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Factors Influencing Online Engagement among Undergraduates in a Malaysian Public University

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Abstract

Educational institutions around the world have progressively embraced online learning into their curriculum to keep abreast in the education industry. In online learning, one of the challenges faced by instructors is to maintain student engagement in the course. Therefore, the present study is aimed to explore the factors which influence online learning experience. In this quantitative study, 162 respondents from a public university in Malaysia completed a survey which was administered online through a Google Form. There were four sections in the instrument used with a total of 21 items. Overall, the findings revealed that there were various factors that influence learners' engagement in online learning, such as support from peers, feedback from the instructors and the content of the course. The study also found a strong positive relationship between person, environment and behaviour in online learning. The findings of the study provide significant insights and implications on the teaching and learning process, especially in online settings.

Keywords: Online Learning, Student Engagement, Online Interaction, Online Education, Teaching and Learning

Introduction

Background of Study

According to Sunal & Wright (2012), online learning can be defined as using technology and the Internet to engage and facilitate learners in their learning. Through online learning, learning sessions are no longer limited to in-class or face-to-face classes only. Instead, the process of online teaching and learning can now be done virtually anywhere and anytime. In

Malaysia, The National Education Blueprint (2013-2025) outlines that ICT will be enhanced to maximize online teaching and learning process. This shows that Malaysia supports online learning and believes that students will have access to wider content and materials that can enhance their learning process. Online learning platforms usually consist of live or recorded lectures, video streaming, online discussions and interactive quizzes; which allow students to engage with the course content, instructors as well as other learners too. This supportive environment is integral for students to stay consistent and focused during their learning process.

Statement of Problem

Online learning undoubtedly provides endless benefits to learners and instructors. It is reported that online learning offers convenience, encourages student participation and caters to individual student needs (Tareen & Haand, 2020). The flexibility of online learning makes it possible for learning to be endless and happen at anywhere and anytime. Despite all the benefits of online learning, learners experience time management issues, lack of interaction, support and feedback from their peers and instructors in online learning. As a result, they tend to lose interest in learning and end up being distracted by other online activities while learning. These findings prove that online learning brings various benefits and challenges to learners. Therefore, as suggested by Martin & Bolliger (2018), future research should be carried out to investigate the perceptions of engagement strategies employed by undergraduate students. Rahmat et al (2021) also suggest that other factors that may influence online learning should be explored. This is important for both leaners and educators to be aware of factors that may contribute to students' achievement and interest in learning online. Hence, this study is crucial to be conducted to further explore the factors that may help to engage or hinder learners in learning online.

Objective of the Study and Research Questions

This study is done to explore the factors that influence online learning. Specifically, this study is done to answer the following questions:

- How do learners perceive personal factors in online learning?
- How do learners perceive environmental factors in online learning?
- How do learners perceive behaviour factors in online learning?
- Is there a relationship between personal, environment and behavior factors in online learning?

Literature Review

Online Learning: Drawbacks and Advantages

Online learning has become increasingly prevalent in educational settings, offering flexibility, accessibility, and scalability. However, questions remain regarding its effectiveness and best practices. On one hand, it provides flexibility, allowing learners to access educational materials at their convenience, accommodating diverse schedules and lifestyles. Additionally, online platforms often offer a wide range of courses, enabling individuals to pursue their interests regardless of geographical limitations. Moreover, the digital format fosters self-paced learning, allowing students to revisit materials until they grasp the concepts fully (Silva & Lisbôa, 2024). However, online learning also presents challenges. It can be isolating, lacking the social interaction found in traditional classrooms, which may hinder collaborative learning and interpersonal skills development (Dewi, 2021). Technical issues such as internet

connectivity problems or platform glitches can disrupt the learning process and frustrate students. Furthermore, the absence of immediate instructor feedback in some online courses may impede comprehension and engagement. Balancing these advantages and drawbacks is crucial for optimizing the online learning experience.

Past Studies on Online Learning

Research on online learning encompasses a wide range of topics, including its effectiveness compared to traditional classroom instruction, the design and delivery of online courses, student engagement and satisfaction, and the impact of various factors on learning outcomes. Many studies have found that online learning can be as effective as or even more effective than traditional face-to-face instruction, particularly when it incorporates interactive multimedia, opportunities for collaboration, and personalized feedback.

One such study is by (Dewi, 2021). The study was carried out at the OKU Regency's SMPN 32 OKU, East Baturaja district. Purposive sampling was used to choose the participants, who were English teachers and seventh-grade pupils. Four-question interviews conducted in accordance with health regulations were conducted in order to collect data. The findings demonstrate that both educators and learners believed that online learning provided flexibility, the most recent information, rich and unlimited resources, enabled reading, assisted less active students in becoming more active, and was quick and simple. Nevertheless, there are some disadvantages that must be addressed right away when taking into account the benefits for students as online learning is incorporated into teaching and learning.

The results of this study demonstrated that participants' opinions about the use of online learning were similar. Teachers and students said that online learning was generally flexible, provided access to the most recent information, rich and unconstrained resources, made reading easier, encouraged less active students to become more active, and was quick and simple. Nevertheless, there are some disadvantages that must be addressed right away when taking into account the benefits that students receive when online learning is incorporated into teaching and learning. The full potential of online learning has been hampered by issues like decreasing oral and social communication, lack of digital tools, expensive, technical skill gaps, slow internet access, lack of real or direct student input, and the increasing likelihood of plagiarism and cheating. These results reinforce the benefits of online learning and are in line with similar research conducted at large universities.

Another research by Rahmawati (2016) emphasizes the incorporation of e-learning methodologies into language education. Its objective is to explore students' perceptions regarding the advantages and disadvantages of e-learning in language learning. Conducted at a private university offering e-learning integrated courses, this study required students to engage with e-learning both in and out of the classroom. Activities included participating in discussions, analyzing topics, submitting assignments, peer interaction, quizzes, and project completion. Through interviews with six participants, the study identified various aspects related to their views on the opportunities and challenges presented by e-learning in language education.

The research findings highlighted a spectrum of attitudes among participants towards e-learning, ranging from strong positivity to hesitance in relying heavily on its implementation. Overall, students perceived e-learning as offering flexibility, access to updated information, abundant resources, encouragement for reading, increased engagement for less active

students, and simplicity and speed of use. However, despite these perceived benefits, several drawbacks emerged, demanding immediate attention. Pikhart, Klimova, Cierniak-Emerych and Dziuba in their paper *A Comparative Analysis of Perceived Advantages and Disadvantages of Online Learning* (2023) listed out diminished social interaction and oral communication, costliness, lack of technological proficiency, scarcity of digital resources, slow internet connectivity, absence of direct teacher feedback, and heightened risk of plagiarism and cheating as some the drawbacks of online learning. These findings echo similar conclusions drawn from studies conducted at prominent institutions, underscoring the significance of e-learning while emphasizing the need to address associated challenges for its optimal utilization.

Conceptual Framework

When it comes to online learning, there are several conditions that can hinder or facilitate learning. According to Rahmat et al (2021), learners need to feel that the learning is relevant to them for them to stay motivated to learn. Figure 1 shows the conceptual framework of the study. This study is scaffolded from social cognitive theory (person, environment and behaviour) by Bandura (1986) to merge with the types of online interaction by (Martin & Bolliger, 2018). Martin & Bolliger (2018) presented three types of online interaction and they are learner-to-learner, learner-to-instructor and learner-to-content as presented in Figure 1 below.

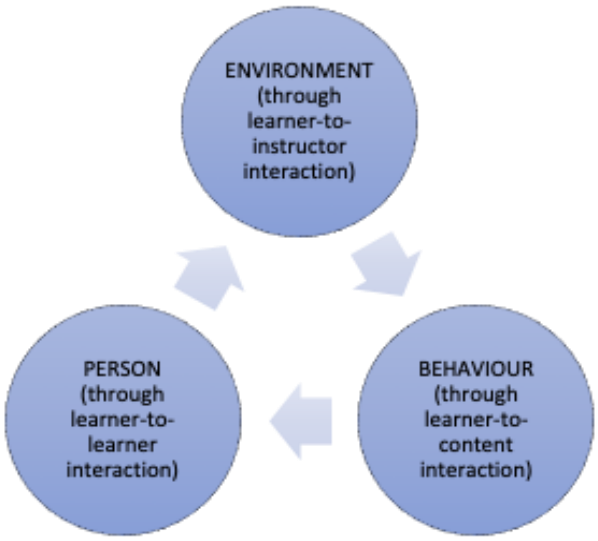

Figure 1: Conceptual Framework of the Study
Mapping Online Learning with Social Cognitive Theory

Methodology

This quantitative study is done to explore factors that influence online learning. A purposive sample of 162 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Bandura (1986); Martin & Bolliger (2018) to reveal the variables in Table 1 below. The survey has 4 sections. Section A has items on demographic profile, while Section B has 6 items on Person factor. Section C consists of 7 items on Environment factor and Section D has 8 items on Behaviour factor.

The table presents the distribution of items in the survey across different sections, indicating the type of interaction each section focuses on and the corresponding number of

items. The survey encompasses sections dedicated to Connectivism, and includes categories such as Diversity & Openness, Autonomy, and Connectedness, each emphasizing distinct forms of interaction within the learning environment. The total number of items in the survey is 21, with a reliability coefficient (Cronbach's alpha) of .957, indicating a high level of internal consistency among the items.

Table 1
Distribution of Items in the Survey

SECTION	SOCIAL COGNITIVE THEORY (Bandura,1986)	TYPE OF INTERACTION	No of Items	Cronbach alpha
B	PERSON	Learner-to-learner	6	.834
C	ENVIRONMENT	Learner-to-Instructor	7	.929
D	BEHAVIOUR	Learner-to-Content	8	.918
		Tot no. of Item	21	.957

The analysis shows a Cronbach alpha of .834 for Person, a Cronbach alpha of .929 for Environment, and a Cronbach alpha of .918 for Behaviour; thus, revealing a good reliability of the instrument used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

Findings

Findings for Demographic Profile

Table 2
Percentage for Gender

1	Male	26%
2	Female	74%

Table 2 presents the percentage distribution of gender for the 162 respondents. It indicates that among the observed population, 26% are male, while the majority, constituting 74%, are female.

Table 3
Percentage for Semester

1	Part 1-2	35%
2	Part 3-4	44%
3	Part 5-6	21%
4	Part 7-8	0%

Table 3 discerns that among the surveyed individuals, the largest proportion, constituting 44%, are enrolled in the third and fourth semesters (Part 3-4). Following closely, 35% are engaged in the initial two semesters (Part 1-2), while a comparatively smaller contingent, representing 21%, is affiliated with the fifth and sixth semesters (Part 5-6). Notably, no respondents are identified as being in the seventh and eighth semesters (Part 7-8) based on the data provided.

Table 4
Percentage for Field of Study

1	Science & Technology	36%
2	Social Sciences	64%

The above table presents the percentage distribution for fields of study within the surveyed population. It indicates that 64% of individuals are enrolled in Social Sciences, while 36% are pursuing studies in Science & Technology.

Table 5
Percentage for Internet Access

1	Slow	7%
2	Medium	60%
3	Strong	33%

Table 5 reveals that the majority, comprising 60%, enjoy access to the internet at a medium speed. Additionally, 33% of individuals have access to strong internet connections, while a smaller proportion, constituting 7%, contend with slower internet speeds.

Table 6
Percentage for ICT Skills

1	Beginner	14%
2	Intermediate	71%
3	Advanced	15%

As seen in the above table, it shows that the majority, accounting for 71%, possess intermediate proficiency in ICT skills. Furthermore, 15% of individuals exhibit advanced proficiency, indicating a notable level of competence in utilizing ICT tools and platforms. In contrast, a smaller fraction, constituting 14%, are classified as beginners in ICT skills.

Findings for Personal Factors

This section presents data to answer research question 1- How do learners perceive personal factors in online learning? In the context of this study, personal factors are measured by learner-to-learner interaction.

Table 7
Mean for Personal factors

No	Statement	Mean
1	Does collaborative learning promote peer-to-peer understanding?	3.8
2	Are you more likely to ask for help from your peers?	3.9
3	Do you prefer to be in the same group with your chosen peer for online activities?	4
4	Do you think that the sense of community helps you to engage in online class?	3.9
5	Do you think support from peers motivates you to finish tasks?	4.1
6	Do you think that support from peers prevents you from dropping out of course?	3.9
Mean value for Personal Factor		3.9

Table 7 shows the mean value for personal factors among the respondents on six specific items from a personal factors construct. The overall mean value for personal factors is 3.9, indicating that on average, respondents perceive the learner-to-learner interaction has influenced their experience in online learning. It can be derived that the highest mean for personal factors is for item 5; where the respondents agree that support from peers motivates them to finish tasks (M= 4.1). This is followed by the second highest mean for item 3, where the respondents are certain that they prefer to be in the same group with their chosen peer for online activities (M=4). The lowest mean score is 3.8 for item 1; where the respondents perceive collaborative learning promotes peer-to-peer understanding.

Findings for Environment

This section presents data to answer research question 2- How do learners perceive environmental factors in online learning? In the context of this study, the environment is measured by learner-to-instructor interaction.

Table 8
Mean for Environment

No	Statement	Mean
1	Does your instructor's teaching style involve students' active participation?	4
2	Do you feel encouraged by your instructor to keep engaged in the online classroom?	3.9
3	Does your instructor provide feedback from your previous assessment?	4
4	Do you feel feedback from your instructor on your performances are clear and positive?	4.1
5	Does your instructor use more than two communication tools to stay connected with students?	4
6	Do you think that online platforms used by your instructor for your online class are effective and convenient?	4.1
7	Does your instructor maintain the ongoing interaction with students after online class?	4
Mean value for environment		4

Table 8 presents the mean value for environmental factors. The overall mean value for environmental factors is 4 with no significant difference of the mean value between all items. This indicates that respondents apparently viewed environmental factors as influential in online learning. All items in this section scored the mean value of 4 and above except for Item 2 with the mean value (M=3.9). This shows that respondents perceived that the instructors are not really encouraging them to keep engaged in online classrooms. Item 4 and Item 6 scored the highest mean value of (M=4.1), indicating that the respondents perceived the clear and positive feedback from their instructors as well as the platforms used by their instructors are influential factors in online learning.

Findings for Behaviour

This section presents data to answer research question 3- How do learners perceive behaviour factors in online learning? In the context of this study, behaviour is measured by learner-to-content interaction.

Table 9
Mean for Behaviour

No	Statement	Mean
1	Do you think that the synchronous activities (i.e.online discussion) could offer immediate assistance?	3.9
2	Do you think that the asynchronous activities (i.e. assignment) could offer immediate assistance?	3.9
3	Do you think the activities could improve the understanding of subject-matter?	4
4	Do you think the activities in online learning could improve your critical thinking skills?	4
5	Do you think you can use relevant knowledge wisely in the learning process?	4
6	Do you feel that the ease of online content is important?	4
7	Do you feel that it is important to get an overview of the content before the class begins?	4.1
8	Do you think that ODL gives more benefits than drawbacks?	3.9

Table 9 displays the mean scores for each statement based on the survey responses. The mean values indicate the average level of agreement or perception among participants regarding various aspects of online learning activities. Statements cover topics such as the immediacy of assistance in synchronous and asynchronous activities, the potential for subject-matter understanding and critical thinking improvement, the utilization of relevant knowledge, the importance of ease of online content, the significance of pre-class content overview, and the overall perceived benefits of online distance learning (ODL) compared to drawbacks. The mean score of 4.1 for Item 7 suggests a strong agreement among respondents regarding the importance of getting an overview of the content before the class begins. With a score above 4, it indicates that, on average, respondents consider this aspect to be highly important. This suggests that respondents believe having an overview of the content before the class starts is crucial for effective learning preparation and engagement. Overall, this

mean score reflects a consensus among respondents regarding the significance of this aspect in the online learning environment.

Findings for Relationship between Personal, Environment and Behaviour

This section presents data to answer research question 4- Is there a relationship between personal, environment and behavior factors in online learning? To determine if there is a significant association in the mean scores between personal, environment and behavior factors, data is analysed using SPSS for correlations. Results are presented separately in Table 10, 11 and 12 below.

Table 10
Correlation between Environment and Behaviour

Correlations

		ENVIRONMENT	BEHAVIOUR
ENVIRONMENT	Pearson Correlation	1	.832**
	Sig. (2-tailed)		.000
	N	162	162
BEHAVIOUR	Pearson Correlation	.832**	1
	Sig. (2-tailed)	.000	
	N	162	162

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

Table 10 shows there is an association between environment and behaviour factors. Correlation analysis shows that there is a high significant association between environment and behaviour factors (r=.832**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between environment and behaviour factors.

Table 11
Correlation between Behaviour and Personal

Correlations

		BEHAVIOUR	PERSON
BEHAVIOUR	Pearson Correlation	1	.746**
	Sig. (2-tailed)		.000
	N	162	162
PERSON	Pearson Correlation	.746**	1
	Sig. (2-tailed)	.000	
	N	162	162

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

Table 11 shows there is an association between behaviour and personal factors. Correlation analysis shows that there is a high significant association between behaviour and personal factors (r=.746**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between behaviour and personal factors.

Table 12
Correlation between Person and Environment

Correlations

		PERSON	ENVIRONMENT
PERSON	Pearson Correlation	1	.773**
	Sig. (2-tailed)		.000
	N	162	162
ENVIRONMENT	Pearson Correlation	.773**	1
	Sig. (2-tailed)	.000	
	N	162	162

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

Table 12 shows there is an association between personal and environment factors. Correlation analysis shows that there is a high significant association between personal and environment factors (r=.773**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between personal and environmental factors.

Conclusion

Summary of Findings and Discussions

In the present study, learners' perceptions towards online learning were examined. Specifically, it explores the factors that influence learners' engagement in online learning. Generally, the findings suggest that online learning is influenced by multiple factors such as peers, content, and support received throughout online courses. It is also observed that there is a strong positive relationship between Personal, Environment and Behaviour factors with online learning. In the present study, interaction and support received from peers are deemed crucial by learners to assist them in their learning. This is consistent with the finding in the study by Martin & Bolliger (2018) who found that learners perceived icebreaker activities and working collaboratively as the most beneficial strategies to get them engaged in online learning. Thus, this result demonstrates that support and interaction between learners and teachers is necessary to enhance the effectiveness of online learning and improve student retention. It is also noted that environmental factors play a significant role in online learning. This is supported by Muir et. al (2020) that the instructors' frequent communication and feedback are essential to maintain student online engagement. Without consistent guidance

and support from the instructors, learners' engagement and interest in learning will slowly fade away and this will distract them from their studies. With regard to the Behaviour factor, the respondents in this study perceive that it is important for them to get an overview of the content before the class begins. This is one of the strategies used by learners to understand the course content and ultimately, be engaged with the overall online learning. From this finding, this strategy is considered as one way of students' effort to participate and take charge of their own learning. As observed by Werang & Leba (2022), good learning habits are influential to boost students' motivation and engagement in online learning. This strategy is paramount to aid student comprehension during the lesson and avoid any difficulties that may appear throughout the course.

Pedagogical Implications and Suggestions for Future Research

The findings obtained from this study have several implications on the teaching and learning in online settings. Firstly, as there are various factors that may influence learner engagement in online learning, instructors should be able to provide assistance and support needed to facilitate learners in online courses. Second, these findings are also crucial for learners as they should also be aware of the factors that can assist or hinder them in learning online. An ideal teaching and learning experience can be fostered when both instructors and learners are well-informed about their roles and what works best for them.

Despite the valuable insights gained from the findings, there are some limitations that future researchers need to take into account. The number of respondents who participated in this study is relatively small and they were from one public university only. Thus, the findings could not be generalized to the whole population. Therefore, future research should be conducted on a larger sample from various universities to gain an in-depth understanding of online learning engagement. In addition, a questionnaire was the sole instrument used to collect data in this study. Future studies could employ other qualitative methods such as interviews, journal entries or observations to triangulate the data collected, which could offer more comprehensive insights into learners' experience in online learning.

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