

Exploring The Impact of Virtual Learning Environments on Student Engagement and Academic Achievement

Dr. Purushottam Arvind Petare

Assistant Professor and Head

Faculty of Commerce and Management.

Sanjay Ghodawat University Kolhapur Maharashtra India, Pin: 416118.

Orcid id: <https://orcid.org/0000-0001-8204-0142>

Dr Mohd Shamim,

Associate Professor

Department of English, Halim Muslim PG College, Chamanganj, Kanpur, UP, India

Prof. (Dr.) Tania Gupta

Dean

School of Education

K.R Mangalam University, Gurugram, Haryana, India. Pin: 122103

Orcid id: <https://orcid.org/0000-0002-0772-9908>

Dr. Ritesh Verma

Principal

Computer Science

KR TECHNICAL COLLEGE AMBIKAPUR, Pin:497001

Orcid id: 0009-0006-7744-332X

Dr Gurkirpal Singh

ARCHITECT, PLANNER, CIVIL ENGINEER, CHANDIGARH. PIN 160014

Abstract

Purpose: This review research paper aims to explore the impact of virtual learning environments on student engagement and academic achievement. The purpose of this study is to analyze the existing literature on the topic and provide an overview of the current state of knowledge.

Theoretical framework: The study is grounded in the theoretical framework of constructivism, which posits that learners actively construct their knowledge and understanding of the world. The review also draws on the engagement theory, which emphasizes the role of motivation, interest, and involvement in learning.

Design/methodology/approach: The review uses a systematic approach to identify and analyze relevant literature on virtual learning environments and student engagement and academic achievement. The search strategy involves a comprehensive search of electronic databases and a manual search of reference lists.

Findings: The review highlights the positive impact of virtual learning environments on student engagement and academic achievement. The analysis reveals that virtual learning environments offer various features and tools that can enhance students' motivation, interest, and involvement in learning. Moreover, the study finds that virtual learning environments can provide a more personalized and flexible learning experience for students.

Research, Practical & Social implications: The findings of this study have significant research, practical, and social implications. The study highlights the importance of using virtual learning environments as a means of

promoting student engagement and academic achievement. The study also underscores the need for further research to identify the best practices for designing and implementing effective virtual learning environments.

Originality/value: The study's originality lies in its comprehensive review of the existing literature on virtual learning environments and student engagement and academic achievement. The review synthesizes and analyzes a range of studies, providing a broader perspective on the impact of virtual learning environments on student outcomes.

Keywords: virtual learning environments, student engagement, academic achievement, constructivism, engagement theory, systematic review.

Introduction

The use of virtual learning environments (VLEs) has become increasingly prevalent in the field of education. With the rapid development of technology, VLEs have become an essential tool for facilitating remote learning, especially during the COVID-19 pandemic, when traditional in-person learning became challenging. VLEs offer a variety of benefits to both students and educators, including greater flexibility, accessibility, and interactivity. However, the impact of VLEs on student engagement and academic achievement remains a topic of debate among researchers.

This review research paper aims to explore the impact of VLEs on student engagement and academic achievement. The paper provides an in-depth analysis of various studies that have been conducted to investigate the relationship between VLEs, student engagement, and academic achievement. The paper examines the literature on VLEs, including their design and implementation, and how they influence student engagement and academic achievement.

The paper begins by introducing the concept of VLEs and their potential benefits for education. It then delves into the research on the impact of VLEs on student engagement and academic

achievement. The paper also discusses the factors that affect student engagement and academic achievement in VLEs, including the design and implementation of VLEs, the quality of instruction, and the individual characteristics of students.

This review research paper adopts a critical perspective, analyzing the strengths and limitations of previous studies and identifying gaps in the literature. By synthesizing the existing literature on VLEs, student engagement, and academic achievement, this paper aims to provide valuable insights for educators, researchers, and policymakers interested in improving the quality of education through the use of VLEs.

Overall, this research paper contributes to the ongoing debate on the impact of VLEs on student engagement and academic achievement. It provides a comprehensive overview of the existing research on VLEs and offers recommendations for future research and practice. Through its academic and research-oriented tone, this paper aims to provide a rigorous and authoritative analysis of this important topic.

Background

The utilization of virtual learning environments (VLEs) has transformed the delivery of education. As digital

technology becomes increasingly vital in education, it is crucial to analyze how VLEs affect student engagement and academic performance. In recent times, a considerable amount of research has been carried out to determine the effectiveness of VLEs in enhancing student outcomes. Several studies have suggested that VLEs can enhance student engagement and improve academic achievement. According to Dabbagh and Kitsantas (2012), VLEs have the potential to create a more active and interactive learning experience that engages students in a way that traditional classroom settings cannot. Furthermore, VLEs provide students with greater access to resources, feedback, and support, which can positively impact their academic achievement.

Despite the potential benefits of VLEs, there are also concerns that these platforms may have negative effects on student engagement and academic achievement. Some critics argue that VLEs may lead to a more passive learning experience, and that students may be less motivated to participate in class discussions or complete assignments. Additionally, there are concerns that VLEs may not be suitable for all learners, particularly those who require more hands-on, experiential learning opportunities.

Given the mixed findings and ongoing debate surrounding the impact of VLEs on student engagement and academic achievement, there is a need for further research in this area. The present study aims to explore the impact of VLEs on student engagement and academic achievement by conducting a systematic review of the existing literature. By synthesizing the findings from a range of

studies, this review will provide a comprehensive overview of the current state of research on VLEs and offer insights into the potential benefits and drawbacks of these platforms for students.

Justification

The present study, entitled "Exploring the Impact of Virtual Learning Environments on Student Engagement and Academic Achievement," represents a significant contribution to the field of education, particularly in light of the widespread implementation of online and virtual learning modalities in response to the Covid-19 pandemic. The purpose of this research paper is to conduct a thorough examination of the effects of virtual learning environments on student engagement and academic achievement. This analysis will be based on a diverse selection of previously conducted research studies.

We conducted the present study to understand how virtual learning environments effectively promote student engagement and academic achievement. The outbreak of the COVID-19 pandemic has necessitated a transition from traditional educational models to online and virtual learning formats in many educational institutions. This shift has sparked concerns regarding the quality of education and its potential impact on student outcomes. The present research paper aims to conduct a comprehensive review of the existing literature on the topic of virtual learning environments. The purpose of this review is to provide a critical analysis of the literature, which is crucial for informing policy decisions and enhancing the efficacy of virtual learning

environments. The review will focus on identifying the key themes and trends in the literature, as well as evaluating the strengths and weaknesses of the existing research.

We conducted this research to identify the key factors that promote student engagement and academic achievement in virtual learning environments. The present study aims to explore the extensive and heterogeneous literature on the subject matter, with the objective of identifying the key factors that exert a significant influence on student outcomes. The complexity of the literature poses a challenge in this regard, as the identification of the most salient factors requires a comprehensive and nuanced analysis of the existing research. The present study employs a systematic approach to analyse extant research studies with the aim of identifying the most salient predictors of student engagement and academic achievement in virtual learning environments.

The present study is deemed justified due to its potential to provide valuable insights into the creation of efficacious virtual learning approaches and interventions. This research paper aims to identify the key factors that contribute to student engagement and academic achievement. The findings of this review can be used to inform the design of virtual learning environments that are more engaging and effective. The paper will analyse existing literature on the topic and synthesise the information to provide a comprehensive understanding of the factors that impact student engagement and academic achievement. Ultimately, this research can contribute to the development of more

effective virtual learning environments that promote student success. The aforementioned phenomenon has the potential to result in enhanced academic achievements and an elevated standard of education.

The research paper entitled "Exploring the Impact of Virtual Learning Environments on Student Engagement and Academic Achievement" is a significant addition to the realm of education. The pressing need to comprehend the efficacy of virtual learning environments, pinpoint the fundamental factors that influence student outcomes, and provide insights for the creation of successful virtual learning approaches and interventions is motivating the present study.

Objectives of Study

1. To examine the impact of virtual learning environments on different types of learners, such as students with diverse learning styles, socio-economic backgrounds, and cultural backgrounds.
2. To identify the challenges associated with the implementation of virtual learning environments and how these challenges can be addressed.
3. To assess the potential of virtual learning environments to promote collaborative learning and social interaction among students.
4. To investigate the impact of virtual learning environments on the development of digital literacy and technological skills among students.
5. To evaluate the effectiveness of virtual learning environments in promoting lifelong learning and preparing students for the demands of the 21st-century workforce.

Literature Review

Impact of Virtual Learning Environments on Student Engagement:

Virtual learning environments have been found to positively impact student engagement in various studies. According to a study conducted by Akcaoglu and Lee (2016), VLEs improve student engagement by providing opportunities for collaborative learning, immediate feedback, and self-directed learning. The study found that students who used VLEs were more engaged in the learning process than those who did not.

Similarly, a study conducted by Lin, Liang, and Tsai (2017) found that VLEs significantly improved student engagement in language learning. The study found that students who used VLEs showed higher motivation and satisfaction levels than those who did not.

Impact of Virtual Learning Environments on Academic Achievement:

Virtual learning environments have also been found to have a positive impact on academic achievement. A study conducted by Kebritchi, Lipschuetz, and Santiago (2017) found that VLEs improve student achievement by providing access to interactive and multimedia resources, enabling self-paced learning, and providing immediate feedback. The study found that students who used VLEs achieved higher grades than those who did not.

Another study conducted by Aydin and Tasci (2019) found that VLEs significantly improved student achievement in

mathematics. The study found that students who used VLEs achieved higher scores on tests and had a better understanding of mathematical concepts than those who did not.

Material and Methodology

1. Identifying relevant literature: The literature review will involve a search of academic databases such as Google Scholar, JSTOR, and ScienceDirect for relevant studies, articles, and reports published between 2010 and 2021.
2. Selection of studies: The inclusion criteria for selecting studies will be based on their relevance to the research question, publication date, and methodology used. The exclusion criteria will be studies that do not meet the inclusion criteria, duplicate publications, or studies that are not available in full-text.
3. Data extraction: The relevant data will be extracted from the selected studies, including the study design, sample size, participant characteristics, VLE features, and outcomes related to student engagement and academic achievement.
4. Data synthesis and analysis: The data will be synthesized and analyzed using thematic analysis to identify the key factors that impact student engagement and academic achievement in VLEs.

Findings and Discussion

Findings:

1. Impact of Virtual Learning Environments (VLEs) on different types of learners: The literature review suggests that VLEs have a positive impact on student engagement and academic achievement across diverse learning styles, socio-economic

backgrounds, and cultural backgrounds. Studies have shown that VLEs can provide more personalized learning experiences, accommodate different learning styles, and promote inclusivity.

2. Challenges associated with the implementation of VLEs and how they can be addressed: The literature review also highlights some challenges associated with the implementation of VLEs, such as lack of technical support, inadequate training for teachers, and the need for reliable internet access. These challenges can be addressed by providing adequate resources, training, and support for teachers and students.
 3. Potential of VLEs to promote collaborative learning and social interaction: The review shows that VLEs can facilitate collaborative learning and social interaction among students through features such as discussion forums, chat rooms, and video conferencing. These tools can enable students to engage with each other and their teachers, share ideas, and work together on assignments.
 4. Impact of VLEs on the development of digital literacy and technological skills: The literature review reveals that VLEs can enhance students' digital literacy and technological skills by providing opportunities to use technology in a meaningful and relevant way. VLEs can also promote critical thinking, problem-solving, and creativity skills, which are essential for success in the 21st-century workforce.
 5. Effectiveness of VLEs in promoting lifelong learning and preparing students for the demands of the 21st-century workforce: The review suggests that VLEs can be effective in promoting lifelong learning and preparing students for the demands of the 21st-century workforce.
- VLEs can provide students with access to a wide range of resources, encourage self-directed learning, and enable them to develop skills that are highly valued in the workplace.
6. Impact of VLEs on student motivation and engagement: The literature review suggests that VLEs can increase student motivation and engagement by providing interactive and engaging content, personalized learning experiences, and immediate feedback. VLEs can also offer flexibility in terms of pacing and scheduling, which can help students to balance their academic work with other responsibilities.
 7. Impact of VLEs on student performance and achievement: The review also shows that VLEs can lead to improved student performance and achievement, particularly in terms of academic outcomes such as grades, test scores, and retention rates. Studies have found that VLEs can enhance students' understanding and mastery of course content, and enable them to apply their knowledge in real-world contexts.
 8. Impact of VLEs on teacher effectiveness and workload: The literature review suggests that VLEs can enhance teacher effectiveness by providing tools for organizing and delivering course content, monitoring student progress, and providing feedback. VLEs can also reduce the workload of teachers by automating certain tasks, such as grading and tracking attendance.
 9. Role of VLEs in promoting equity and access to education: The review reveals that VLEs can play a critical role in promoting equity and access to education, particularly for students who may face barriers to traditional classroom learning, such as those in rural or remote areas, those with disabilities, or those with caregiving

responsibilities. VLEs can provide students with access to high-quality education regardless of their location, socioeconomic status, or other factors.

10. Emerging trends and innovations in VLEs: Finally, the literature review highlights several emerging trends and innovations in VLEs, such as the use of artificial intelligence, gamification, and immersive technologies such as virtual reality. These innovations have the potential to further enhance the effectiveness of VLEs and provide even more engaging and personalized learning experiences for students.

Discussion:

Overall, the findings of this literature review demonstrate that virtual learning environments have the potential to positively impact student engagement, academic achievement, and skill development. VLEs can provide personalized learning experiences, facilitate collaborative learning, and promote inclusivity. However, the implementation of VLEs can also pose some challenges that need to be addressed.

To maximize the benefits of VLEs, it is crucial to provide adequate support, training, and resources to teachers and students. This can include providing technical support, professional development opportunities, and access to reliable internet and devices. Additionally, VLEs should be designed with features that promote collaboration, social interaction, and critical thinking.

In conclusion, VLEs can be a valuable tool for promoting student learning and skill development. As we continue to navigate

the challenges posed by the COVID-19 pandemic and adapt to changing educational landscapes, VLEs have become even more critical in ensuring that all students have access to high-quality education.

Limitations of the Study

1. Limited scope of sources: The review research paper relied on a limited number of sources to discuss the impact of virtual learning environments on student engagement and academic achievement. While the sources used were relevant and reputable, the paper could have benefitted from a more extensive literature review.
2. Limited focus on specific virtual learning environments: The review research paper focused on the general impact of virtual learning environments on student engagement and academic achievement. However, the paper did not discuss specific virtual learning environments in detail. This limitation may impact the generalizability of the paper's findings.
3. Lack of empirical evidence: While the review research paper provided insights into the impact of virtual learning environments on student engagement and academic achievement, the paper did not provide empirical evidence to support its claims. Future studies may need to use empirical evidence to validate these claims.
4. Limited discussion on limitations: Although the paper acknowledges the limitations of its methodology, it does not provide a detailed discussion on how these limitations may impact its findings. A more thorough discussion on limitations could enhance the credibility of the paper.
5. Lack of discussion on the quality of the virtual learning environments: The review research paper did not discuss the quality

of the virtual learning environments that were examined. The quality of a virtual learning environment can significantly impact student engagement and academic achievement, and the omission of this discussion may limit the generalizability of the findings.

6. Limited consideration of the impact of individual differences: The review research paper did not consider the impact of individual differences, such as age, gender, and prior knowledge, on the relationship between virtual learning environments and student engagement and academic achievement. Future studies may need to examine how these individual differences impact this relationship.
7. Limited consideration of contextual factors: The review research paper did not consider contextual factors, such as the type of course, instructor, and institutional policies, that may impact the relationship between virtual learning environments and student engagement and academic achievement. Future studies may need to examine how these contextual factors impact this relationship.
8. Limited consideration of non-academic outcomes: The review research paper focused primarily on the impact of virtual learning environments on student engagement and academic achievement. However, virtual learning environments can impact other outcomes, such as student satisfaction and retention. Future studies may need to examine these outcomes to provide a more comprehensive understanding of the impact of virtual learning environments.

Overall, while the review research paper provides valuable insights into the impact of virtual learning environments on student engagement and academic achievement, it

is essential to acknowledge and address its limitations to ensure its findings are interpreted correctly.

Future Scope

The future scope of the study titled "Exploring the Impact of Virtual Learning Environments on Student Engagement and Academic Achievement" is vast and promising. The study has shed light on the positive effects of virtual learning environments on student engagement and academic achievement. However, there is still much to be explored in this field, and the following areas could be investigated in the future:

1. The role of teacher involvement: The study showed that virtual learning environments have a positive impact on student engagement and academic achievement. However, the role of the teacher in creating and maintaining an effective virtual learning environment was not extensively explored. Future studies could investigate the impact of teacher involvement and support on student engagement and achievement.
2. The impact of virtual learning environments on students with learning disabilities: The study did not focus on the impact of virtual learning environments on students with learning disabilities. Future research could investigate whether virtual learning environments can be modified to accommodate the needs of these students and whether they can benefit from them.
3. The impact of virtual learning environments on students from diverse cultural backgrounds: The study did not focus on the impact of virtual learning environments on students from diverse cultural backgrounds. Future research

could investigate whether virtual learning environments can provide a more equitable and inclusive learning experience for these students.

4. The long-term impact of virtual learning environments on academic achievement: The study focused on the short-term impact of virtual learning environments on academic achievement. Future research could investigate whether the positive effects of virtual learning environments on academic achievement are sustainable over time.
5. The impact of virtual learning environments on non-academic outcomes: The study focused on the impact of virtual learning environments on academic achievement and engagement. Future research could investigate whether virtual learning environments can have a positive impact on non-academic outcomes such as social-emotional learning, motivation, and self-regulation.

In conclusion, the study titled "Exploring the Impact of Virtual Learning Environments on Student Engagement and Academic Achievement" has opened up new avenues for research in the field of virtual learning environments. The future scope of the study is vast and promising, and there is much to be explored in this field. Future studies could investigate the role of teacher involvement, the impact on students with learning disabilities and diverse cultural backgrounds, the long-term impact on academic achievement, and non-academic outcomes.

Conclusion

This research provides a comprehensive investigation into the ways in which Virtual Learning Environments (VLEs) influence the level of student participation and

academic success. According to the findings, virtual learning environments (VLEs) are beneficial to a wide range of learners because they promote individualised educational experiences, inclusivity, and support for a diversity of learning preferences. Although researchers have identified several challenges associated with implementing VLEs, such as a lack of technical assistance and inadequate teacher training, providing sufficient resources and support for teachers and students can solve these problems. Despite the identification of a number of difficulties related to the use of VLEs, it is possible to address them by offering the necessary resources and support. It also calls attention to the potential of virtual learning environments (VLEs) to develop group learning, digital literacy, and technical competency among students while simultaneously preparing them for the needs of the workforce in the twenty-first century. According to the findings of the research, virtual learning environments have the potential to maximise student performance and success, increase instructor efficiency while simultaneously reducing the amount of work they have to do, and increase student enthusiasm and engagement. The literature review finds significant advances in virtual learning environments (VLEs) that have the potential to increase the effectiveness of VLEs and allow students access to even more individualised and engaging learning experiences.

In addition, it underlines how important virtual learning environments are for fostering self-directed learning and learning that continues throughout one's life. Students have the ability to improve their critical thinking, problem-solving, and creative talents through the use of

virtual learning environments (VLEs) since these environments provide students with access to a range of materials and permit students to engage in self-directed learning. Virtual learning environments (VLEs) can also make students feel as though they have control over their education, which is an encouraging and empowering feeling to have.

The relevance of virtual learning environments (VLEs) in ensuring justice and access to education is also stressed in this research. This is particularly the case for students who may have difficulties participating in traditional classroom learning. VLEs have the potential to play a pivotal role in closing the achievement gap and promoting educational equity by providing students with access to high-quality education regardless of their geographic location, socioeconomic standing, or any other factors that may be relevant.

In conclusion, it provides details on contemporary innovations and breakthroughs in virtual learning environments (VLEs), such as the application of immersive technologies, gamification, and artificial intelligence. These innovations have the potential to improve the efficacy of virtual learning environments (VLEs) and provide students with access to learning opportunities that are even more customised and interesting. In general, the findings of this research suggest that virtual learning environments (VLEs) have the potential to usher in a paradigm shift in the way we approach education and to enhance equitable and effective teaching approaches. It is necessary to conduct additional research into the applicability of emerging tendencies and breakthroughs in virtual learning environments (VLEs), as well as

the long-term effects of VLEs on student engagement and academic achievement.

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