Empowering Digital Learners: A Conceptual Examination of the Relationship between Online Learning and Student Performance at UiTM Pahang, Jengka Campus

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ABSTRACT

Online learning has become an important mode of teaching and learning in higher education, particularly following the COVID-19 pandemic. Although it offers flexibility and access to digital learning resources, its relationship with student performance remains an important area of discussion. This conceptual paper examines the relationship between online learning and student performance in higher education, with relevance to UiTM Pahang, Jengka Campus. Drawing on existing literature identified through searches of ProQuest, Scopus, and Google Scholar, this paper discusses key aspects of online learning, including technological accessibility, internet connectivity, student engagement, and learning distractions, as well as their relevance to students' academic experiences. The discussion provides a basis for developing a proposed conceptual framework that positions online learning as the independent variable and student performance as the dependent variable. By bringing these concepts together in the context of higher education, this paper offers a conceptual basis for further discussion and future empirical research, particularly within UiTM Pahang, Jengka Campus.

Keywords: Online learning; Student performance; Higher education; Digital learning; Student engagement

INTRODUCTION

The COVID-19 pandemic significantly transformed the education sector worldwide and accelerated the adoption of online learning as an alternative to face-to-face instruction. In Malaysia, the implementation of the Movement Control Order (MCO), which began on 18 March 2020, required educational institutions to suspend physical classes and shift teaching and learning activities to online platforms (Majlis Keselamatan Negara, 2020). Consequently, online learning became an important mode of educational delivery, particularly in higher education institutions.

Despite the opportunities offered by online learning, its implementation has also raised concerns regarding students' learning experiences and well-being. Teo et al. (2023) examined the relationship between academic motivation, psychological engagement, perceived learning performance and psychological well-being among Malaysian tertiary students in online learning environments. These findings highlight the relevance of students' psychological well-being when considering their experiences in online learning.

In addition, unequal access to digital resources and reliable internet connectivity remains a challenge in online education. Iftıkhar et al. (2023) discussed the digital divide and the difficulties associated with accessing digital resources. Similarly, Onyema et al. (2020) highlighted technological and connectivity challenges in online learning. Such limitations may affect students' ability to participate in online classes, access learning materials and complete academic activities effectively. Student engagement is another important aspect of the online learning experience. Rajabalee et al. (2020) examined the relationship between student engagement and academic performance in an e-learning environment. Students' participation and interaction with learning materials are therefore relevant when considering their learning experiences in online settings. Furthermore, challenges such as distractions and difficulties in maintaining concentration may influence students' participation in online learning activities (Al-Kumaim et al., 2021).

In the Malaysian higher education context, the transition to online learning has highlighted the importance of understanding how students experience digital learning environments and how these experiences relate to their academic performance. Although online learning provides flexibility and access to digital educational resources, students may experience different learning outcomes depending on factors such as technological accessibility, student engagement and their surrounding learning environment. In this regard, examining the relationship between online learning and student performance within the context of UiTM Pahang, Jengka Campus, provides an institutional perspective on this broader higher education issue. Therefore, this conceptual paper examines the relationship between online learning and student performance through a review of relevant literature and the development of a proposed conceptual framework. The framework is intended to provide a basis for further discussion and future empirical research, particularly within the context of higher education at UiTM Pahang, Jengka Campus.

Problem Statement

The transition to online learning during the COVID-19 pandemic introduced various challenges for students in higher education. Although online learning provided an alternative to face-to-face instruction, the increased use of digital platforms also raised concerns about students' learning experiences. In Malaysia, Rathinam et al. (2023) identified Zoom fatigue as one of the challenges associated with e-learning. Similarly, Teo (2024) discussed Zoom fatigue in terms of the exhaustion and dissatisfaction experienced during online meetings and classes. These issues highlight the importance of understanding students' experiences when participating in online learning environments.

Besides online fatigue, students may also face difficulties in maintaining concentration during online learning. Townley (2024) discussed how difficulties in maintaining concentration may be associated with lower academic performance among students. The home learning environment may further present challenges, particularly when students experience noise, interruptions from siblings and routine household activities (Mese & Sevilan, 2021). Such distractions may affect students' ability to focus and participate in online learning activities. This suggests that students' learning experiences may differ according to their surrounding environment and ability to concentrate during online classes.

Another concern relates to students' psychological well-being. Misrahi (2024) discussed mental health concerns and reduced concentration in the post-pandemic learning environment, while Chen (2023) reported concerns about depressive symptoms and mental health following the transition from physical to online learning. In addition, Sarhan (2024) reported that 47 participants (62.7%) experienced headaches and visual problems associated with online classes. The study also reported anxiety among 48 participants (64%), stress among 43 participants (57.3%), and social neglect among another 43 participants (57.3%). These findings illustrate the range of challenges reported by students in online learning environments.

Although previous studies have discussed issues such as Zoom fatigue, concentration difficulties, home learning distractions and psychological well-being, these discussions highlight the need for a broader conceptual understanding of how online learning relates to student performance in higher education. In particular, the relationship between online learning and student performance remains relevant for further consideration within the context of UiTM Pahang, Jengka Campus. Therefore, this conceptual paper

proposes a framework that illustrates the relationship between online learning and student performance. The framework brings the discussion together under two main constructs and provides a basis for future empirical research in the higher education context.

Research Objective

The objective of this conceptual paper is to develop a conceptual framework illustrating the relationship between online learning and student performance in higher education, with relevance to UiTM Pahang, Jengka Campus.

LITERATURE REVIEW

Online Learning

Online learning refers to the delivery of educational content and the facilitation of teaching and learning activities through internet-based platforms and digital technologies. Sunardiyo (2021) describes online learning as the use of internet media to access educational content, while Kumalawati et al. (2021) explain that it involves pedagogical tools supported by internet and network-based technologies. Through platforms such as Google Classroom and Google Meet, students can access learning materials, attend online classes, submit assignments and communicate with lecturers beyond the traditional classroom environment. Despite these opportunities, the implementation of online learning depends partly on students' access to technology and reliable internet connectivity. Butarbutar et al. (2023) highlighted the difficulties experienced by students in rural and remote areas, particularly internet interruptions during heavy rain and limited educational infrastructure. Similarly, Onyema et al. (2020) discussed technological and connectivity challenges that may affect students' participation in online learning. These findings suggest that access to digital resources and internet connectivity are important considerations in students' online learning experiences.

Apart from technological accessibility, students' acceptance and continued use of online learning platforms are also relevant. Liang et al. (2023) examined the influence of internet-specific epistemic beliefs on academic achievement in an online collaborative learning context. Their study highlights the relevance of students' beliefs about internet-based information when participating in collaborative online learning. Overall, the literature indicates that online learning involves more than the use of digital platforms. It also encompasses technological accessibility, students' readiness to use technology and the learning experiences that occur within digital environments. These aspects provide a basis for understanding online learning as a broad construct in this conceptual paper. In relation to student performance, the reviewed studies suggest that students' access to and experiences with online learning are relevant considerations when examining their academic outcomes.

Student Performance

Student performance refers to students' academic achievement and their ability to demonstrate the knowledge and skills acquired through the learning process. In higher education, student performance may be reflected through academic results, the completion of learning tasks and the ability to apply knowledge in academic activities. Stanikzai (2023) discusses how information technology platforms can support students in developing critical thinking, creativity and the ability to apply information in real-life situations. Students' academic performance may also be influenced by their learning environment. Swargiary and Roy (2023) highlight the importance of the study environment in supporting students' ability to concentrate and perform academically. In online learning settings, students may face distractions such as household noise, interruptions and the need to share digital devices. These conditions may affect their concentration and participation in learning activities. However, many students face difficulties in maintaining a conducive learning environment at home. Students may experience external distractions, such as sharing digital devices and dealing with excessive noise at home. Kraft and Monti-Nussbaum (2021) highlighted how interruptions in the learning environment can affect students' learning experiences.

Thomas et al. (2021) examined the digital experiences of student mothers and discussed how technology may support or create challenges in balancing students' academic and family responsibilities. This is relevant to online learning because students may need to manage their academic activities alongside responsibilities at home. Such circumstances highlight the importance of considering the learning environment when discussing student performance. Overall, the literature suggests that student performance is associated not only with students' ability to understand and apply knowledge but also with the conditions in which learning takes place. In online learning environments, factors such as access to digital resources, concentration and the surrounding study environment may be relevant to students' academic experiences. Therefore, student performance is positioned as the dependent variable in this conceptual paper to examine its proposed relationship with online learning.

Although previous studies have discussed various aspects of online learning, including technological accessibility, internet connectivity, student engagement and learning distractions, these aspects are also relevant when considering students' academic experiences and performance. However, the discussions in the reviewed literature provide an opportunity to bring these two concepts together within a single conceptual framework. Therefore, this paper proposes a framework that positions online learning as the independent variable and student performance as the dependent variable, with relevance to the higher education context of UiTM Pahang, Jengka Campus.

Proposed Conceptual Framework

Based on the literature reviewed, this paper proposes a conceptual framework illustrating the relationship between online learning and student performance in higher education. Online learning is positioned as the independent variable, while student performance is positioned as the dependent variable. Online learning encompasses students' experiences in digital learning environments, including access to technological resources, internet connectivity and participation in online learning activities. These aspects may shape how students access learning materials, interact with lecturers and participate in academic tasks. Consequently, students' experiences with online learning may be relevant to their academic performance.

The proposed framework presents online learning as a broad construct rather than treating its related aspects as separate independent variables. It suggests a relationship between online learning and student performance, as illustrated in Figure 1. This framework provides a conceptual basis for the following hypothesis:

H1: There is a significant relationship between online learning and student performance.

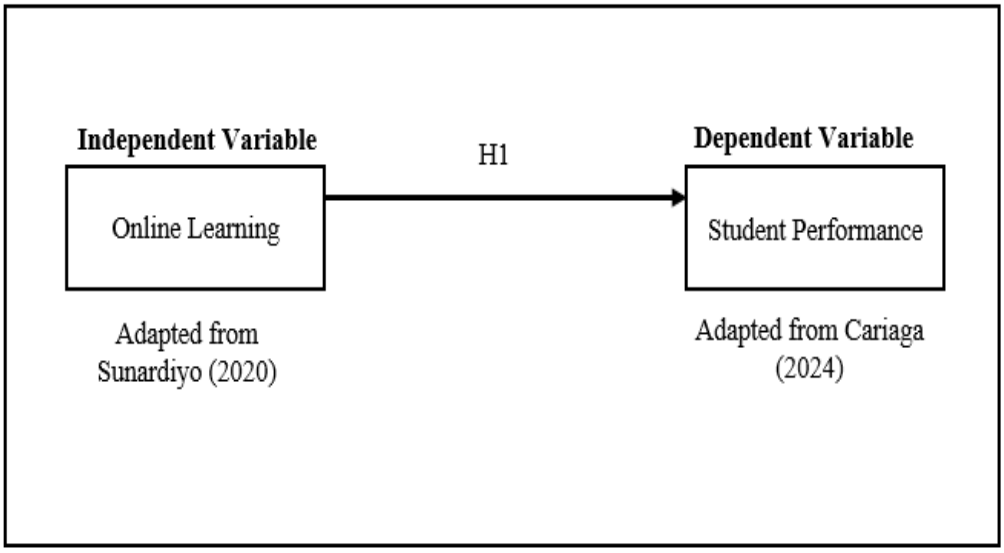


Figure 1 Proposed conceptual framework illustrating the relationship between online learning and student performance.

METHODOLOGY

This paper adopts a conceptual approach based on a review of existing literature to examine the relationship between online learning and student performance in higher education. Literature searches were conducted using ProQuest, Scopus, and Google Scholar. Two keywords, "online learning" and "student performance", were used separately to search for relevant publications. Publications from 2020 onwards were considered. The selection of literature was guided by its relevance to the research topic, particularly studies addressing online learning, student performance, and challenges associated with online learning.

The literature was selected through reading and examining relevant publications to identify discussions related to the two main concepts. The selected studies were then reviewed and organised according to their relevance to online learning and student performance. The literature was synthesised conceptually to identify key issues, establish connections between the two concepts, and provide a basis for developing the proposed conceptual framework. As this paper is conceptual in nature, it does not involve primary data collection or empirical testing of the proposed relationship. Instead, the proposed framework provides a conceptual basis for future empirical research in higher education, particularly within the context of UiTM Pahang, Jengka Campus. The literature selection process was based on the relevance of the publications to the focus of this conceptual paper. As the study was not designed as a systematic literature review, it did not involve a formal screening procedure or a numerical record of identified and selected publications. Therefore, the discussion is based on relevant literature examined to support the development of the proposed conceptual framework.

CONCLUSION

This conceptual paper examines the relationship between online learning and student performance in higher education, with relevance to UiTM Pahang, Jengka Campus. The literature reviewed highlights that online learning provides students with flexible access to learning materials and digital platforms. However, students may also encounter challenges related to internet connectivity, technological accessibility, learning distractions and difficulties in maintaining concentration. These aspects are important considerations when examining students' experiences in online learning environments. The discussion also highlights the relevance of students' participation, engagement and learning environment in understanding student performance. Although online learning offers opportunities for flexible learning, the experiences and conditions faced by students may differ. Therefore, understanding the relationship between online learning and student performance requires consideration of both the opportunities and challenges associated with digital learning environments.

Based on the literature reviewed, this paper proposes a conceptual framework that positions online learning as the independent variable and student performance as the dependent variable. The proposed framework provides a conceptual basis for understanding the relationship between these two constructs in higher education. Nevertheless, this paper is limited to a conceptual discussion based on existing literature and does not involve primary data collection or empirical testing. Future research may examine the proposed relationship using empirical data, particularly among students at UiTM Pahang, Jengka Campus. Such research could provide further insights into students' online learning experiences and their relationship with academic performance.

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