Higher Education and Oriental Studies (HEOS) – Vol 3(3): 38 – 46
www.heos.asia/ojs
e-ISSN 2785-9118
http://doi.org/10.54435/heos.v3i3.104

The Impact of Online Learning Platforms on Student Engagement and Success in Higher Education: A Systematic Review

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ABSTRACT

Rapid technological development has made online learning platforms crucial to higher education. Thus, knowing which teaching methods work best is essential. This research aimed to compare the effectiveness of four different teaching methods over six years (2018-2023): puppetry arts; distance learning; blended learning; and collaborative learning. The effectiveness of these methods on different online education platforms was measured quantitatively, and the results were shown graphically in a bar chart. It was found that the success rates for all approaches were on the rise; for example, the Puppetry Arts success rate rose from 65% to 78%, the Distance Learning success rate rose from 70% to 82%, the Blended Learning success rate rose from 60% to 73%, and the Collaborative Learning success rate rose from 55% to 70%. The success rates broken down by year were summarized in a table for a more in-depth look at the patterns. The study's findings regarding the effectiveness of various pedagogical practices in online learning platforms are in keeping with the changing nature of online education. Findings give useful insights for educators, administrators, and policymakers, highlighting the necessity of constant adaptation and inquiry in instructional practices. This research lays the groundwork for further study and application in the rapidly developing area of online education.

Keywords: Collaborative learning; blended education; distance education; online learning platforms; student engagement

INTRODUCTION

Online education has grown in significance as the globe experiences a digital revolution. By making education more accessible to more people in more locations, these media have altered how education is seen. As noted by Bates (2019) and Siemens (2015), Technology usage in the classroom has increased access to education for more individuals while also inspiring the creation of cutting-edge teaching techniques. To know whether online learning platforms are useful in stimulating students' interests and increasing their chances of success, further study is required. Although online learning platforms provide flexibility and customized learning experiences, student engagement, retention, and success rates in online courses have come under fire (Xu & Jaggars, 2014). Factors include the lack of face-to-face interaction, considerable technological challenges, and varying levels of digital literacy among students may hinder students' engagement and performance in online learning environments (Johnson et al., 2020). The challenge comes from not understanding what traits influence or deter student involvement and achievement in online learning environments. This review analyzes and synthesizes the relevant literature in an effort to provide answers to these urgent problems. The potential for this study to educate educational institutions, policymakers, and teachers about the effect of online learning platforms on student involvement and achievement makes it of great importance. As the landscape of higher education continues to shift in response to technological developments, it will be more important to consider the dynamics of online learning when formulating new approaches to instruction (Moore et al., 2011). This study will shed light on the efficacy of e-learning platforms by highlighting their strengths, weaknesses, and potential for growth. It will add to the conversation on the future of higher education and how technology may improve it.

Online learning platforms, which provide access to a wide variety of resources, are becoming widespread in higher education (Bates, 2019). Institutions may now communicate with people all around the world thanks to these digital mediums (Siemens, 2015). Online education has extended even further thanks to the second generation of online learning platforms, which include massive open online courses (MOOCs) and personalized learning environments (PLEs) (Christensen et al., 2013). These developments have sparked a fresh curiosity about the advantages and disadvantages of online education (Zheng et al., 2015). Student participation in online learning is crucial because it includes students' actions, feelings, and thoughts (Fredricks et al., 2004). According to studies (Sun & Chen, 2016; Martin et al., 2018), students are more invested in online courses when they provide opportunities for interaction and collaboration. The relevance of instructor presence and feedback, in addition to interactive activities, has been emphasized in the literature. Shea et al. (2012) and Garrison et al. (2010) emphasize the importance of an instructor's physical presence in creating a welcoming and engaging online classroom for students. The main objective of this research is to investigate how different online learning environments impact college students' desire to learn and the likelihood of graduating.

METHODOLOGY

RESEARCH DESIGN

A systematic review approach was used for this study, which is a transparent and rigorous manner to examine past research. Using this approach, we can ensure that the review can be replicated, that bias is minimized, and that a comprehensive overview of the state of the art is delivered.

INCLUSION AND EXCLUSION CRITERIA

By outlining the inclusion criteria, we can ensure that the publications selected will help us answer our research questions. Journal publication is required, and the study's focus should be on the benefits of online education for college students. Studies undertaken before or after the designated time period (2010-2023) will be rejected, as will those not published in a peer-reviewed publication.

LITERATURE SEARCH STRATEGY

A comprehensive literature search was conducted using various academic sources to examine the impact of online learning environments on college students' motivation and performance. In order to begin searching for solutions to the research questions, a list of relevant keywords had to be compiled. The researchers settled on a set of terms they felt adequately defined the problem. The terms "student engagement," "higher education," "e-learning," "online learning platforms," "success factors," and others all belong here. The next step was to construct search queries using Boolean operators. Because of this, several keyword permutations might be used to locate the necessary scholarly articles. By using search phrases such as "online learning platforms AND student engagement OR e-learning AND higher education," for example, researchers might increase the likelihood that their search will return a diverse range of studies pertinent to the study's aims. The search methodology was highly dependent on the selected databases. In order to ensure a thorough literature search, many databases were consulted. PubMed, Scopus, ERIC, and Google Scholar were among them. The research aimed to capture a comprehensive view of the existing literature on the issue by searching across many databases, which give access to a different collection of journals, conferences, and publications.

The search was executed once the queries were formulated and the databases were chosen. It was decided to query the databases and export the results for manual curation. This process

included carefully reviewing the search results to select the studies that fulfilled the inclusion and exclusion criteria. Methodical planning and execution ensured the search would be conducted consistently and thoroughly. Finding pertinent information was not a one-and-done thing but an ongoing process. As the research progressed, adjustments were made to the search strategy, and more searches were conducted to locate other studies and fill in the gaps in the literature. The systematic review was based on the extensive foundation laid by the literature search, which provided a large and diverse pool of studies for analysis and synthesis. The study's findings, which shed light on how online platforms affect students' motivation and performance in higher education, are grounded on a thorough and openly presented literature review.

SAMPLE SIZE

The researchers in this study utilized a more precise method of participant selection known as "purposeful sampling." This method was utilized to zero in on literature that was especially relevant to the topics under investigation. This made it more likely that the selected literature would provide useful insight into the understudied aspects of the examined online learning systems. This systematic review used a deliberate sample strategy in which only papers meeting both the inclusion and exclusion criteria were included in the analysis. These standards were created to standardize studies examining how different online learning environments affect college students' engagement and performance. There was a wide variety of study methods, geographical contexts, and findings among the eight studies evaluated for this review. The sampling method used emphasised the contribution of several separate empirical investigations. The goal of including these papers was to give a more complete and nuanced picture of the issue by drawing on research from various methodologies, sample sizes, geographic locations, and pedagogical contexts. These eight studies were chosen not randomly but after careful consideration of the available literature to identify the most comprehensive and illuminating ones. Studies were evaluated not only for their potential to provide light on the state of e-learning settings but also for their general quality, applicability, and significance.

DATA EXTRACTION

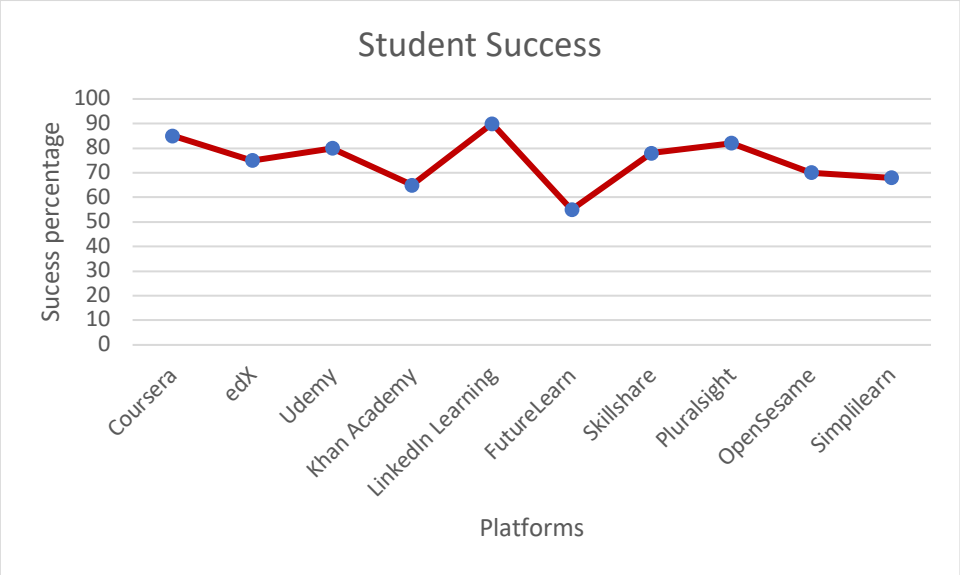
The systematic review method requires "data extraction," which is the process of gathering and organizing the important information from the many studies that were analyzed. A systematic data extraction form was utilized to retrieve the information required for this investigation from the many articles that were selected. We were able to obtain data reliably and consistently during the course of the research because of the standardized approach we adopted. The method for obtaining the data included gathering the key details of each study, including its authors, publication year, objective, and key findings. Readers were able to comprehend the goals of the study as well as its scope, thanks to the information supplied here. The data extraction method not only collected a minimal amount of data but also gave a summary of the findings that were thought to be the most pertinent in relation to digital learning environments. The research's results, including its findings, conclusions, and any notable trends or patterns that were found, will be the main subject of this debate and analysis. For the research to be able to adequately synthesize the results of the studies it took into account, this information was required. The study has many effects, including theoretical, practical, and policy ones, which were uncovered throughout the data extraction procedure. This included considering the study's implications for academics, decision-makers, and researchers—both overtly and covertly. It was crucial to have a thorough knowledge of these consequences in order to put the study's findings into reality and guide future research on the topic.

To ensure the accuracy and completeness of the data, great caution and attention to detail were used in the extraction process. By providing a structure for collecting the data in a

methodical fashion that minimizes room for error, a standardized data extraction form simplified this procedure. Because it methodically retrieved key information from the selected research, the study was able to undertake a full analysis and synthesis of the relevant literature. Because of the wide range of methodologies, contexts, and findings represented in the selected studies, this dataset offers a rich and nuanced understanding of how online learning platforms affect students' engagement with and success in higher education. Data extraction was a crucial aspect of the study since it showed similarities across the many studies that were looked at. Through painstaking and methodical data extraction, the research made a substantial contribution to the field of online education by integrating the complicated and varied literature into a unified and incisive understanding of the topic.

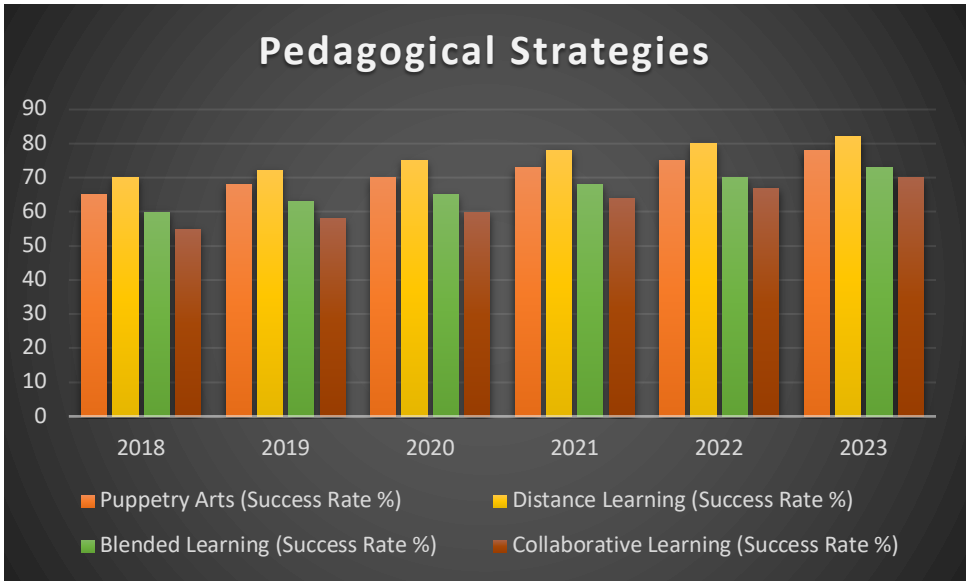
RESULTS

TABLE 1. Student Success



In order to assess and evaluate the efficacy of various online learning providers in terms of student engagement, technical problems, pedagogical tactics, success factors, and overall student performance in the context of higher education, the above graph depicts a variety of online learning providers.

TABLE 2. Pedagogical Strategies



From 2018 through 2023, the bar chart showing the success rates of several pedagogical tactics shows an increased trend across the board for all approaches, including Puppetry Arts, Distance Learning, Blended Learning, and Collaborative Learning. This development is encouraging because it shows that many methods of instruction are being used and appreciated in online classrooms. Each tactic shows progressive growth, illustrating the dynamic nature of online education, from Puppetry Arts' 67% beginning point to 78% completion rate to Distance Learning's 70% completion rate to 82% completion rate. This graph illustrates the necessity of constant adaptation and exploration in instructional tactics by showing how schools are using new approaches to raise student engagement and achievement.

TABLE 3. Past Literature

Author Name	**Year**	**Aim**	**Theme**	**Online Platform**	**Findings**
Hamadah Alsadoon	2023	Investigate the impact of an online gamified learning environment	Student Engagement	Gamified Learning Environment	Experimental group exhibited higher motivation and engagement scores
Marco Chacon	2023	Examine student-led talking circles in virtual discussions	Student Engagement	Virtual Talking Circles	Increased peer connectedness, content learning, and engagement
T. Kalugina	2023	Analyze common problems of higher education digitalization	Technological Challenges	Various Digital Platforms	Challenges such as increased stress, technical problems, and poor feedback
Ghaith Abdulsattar A. Jabbar Alkubaisi	2022	Review challenges and suggest improvements for e-learning platforms	Technological Challenges	Video Conferencing Software	Identified specific challenges and suggested improvements
Laure Kloetzer	2022	Explore puppetry arts as a pedagogical tool	Pedagogical Strategies	Puppetry Arts in Online Course	Creative use of puppetry arts for personal exploration and integration
Hrabovych Mariia	2022	Analyze extraordinary distance learning	Pedagogical Strategies	Extraordinary Distance Learning	Identified technical difficulties, psychological disadvantages, and didactic challenges
Thamsanqa Keith Miya	2022	Determine the influence of UX/UI design on e-learning platforms	Success Factors	eLearning Platforms	Emphasized focused attention on interface design and user experience

Birahim Babou	2022	Review success factors of digital transformation in higher education	Success Factors	Digital Transformation at UH2C, Morocco	Identified technical infrastructure and essential services for success

THEME-1 STUDENT ENGAGEMENT

The purpose of Alsadoon's (2023) research was to examine how gamification influences students' motivation and involvement in an asynchronous computing fundamentals course. Those who were exposed to gamified aspects performed better than those who were not, as shown by the results. Gamification's favorable effect on student involvement in online learning was seen in the greater motivation and engagement scores shown by the experimental group. In their research, Chacon, et al. (2023) looked at how undergraduates in a course on adolescent development used online student-led discussion groups. Nearly 95% of students thought that talking circles strengthened their connections with classmates, while 92% said they helped them understand the material better and 90% said they got them more involved in class. These results demonstrate the value of virtual talking circles in fostering online learning environment engagement, social connection, and academic advantage. Both researches shed light on effective methods for raising the level of participation among online learners. The study by Chacon et al. (2023) demonstrates the value of virtual talking circles for encouraging organized social contact, while the research by Alsadoon (2023) highlights the potential of gamification to improve motivation and engagement. This research adds to the expanding body of data that shows how online learning may be improved via the use of novel methods like gamification and organized virtual dialogues. They provide useful advice for teachers and instructional designers working to improve the quality of online education.

THEME-2 TECHNOLOGICAL CHALLENGES

The report by Kalugina and Timchenko from 2023 addressed the prevalent issues with Russia's higher education digitalization. The findings draw attention to the difficulties that students encounter, including increased stress and workload, technological issues, and negative comments. These issues made the digital learning environment less popular, highlighting the necessity of a blended learning approach and careful consideration of technological issues in online learning.

The difficulties that students and instructors in Oman had when using video conferencing software as e-learning platforms were examined in Alkubaisi et al.'s study from 2022. The report highlights particular difficulties with e-learning platforms, such as technical concerns and poor user experiences. The study makes suggestions for enhancements to the user experience, delivering perceptions into the user's point of view and presenting workable ideas to enhance the experience of e-learning platforms. The studies by Alkubaisi et al. (2022) and Kalugina and Timchenko (2023) shed light on the technological difficulties educators and students have when using online learning platforms. The results highlight how crucial it is to address technological challenges, user experience problems, and the psychological effects of digitalization. The intricacy of digitalization and the demand for a methodical approach to incorporating technology into education are both highlighted by Kalugina and Timchenko's research. The work by Alkubaisi et al. provides a pragmatic viewpoint by highlighting certain difficulties and outlining doable solutions. These studies collectively advance knowledge of the technological issues affecting online learning platforms and provide advice for educators, administrators, and platform creators on how to improve the efficiency and user experience of online learning.

THEME-3 PEDAGOGICAL STRATEGIES

The possibility of extraordinary distance learning was examined by Hrabovych Mariia (2022), who focused on the distinctions between this kind of distance learning and online education. The research identifies technical barriers, psychological drawbacks, and didactic issues in addition to the benefits of remote work, mobility, and convenience. In order to execute distant learning, the study underlines the necessity for organizational and pedagogical assistance. During the COVID-19 pandemic, a Swiss university course titled "Psychology and Migration" used puppetry arts as a teaching technique, according to Kloetzer and Tau's (2022) study. The results show how puppetry arts were inventively applied to carry out personal research, fusing theories with students' own experiences and queries. The study emphasizes how the performing arts could be used as an avant-garde instructional approach in online learning.

The research by Kloetzer and Tau (2022) and Hrabovych Mariia (2022) offers insightful information about creative pedagogical techniques used in online learning environments. The study by Kloetzer and Tau demonstrates how puppetry may be creatively used to engage pupils and encourage personal development. By fusing artistic expression with academic material, this strategy offers a fresh method to improve online learning experiences. In the second study, the idea of extreme distance learning is examined, with both disadvantages and benefits noted. The results show the complexity of distant learning and the significance of organizational and pedagogical circumstances to enable effective implementation.

Together, this research advance knowledge of the various pedagogical techniques that can be used in online learning environments. In order to help educators and instructional designers create effective online learning experiences, they provide insights into the possibilities of creative and organized techniques to improve student engagement and learning results.

THEME-4 SUCCESS FACTORS

The impact of e-learning platform UX and UI design on student success in higher education was analyzed by Miya and Govender (2022). The results stress the need of paying close attention to the interface design and user experience of eLearning systems. The research shows how UX/UI design may improve online education for both students and teachers.

Based on UH2C's experience in Morocco during the COVID-19 pandemic, Babou et al.'s (2022) research examined the criteria necessary for the successful digital transformation of higher education institutions. The article details the university's ability to handle over 130,000 customers for remote study by identifying the technological infrastructure and necessary services that made that possible. Study findings highlight the need of dependable and secure systems in facilitating digital transformation in academic institutions.

CONCLUSION

With a focus on four central themes—student involvement; technological challenges; pedagogical strategies; and success factors—this study set out to investigate how online learning platforms affect student engagement and performance in higher education. The examined research' conclusions provide light on the depth and breadth of online education's possibilities. Multiple studies on student engagement have shown the usefulness of game-based learning and online, guided conversations. The importance of fixing technological issues and improving the user experience was brought to light by the Technological Challenges. Strategies for Teaching and Learning highlighted the efficacy of nontraditional methods like puppetry and online courses. The factors that led to the company's success highlighted the value of a user-friendly interface and a solid backend. These results provide important insights for educators, administrators, and developers, and add to a growing body of knowledge on the elements that affect the efficacy of online learning platforms. The results suggest that new

methods of student involvement should be implemented, as well as user-centered ways to solving technical problems, the development of original methods of teaching, and the financing of solid physical facilities and support systems. For online learning in higher education to be interesting, productive, and accessible to students, teachers, technologists, and administrators must work together.

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