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Exploring Student Perceptions of Engagement in Online Learning within Higher Education Institutions: A Comprehensive Systematic Review

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Abstract

The expansion of online learning in higher education has fundamentally changed how students engage with education. This systematic review aims to uncover students' perceptions of engagement in online learning. Synthesising diverse research provides a comprehensive understanding of factors shaping student viewpoints and interactions. The review examines perceptions, challenges, strategies, and implications of engagement, significantly enhancing online learning environments. The study adopted social cognitive theory as a theoretical framework to provide an understanding of the phenomenon. Methodologically, the review employs a rigorous approach, searching critical databases for relevant articles. Factors influencing engagement emerge, including student-centred design, seamless technology integration, collaborative interactions, intrinsic motivation, and timely feedback. Challenges, such as technical issues and time management, are also revealed, impacting engagement. Effective strategies are identified, encompassing active learning, personalised pathways, virtual communities, transparent communication, and continuous feedback. Implications extend to educational practice and policy, emphasising the need to address challenges, optimise strategies, and create dynamic online ecosystems aligned with student needs. The review emphasises the policy discourse's role in fostering engagement and effective online education strategies. In conclusion, this systematic review analyses student perceptions regarding engagement in online higher education. It explores factors, challenges, strategies, and implications, serving as a valuable resource for lecturers, researchers, and policymakers seeking to enhance online learning and promote student success in the digital age.

Keywords: *Social Cognitive Theory; Online Learning; Engagement; Student Perceptions*

Introduction

Higher education has undergone a seismic transformation in recent years with the rapid proliferation of online learning platforms (Abdullah et al., 2022). This shift has redefined the educational

experience, offering students unprecedented access to knowledge, flexibility in scheduling, and the ability to transcend geographical boundaries (Ajani & Maphalala, 2023). Student engagement has become more significant as digital technologies reshape traditional classrooms. Student engagement in teaching and learning is often considered the heartbeat of adequate education and plays an essential role in shaping how students interact with educational content, peers, and instructors. Aktas and Yurt (2017) opine that investigating how students perceive and navigate engagement within online learning has emerged as a critical endeavour in understanding and optimising contemporary higher education practices.

This comprehensive systematic review sheds light on the complex and multifaceted realm of student perceptions of engagement in online learning within higher education institutions. It seeks to unravel the intricate tapestry that defines students' interactions, attitudes, and perspectives as they navigate the digital education landscape. This review aspires to provide a comprehensive, holistic, and nuanced understanding of the intricate dynamics that shape students' viewpoints and experiences in online learning environments by synthesising a diverse range of empirical research studies. Ajani and Khoalenyane (2023) opine that the digital era has brought forth a new era of educational paradigms, and as such, it becomes imperative to analyse how students interpret and engage with these evolving pedagogical modalities. This review intends to bridge the gap between theoretical engagement constructs and students' lived experiences in online learning environments. By delving into the various dimensions of student perceptions, this review aims to unearth the factors that catalyse engagement and the challenges that might impede optimal learning experiences.

This review endeavours to capture a panoramic view of student engagement within online higher education through an exhaustive and systematic exploration of relevant literature. This includes exploring the factors influencing engagement, ranging from pedagogical design and technological interface to motivation and interaction. Simultaneously, this review acknowledges the existence of obstacles that can hinder engagement, such as technical glitches, feelings of isolation, and time management struggles (Al-Abdullatif & Gameil, 2021).

In addition to understanding the nuanced landscape of student perceptions, this review will highlight effective strategies that lecturers and institutions can adopt to enhance engagement and elevate the online learning experience (Ajani, 2023). This exploration of strategies encompasses not only the instructional methods that foster active participation but also the cultivation of a sense of community, clear communication channels, and personalised approaches that resonate with diverse student profiles (Basar, 2022). Furthermore, the implications of this comprehensive exploration extend beyond individual instructional settings. The findings of this systematic review hold potential significance for lecturers, instructional designers, administrators, policymakers, and researchers alike. By synthesising a wealth of empirical evidence, this review provides practical insights to inform decision-making, curriculum design, and educational policies to optimise student engagement in online learning (Batisai et al., 2022). Chukwunerem (2023) reports that broader sections of the population have access to online learning due to technological advancement and rising internet access in South Africa. This leads to student's engagement in learning increasing and school activities improving. However, some students in specific subjects such as science, technology, engineering, and mathematics (STEM) who need full practice need more engagement. This does not only affect STEM students but students from all spheres of the education field (Fleur & Dlamini, 2022).

Hamzah et al. (2016) assert that it is crucial to analyse prior studies on student engagement to obtain helpful information on real-world practice. Generally, students have been seen to be engaged when they are interested in their work, when the topic is enticing to them, and when they want to obtain a specific goal. Ajani and Khumalo (2023) argue that a vigorous amount of research has been conducted on engagement, especially on the outcomes of research on engagement in learning in traditional classroom setups and lecturers' experiences in engaging students. The experiences included learning-community

participation (Soler et al., 2019); peer interaction, class structure, task characteristics, and personal needs (Gillis & Krull, 2020); interest, self-efficacy, and motivational factors (Suyati & Rozikin, 2021). Showing interest in learning is a vital aspect of learning; showing interest in learning raises students' attention to learning, which will later affect each student's learning outcome. Moreover, engaging students leads to problem-solving skills (Kavrayici, 2020) and school-level factors such as Flipped classrooms (Lencastre et al., 2020).

However, it should be noted that interest in learning does not arise spontaneously; habits and experiences breed the desire to learn. Goals, attention, and the intensity of learning can generate the desire to learn and be engaged. Interest is also closely related to comfort and needs (Iqmaulia & Usman, 2019). An extremely deadly virus known as Coronavirus Disease 2019 (COVID-19), first discovered in Wuhan in 2019, struck the entire world hard at the start of 2020 (Ajani & Maphalala, 2023). The spread of the coronavirus altered human activities, including education, in South Africa. The teaching and learning process was done physically before COVID-19, with students directly interacting and engaging with their lecturers. However, during the COVID-19 era, there was a shift to online teaching and learning, where students studied from home (Khomo et al., 2023). IIhan et al. (2021) agree that online learning has some advantages, including but not limited to reducing stress and anxiety for students on their way to school due to traffic congestion, saving transport costs, and having lots of free time at hand.

Thus, Khlaif et al. (2021) avow that online learning incites active learning and student engagement. Students get involved and engaged through discussion boards, quizzes, and polls. Lecturers can also assess students and give them immediate feedback, modify instruction, and amend the curriculum to meet students' requirements. Although "AIEd" has existed for years, this study investigates how students in higher education institutions perceive online learning engagement. Landa et al. (2021) opine that as higher education institutions embrace online learning platforms, it becomes imperative to delve deep into student perceptions of engagement (Manase, 2021). This comprehensive systematic review endeavours to provide a holistic and insightful understanding of the intricate dynamics that shape students' perspectives, challenges, and strategies related to engagement within the digital educational landscape. Doing so offers a foundational resource for stakeholders invested in enhancing the quality of online learning experiences within higher education institutions (Maphalala et al., 2021; Zhoc et al., 2022).

Theoretical Framework

Social Cognitive Theory (SCT)

A researcher develops a theoretical framework to support a study. The theoretical framework refers to a constructed, linked set of principles and premises derived from several theories. (Grant & Osanloo, 2014). "The theoretical framework is the structure that can hold or support a theory of a research study," opines Swanson (2013, p. 122). A study's theoretical framework is not a summary of your ideas about your research, nor is it in a research proposal or thesis. On the contrary, it is a compilation of the ideas of luminaries in your field of study as they apply to the research you propose to conduct or the thesis you intend to write, how you comprehend those theories, and what you intend to use them for to interpret your data. Academic inquiry often draws from preexisting theories and research, but it can also be developed through a systematic method of investigation and evaluation. The use of theoretical frameworks is pervasive across many academic fields, including the social sciences, sciences of nature, and humanities. The Social Cognitive Theory is used in this investigation to assess the students' perceptions of online learning engagement. SCT is a psychological approach to how students function that highlights the crucial role that personal factors and environmental factors (situational demands) play in how students behave (online engagement), consistent with student engagement (Reschly et al., 2008).

Mashau and Nyawo (2021) argue that the fundamental epistemological aspect of learning stems from what people are eager to learn and know, who wants to learn, and the social space (environment) where learning occurs. According to Lin et al. (2018), the conceptual framework for knowledge construction comprises objective, subjective, and social epistemological aspects. As a result, this study mapped the three components of knowledge construction—cognitive aspects, students, and social aspects—to the three online engagement objects. Students interact with one another in the community and produce various social characteristics indicated by the amount of time, direction, and interaction. Figure 1 below denotes the social-cognitive theory.

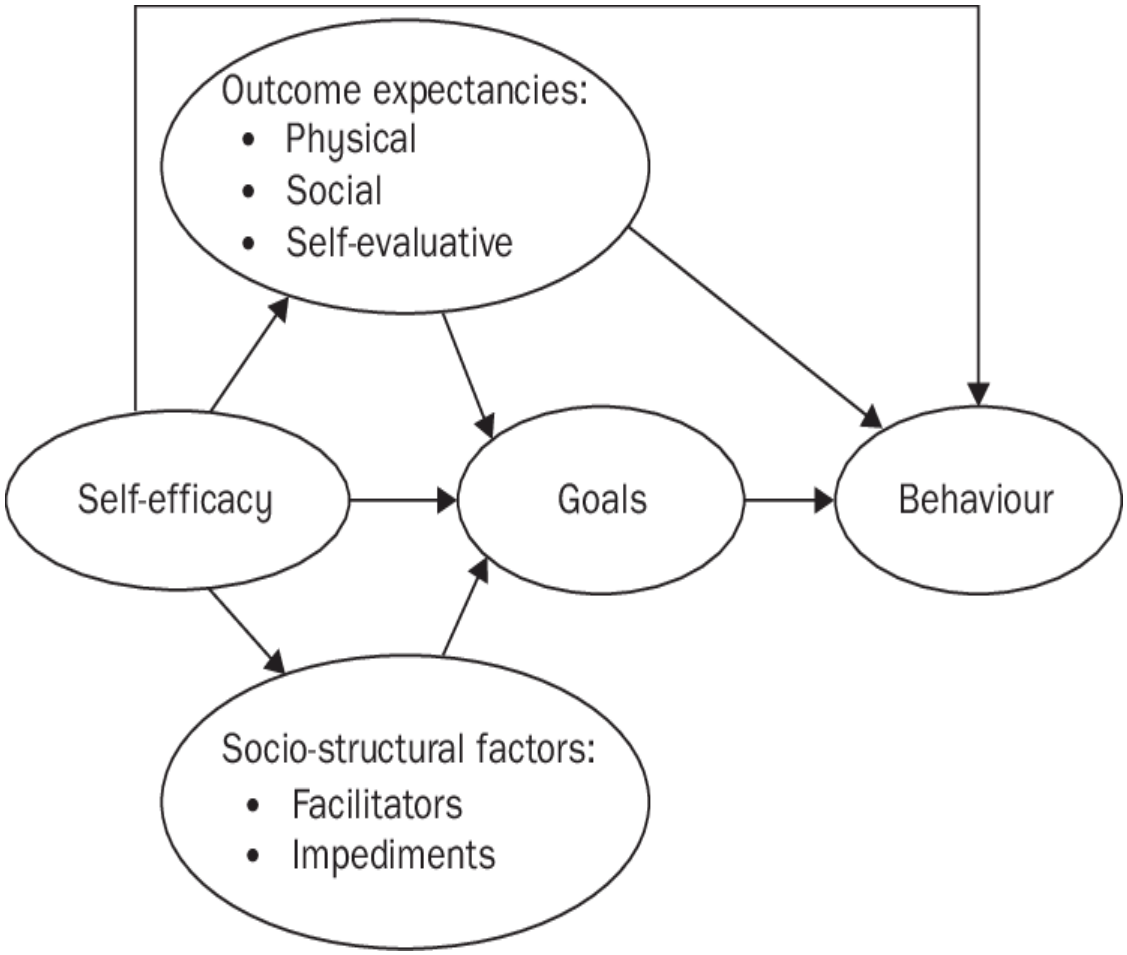

Figure 1: An illustration of social cognitive theory (Bandura, 2000a)

The study uses the Social Cognitive Theory (SCT) as a theoretical framework to understand and analyse students' engagement behaviours, motivations, and self-regulation in online learning environments. The application of Social Cognitive Theory is introduced as a lens to understand the cognitive, behavioural, and motivational aspects of online learning engagement. The Social Cognitive Theory, developed by Albert Bandura, emphasises the role of cognitive processes, self-regulation, and observational learning in shaping human behaviour. The theory posits that individuals learn from observing others (models) and develop self-efficacy beliefs that influence motivation, goal setting, and self-regulation. SCT is particularly relevant in online learning, as it addresses how students' perceptions of their abilities, expectations, and interactions with the learning environment impact their engagement behaviours.

The systematic review delves into the various components of Social Cognitive Theory and their application to online learning engagement within higher education institutions:

1. **Self-Efficacy:** SCT posits that self-efficacy beliefs significantly shape individuals' behaviours and motivations (Maphalala & Ajani, 2023). In online learning, self-efficacy refers to students' confidence in their ability to successfully navigate the online learning environment, complete tasks, and achieve desired outcomes. The review may analyse studies that explore how students' self-efficacy beliefs influence their level of engagement in online courses.
2. **Observational Learning:** SCT suggests that individuals learn from observing others. In the online learning context, this could involve observing peers who demonstrate high levels of engagement, time management, and effective study strategies (Mayombe, 2023). The systematic review might examine research investigating the impact of peer modelling and social interactions on students' engagement behaviours.
3. **Goal Setting and Self-Regulation:** Social Cognitive Theory emphasises the importance of goal setting and self-regulation for behaviour change. Mhlanga and Moloi (2020) report that online students must set clear goals, monitor their progress, and adjust their strategies accordingly. The review could explore how goal-setting and self-regulation contribute to students' sustained engagement in online courses.
4. **Outcome Expectations:** SCT suggests that individuals are motivated to engage in behaviours that they expect will lead to positive outcomes. The systematic review may analyse studies investigating how students' expectations about online learning outcomes (e.g., acquiring new skills and improving job prospects) influence their engagement levels (Moon, 2023).

Justification for SCT in Student Perceptions of Engagement in Online Learning

The Social Cognitive Theory (SCT)'s inherent relevance and applicability to the research topic justifies its selection as the theoretical framework for "Exploring Student Perceptions of Engagement in Online Learning within Higher Education Institutions: A Comprehensive Systematic Review" (Page et al., 2020). SCT offers a robust theoretical lens to examine the complex interplay of cognitive, behavioural, and motivational factors influencing students' engagement in online learning environments. The justification for using SCT can be outlined as follows:

Comprehensive Understanding of Engagement: SCT provides a holistic framework encompassing various factors contributing to engagement. It acknowledges the cognitive processes (such as self-efficacy and outcome expectations), the behavioural aspects (such as observational learning and self-regulation), and the social interactions (such as peer modelling) that collectively shape students' engagement in online learning. By adopting SCT, the systematic review can offer a more comprehensive understanding of the multifaceted nature of engagement (Namli & Aybek, 2022).

Cognitive Factors and Self-Efficacy: A central tenet of SCT is the concept of self-efficacy, which refers to individuals' beliefs in their capabilities to perform tasks. In online learning, students' self-efficacy beliefs influence their perceptions of their ability to succeed, set goals, and overcome challenges (Nel et al., 2023). By incorporating SCT, the review can explore how students' self-efficacy beliefs impact their willingness to actively participate, persist, and invest effort in online learning activities (Yang et al., 2022).

Observational Learning and Modelling: SCT highlights the role of observational learning, where individuals learn by observing others' behaviours and experiences. In online learning environments, students can observe and learn from peers who exhibit effective engagement strategies, time management skills, and study behaviours (Nawagi & Raman, 2023). SCT allows

the systematic review to analyse the influence of observational learning on students' engagement behaviours and how they may emulate successful role models.

Goal Setting and Self-Regulation: The systematic review can leverage SCT to investigate how their goal-setting processes and self-regulatory mechanisms influence students' engagement. SCT emphasises that individuals actively set goals, monitor their progress, and adjust their strategies to achieve desired outcomes. The review can explore how students' self-regulation contributes to sustained engagement in online learning activities by applying SCT.

Motivation and Outcome Expectations: SCT underscores the significance of outcome expectations—the anticipated results of specific actions – in motivating behaviour. Expectations of achieving particular learning outcomes, skills, or career advancement may drive students' motivation to engage in online learning (Moon, 2023). SCT allows the systematic review to analyse how students' outcome expectations shape their engagement decisions and actions (Wang & Wen, 2023).

Applicability to the Online Learning Context: SCT's emphasis on self-regulation, social interactions, and cognitive processes aligns well with the unique features of online learning environments. Asynchronous communication, independent learning, and digital interactions are inherent to online education. SCT's principles provide a suitable framework for exploring how these factors impact students' engagement in digital learning (Nel et al., 2023).

The application of Social Cognitive Theory is justified in the systematic review of student perceptions of engagement in online learning within higher education institutions due to its comprehensive and multidimensional approach to understanding engagement behaviours. By adopting SCT, the review can illuminate the cognitive, behavioural, and motivational factors that influence students' engagement, offering valuable insights for both researchers and lecturers aiming to enhance the effectiveness of online learning experiences (Namli & Aybek, 2022; Woldegiorgis, 2022).

Contextualising Students' Perceptions of Online Learning Engagements

Contextualising Students' perceptions of Online Learning Engagement in South Africa Higher Nguyen et al. (2023) assert that education involves considering the socio-cultural, economic, and technological factors influencing how students engage with online learning platforms and resources. Nwosu et al. (2023) avow that this contextualisation is crucial for understanding the challenges, opportunities, and dynamics that shape students' experiences in the South African higher education landscape. Ajani and Khumalo (2023) assert that South Africa has significant socio-economic disparities. Many students come from diverse backgrounds, with varying access to resources such as computers, high-speed internet, and quiet study spaces. These disparities can impact students' ability to fully engage with online learning, leading to differential levels of participation and interaction. Woldegiorgis (2022) opines that the digital divide in terms of hardware and internet connectivity can significantly affect students' access to course materials, live sessions, and collaborative activities. South Africa's rich cultural diversity is reflected in its higher education institutions. Olawunmi and Mavuso (2022) also maintain that different language preferences, communication styles, and learning traditions can influence how students interact with online learning platforms. Thus. Pillay (2021) suggests that lecturers and institutions must consider how language choices, cultural sensitivities, and teaching methodologies align with students' backgrounds to create inclusive and engaging online learning environments.

While some students are tech-savvy and comfortable with digital tools, others may need more digital literacy skills to navigate online learning platforms effectively (Raducu & Stanculescu, 2021). Thus, Olawunmi and Mavuso (2022) agree that providing adequate technical support and training becomes essential to ensure that all students can engage meaningfully with online resources, complete

assignments, and participate in virtual discussions. South African students may have varying learning preferences and expectations based on their prior educational experiences (Maphalala & Ajani, 2023). Thus, Redmond et al. (2023) admit that incorporating diverse pedagogical approaches that accommodate different learning styles, including collaborative activities, interactive simulations, and multimedia content, can enhance engagement and accommodate different preferences. Online learning offers flexibility, particularly for South African students with work or family commitments. However, balancing flexibility and structured engagement is essential to ensure students can handle self-regulated learning demands (Sokhulu, 2020).

Ajani (2023) reports that connectivity issues, such as unreliable internet access and power outages, can disrupt students' online engagement. Hence, Shin et al. (2017) posit that institutions must develop strategies to mitigate these challenges, such as providing offline resources, asynchronous learning options, or access to physical learning spaces with reliable connectivity. In South African culture, community and peer relationships hold significant importance (Tsamago & Bayaga, 2023). Incorporating opportunities for peer interaction, group discussions, and collaborative projects can foster a sense of community and social connection among online students (Zhoc et al., 2022). Effective assessment and timely feedback are vital components of engagement. Online assessment methods need to be well-designed and aligned with course objectives, considering South African students' unique needs and circumstances (Venturino & Hsu, 2022; Ajani & Khoalenyane, 2023), and in line with South Africa's commitment to inclusive education, ensuring that online learning environments are accessible to students with disabilities (Xulu-Gama & Hadebe, 2022; Tsamago & Bayaga, 2023). provision of accessible materials, captioned videos, and other accommodations to promote equitable engagement.

Wang and Wen (2023) advocate that student support services, including academic advising, counselling, and technical support, play a crucial role in facilitating engagement and addressing student concerns, particularly in the online context where immediate assistance may be limited. Venturino and Hsu (2022) agree that contextualising students' perceptions of online learning engagement in South African Higher Education requires a deep understanding of the socio-cultural, economic, and technological factors that influence their experiences. By considering these contextual elements, higher education institutions can design more inclusive, effective, and engaging online learning environments that cater to the diverse needs of South African students (Woldegiorgis, 2022).

The primary focus of initiatives to improve teaching and learning is now student engagement. It is not hard to understand why: a solid body of literature has established robust correlations between student involvement in a subset of "educationally purposeful activities" and positive outcomes of student success and development, including satisfaction, persistence, academic achievement, and social engagement. (Fletcher, 2015) defined student engagement as any sustained connection to any aspect of learning, schools or education." The success of classroom instruction and institutional excellence is increasingly viewed as correlated with student engagement, a connection between a person and an activity (Shannon & Clarke, 2022; Wang & Wen, 2023).

Similarly, (Krause & Coates, 2008) define student engagement as the extent to which students engage in activities that higher education research has shown to be linked with high-quality learning outcomes. Thus, Sanfriska and Hastuti (2022) concur with Pillay (2021) that student engagement is the interaction between the time, effort, and other pertinent resources put forth by both students and their institutions to maximise the student experience (Redmond et al., 2023) and enhance learning outcomes, student development, and the performance and reputation (Venturino & Hsu, 2022) of the institution. Engagement goes beyond merely engaging in practice; it also involves a variety of feelings surrounding those practices and an effort to make logical sense of the activity (Msimanga et al., 2021; Mayombe, 2023).

Student engagement in online learning is a critical area of study that delves into students' active involvement, participation, and interaction in the digital learning environment (Nel et al., 2023). This section provides a comprehensive theoretical perspective on student engagement in online learning, covering its definition, components, influencing factors, and the significance of understanding this multifaceted phenomenon. According to Yah et al. (2022), student engagement in online learning refers to the extent to which students are invested in their learning experiences, actively participating in educational activities, and demonstrating commitment to achieving their learning goals within digital environments. Xulu-Gama and Hadebe (2022) assert that it goes beyond mere attendance and completion of tasks, encompassing a holistic approach to learning that involves cognitive, emotional, and behavioural dimensions.

Components of Engagement (Behavioural, Cognitive, and Emotional)

*Behavioural Engagement***:** This component encompasses students' observable actions and behaviours within the online learning environment. It includes factors such as participation in discussions, completion of assignments, and interaction with course materials. Active participation and consistent involvement in learning tasks indicate strong behavioural engagement (Venturino & Hsu, 2022).

Cognitive Engagement: Cognitive engagement involves students' intellectual investment in their learning. It reflects their level of critical thinking, problem-solving skills, and depth of understanding of course content. Students who exhibit cognitive engagement actively reflect on and apply concepts, seek additional resources, and engage in meaningful interactions with their peers and instructors (Tsamago & Bayaga, 2023).

Emotional Engagement: Emotional engagement pertains to students' affective experiences and feelings associated with online learning. Sokhulu (2020) asserts that it involves the development of a positive emotional connection to the learning process, fostering a sense of enthusiasm, curiosity, and intrinsic motivation. Emotional engagement is evident when students express enthusiasm for learning, are willing to explore diverse topics and experience a sense of accomplishment.

Factors Influencing Student Engagement

Several factors contribute to students' engagement in online learning (Redmond et al., 2023). The structure and design of online courses, including clear objectives, interactive activities, and multimedia resources, can influence engagement. Engaging pedagogical strategies, such as active learning techniques, collaborative projects, and real-world applications, can enhance student involvement. The user-friendliness and functionality of the online learning platform impact students' ease of navigation and interaction (Pillay, 2021). A user-friendly interface, intuitive navigation, and accessibility contribute to positive engagement experiences. Peer-to-peer interactions, group discussions, and collaborative projects provide opportunities for social engagement (Sokhulu, 2020). Constructive interactions with classmates and instructors foster a sense of community and belonging. Active instructor involvement, timely feedback, and responsiveness to student queries provide a supportive learning environment that enhances engagement. Students' belief in their ability to succeed (self-efficacy) and intrinsic motivation to learn significantly influence engagement levels (Redmond et al., 2023). Thus, Pillay (2021) admits that positive self-efficacy beliefs and a strong sense of motivation contribute to sustained engagement.

Importance of Understanding Student Engagement

According to Olawunmi and Mavuso (2022), understanding student engagement in online learning has significant implications for lecturers and institutions. Higher levels of engagement are

associated with improved learning outcomes, knowledge retention, and skill acquisition. Students engaged in online learning are more likely to achieve their academic goals. Engaged students are more likely to persist and complete online courses. Understanding engagement factors can help reduce attrition rates and promote course completion. Insight into the components and factors of engagement informs the design of practical online courses. Lecturers can tailor course content and activities to maximise engagement and foster more profound learning experiences. By identifying strategies that promote engagement, lecturers can, according to Olawunmi and Mavuso (2022), innovate their teaching methods and create dynamic, interactive online learning environments.

Nwosu et al. (2023) posit that understanding student engagement can aid in developing inclusive practices that cater to diverse student needs, backgrounds, and abilities. A theoretical perspective on student engagement in online learning highlights its multidimensional nature, encompassing behavioural, cognitive, and emotional components. Afolabi and Ajani (2023) report that various factors influence engagement, underscoring the importance of designing engaging online courses and providing the necessary support to facilitate meaningful learning experiences. Recognising the significance of understanding student engagement can lead to improved learning outcomes, increased retention rates, and the creation of more effective and inclusive online learning environments.

Self-Efficacy and Online Learning Engagement

Self-efficacy refers to an individual's belief in their capability to perform a specific task or achieve a particular goal successfully (Nwosu et al., 2023). In online learning, self-efficacy influences students' engagement levels (Pillay, 2021). Students with high self-efficacy beliefs are more likely to actively participate, persevere through challenges, and invest effort in their online learning experiences.

Impact on Online Learning Engagement

Students with solid self-efficacy are more likely to initiate and engage in online learning activities (Nguyen et al., 2023). They approach tasks with confidence and are willing to tackle new challenges. Higher self-efficacy leads to increased persistence, as students believe they can overcome difficulties and setbacks (Nel et al., 2023). Students with high self-efficacy are more likely to engage deeply with course materials, explore additional resources, and actively seek information (Nguyen et al., 2023). Confident students are likelier to participate in online discussions, share their viewpoints, and engage in collaborative learning (Ajani & Khoalenyane, 2023).

Enhancing Self-Efficacy for Engagement

Regular and constructive instructor feedback can boost students' self-efficacy by validating their efforts and guiding improvement (Maphalala et al., 2021). Designing online learning activities with small successes can gradually build students' self-efficacy, encouraging them to take on more complex tasks (Nel et al., 2023). Furthermore, observing peers who demonstrate successful online learning engagement can inspire and positively influence self-efficacy beliefs (Nawagi & Raman, 2023).

Observational Learning and Peer Interactions

Observational learning, a key concept in Social Cognitive Theory, refers to learning by observing the behaviours, actions, and outcomes of others. In the context of online learning engagement, observational learning plays a pivotal role in shaping students' behaviours and motivations (Nawagi & Raman, 2023).

Peer Interactions and Engagement

Observing peers engage in online learning can inspire other students to participate more actively. Nguyen et al. (2023) assert that collaborative projects and discussions allow students to learn from their peers, share experiences, and develop a sense of community. Positive interactions with peers can enhance motivation and create a supportive learning environment.

Promoting Observational Learning

Mashau and Nyawo (2023) assert that observational learning is promoted through peer showcase. Thus, highlighting peers' exemplary work or engagement behaviours can serve as a model for other students to follow. Structured group assignments and discussions encourage peer-to-peer learning and collaborative engagement. Peer feedback mechanisms allow students to learn from each other's insights and perspectives. Goal setting and self-regulation are vital for effective online learning engagement. Goal setting involves defining clear objectives and outcomes, while self-regulation refers to the ability to monitor, control, and adjust one's behaviours to achieve those goals (Mayombe, 2023).

Effective Goal Setting

Mhlanga and Moloi (2020) opine that well-defined learning goals help students focus their efforts and stay motivated. Breaking larger tasks into smaller, manageable goals enhances a sense of achievement and progress.

Self-Regulation and Time Management

Maphalala et al. (2021) agree that planning and scheduling can enhance self-regulation and time management in student online engagement. Thus, effective self-regulation involves planning study schedules, allocating time for different tasks, and adhering to deadlines. Regularly assessing progress and adjusting strategies based on performance are essential self-regulation practices.

Fostering Goal Setting and Self-Regulation

According to Manase (2021), guiding and setting realistic and achievable goals can help students navigate the online learning process effectively. Recommending time management tools and techniques can empower students to manage their study schedules efficiently. Outcome expectations refer to the anticipated results or benefits individuals associate with their actions. The expectations of students' outcomes significantly impact motivation to participate in online learning.

Motivation and Outcome Expectations

According to Mashau and Nyawo (2021), intrinsic motivation can influence student engagement. Students who expect to gain intrinsic rewards such as knowledge, skill enhancement, and personal growth are more motivated to engage. Anticipating extrinsic rewards like grades or career advancement can drive engagement.

Enhancing Outcome Expectations and Motivation

According to Landa et al. (2021), helping students understand the practical relevance of online learning outcomes can boost motivation. Thus, ties to personal goals by the students are essential to student engagement online. According to Khomo et al. (2023), showing how online learning aligns with students' personal and career aspirations enhances their outcome expectations. Understanding the intricate interplay of self-efficacy, observational learning, goal setting, self-regulation, outcome expectations, and motivation provides valuable insights into student engagement in online learning. Higher education

institutions can leverage these insights to design practical online courses, foster supportive learning environments, and promote meaningful and sustained student engagement (Khlaif et al., 2023).

Factors Influencing Online Student Engagement and Satisfaction

Today's students are digital natives (Lin et al., Suyati & Rozikin, 2021; Tan, 2023). Students and teachers/lecturers are seen as two generations with two different technological cultures clashing in the classroom environment. The fact that students have a broad scope of experience in technology from their lectures gives them the impression that they are more informed about technology than their lecturers (Bollinger & Halupa, 2018). In contrast, lecturers think that students need to pay more attention to their schoolwork or classes, that they are unwilling to learn, that they are lazy, and that they do not care to put enough effort into their schoolwork. Today's students, who are digital natives, interact with technology daily. The learning environment is a significant aspect of students' lives.

Consequently, student motivation, perceptions, and willingness are integral to academic success and attendance at the institution. Their engagement enables them to derive benefits from the school effectively. However, factors influence online student engagement and satisfaction, as highlighted in this study.

Engagement of Students in Online Environment

The three dimensions of behavioural, emotional, and cognitive engagement are commonly used to interpret engagement (Fredericks et al., 2016). The coronavirus (COVID-19) pandemic has compelled colleges and universities to switch to an online delivery method, making it more challenging to maintain student engagement and achieve high levels of engagement. The pandemic forced instructors to face challenges of keeping students engaged and mastering an instructional mode different from the one students and instructors are accustomed to (Maphalala et al., 2021). Students' understanding and capacity to participate in teaching and learning activities have faced more challenges because of the quick development of social networking tools and online teaching and learning environments (Manase, 2021).

Engaging students in an online learning environment is a multifaceted endeavour that requires careful consideration of pedagogical strategies, technological tools, and student-centred approaches. In this detailed exploration, we delve into the various dimensions of student engagement online, highlighting essential practices, challenges, and practical strategies to create dynamic and meaningful digital learning experiences. Students are encouraged to actively participate in online discussions, forums, and interactive activities (Bollinga & Halupa, 2018). They contribute thoughtful responses, ask questions, and engage in peer interactions. Focused engagement involves students' sustained focus and attention on learning materials, leading to deep understanding and critical thinking. Engaged students are motivated to achieve learning goals, demonstrate commitment, and seek continuous improvement.

Cognitive, behavioural, and emotional engagements are components of online engagements that can influence students' engagements (Mhlanga & Moloi, 2020). Bollinga and Halupa (2018) affirm that students critically analyse course content, connect concepts, and apply knowledge to real-world contexts. Students complete assignments, participate in discussions, and actively explore resources. Students connect emotionally with the subject matter, express enthusiasm, and experience a sense of achievement (Moon, 2023).

Challenges to Online Engagement

Various challenges face online engagement in higher education (Ajani, 2023). In South Africa, these include a lack of face-to-face interaction and physical presence, leading to feelings of isolation and disconnection. Online environments offer various distractions that can hinder focused learning (Afolabi &

Ajani, 2023). Connectivity problems, software glitches, and digital literacy barriers can impede engagement. Balancing online learning with other commitments requires effective time management (Mhlanga & Moloi, 2020). Online engagement in South African higher education faces unique challenges from the country's socio-economic, cultural, and technological context. According to Mhlanga and Moloi (2020), Maphalala et al. (2021), Ajani (2023), and Ajani and Khumalo (2023), these challenges can impact students' ability to actively participate, interact, and remain engaged in online learning environments. Here are some of the critical challenges specific to South Africa:

South Africa has significant socio-economic disparities, leading to unequal access to digital devices, internet connectivity, and reliable electricity. Many students from marginalised communities need more technology and infrastructure to fully engage in online learning, hindering their access to educational resources (Olawunmi & Mavuso, 2022). Access to adequate broadband coverage and reliable internet connectivity, particularly in rural and remote areas, can disrupt online engagement. Slow internet speeds and frequent disconnections can hinder participation in live sessions, video streaming, and online interactions (Venturino & Hsu, 2022).

South Africa has 11 official languages, which can challenge online learning content creation and communication. Language barriers may limit students' comprehension of course materials and their ability to actively participate in discussions (Tsamago & Bayaga, 2023). Bollinga and Halupa (2018) assert that cultural norms and values may impact students' comfort level with specific online communication methods, such as video conferencing or discussion forums. Traditional forms of learning and communication may clash with the expectations of online engagement (Wang & Wen, 2023). Many South African students need more experience with online tools and platforms, leading to challenges in navigating and effectively using technology for learning (Venturino & Hsu, 2022). Limited digital literacy skills can hinder students' ability to engage in online activities and take full advantage of available resources.

Furthermore, high data costs and limited access to affordable data packages can discourage students from accessing online resources and participating in data-intensive activities (Xulu-Gama & Hadebe, 2022). The cost of purchasing or maintaining devices suitable for online learning can be a barrier for economically disadvantaged students. Not all higher education institutions in South Africa may have the necessary infrastructure, training, and support to deliver online education effectively (Pillay, 2021). Limited institutional resources and expertise can impact the quality of online courses and support services.

Adapting engagement strategies from traditional face-to-face settings to an online environment may require cultural sensitivity and creative approaches to maintain student interest and interaction (Olawunmi & Mavuso, 2022). The isolation and lack of physical interaction in online learning can impact students' mental and emotional well-being (Moon, 2023). Limited opportunities for social interaction and peer support can lead to feelings of loneliness and disconnection. Addressing these challenges requires a multi-pronged approach that involves government initiatives, institutional support, lecturer training, technological innovations, and community collaboration. Strategies to bridge the digital divide, provide affordable internet access, offer language support, and promote digital literacy can help create a more inclusive and engaging online learning environment for South African higher education students (Pillay, 2023).

Strategies for Enhancing Online Student Engagement

Several strategies can be embraced to enhance online student engagement. Incorporation of multimedia elements, such as videos, interactive simulations, and quizzes, to engage different learning styles (Redmond et al., 2023). Facilitating meaningful online discussions, group projects, and collaborative activities to foster peer interaction can aid student engagement. Real-world applications

connect learning to practical scenarios, encouraging students to apply knowledge in relevant contexts (Sokhulu, 2020). Instructor presence can actively engage students through timely feedback, personalised communication, and virtual office hours. Thus, clear expectations provide clear instructions, expectations, and grading criteria to guide students' efforts effectively. Choice and autonomy offer students choices in assignments, topics, or learning pathways to promote a sense of ownership. Formative assessment promotes frequent quizzes, polls, and self-assessment tools to gauge understanding and adjust instruction. Reflective activities integrate reflective journals, self-assessment exercises, or discussion prompts to encourage metacognition (Pillay, 2021; Maphalala et al., 2021; Moon, 2023).

LMS features can be utilised for discussion boards, assignment submissions, and content delivery (Gamede et al., 2022). Virtual reality (VR) and augmented reality (AR): Create immersive learning experiences for complex subjects or simulations. Webinars and video conferencing allow virtual live sessions for lectures, guest speakers, or interactive workshops (Afolabi & Ajani, 2023). Furthermore, gamification can incorporate game elements, such as badges or leaderboards, to enhance motivation and engagement. The use of adaptive learning platforms utilises AI-driven platforms to personalise learning pathways and content based on individual needs.

Inclusivity and Diversity in Online Engagement entail Universal Design for Learning (UDL), with courses that cater to diverse learning styles, abilities, and backgrounds (Raducu & Stanculescu, 2021). Multilingual Support provides translated materials and accommodates the language preferences of international students. Cultural sensitivity fosters a culturally inclusive environment by respecting diverse perspectives and communication styles (Ajani, 2022).

Assessment and Feedback for Engagement allow for timely feedback that **p**rovides prompt and constructive feedback to guide students' progress and improvement. Peer Feedback incorporates peer assessment to encourage active learning and collaborative engagement (Moon, 2023). Fostering a Sense of Community refers to icebreakers and Introductions that initiate the course with icebreaker activities to help students connect and build rapport. Virtual networking can facilitate online networking events or discussion forums for students to share their experiences. Thus, continuous Improvement and Flexibility are encouraged to provide a feedback Loop to gather feedback from students on the effectiveness of engagement strategies and make necessary adjustments (Shin et al., 2017).

Also, adaptation to needs can be responsive to evolving student needs and adapt engagement approaches accordingly to protect student's personal information and uphold ethical data handling practices. This is to promote online engagement and academic Integrity by implementing measures that can prevent plagiarism and maintain academic honesty in online assessments (Redmond et al., 2023). Thus, engaging students in an online environment requires intentional design, pedagogical innovation, and a commitment to creating a vibrant and inclusive digital learning community. By leveraging effective strategies, lecturers can cultivate a culture of active participation, meaningful interaction, and successful learning outcomes in the dynamic landscape of online education (Sokhulu, 2020).

There are both challenges and opportunities that significantly impact students' engagement. Thus, various factors present challenges and opportunities to students as they affect student participation, interaction, and overall engagement in digital learning environments (Nwosu et al., 2023). According to Nwosu et al. (2023), limited access to reliable high-speed internet in some geographic regions or for students from low-income backgrounds; uneven distribution of technological resources, such as computers or smartphones, leading to unequal participation; and power outages or infrastructure limitations affect students' ability to access online materials and participate in real-time activities.

In the same vein, opportunities abound in online learning engagement, with exploration of low-bandwidth options for delivering content to accommodate students with connectivity issues, provision of offline resources or downloadable content for students to access even without a continuous internet

connection, and collaboration with telecommunications providers or local authorities to improve internet accessibility in underserved areas.

Nel et al. (2023) argue that language barriers affect comprehension of course materials and interactions in online discussions, with cultural differences influencing communication styles, expectations, and collaborative activities, with potential discomfort or unfamiliarity with technology-mediated communication in different cultural contexts. Ajani (2022) suggests that these can be addressed by offering multilingual support and translated materials to cater to diverse language preferences, encouraging culturally sensitive communication, fostering a culturally inclusive online learning environment, and incorporating diverse cultural perspectives and examples in course content to make learning more relatable.

Mhlanga and Moloi (2020) indicate that digital literacy and technical support in the form of varied levels of digital literacy among students affect their ability to navigate online platforms and tools. Mhlanga and Moloi (2020) further assert that the technical glitches or difficulties in using unfamiliar software may lead to frustration and disengagement, while Nawagi and Raman (2023) agree that the limited availability of timely technical support for resolving technical issues can be addressed by providing pre-course orientation or tutorials that can familiarise students with the online learning platforms. Nel et al. (2023) further posit that offering ongoing technical support through dedicated helpdesks or online forums and collaborating with IT departments to ensure seamless integration of digital tools and troubleshooting technical challenges can assist or support students' online engagements. Furthermore, implementing a blend of synchronous and asynchronous activities to maintain engagement while allowing flexibility, Creating virtual spaces for peer interactions, collaborative projects, and group discussions and providing various content formats (e.g., videos, text, quizzes) to cater to different learning preferences (Namli & Aybek, 2022).

Conclusion

The comprehensive systematic review presented herein has thoroughly explored student perceptions of engagement in the context of online learning within higher education institutions. Drawing upon a wide range of quantitative and qualitative studies, this review has offered valuable insights into the multifaceted nature of online student engagement, shedding light on its various dimensions, influencing factors, and implications for practice. As we conclude this review, we reflect on the key findings, contributions, and potential avenues for future research and practice in online education. The synthesis of research findings has underscored the intricate interplay between online student engagement's behavioural, cognitive, and emotional components. Students' active participation, critical thinking, and emotional connection to the learning process have emerged as pivotal elements that shape their engagement experiences. The review has also highlighted the significance of self-efficacy, peer interactions, goal setting, and outcome expectations as influential factors in driving and sustaining online engagement. The exploration of challenges, including access disparities, language considerations, and technological barriers, has illuminated the diverse hurdles that students navigate in the digital learning landscape. This systematic review has significantly contributed to the knowledge surrounding student engagement in online learning. Consolidating empirical evidence and theoretical frameworks has deepened our understanding of how engagement manifests in virtual learning environments. The delineation of factors that influence engagement and the identification of effective strategies for fostering it have equipped lecturers, institutions, and policymakers with valuable insights to enhance online education's design, delivery, and support.

Implications for Practice

Building upon the findings of this comprehensive review, several directions for future research and practice emerge. To further enrich the field of online learning engagement, researchers can delve into the nuances of cultural influences, explore the dynamics of peer interactions in diverse contexts, and investigate the long-term impact of engagement on learning outcomes and retention rates. Informed by the insights gleaned from this review, lecturers and instructional designers can refine their pedagogical approaches, integrate technology purposefully, and create inclusive learning environments that cater to a broad spectrum of student backgrounds and needs (Mhlanga & Moloi, 2020; Moon, 2023; Nel et al., 2023).

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