of Fallujah. American Journal of Science and Learning for Development 2025, 4(1), 54-62.

Received: 4th January 2025
Revised: 11th January 2025
Accepted: 28th January 2025
Published: 27th January 2025



Copyright: © 2024 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>)

integration of ICT. The enthusiasm and readiness of faculty members are crucial to the smooth incorporation of technology into higher education.

Thus, the purpose of this research is to examine, from a situational perspective, institutional characteristics, and teacher personality as they pertain to the University of Fallujah's e-learning implementation.

Theoretical Framework

Typically, e-learning encompasses the use of internet-based technology to deliver varied solutions that have the effect of improving performance and understanding (Liaw, Huang, & Chen, 2007). The American Society for Training and Development (ASTD) defines e-learning as "learning experiences or instructional content delivered or enabled through electronic technology" (Hambrecht, 2001).

An affective (feeling, experience, or emotion) or assessment judgement on the technology in question is how early literature describes a lecturer's readiness to develop, integrate, and deploy technology (Davis, Bagozzi, & Warshaw, 1989). It is described as the degree to which an individual views technology and intends to use it (Barki & Hartwick, 1994).

According to studies, teachers' opinions have a direct and substantial effect on whether or not they use a certain piece of technology in the classroom. (Davis et al., 1989; Geroge, 2002 and Venkatesh, Morris, Davis and Davis, 2003).

Factors affecting applying E-learning

Learning in general is a continuous activity which can be supported by: motivational factors which are grouped under three categories: institutional, situational and personal, therefore it is important to understand their impact (Pontes, 2012).

One important intrinsic motivator that affects acceptance of electronic learning technology is the personality of the teacher, which falls under the first group. The two aspects of teachers that are most frequently researched are self-efficacy and anxiety. Teachers' preparedness to utilise technology is directly linked to their level of computer anxiety, and scholars suggest that computer anxiety may be a basis for perceived ease of use (Timothy, 2009). The learning and teaching styles employed in the educational system, along with the usage of certain teaching methods and procedures, reveal the personality of the teacher (Grasha, 1994). The teaching approach is impacted by shifts in the teacher's acceptance, values, and beliefs. Some authors discovered a correlation between demographic factors and teachers' acceptance of electronic learning, demonstrating the importance of situational and demographic factors in and of itself. Teachers' embrace of e-learning is strongly influenced by their computer experience (Gautreau, 2011).

Teachers' readiness to adopt electronic learning is influenced by institutional considerations, which operate as extrinsic motivators. The capacity and dependability of ICT infrastructure are two important considerations (Nanayakkra & Whiddtt, 2005). Additionally, the use of electronic learning is significantly influenced by perceived support (Timothy, 200). Teachers' adoption of electronic learning can be positively impacted by the availability of knowledge about how to use it (Kundi et al., 2010). The management of the institution is crucial to the development and integration of electronic learning. Although he demonstrated that an incentive system, rewards, and acknowledgement of accomplishments are significant motivators in teachers' acceptance and development of electronic learning, (Gautrau, 2011) noted that training aspects and sufficient support are crucial. According to some authors, institutional strategy is a significant barrier to embracing e-learning (Keller, 2009; Marwan & Sweeny, 2010; Samarawickrema & Stacy, 2007). The organisational culture surrounding teaching and teachers' academic freedom is another barrier to the adoption of electronic learning.

Teachers' adoption of electronic learning is influenced by further extrinsic motivators known as situational considerations. Situational factors are represented by the qualities of the student and the field of study. Although student features are thought to be motivators for the use and development of electronic learning in the classroom, student capabilities

may also operate as a barrier to the use of this technology (Osika et al, 2009). Every student has a unique learning style, and there are numerous tools available to quantify these styles (Grasha, 1994). The success of virtual learning is influenced by the number of students attending the virtual classrooms and the complexity of the instruction scenario (Salmoon, 2000). Culture and values within a discipline, as well as an awareness of specific issues within each field of study, should be taken into account while developing learning (Kanuka, 2006). Nonetheless, the implicit culture in the field makes it difficult to implement electronic learning (Keller, 2009). The rationale behind virtual learning must be clarified because many in-person learning activities require traditional classroom attendance (Rebman Jr et al., 2004). As noted by Gautreau (2011), the successful implementation of electronic learning in the educational process is significantly impacted by the teacher's personal motivation to attend the training course on the subject.

Research Objectives

1. To investigate how prepared professors are to use electronic learning.
2. To investigate how teachers' preparedness to use electronic learning is influenced by determinants (teacher personality, institutional characteristics, and situational factors).
3. Is lecturer's attitude towards electronic learning different by age, gender, teaching experience and field of study?

Research hypothesis & Conceptual framework

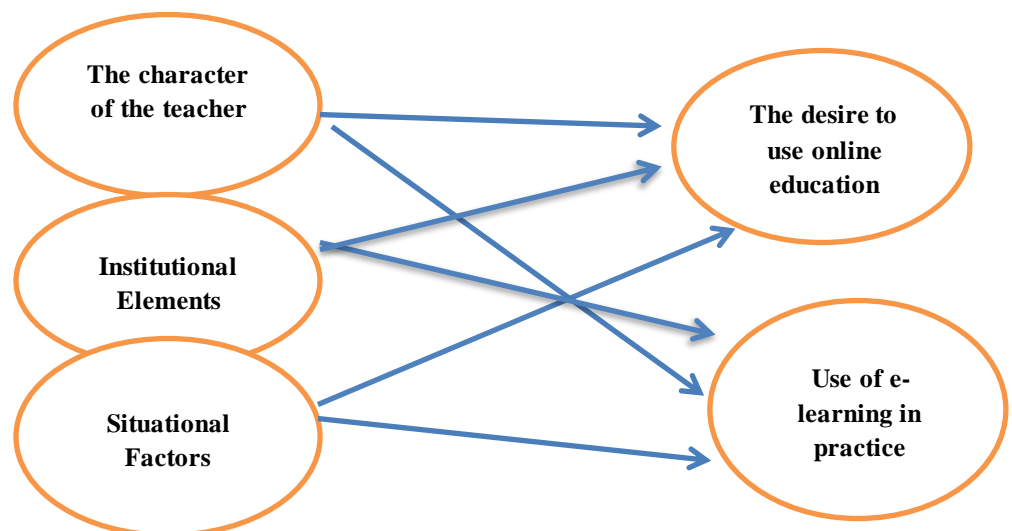
The present study will investigate the determinants of public-school teachers' acceptance of online courses in Iraq. Based on an extensive review of literature, this study considers only those factors reported by several researchers and theorists as determinants. These were broadly classified into three categories: situational, institutional, and instructor personality. This study explores the interrelation of the independent variables to the dependent variable, which is the readiness of teachers to embrace e-learning.

H1 Teachers' personalities have a statistically significant favourable impact on their preparedness to use e-learning.

H2 The beneficial impact of institutional characteristics on teachers' preparedness to adopt e-learning is statistically significant.

H3 Teachers' preparedness to adopt e-learning is positively impacted by situational conditions in a statistically significant way.

Figure 1. Conceptual Structure



2. Materials and Methods

The University of Fallujah recruited 200 faculty members for the study. A quantitative method was used in the administration of the questionnaire. After sending out 200

surveys, we got 200 back from respondents. The response percentage was 97.5%, with five full surveys remaining after removing five that were not complete. Using Cronbach's alpha, we were able to determine that the questionnaire was reliable and strong enough to use in our study; an apparent value of 0.869 indicated that the scale was stable. The data analysis was conducted using SPSS. We used simple regression analysis to understand the impact that independent variables might have on a dependent variable. Pearson Correlation Coefficient was utilized to examine if there existed some kind of association between these variables. Questionnaires were scored based on a five-point Likert scale that asked respondents to evaluate statements with possible responses such as 1) strongly disagree, 2) disagree, 3) neutral, 4) agree, and 5) strongly agree. Our research model was derived from a review of the literature and included situational factors, institutional characteristics, and teacher personality as independent variables. These factors in turn affected the dependent variable, which is instructors' readiness to use online learning

Figure 2.

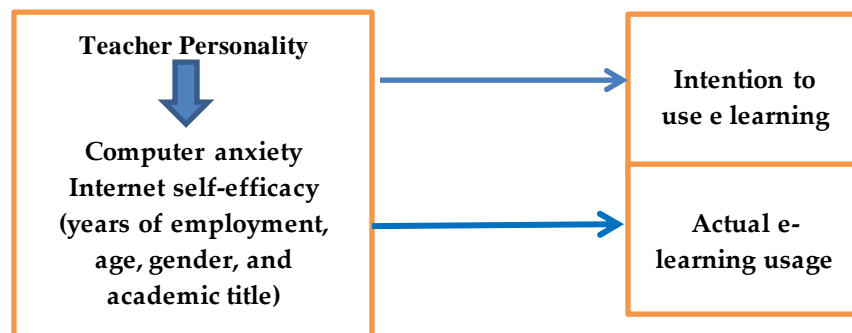


Figure 3.

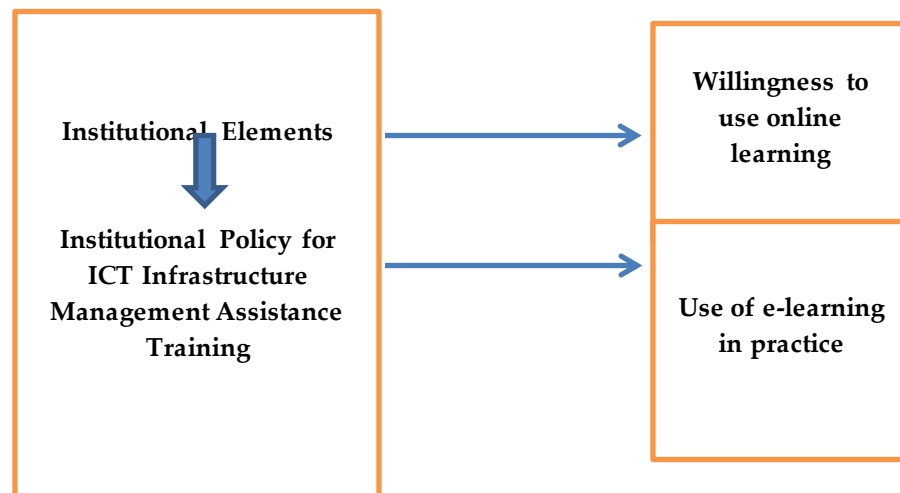
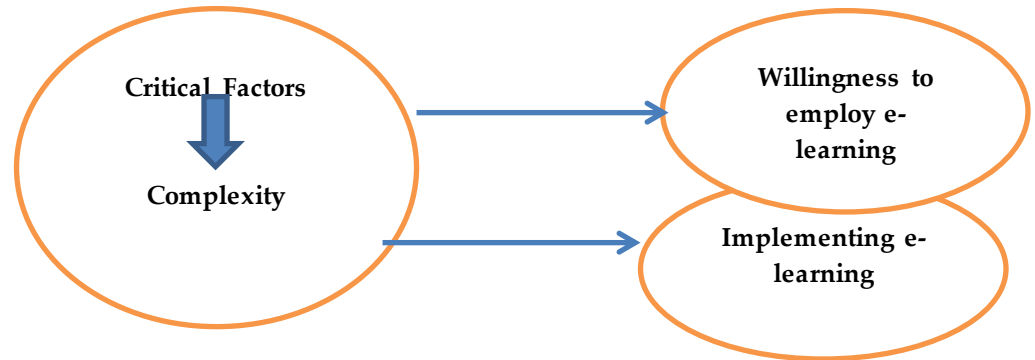


Figure 4.



3. Results

Characteristics of the sample

The findings indicated that the highest rate of participants whose ages ranging between 35-45 years amounted to 38.73% as shown in the figure 1, and the percentage of male to women ratio reached 65.69% as shown in the figure 2, and the rate of participants whose their teaching duration in higher education institutions are 10-20 years amounted to 52.94% as shown in the figure 3. Finally the highest percentage was for respondents specialized in human science amounted to 38.73% as shown in the figure 4.

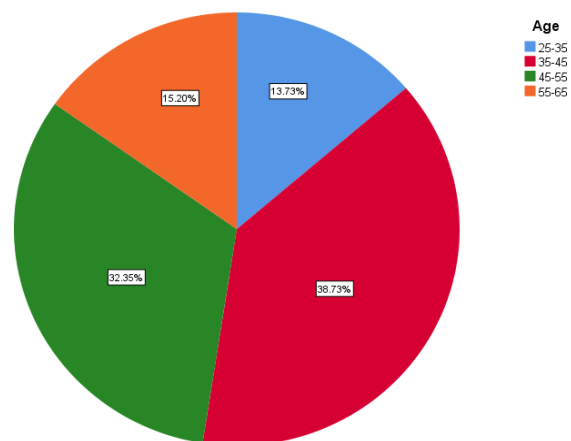


Figure 5. Represented the Age

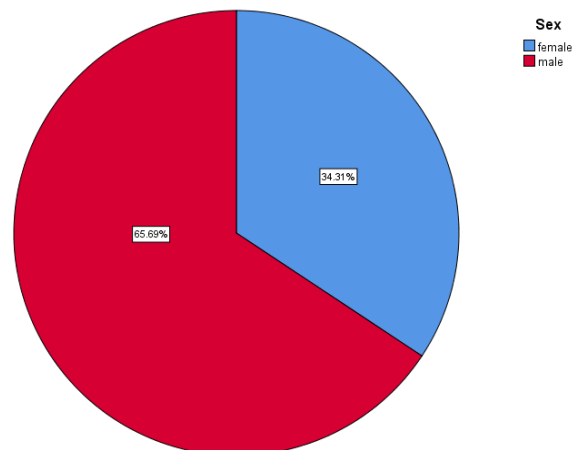


Figure 6. Represented the gender

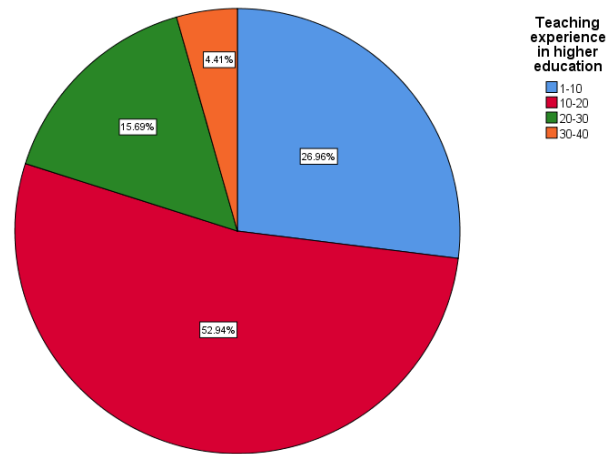


Figure 7. Represented the teaching experience in higher education

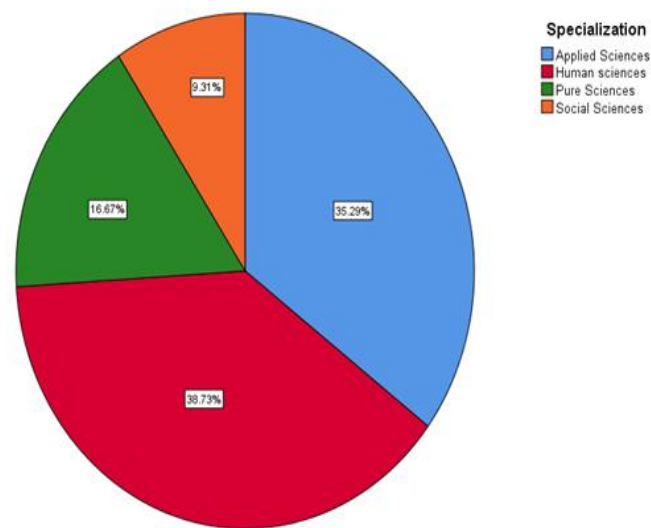


Figure 8. Represented the Specialization

4. Discussion

Cronbach's alpha Test

The reliability of the questionnaire was examined using Cronbach's alpha. It doesn't matter if the questionnaire was administered to various samples; it still shows how strong and reliable it is. A value of 0.867 was indicated by the test.

Demographic characteristic

The differences in the lecture's readiness to implement online learning were measured according to age, gender, teaching experience and field of study by using one way ANOVA table as following:

Table 1. ANOVA table for test the differences lecture's readiness to implement electronic learning according to gender, Age, area of study and teaching experience in the university of Fallujah.

	S. O. V.	Sum of Squares	DF	Mean Square	F	p-value
Gender	Between Groups	0.494	1	0.494	0.013	0.909
	Within Groups	7650.683	202	37.875		
	Total	7651.176	203			
Age	Between Groups	117.175	3	39.058	1.037	0.377
	Within Groups	7534.001	200	37.670		
	Total	7651.176	203			

Area of study	Between Groups	100.435	3	33.478	0.887	0.449
	Within Groups	7550.742	200	37.754		
	Total	7651.176	203			
Teacher	Between Groups	158.558	3	52.853	1.411	0.241
	Within Groups	7492.618	200	37.463		
	Total	7651.176	203			

Statistical inferences

The study's hypotheses, which show the effect link between the dependent variable and the independent variables that were previously stated, were statistically inferred using the basic linear regression method.

Table 2: ANOVA results on the first hypothesis that investigates how the independent variable, namely the personality of the teacher, may affect the readiness of the adopter for the dependent variable that is readiness for e-learning. The p-value for the independent variable is 0.568 that is above 0.05 and, hence it can be determined that a personality of a teacher does not play a significant role in determining its readiness to embrace e-learning. A teacher's character traits explain 0.2 percent of the variance in their preparedness to use e-learning, according to the R² value of 0.002. We believe that teachers should constantly seek to increase their knowledge, abilities, and proficiency with information technology, given that we live in a technological world. Preparation to use e-learning is thus uncorrelated with demographic variables such as age, gender, job title, or level of education.

Table 2. Analysis of Regression ANOVA table for the dependent variable (readiness to use e-learning) and independent variable (teacher personality)

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				

The ANOVA result from Table 3 clearly indicates the interaction of institutional factors and readiness towards e-learning is at a value of $p=0.098$ in independent variables within the second hypothesis. Hence, given the value exceeds 0.05 the researchers will find an opportunity to assume that there exist insignificant interactions with respect to instructor readiness due to the involvement of institutional factors. However, an R² value of 0.013 implies that institutional factors account for 13% of the variance in attitudes toward e-learning. The results indicate that most teachers use personal computers to carry out research and establish online classrooms without administrative assistance. This gives the impression that teachers should not be required to seek administrative permission to use online education.

Table 3. Analysis of Regression ANOVA table for the dependent variable (readiness to adopt e-learning) and independent variable (institutional factors)

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				

As highlighted in Table 4 ANOVA analysis for the third hypothesis, p-value for the independent variable situational factors is 0.186. In this hypothesis, it is established that the readiness to adopt e-learning is associated with situational factors. Since the p-value is more than 0.05, situational factors have no significant influence on readiness to embrace e-learning by teachers. However, situational factors explain a mere 0.9% of variations in attitudes towards e-learning ($R^2 = 0.009$). Despite how complicated electronic methods of lecture delivery are, instructors will likely persist with their participation. Teachers in other countries have been able to easily adapt to the online course design and delivery, especially since the most developed nations are embracing this technology.

Table 4. Analysis of Regression The dependent variable (e-learning preparedness) and the independent variable (situational considerations) are shown in an ANOVA table.

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				

5. Conclusion

There is no statistically relevant connection found to a professor's attitude with her intention of teaching web-based education on the campus surveyed. In sharp contrast to that result, the gender-based gap difference has also been identified toward computers use based on research published by Houtz and Gupta in 2001. The study also argues against the conclusion drawn by Marwan and Sweeny in 2010 that there was a relationship between gender, rank, and department with the level of readiness in embracing e-learning by teachers. Situational factors also were found to not have a positive, statistically significant effect on the teachers' adoption of e-learning. Modern educators are well-versed in computer programs and technology, and students' familiarity with ICT means that they won't be a hindrance to the widespread use of online education. So, they won't have any problems preparing for or delivering online classes. The research concluded that instructors' readiness to adopt online learning was unaffected by institutional factors. Foreign groups assisted educators in meeting UESCO requirements through online education. The trainers at the University of Fallujah were introduced to the principles and practices of online teaching by the international organisation IREX, whose mission is to develop Iraq's educational infrastructure. This means they can organise their own training sessions in this area without consulting upper management. Not only that, but they are worried about providing internet access even while they're at home and utilise their personal computers to deliver lectures electronically. The speaker is also free to use whichever approach they see fit when teaching the material. Then, without involving upper management, he or she can implement blended learning.

REFERENCES

- [1] M. MD YUNUS, “<i>Malaysian ESL teachers’ use of ICT in their classrooms: expectations and realities</i>,” *ReCALL*, vol. 19, no. 1, pp. 79–95, Jan. 2007, doi: 10.1017/s0958344007000614.
- [2] C. Vrasidas, “The rhetoric of reform and teachers’ use of <sc>ICT</sc>,” *British Journal of Educational Technology*, vol. 46, no. 2, pp. 370–380, Mar. 2014, doi: 10.1111/bjet.12149.
- [3] T. Teo, “Modelling technology acceptance in education: A study of pre-service teachers,” *Computers & Education*, vol. 52, no. 2, pp. 302–312, Feb. 2009, doi: 10.1016/j.compedu.2008.08.006.
- [4] Z. D. YAKINCI, P. GÜRBÜZ, and G. YETİŞ, “Internet Usage Habits and Internet Usage in Educational Studies of Vocational School Students,” *Journal of Computer and Education Research*, vol. 6, no. 11, pp. 33–46, Apr. 2018, doi: 10.18009/jcer.330925.

- [5] K. A. Persichitte, "A Case Study of Lessons Learned for the Web-Based Educator," in *Instructional and Cognitive Impacts of Web-Based Education*, IGI Global. doi: 10.4018/9781878289599.ch012.
- [6] D. Broznić *et al.*, "Evaluation of the Antioxidant Capacity, Antimicrobial and Antiproliferative Potential of Fir (*Abies alba* Mill.) Honeydew Honey Collected from Gorski kotar (Croatia)," *Food Technol Biotechnol*, vol. 56, no. 4, 2018, doi: 10.17113/ftb.56.04.18.5666.
- [7] D. U. Bolliger and O. Wasilik, "Factors influencing faculty satisfaction with online teaching and learning in higher education," *Distance Education*, vol. 30, no. 1, pp. 103–116, May 2009, doi: 10.1080/01587910902845949.
- [8] S. Mishra *et al.*, "Metabolic, Anthropometric and Blood Pressure Effects of Adding Two Kiwifruit or Bottled Water into the Diets of People with Pre-Diabetes: A Randomised, Parallel Group, Intervention Study," *Recent Progress in Nutrition*, vol. 2, no. 1, p. 1, Dec. 2021, doi: 10.21926/rpn.2201006.
- [9] S.-S. Liaw, H.-M. Huang, and G.-D. Chen, "An activity-theoretical approach to investigate learners' factors toward e-learning systems," *Comput Human Behav*, vol. 23, no. 4, pp. 1906–1920, Jul. 2007, doi: 10.1016/j.chb.2006.02.002.
- [10] G. M. Kundi, A. Nawaz, and S. Khan, "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*, vol. 7, no. 3, pp. 545–578, Dec. 2010, doi: 10.4301/s1807-17752010000300003.
- [11] C. Keller, "User Acceptance of Virtual Learning Environments: A Case Study from Three Northern European Universities," *Communications of the Association for Information Systems*, vol. 25, 2009, doi: 10.17705/1cais.02538.
- [12] H.-J. So, J.-E. Choi, C. Lee, and Y. Kim, "테크놀로지 교수내용지식 (TPACK: Technological Pedagogical and Content Knowledge)," in *Educational/Instructional Technology and Learning Sciences*, EdTech Books, 2023. doi: 10.59668/431.13535.
- [13] D. G. Nativio, "Service-learning, the scholarship of service," *Nurs Outlook*, vol. 49, no. 4, pp. 164–165, Jul. 2001, doi: 10.1067/mno.2001.117770.
- [14] A. F. Grasha, "A Matter of Style: The Teacher as Expert, Formal Authority, Personal Model, Facilitator, and Delegator," *College Teaching*, vol. 42, no. 4, pp. 142–149, Oct. 1994, doi: 10.1080/87567555.1994.9926845.
- [15] M. Hämäläinen, A. B. Whinston, and S. Vishik, "Electronic markets for learning: education brokerages on the Internet," *Commun ACM*, vol. 39, no. 6, pp. 51–58, Jun. 1996, doi: 10.1145/228503.228513.
- [16] C. Depradine, "A role-playing virtual world for web-based application courses," *Computers & Education*, vol. 49, no. 4, pp. 1081–1096, Dec. 2007, doi: 10.1016/j.compedu.2006.01.002.
- [17] C. Gautreau, "Motivational Factors Affecting the Integration of a Learning Management System by Faculty," *The Journal of Educators Online*, vol. 8, no. 1, Jan. 2011, doi: 10.9743/jeo.2011.1.2.
- [18] H. J. Becker, "Who's Wired and Who's Not: Children's Access to and Use of Computer Technology," *Future Child*, vol. 10, no. 2, p. 44, 2000, doi: 10.2307/1602689.
- [19] F. D. Davis, R. P. Bagozzi, and P. R. Warshaw, "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Manage Sci*, vol. 35, no. 8, pp. 982–1003, Aug. 1989, doi: 10.1287/mnsc.35.8.982.
- [20] O. Avidov-Ungar and Y. Eshet-Alkalai, "Teachers in a World of Change: Teachers' Knowledge and Attitudes towards the Implementation of Innovative Technologies in Schools," *Interdisciplinary Journal of e-Skills and Lifelong Learning*, vol. 7, pp. 291–303, 2011, doi: 10.28945/1525.
- [21] H. Barki and J. Hartwick, "Measuring User Participation, User Involvement, and User Attitude," *MIS Quarterly*, vol. 18, no. 1, p. 59, Mar. 1994, doi: 10.2307/249610.