Information Management and Business Review (ISSN 2220-3796)
Vol. 17, No. 3, pp. 74-81, September 2025

E-Learning on Teaching and Learning: The Role of Accessibility, Behavior and Knowledge

*Muna Wadhiha Mohd Fauzi, Maliza Delima Kamarul Zaman, Noor Azura Dahalan, Nur Aizureen Anwar, Syarifah Mastura Syed Abu Bakar
Faculty of Business and Management, Universiti Teknologi MARA, Puncak Alam Kampus, Bandar Puncak Alam, Kuala Selangor, Malaysia
Email: *muna@uitm.edu.my, malizadelima@uitm.edu.my, azuradahalan@uitm.edu.my, nuraizureen@uitm.edu.my, syarifahmastura@uitm.edu.my
Corresponding Author: Muna Wadhiha Mohd Fauzi

Abstract: E-learning represents a form of technological advancement applied in higher education. This technological progress offers an opportunity to improve teaching methods and enhance students' learning capabilities. Many educational institutions are embracing E-Learning and utilizing technologies, leading to a notable impact and creating a specific niche within the industry. Some students involved in E-Learning show better academic outcomes and a positive mindset, while others have voiced negative sentiments regarding e-learning due to usability issues, demanding workloads, limited technological skills, and a deficiency in face-to-face interaction. Consequently, this study seeks to examine the relationships between accessibility, behavior, and understanding of e-learning within higher education institutions. An online survey was administered to 150 students enrolled in a bachelor's degree program at a higher education institution. The findings reveal that accessibility correlates most strongly with students' engagement with the e-learning system, in comparison to behavioral and knowledge-related aspects. This research emphasizes that E-Learning has the potential to redefine the future of education by transforming traditional classroom experiences into online formats. E-Learning can be regarded as one of the most effective methods for education and teaching.

Keywords: *E-Learning, Accessibility, Behavior, Knowledge*

1. Introduction and Background

The realm of higher education has undergone a substantial shift from traditional teaching methods to innovative strategies that leverage computer technology for knowledge sharing and learning enhancement. The evolution of technology has opened avenues to improve teaching techniques and skills, thus enhancing students' educational capabilities (Omar, Sarudin, & Aziz, 2020). E-learning represents a key example of this technological advancement employed in higher education. It is characterized as the delivery of educational resources to students via computer technologies, software applications, and communication technologies (Mahdi, Lajim, Shamsuddin & Kanyan, 2020). Additionally, e-learning offers financial advantages for institutions by reducing expenses related to physical teaching spaces, utility bills, staffing costs, and student accommodations (Chung, Subramaniam & Dass, 2020). Students can utilize computers and other connected devices to access digital resources such as books and articles anytime and anywhere through e-learning (Greener, 2019). This modality enhances accessibility for international learners, allowing them to acquire knowledge and skills across borders, as e-video conferencing and meetings provide complete educational opportunities for them. Moreover, the e-learning approach allows students to maintain their study adaptability in terms of mood and rhythm, as long as they have a solid lesson plan, stay disciplined, and remain motivated (Omar, Sarudin & Aziz, 2020).

The global outbreak of the coronavirus disease 2019 (COVID-19) made e-learning the primary method for education in 2020. Educational institutions, including schools, colleges, and universities, were notably impacted. As of June 1, 2020, the World Health Organization (WHO) reported that 5,939,234 individuals had contracted the virus, with 367,255 fatalities. The Education Ministry mandated all educators in schools, colleges, and universities to transition from traditional face-to-face instruction to remote, non-physical teaching modalities. Physical classrooms were banned, obligating instructors to conduct classes using the available digital infrastructure. However, beginning in 2022, the online education sector saw significant growth. According to the Malaysia Digital Economy Corporation (MDEC), the e-learning market in Malaysia experienced an annual growth rate exceeding 15% by 2022. This rapid expansion was fueled by a tech-savvy young population, increased mobile access, and supportive government policies promoting digital initiatives. Moreover, a report from 2023 indicated that the online education market in Malaysia is expected to grow at a

rate of 17.4%, potentially surpassing a market value of $400 million by 2025.

Higher education has progressively shifted its teaching methods from traditional in-person formats to e-learning (McKenna & Rice, 2018). Numerous e-learning strategies have been suggested to provide learners and educators with more effective and successful educational experiences (Mahdi, Lajin, Shamsuddin & Kanyan, 2020). Well-designed e-learning applications can enhance student engagement in online classes, thereby improving their comprehension, skills, and overall competence, and allowing them to learn effectively or autonomously (Encarnacion, Galang & Hallar, 2021). Furthermore, e-learning is viewed as a promising educational approach and a valuable field for investigating its effects and effectiveness on students' understanding and teaching methods. The growth of e-learning has created a demand for educational institutions to deliver courses online (Greener, 2019). However, both learners and instructors encounter various obstacles during the online teaching and learning process. Considering these challenges and the limited familiarity with evolving technology, there is an urgent need to evaluate e-learning to better understand its impact and effectiveness on educational practices. While some students who participate in e-learning exhibit enhanced academic results and positive attitudes, others have reported negative experiences due to usability issues, heavy workloads, lack of technological skills, and insufficient face-to-face interactions. Consequently, the objectives of this study are as follows: 1) To investigate the relationship between accessibility and e-learning among students in higher education institutions. 2) To explore the relationship between behavior and e-learning among students in higher education institutions. 3) To examine the relationship between knowledge and e-learning among students in higher education institutions.

2. Literature Review

E-Learning

The latest and most prevalent form of distance education today is online learning. Often called e-learning, this approach involves acquiring knowledge through the use of digital technology and communication. Through e-learning, students have the flexibility to access educational materials at any time and from anywhere. Popular types of e-learning include online courses, online degrees, and virtual classes. E-learning is distinguished by its use of online technology to improve skills and enhance job prospects (Rovai, 2022). The adoption of e-learning has greatly transformed and improved teaching and learning practices in higher education (Rubin & Babbie, 2020). As stated by Picciano (2022), e-learning includes all varieties of technology-enhanced learning that leverage technology to facilitate the educational experience. An effective e-learning environment is characterized by instructors who deliver quality course design and instruction (Rovai, 2022; Selim, 2019), implement robust assessments (Siragusa, 2022), foster collaborative teaching (Omar et al, 2020), and employ appropriate teaching strategies to meet the needs of students. Instructors receive technical support, which allows them to seamlessly integrate their teaching activities into e-learning platforms. Students are encouraged to take control of their education, gain familiarity with technology, establish connections with peers, improve their critical thinking skills, and apply these abilities to real-life contexts.

The Relationship Accessibility and E-Learning

Accessibility in e-learning involves utilizing technology and services to develop learning experiences that are readily available to all students, irrespective of their limitations. Students with disabilities can participate in an accessible online course similarly to their peers. An online course is deemed accessible when every student can both access and navigate course materials, as well as review and submit their assignments. In designing courses, accessibility must address four main areas of impairment: visual, hearing, cognitive, and motor. The most effective way to provide information is by using a mix of text, video, audio, and images to cater to all students. For instance, visually impaired students or those with learning disabilities often rely on text screen readers to navigate links on a webpage and headings in a document. Since many individuals face challenges that hinder their learning potential, ensuring accessibility in e-learning is crucial. According to the 2010 U.S. Census data, approximately 20% of Americans have a disability, with over half experiencing significant impairments. Additionally, some disabled students favor online courses over traditional classroom settings. Students with special needs can engage in accessible online programs alongside their peers without needing to highlight their challenges. Accessibility is also a legal requirement, as federal law dictates that educational institutions must offer coursework that is accessible. Instructors and students can promote the accessibility of their e-learning materials by adhering to a specific set of guidelines that clarify the current state and the

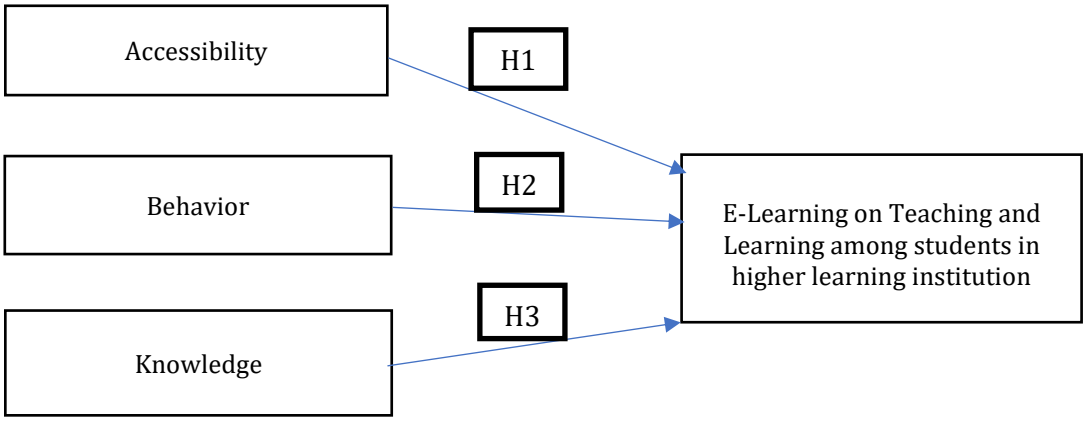
necessary actions to take. Therefore, it is proposed that:
H1: Accessibility has a significantly positive relationship with E-Learning among students in higher learning institutions.

The Relationship Between Behavior and E-Learning
Individuals, creatures, systems, or artificial entities exhibit behaviors or traits in relation to themselves or their surroundings, which encompasses other systems or organisms as well as the physical environment. Records of student responses are an effective way to understand how students navigate the internet. Observing students' behavioral patterns is a crucial step in identifying their learning styles. For instance, Zaid (2019) created a method, the student activity meter (SAM), which accurately tracks the number of hours students dedicate to learning activities and processes in virtual environments. Their findings indicated that the visuals produced by SAM enhance teachers' awareness of their environment, enabling them to devise various teaching strategies. Haitham (2019) sought to explore the different behaviors of students that correlate with their academic performance. Moreover, lecturers are essential in fostering positive student behavior during E-Learning to motivate students to engage in online activities. It is important to simplify the review process for students by utilizing accessible methods and materials. Student behavior is vital for the effective functioning of the E-Learning system, particularly during the ongoing COVID-19 pandemic. Therefore, it is posited that:
H2: Behavior has a significantly positive relationship with E-Learning among students in higher learning institutions.

The Relationship Between Knowledge and E-Learning
E-learning enables individuals to access information remotely through the internet. It provides the opportunity for people to learn at any moment and from any location, requiring only a computer and internet connectivity. Knowledge is essentially information, understanding, or insights regarding anything or anyone, encompassing data, facts, observations, or skills acquired through education and experience. It can be described as a conceptual comprehension of a situation. Sonwalkar (2022) suggests that knowledge can be shared either deliberately or unintentionally as a byproduct of various other, distinct activities. Nonetheless, there is a difference between using the internet to share knowledge and utilizing it for teaching purposes. Musa, Rosle, Baharuddin & Sara (2020) point out that while interaction is vital for the effectiveness of distance education, it is often absent in online educational settings. On the other hand, in e-learning environments, it is essential to facilitate knowledge growth and transfer (Rovai, 2022). However, students in e-learning contexts may risk coming away with inadequate knowledge and understanding, along with difficulties grasping foundational theories. Therefore, it is proposed that:
H3: Knowledge has a significantly positive relationship with E-Learning among students in higher learning institutions.

Research Framework
Figure 1 illustrates the proposed framework for this research. The study consists of three independent variables: Accessibility, Behavior, and Knowledge. The dependent variable of the research is E-Learning in Teaching and Learning among students in higher education institutions. The framework also depicts the relationships pertaining to the hypotheses in the study.

Figure 1: The proposed research framework



3. Research Methodology

A correlational study was conducted to explore the relationship between accessibility, behavior, and knowledge regarding E-Learning in Teaching and Learning among higher education students. The study focused on students from the Faculty of Business and Management. As outlined by Krejcie and Morgan (1970), the sample size is determined based on population guidelines. For a total population of 250 students, a sample of 150 students was selected for this research. Additionally, the tools used in the study were sourced from established and credible literature. To assess E-Learning, the study incorporated 8 items from the work of Chung, Subramaniam, & Dass (2020). For measuring accessibility, 6 items were taken from McKenna & Rice (2018). The measurement of behavior included 7 items from Capay (2011). Furthermore, knowledge was evaluated using 5 items from Sammour (2020). The questionnaire was organized into five sections, which detailed the demographic information of the respondents, as well as E-Learning, Accessibility, Behavior, and Knowledge. A five-point Likert scale was utilized to gauge the responses of participants. The scale ranged from 1 (strongly disagree) to 5 (strongly agree) in relation to the specific statements. Specifically, a stratified sampling technique was applied as the probability sampling design for this study. The research employed quantitative methods, utilizing a standardized questionnaire that was distributed uniformly to all participants.

4. Results

Table 1: Demographic Profile

VARIABLE	FREQUENCY	PERCENTAGE
GENDER		
Males	110	73.3%
Females	40	26.7%
Total	**150**	**100%**
AGE		
19-23	44	29.3%
24-28	70	46.7%
29-33	23	15.3%
Above 34	13	8.7%
Total	**150**	**100%**
TYPE OF STUDY		
Full-Time Student	79	52.7%
Part-Time Student	71	47.3%
Total	**150**	**100%**
EDUCATION LEVEL		
Higher Certificate	17	11.3%
Diploma	53	35.3%
Bachelor Degree	72	48.0%
Master	8	5.3%
Total	**150**	**100%**

A total of 150 individuals participated in the survey. According to the data presented in Table 1, 73.3 percent of respondents are male, while the remaining 26.7 percent are female. The age group with the highest representation is 24-28 years old, accounting for 46.7 percent of the respondents. In terms of educational qualifications, 48 percent of participants hold a Bachelor's Degree, making them the largest group. Finally, most respondents fall into the category of full-time students.

Table 2: Reliability Analysis

Variable	No. of Items	Cronbach's Alpha	Results
E-Learning	8	0.745	Good
Accessibility	5	0.823	Good
Behavior	7	0.628	Good
Knowledge	5	0.787	Good

As indicated in Table 2, the results from the reliability test demonstrate that all four constructs meet satisfactory levels, as their values exceed 0.6. This study has conducted reliability tests, including assessments of internal consistency, to evaluate the reliability of each variable. Table 2 provides the interpretation of reliability according to Cronbach's alpha for 150 respondents. The Cronbach's alpha result for employee engagement is 0.745, which is considered good. Next, the accessibility construct has a value of 0.823, also indicating good reliability. The behavior construct shows a Cronbach's alpha of 0.628, marking it as good. Finally, the knowledge construct has a value of 0.787, which is regarded as good as well.

Table 3: Correlation Analysis

		E-Learning	Accessibility	Behavior	Knowledge
E-Learning	Pearson Correlation	1	0.670**	0.458**	0.600**
	Sig. (2-tailed)		0.000	0	0
	N	150	150	150	150
Accessibility	Pearson Correlation	0.670**	1	0.428**	0.566**
	Sig. (2-tailed)	0.000		0.000	0
	N	150	150	150	150
Behavior	Pearson Correlation	0.458**	0.428**	1	0.454**
	Sig. (2-tailed)	0	0.000		0
	N	150	150	150	150
Knowledge	Pearson Correlation	0.600**	0.566**	0.454**	1
	Sig. (2-tailed)	0	0	0	
	N	150	150	150	150

According to the information presented in Table 3, there exists a significant moderate positive correlation between accessibility and E-Learning ($r=0.670$, $p=0.000$, $p<0.05$). This suggests that increased accessibility leads to enhanced E-Learning experiences for students in higher education institutions. Additionally, Table 3 demonstrates a significantly low positive correlation between behavior and E-Learning ($r=0.458$, $p=0.000$, $p<0.05$). This further implies that greater accessibility contributes to improved E-Learning teaching and learning for students in higher education institutions. Lastly, Table 3 indicates a significant moderate positive correlation between the knowledge of E-Learning teaching and learning among students in higher educational settings ($r=0.600$, $p=0.000$, $p<0.05$).

Table 4: Regression Analysis

	Dependent Variable Usage
Independent Variables (β)	
Accessibility	0.452
Behavior	0.136
Knowledge	0.282
F value	55.892
R2	0.535

According to the findings in Table 4, the R2 value of the model is 0.535. This means that 53.5 percent of the

variation in employee engagement can be attributed to changes in accessibility, behavior, and knowledge, while the remaining 46.5 percent is influenced by other factors. The F value of the model is 55.892, with a significance level of ($p < 0.01$), indicating a strong fit for the model. The coefficient table demonstrates that the work environment exerts the greatest influence on employee engagement, accounting for 45.2% and showing significance ($\beta = 0.452$, 0.000, $P < 0.05$). This finding is supported by Zaid (2019), who discovered that accessibility and E-Learning have a positive, moderate, and significant relationship, suggesting that increased accessibility results in improved E-Learning experiences for students in higher education. Following this, the perceived job aspects account for a 28.2% influence on knowledge, which is also significant ($\beta = 0.282$, 0.000, $P < 0.05$). This was substantiated by Omar et al. (2020), who found a positive, moderate, and significant relationship between knowledge and E-Learning, indicating that greater knowledge enhances E-Learning experiences within higher learning institutions. Additionally, the behavior variable shows a positive and significant influence on E-Learning, although it is noted as ($\beta = 0.136$, $P = 0.617$, $P > 0.05$). Hypothesis 3 is supported. In line with Haitham's (2019) study, the association between behavior and E-Learning is significant and positive, suggesting that improved behavior leads to enhanced E-Learning experiences among students in higher education.

Discussion

In summary, this study has effectively met the research objectives, which include identifying the positive significant link between accessibility, behavior, and knowledge with E-Learning in the context of teaching and learning among students at higher education institutions. The research demonstrates that the goals related to accessibility, behavior, and knowledge significantly impact E-Learning among students within higher learning institutions. This implies that higher degrees of accessibility, behavior, and knowledge are associated with an increased perception of E-Learning by students in these institutions. The findings align with earlier research conducted by McKenna and Rice (2018), which indicated a notable and positive correlation between access to E-Learning and teaching and learning outcomes for students in higher education settings. Among the various factors, accessibility emerged as the most influential on E-Learning engagement among students in these institutions, as confirmed by regression analysis. The results indicated that accessibility positively affects the utilization of E-Learning systems. This can be observed when students access all their study resources through the E-Learning platform. Consequently, this allows students to engage fully in the learning experience. Additionally, students not only enhance their technological skills but also gain improved accessibility. In the wake of the pandemic, many countries are opting for virtual online classes instead of traditional face-to-face instruction to curb the spread of the virus. Various forms of in-person learning, including lectures, are being transitioned to online formats. Meanwhile, both part-time and full-time students must adapt to new norms when interacting with instructors or peers through digital platforms.

The research indicated that there is a significant and positive correlation between student behavior and E-Learning in higher education, which aligns with previous studies. This finding supports earlier research (Capay, Mesarosova, & Balogh, 2021), demonstrating that students' behavior impacts their engagement with the e-learning system. Students tend to participate in quizzes more frequently than in other online activities. Therefore, it can be concluded that hypothesis 2 (H2), regarding the significance of behavior on e-learning system usage, is validated. The results showed that behavior has a positive effect on utilizing E-learning for teaching and learning among students in higher education. This is evident as students exhibit greater motivation and discipline when engaging with the e-learning system, arriving on time for classes. Furthermore, the flexible schedule and effective time management contribute to a healthy study-life balance for students. Additionally, educators play a crucial role in motivating students to pursue careers by imparting knowledge within specific subjects. By employing unique strategies, lecturers can enhance student engagement in online learning. Consequently, this can further boost student motivation and behavior, leading to increased utilization of the e-learning system among students.

In alignment with earlier research, the study found that there is a significant and positive correlation between knowledge and E-Learning among students in higher education institutions. This finding aligns with the work of Sammour, Schreurs, Al-Zoubi, and Vanhoof (2020). Knowledge is often viewed as something that is rooted in a specific context or as a collective activity. Therefore, the learning environment should reflect the cultural and traditional contexts in which the skills related to tasks are situated. Students' abilities to engage effectively in a community or environment are closely linked to their academic success. A key aspect of the conversation

around learning and teaching is for educators to utilize their conceptual abilities to evaluate and respond to student performance, while also adapting the educational setting or curriculum as required. E-Learning has become essential for universities to embrace due to the current circumstances, with the government promoting online learning for all students. In summary, the study determined that knowledge is positively impacted by the use of the E-Learning System among students in higher education, as the majority of students are able to enhance their soft communication skills.

5. Managerial Implications and Recommendations

The findings of this study are vital and exceptionally beneficial for institutions of higher education. Numerous pertinent recommendations could be adopted for enhancement. Firstly, students have expressed a highly favorable response to all the factors, and the researchers suggest that the university continue to engage with and support students, particularly those residing in rural areas, while also providing incentives such as internet data, which is the foremost issue that needs to be addressed for online learning to be effective. This can alleviate some of the challenges faced by students trying to gain knowledge without restrictions.

Additionally, considering that all students are mandated to participate in online learning strictly following the pandemic, universities might think about modifying the payment structure each semester by cutting unnecessary expenses like library fees and technical charges for potential classrooms. Our nation, Malaysia, has dealt with the aftermath of the pandemic for nearly two years, forcing both students and lecturers to transition to online learning during this period. This approach could, in some measure, lessen the strain and anxiety experienced by students.

Furthermore, as evidenced by the current landscape, online learning plays a crucial role and will likely be utilized by all students and lecturers in nearly all Malaysian higher education institutions. Organizations should pursue ongoing enhancements to the platforms that students and lecturers use, as numerous students encounter difficulties when accessing platforms that are not user-friendly, often due to environmental factors that hinder connectivity if the platform is not accessible. To ensure that educational activities run smoothly, organizations should opt for a singular platform to facilitate the online learning process. If a consistent platform is not employed across all educators, discrepancies may arise, with different lecturers utilizing various platforms, complicating access for students.

Conclusion

To summarize, this study has effectively met its research goals, which aimed to identify the positive and significant connection between accessibility, behavior, and knowledge in relation to E-Learning among students in higher education institutions.

In summary, accessibility, behavior, and knowledge were identified as key factors influencing the use of E-Learning Systems by students in higher education. This research also successfully established that the relationship between independent and dependent variables is indeed significant. It is widely recognized that in the current context, following the COVID-19 pandemic, e-learning presents challenges for everyone involved. Ultimately, collaboration between instructors and students is crucial for the success of E-Learning in higher education in this period. Teaching can proceed smoothly if both parties cooperate effectively.

Following the completion of this study, several recommendations are offered to encourage further research on this topic. Understanding this topic's significance is essential for future researchers. Consequently, the researcher has put forth a few suggestions to assist those who will study this area in the future. First, subsequent research might also explore other types of factors that influence the use of the E-Learning System. Additionally, future investigators could employ different research methodologies to gather more insights into the topic. They might also examine the distinctions among e-learning reliability programs, key applications, and their implementation within relevant areas of the program. These approaches could yield beneficial outcomes, serving as a means of student education, preparation techniques, and a catalyst for creativity in E-learning.

References

Capay (2011). Analysis of students' behavior in an e-Learning system. In 2011 Proceedings of the 22nd EAEEIE Annual Conference (EAEEIE) (pp. 1-6). IEEE.

Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online Learning Readiness among University Students in Malaysia amidst COVID-19. Asian Journal of University Education, 16(2), 46-58.

Encarnacion, R. E., Galang, A. D., & Hallar, B. A. (2021). The impact and effectiveness of e-learning on teaching and learning. International Journal of Computing Sciences Research, 5(1), 383-397. doi:10.25147/ijcsr.2017.001.1.47.

Greener, S. (2019). e-Modeling Helping Learners to Develop Sound e-Learning Behaviors. Electronic Journal of e-Learning, 7(3), 265-272.

Haitham (2019). E-learning and management information systems at universities. eLearn Magazine, 52(20), 23-32.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30(3), 607–610.

Mahdi, A. F., Lajim, S. F., Shamsuddin, N. E., & Kanyan, A. (2020). The Effect of E-Learning on the University Students' Motivation. Borneo International Journal, 3(1), 8-13.

McKenna, & Rice, M. (2018). Access and Accessibility in Online Learning: Issues in Higher Education and K-12 Contexts. OLC Outlook: An Environmental Scan of the Digital Learning Landscape. Online Learning Consortium.

Musa, A. H., Rosle, A. N., Baharuddin, F. N., & Sara, S. (2020). The Effectiveness of Online Distance Learning (ODL) Approach in University: A Response to the COVID-19 Pandemic Crisis. Journal of Academic Research in Business and Social Sciences, 10(9), 1069- 1076.

Omar, N. A., Sarudin, E. S., & Aziz, N. H. (2020). Perception And Intention to Use E-learning From Students' Point of View: Evidence From the Malaysian Local University. Journal of Computing Research and Innovation, 5(2), 11-20.

Picciano, A. (2002). Beyond student perceptions: Issues of interaction, presence, and performance in an online course. Journal of Asynchronous Learning Networks, 6(1), 21- 40.

Rovai, A. (2022). Building a sense of community at a distance. International Review of Research in Open and Distance Learning (IRRODL), 3(1), 1-16.

Rubin, A., & Babbie, E.R. (2010). Essential research methods for social work (2nd edn.). Belmont, CA: Brooks/Cole

Sammour, G., Schreurs, J., Al-Zoubi, A. Y., & Vanhoof, K. (2008). The role of knowledge management and e-learning in professional development. International Journal of Knowledge and Learning, 4(5), 465-477.

Selim, H. M. (2019). Critical success factors for E-Learning acceptance: Confirmatory factor models. Computers & Education,49(2),396-413.

Siragusa, L. (2022). Research into the effectiveness of online learning in higher education: Survey findings. In Proceedings Western Australian Institute for Educational Research Forum 2022. Retrieved February 24, 2022, from Western Australian Institute for Educational Research databases

Sonwalkar, N. (2022). A new methodology for evaluation: The pedagogical rating of online courses. Syllabus, 15(6), 18-21. Retrieved March 5, 2012, from ERIC database.

Zaid, A. A. (2019). Using e-learning to facilitate 21st-century learning. Retrieved on February 27, 2012, from SlideShare database.