

The Effect of Canvas LMS on Motivation, Engagement, and Interaction in Al Ain Private Schools

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Abstract

The study investigates the effect of Canvas LMS on motivation, engagement, and interaction across a sample population of private school students in Al Ain City of Abu Dhabi. It examines how Canvas LMS enhances intrinsic and extrinsic motivation by creating personalized experiences online, while it is proposed to promote engagement along the cognitive, emotional, and behavioral lines of participation. This study is quantitative in nature. Questionnaires were issued to 333 Grade 8 students across ten private schools. The findings indicate that, Canvas LMS promote motivation, engagement and student-teacher interaction, student interaction with peers, and interaction with course content." "Being user-friendly in nature, the interactive tools of the platform contribute to creating a more engaging learning environment for the students to allow an improvement in their academic performance." By paying attention to these aspects, this research gives some scope to understand how Canvas LMS may turn out to be an appropriate tool within educational settings, especially when it comes to motivating and engaging online learning environments. Therefore, institutions should prioritize the strategic implementation of Canvas LMS, focusing on its motivational and interactive tools. Training programs and support initiatives should be created to enhance teacher and student proficiency in using the system.

Keywords: Canvas LMS, Student Motivation, Student Engagement, Student Interaction, and Educational Technology

Introduction

The rapid integration of digital technology into education has revolutionized teaching and learning practices, providing new opportunities to enhance students' educational experiences. In particular, Learning Management Systems (LMS) such as Canvas have gained prominence for their role in facilitating motivation, engagement, and interaction among students and educators. Canvas LMS, a widely adopted platform, offers an extensive range of

tools for content delivery, assessment, communication, and collaboration. These features make it a valuable resource in modern education, particularly in regions like the UAE, where educational reforms increasingly prioritize innovative digital solutions to meet the needs of diverse student populations.

The importance of digital platforms in education cannot be overstated. Digital technologies provide the infrastructure for personalized learning experiences, interactive assessments, and flexible learning pathways, enabling students to develop critical thinking and creativity (Aitdaoud et al., 2023). In the UAE, where blended learning models have become a cornerstone of the educational landscape, the use of LMS platforms such as Canvas has significantly contributed to transitioning traditional pedagogical methods into more dynamic, student-centered approaches. This shift aligns with the UAE's strategic goals of fostering innovation and preparing students for the demands of a globalized, knowledge-based economy.

The exploration of the impact of Canvas LMS on motivation, engagement, and interaction in private schools is both timely and essential, particularly in the context of the UAE's rapidly evolving educational landscape. As digital learning tools increasingly replace or complement traditional teaching methods, understanding their utility and effectiveness is crucial for optimizing student outcomes. Canvas LMS, with its diverse features, offers significant potential to create interactive and student-centered learning environments. By facilitating personalized learning, promoting collaboration, and enabling real-time communication, the platform addresses key elements of modern pedagogy. However, the true effectiveness of these tools hinges on their ability to align with students' cognitive, emotional, and social needs. Investigating how Canvas LMS supports or hinders these aspects not only contributes to the existing body of research but also provides actionable insights for educators and policymakers aiming to enhance the quality of education. This study's findings could serve as a blueprint for refining digital platforms to maximize student engagement and motivation, ensuring they are well-equipped for academic and lifelong success.

Research highlights the transformative potential of LMS platforms in education. According to Macayaon and Palomares (2023), LMS platforms enable the seamless integration of online and traditional teaching, allowing for hybrid models where up to 80% of the curriculum can be delivered online. This flexibility is particularly critical in private schools in Al Ain, where diverse student demographics require adaptable educational approaches. Furthermore, platforms like Canvas LMS enhance teacher-student interaction, promote collaboration, and support various learning styles, thus improving overall learning outcomes (Gallman, 2020).

English as a Foreign Language (EFL) classes in the UAE, including in Al Ain's private schools, have particularly benefited from the adoption of Canvas LMS. This platform fosters skill development in reading, writing, speaking, and listening, essential for language proficiency. Studies by Abdullah (2021) and Abdelrahman (2019) indicate that digital tools have successfully enhanced students' language learning experiences, making them more interactive and effective compared to traditional face-to-face methods. Despite its advantages, challenges remain in fully utilizing LMS platforms, particularly in addressing the gaps in teacher training and the need for institutional support to implement these technologies effectively (Capul et al., 2022; Baqaa, 2023).

While the adoption of Canvas LMS has shown promise, the UAE context demands a more in-depth exploration of its impact on student outcomes, specifically motivation, engagement, and interaction. Existing studies have predominantly focused on general applications of LMS, leaving a gap in understanding the nuances of Canvas LMS within the UAE's private school setting. For instance, Slimani and Jabal (2023) emphasize the importance of tailored research to evaluate how LMS platforms influence student behavior and achievement in localized contexts. Such investigations are critical, given the UAE's commitment to integrating technology into education and the increasing reliance on digital platforms post-COVID-19 (Emirates News Agency, 2020).

This study holds significant implications for various stakeholders. For educators, it provides evidence-based insights to enhance teaching practices and address barriers to effective technology integration. For policymakers, it offers data-driven recommendations to optimize the implementation of LMS platforms in line with national educational strategies. Finally, for students, the findings of this research contribute to creating more engaging and interactive learning environments, ultimately improving their academic performance and overall learning experiences.

Therefore, examining the impact of Canvas LMS on motivation, engagement, and interaction in Al Ain's private schools is essential for understanding how digital platforms can be leveraged to achieve educational excellence. By addressing the existing gaps in research and exploring the specific challenges and opportunities within this context, this study aims to contribute to the broader discourse on digital transformation in education, ultimately aligning with the UAE's vision of fostering innovation and inclusivity in its educational system.

.In the UAE, English serves as the primary medium of instruction in education. However, a significant issue arises from the reliance on rote memorization as the predominant teaching approach, which often leaves students with a superficial understanding of English language skills (Baqaa, 2023; Purbohadi et al., 2023). Studies have shown that students face considerable difficulties in effectively using English, as traditional teaching methods fail to engage them in meaningful and interactive learning experiences (Lo & Miller, 2020). This lack of engagement and interaction in classrooms can hinder students' ability to achieve the desired learning outcomes, creating a persistent challenge in English language education.

The introduction of Canvas Learning Management System (LMS) in the UAE offers the potential to address these issues. However, its implementation reveals several critical challenges. First, the design features of Canvas LMS may inadvertently undermine students' intrinsic motivation by failing to foster curiosity and personal interest in learning. For instance, the structure and presentation of its interface can significantly influence how students perceive their learning journey. If not optimized, these design elements may discourage active participation and fail to engage students behaviorally, cognitively, and emotionally.

Behavioral engagement is often hindered by LMS features that do not effectively encourage active participation in course activities and assignments. Similarly, cognitive engagement presents a challenge, as certain design elements of Canvas LMS may not adequately stimulate critical thinking and problem-solving skills. Emotional engagement also poses a significant issue, as some features fail to foster a positive emotional connection to course materials. This

lack of emotional resonance can lead to student frustration, disinterest, and a decline in intrinsic motivation, ultimately affecting learning outcomes.

Another pressing issue lies in the platform's ability to facilitate real-time communication and feedback. Insufficient features for timely instructor support and mentorship can create barriers that impede students' ability to seek guidance when needed (Akram & Khan, 2021). Additionally, the design of Canvas LMS may not effectively promote student-student interaction. Limited tools for collaboration and peer-to-peer communication restrict opportunities for students to build essential teamwork and social skills (Qushem et al., 2022).

In the context of private schools in Abu Dhabi, these challenges demand a deeper understanding of how Canvas LMS influences students' social learning experiences and academic performance. Grade 8 students, in particular, have diverse perspectives on how social motivation, engagement, and interaction either support or hinder their academic success in English as a foreign language environments. Addressing these challenges requires investigating the interplay between Canvas LMS's design features and students' perceptions of motivation, engagement, and interaction. This research aims to explore these dimensions critically, identifying barriers within the Canvas LMS design that impede learning while also uncovering opportunities to enhance its effectiveness. By examining how students navigate their social and academic learning experiences in an English-language context, this study seeks to contribute actionable insights to optimize Canvas LMS for improved learning outcomes in Abu Dhabi's private schools.

Organization of the Research Article

Chapter 2 covers the literature review critically examines previous studies on LMS platforms, with a focus on Canvas LMS, highlighting gaps in understanding its impact on students' social and academic learning experiences. Section 3 is the methodology outlining the research design, participants, data collection tools, and analysis methods used to investigate the identified issues. The Findings and Discussion present and interpret the results in section 4, linking them to existing literature while addressing the research questions. Finally in section 5, the Conclusion and Recommendations summarize the main findings, their implications for educators and policymakers, and propose strategies to optimize Canvas LMS for better educational outcomes in the UAE.

Problem Statement

In the UAE, English is the language used for instruction in education. However, students are taught English using memorization without a full and applicable understanding of the content (Baqaa, 2023; Purbohadi et al., 2023). Study confirms that UAE students faced difficulties in using English skills because teachers taught them using traditional methods of learning through memorization without fully understanding the functions and they were not engaged in the classes (Lo & Miller, 2020). A possible cause of this problem lies in the low engagement and interactions among students in the learning process that could lead to failure in achieving the desired outcome

In the context of using CANVAS Learning Management System (LMS), there is a pressing concern that its design features may inadvertently undermine students' intrinsic motivation rather than fostering their curiosity and personal interest in learning. The way using CANVAS

LMS is structured and its interface presented plays a pivotal role in how students perceive their educational journey. Addressing these design-related challenges is paramount to optimizing using CANVAS LMS. behavioral engagement within the using CANVAS Learning Management System (LMS), there is a pressing issue related to specific design elements that may inadvertently discourage active student participation in course activities and assignments. Within the using CANVAS Learning Management System (LMS), there is a distinct challenge related to fostering cognitive engagement, stemming from design elements that may not effectively stimulate critical thinking and problem-solving skills. Emotional engagement within the using CANVAS Learning Management System (LMS) presents a significant concern associated with certain design features that may inadvertently fall short in fostering a positive emotional connection to course materials. This deficiency can lead to student disinterest and frustration, ultimately effecting their motivation and learning outcomes. When students fail to emotionally connect with the content, their intrinsic motivation may decline, hindering their In essence enthusiasm for the subject matter and their willingness to invest effort in their studies.

There's a notable issue where the LMS design may not effectively facilitate real-time communication, feedback, and support, potentially creating barriers that hinder students' ability to seek timely guidance and mentorship from their instructors (Akram & Khan, 2021). success. Likewise, when considering student-student interaction within the CANVAS Learning Management System (LMS), there is a notable challenge associated with certain design elements. These design aspects may not effectively promote collaboration and peer-to-peer communication, thus limiting valuable opportunities for students to engage with their classmates and cultivate essential social and teamwork skills (Qusheem et al., 2022). Student-student interaction within the using CANVAS Learning Management System (LMS) presents a noteworthy issue tied to specific design elements. These design components might not be optimally configured to encourage and facilitate collaboration and peer-to-peer communication among students.

To comprehend the students' social learning experiences at private schools in Abu Dhabi on their academic status, a scientific method is required. Students differ in their understandings of which of these social motivation, engagement, and interaction characteristics are challenges and are supportive of their academic performance. To better understand the value of adopting English as a foreign language in schools and how Abu Dhabi grade level 8 students' academic performance is affected in this context, it is necessary to gain more insight into students' conceptions of their social learning motivation, engagement and interaction in English language environments, such as using CANVAS LMS.

Objective of the Study

Based on the outlined problem statements as explained in the previous section, the research objective is to explore the effect of using CANVAS LMS on the students' motivation, engagement and interaction in Private Schools of Al Ain City in Abu Dhabi. Thus, the paper wants to explore the current situation by addressing the research questions as, What is the the effect of using CANVAS LMS on the students' motivation, engagement and interaction in Private Schools of Al Ain City in Abu Dhabi.?

There are many reasons why this research is important. The usefulness of employing CANVAS LMS activities in the English as a Foreign Language (EFL) classroom will be shown, and the use of the CANVAS LMS in English language classrooms as a potential means of enhancing students' competency may be encouraged. Another possible benefit of the research is the provision of a teaching strategy that might improve students' motivation, engagement, and interaction and encourage meeting individual needs. The outcomes could also lead to a more extensive and productive pedagogical use of technology in language learning, which might lead to more in-depth analyses of how technology is used to build the four language skills.

Literature Review

Learning Management Systems in Education

An online platform known as a LMS is used to deliver and manage online courses (Duin & Tham, 2020). The LMS is an essential part of students' digital learning experiences and is a standard piece of information technology infrastructure in every educational institution (Aldiab et al., 2019). Digital learning, seems especially difficult in the field of the English learning (Mumford & Dikilitaş, 2020). The United Arab Emirates (UAE) has witnessed remarkable changes in the education sector over the past few decades, with substantial investments in educational infrastructure, research, and innovation. The use of technology in education has been a cornerstone of these developments, with the implementation of the Learning Management System (LMS) being one of the most notable advancements in this regard. The LMS is a comprehensive web-based platform designed to manage, deliver and track learning activities in a digital environment (Allens et al, 2020). It is an integrated system that centralizes course content, student enrollment, course delivery, performance assessment, and communication between stakeholders. The LMS uses various technologies such as multimedia, social media, and mobile devices to facilitate both synchronous and asynchronous learning, making it possible for users to learn at their own pace and place (Chanmonita, 2020).

Motivation, Engagement, and Interaction in Online Learning

The value of digital technology in teaching the next generation cannot be overstated. Increased access to education is one advantage of online learning for society. Several variables have an effect on various generations (Bhowmik et al., 2023). Students from Generation Z have grown up immersed with technology. Students who were born between 1995 and 2012 are referred to as Generation Z. (Purbohadi et al. 2020). This generation is heavily influenced by the Internet, and many members of this group are enrolled in high school and college. As a result, using technology in the education is anticipated to help prepare today's students for the workforce. It is accurate to claim that digital technology is now becoming the primary education instrument. Because it is hard to envisage technology in the educational era without digital technologies. In addition to facilitating the job of the teacher, digital technologies also assist students in developing their knowledge, and competencies.

In the future, students' capacity for independent thought will be further strengthened by digitization of the educational system. In essence, this will provide a chance to develop their creative potential, and assistance in learning contemporary information technology, the use of digital technologies aids in raising students' interest and positive motivation. Digital

learning tools, CANVAS LMS, personalized assessments, and distant learning may all be organized using digital technology's potential.

Quite a number of researches suggests that learning approach enhances the quality of good engagement in teaching and learning in line with 21st century learning path. In spite of the numerous advantages of implementing learning approach in teaching and learning, integration of using CANVAS LMS with suitable teaching and current learning design Aitdaoud et al. (2023) makes the entire learning process effective. Nevertheless, teachers are unwilling to accept the new technology for innovative teaching due to its perceived usefulness, ease of use, influences by others and technical support (Coman et al., 2020).

Effect of using CANVAS LMS on Student Motivation, Engagement and Interaction

When examining the effect of using CANVAS LMS on student motivation, the research findings are particularly noteworthy. Rapanta et al. (2020) delved into the effect between learning approach motivation and self-efficacy, discovering that using CANVAS LMS had a markedly positive influence compared to traditional learning methods. Similarly, a study by Wong et al. (2020) sought to assess the effectiveness of using CANVAS LMS in teaching English as a second language through short stories, employing two distinct pedagogical approaches—an experimental group using CANVAS LMS and a control group using traditional methods.

Motivation refers to the pursuit of an external reward or the avoidance of an external punishment, such as grades, stickers, or instructor approval. Extrinsically motivated students, according to Davis (1989), participate in learning only for the sake of obtaining rewards or avoiding penalties. As a result, while students who are motivated by extrinsic factors try to drag themselves through academic tasks, feel compelled to learn, and consistently put forth the least motivation of motivation in order to receive the greatest amount of praise, students who are motivated by intrinsic factors are more enthusiastic, self-driven, challenging, and enjoy learning.

Students engage with one another, instructors, and information in both traditional and online learning contexts. Any successful e-learning program relies on interaction. According to empirical study, interaction is the primary determinant of student happiness and how learning communities are perceived (Mei & Abdull 2021). Online interactions may be divided into four categories: passive, limited, complicated, and real-time. The recipient engages in passive engagement by reading and interacting with the material on the screen. Some interactions requiring the reader's reaction are part of the restricted engagement.

CANVAS LMS environment, encouraging students to engage in learning even after class, that could lead to a significant higher frequency and level of engagement than the traditional learning (Fenech, 2021). Range of observable activities and behaviors that students display throughout the learning process. These actions demonstrate how invested, attentive, and devoted students are to their educational pursuits. According to Fleischmann, . (2021), engagement encompasses not just participation but also factors such as effort, persistence, and good behavior when interacting with learning materials. Engagement digs into the complex realm of people's emotional reactions to the learning process. Understanding these emotional responses is important since emotions may have a substantial effect on a student's

learning experience and results. Positive emotions are often related with greater achievement and self-regulation, as underlined by (Yafei et al., 2021).

Theoretical Framework

This are the connected set of theories and assumptions that this study develops to address the study's objectives. Such as CANVAS LMS which will be based on a relevant theory. In this respect, a theoretical framework is established based on what has been reviewed in the theoretical literature with consideration on Self-determination theory and Activity theory, of which are pertinent to using CANVAS LMS methodology employed in numerous researches. These are the hypotheses that will serve as the foundation and synthesis of this study via logical ties and connections. As a result, this will also represent an attempt by the researcher to create a gap in this study.

Self-Determination Theory

Self-determination theory is an approach that expands on the idea of motivation and seeks to understand the internal "needs" of students who may have a effect with their experiences and performance in the learning process (Ryan & Deci, 2000). The idea has been widely used and proven to be accurate in the field of education in both conceptual and empirical investigations, allowing for a quite well assessment of students' motivational demands (Guay et al., 2008). Various theoretical models have been put forward to explore and explain factors that cause individuals to accept, reject or continue the use of new technology. The self-determination theory explains that individuals' performance of a specified behavior is determined by their behavioral intention to perform a certain task. In this regard, the theory defines three basic dimensions which relate to student intrinsic motivation: student cognitive engagement and student to teacher interaction.

Self Determination Theory (SDT) (Adopted from Ryan & Deci, 2000)

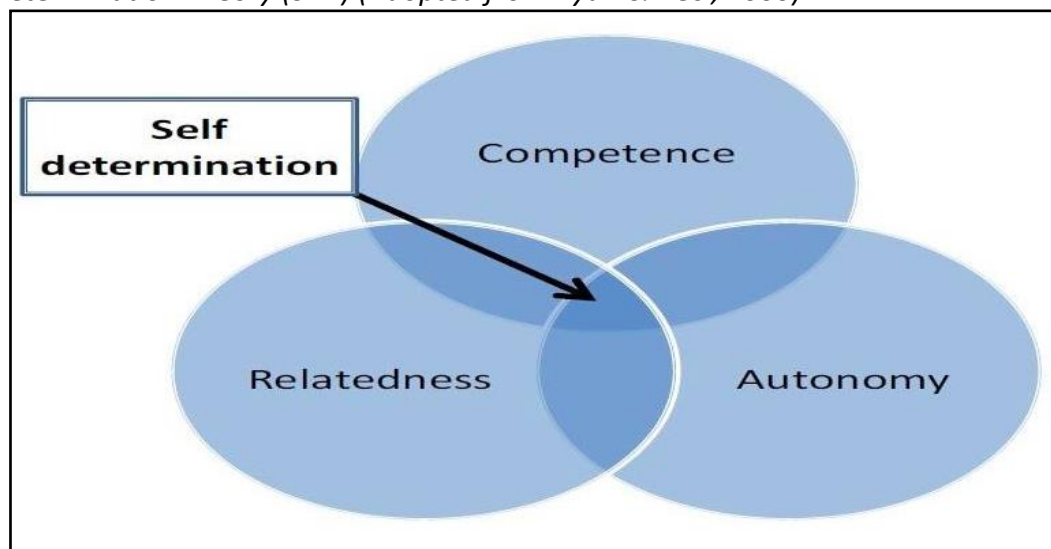


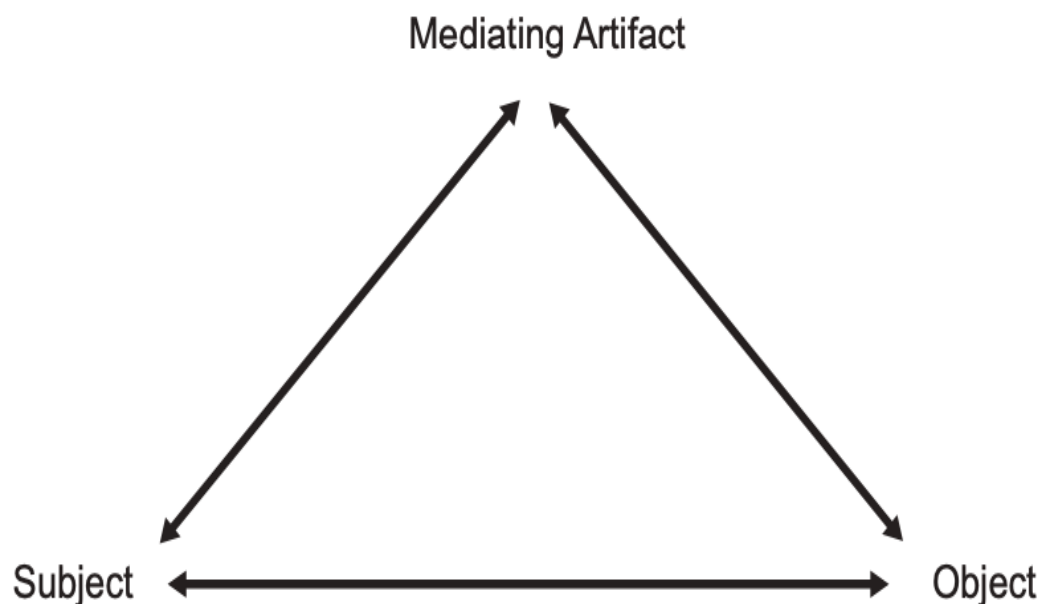
Figure 2.1

Activity Theory

The design and interaction of technology-supported courses, technology-computer interaction, previous studies on online learning approach communities have all been studied using activity theory as a theoretical and analytical framework (Baker et al., 2007; Lantolf &

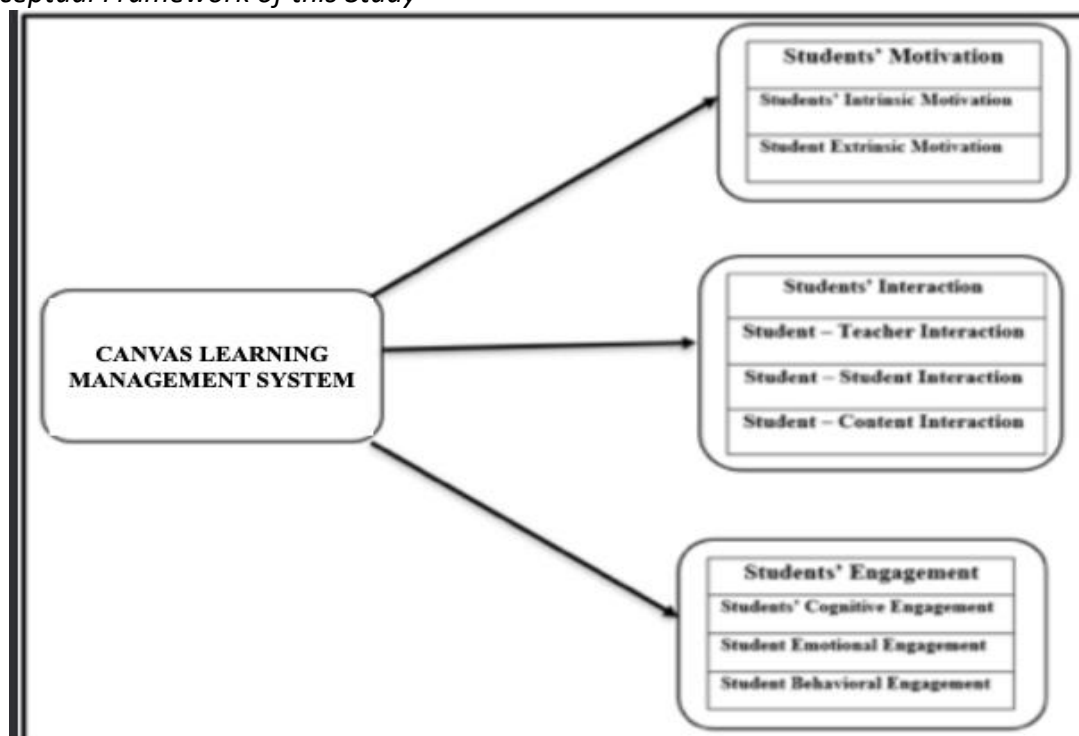
Appel, 1994) According to activity theorists, people's brains and activities are shaped by the surroundings they live in, including society, culture, and the world. Furthermore, according to activity theorists, "within the context of human interaction with the world" (Kaptelinin et al., 1999, p. 28), it is possible to understand the human mind and activities. Activity Theory provides a valuable framework for understanding the complex interactions between learners, instructors, and the technological tools and artifacts used in educational settings. It helps in addressing issues of learner engagement, collaboration, and the alignment of technological tools with pedagogical goals.

First Generation Activity theory (Vygotskian) Model of action



The Connection between Self Determination and Activity theory

Both theories are two psychological frameworks that can be related in terms of their focus on motivation, goal-directed behavior, and the role of the individual in their environment. While they have distinct origins and conceptualizations, there are some connections and points of intersection between the two. By considering these theories together, we develop a more comprehensive understanding of the interplay between motivation, context, and human behavior in which variables such as student motivation, engagement and interaction played a vital role in learning environment. SDT (Self-Determination Theory) is a framework for understanding human motivation and how it relates to personal growth and resilience. It focuses on three key psychological needs: autonomy, competence, and relatedness. Activity Theory, on the other hand, is a framework for understanding human behaviour in social and cultural contexts. It emphasizes the role of individual and collective actions in shaping social systems and structures. Here is a diagram that shows the effect between these two theories: The diagram shows how the social and cultural context shapes the activity systems and structures, which in turn influence an individual's personal psychological needs and motivations, as described by SDT. This interaction creates a complex dynamic between the individual and their environment, which can have a significant effect with their behaviour and wellbeing.

Conceptual Framework of this Study

Utilizing CANVAS LMS methods. Students' motivation, engagement, and interaction are all proven to be improved by using CANVAS LMS (Burrack & Thompson, 2021). The transmission of course materials, interaction, and evaluation in a virtual learning environment may be made easier by the integration of technology, such as the using CANVAS LMS platform (Capogrossi, 2020). To fulfill the unique demands of their students and subject areas, educators must carefully plan and modify strategies (Singh, and Thurman, 2019).

In order for the techniques approach to be successful, there must be interaction, motivation, and engagement. Students are more likely to actively engage with course materials and take part in interactive activities made possible by using CANVAS LMS when they are motivated (Burrack & Thompson, 2021). The term "assignment" refers to the process of obtaining a license to drive a vehicle. A supportive learning community that promotes intrinsic motivation, increases engagement, and promotes collaborative learning is also fostered via the interaction between students and their peers as well as with instructors (Martin, & Bolliger, 2018). The CANVAS LMS platform's integration of interaction, motivation, and engagement has a synergistic effect that improves students' In essence learning outcomes.

Methodology

Research Design

The research will primarily involve the collection and analysis of numerical data through surveys to address research objectives related to student motivation, interaction, and engagement in the context of a using CANVAS LMS (Opoku, 2021). This approach allows for a focused examination of the level of student motivation, interaction, and engagement within English Writing and Reading classes when exposed to various modes of instructional delivery. The gathered quantitative data will yield numerical values, which will be subjected to statistical analysis to identify trends and assess the effect between using CANVAS LMS and students' engagement, motivation, and interaction. This analytical approach will provide

valuable insights into any changes in students' attitudes and academic outcomes as a result of the Using CANVAS LMS, offering a comprehensive understanding of its effect on the learning experience.

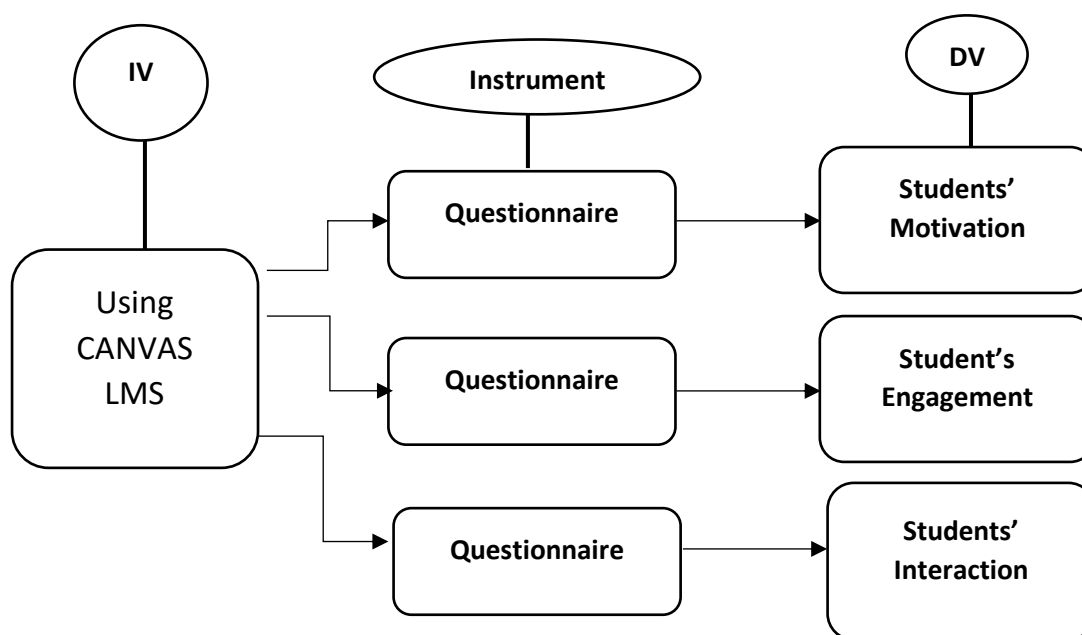


Figure 3.1 A research design model of using CANVAS LMS in relation to students' Motivation, Engagement and Interaction.

Quantitative Approach

To examine the effect between the learning approach and the students' motivation, interaction, and engagement, this study will solely rely on quantitative data collection through surveys. This focused quantitative approach allows for a comprehensive evaluation of the research questions, providing valuable insights into the effect between the learning approach and students' academic performance and learning experiences in English Writing and Reading in Al Ain City. By employing quantitative methods, this study seeks to strengthen the validity and reliability of the findings, ensuring a rigorous examination of the effect between learning approach and student motivation, interaction, and engagement.

Data Collection

Questionnaire is to be distributed to target students in a Google Forms survey form through E-mails, using CANVAS LMS Platform, social media networks like Kaizala, and WhatsApp to assesses their response on their level of motivation and interaction as influence by learning approach using the using CANVAS LMS during English language classes. Respondents were allowed to express their opinions based on what they had encountered in the present situation. Questionnaires.

Population and Sample

In this study, purposive sampling is chosen as the sampling method (Johnson, 2010). Purposive sampling, also known as judgmental or selective sampling, is a non-probability sampling technique widely used in quantitative research (Patton, 1990). This approach involves deliberately selecting participants based on specific criteria relevant to the research objectives and the population of interest (Creswell, 2014). The selection criteria for our study

may include factors such as the extent of exposure to academic performance, and demographic characteristics. By deliberately targeting participants who have substantial exposure to using CANVAS LMS, we can gather rich and detailed information that provides valuable insights into their motivation, engagement, and interaction within this educational context (Creswell, 2014).

There will be 2000 grade 8 students in 10 different private schools in Al Ain city in Abu Dhabi who are using the using CANVAS LMS in teaching English reading and writing. This study's In essence population and students from the target population of 2000 who will be enrolled in the general education requirements courses between 2023 and 2024 will be chosen for this study. sample size of 333 participants from a population of 2000 individuals (Smith et al., 2022). The sample size of 333 represents approximately 16.65% of the total population as calculated using the formula for sample size determination, making it a relatively large sample (Johnson, 2018). A larger sample size increases the likelihood of obtaining statistically robust findings and enhances the generalizability of this study results to the population (Creswell, 2014). Table 3.1 shows how the sample is calculated from each school using the ratio formula above.

Table

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School	Grade.8 students	The formula for the ratio.	The number of samples	The number of samples
School. A	272	$272 * (333/2000)$	45.288	45
School. B	180	$180 * (333/2000)$	29.97	30
School. C	230	$230 * (333/2000)$	38.295	38
School. D	212	$212 * (333/2000)$	35.298	35
School. E	217	$217 * (333/2000)$	36.1305	36
School. F	182	$182 * (333/2000)$	30.303	30
School. G	175	$175 * (333/2000)$	29.1375	29
School. H	193	$193 * (333/2000)$	32.1345	32
School. I	175	$175 * (333/2000)$	29.1375	29
School. J	164	$164 * (333/2000)$	27.306	27
Total	2000			333

Research Instrumentation

Present study included a variety of criteria. The variables include an endogenous variable—English Writing and Reading, as well as three exogenous factors - student motivation, engagement, and interaction. Since this study is an exploratory study, we established the variables based on earlier reviewed researches. As a result, with some improvements focus to our study, the questionnaire was also developed based on past research. Likert measurement scale is employed to extract information from the questionnaire instrument and it used the data to analyzed the strength of the effects in this study between the determined factors as stated previously in this study, A 5-point Likert scale, with a range of 1 (strongly disagree) to 5. (strongly agree) is applied. Responses to questionnaire items will be on the closed-ended Likert scale used by the researchers.

To test validity and reliability, the questionnaire is given to experts from various universities and educational institution, who then will provide feedback, in response to which the researchers can modified some items to meets the purpose of this study. Three phases of validation is performed on the tool: content, and construct validity. Thirty (30) students from the emirate of Sharjah will be given sample pilot surveys to complete, and three instructors should be consulted to ensure that the language and substance were suitable. A total of 150 students from different schools in the emirate of Al Sharjah who are studying English Writing and Reading, as well as IT skills courses using CANVAS LMS platform, participated (English writing, English reading and Introduction to IT skills). The reliability of the questionnaire is determined using Cronbach's Alpha to obtained high level of internal consistency. With a focus on expert views on adopting using CANVAS LMS platform in English language writing and reading, the questionnaire was created and utilized to gather data from students.

Table

Error! No text of specified style in document..2 Variables, measures, instrument and Author

Variables		Measurement	Instrument.	Author
Dependent Variables				
Students' Motivation:		Interval Scale.	Questionnaire	Waha, B., & Davis, K. (2014).
Intrinsic Motivation,		Interval Scale	Questionnaire	
Extrinsic Motivation,		Interval Scale		
Student Interaction:		Interval Scale	Questionnaire	Taghizadeh, M., & Hajhosseini, F. (2021)
Student to Teacher Interaction		Interval Scale	Questionnaire	Taghizadeh, M., & Hajhosseini, F. (2021)
Student to Student Interaction		Interval Scale	Questionnaire	Taghizadeh, M., & Hajhosseini, F. (2021)
Student to Content Interaction		Interval Scale	Questionnaire	Taghizadeh, M., & Hajhosseini, F. (2021)
Student Engagement		Interval Scale	Questionnaire	Mohd, I. H., Hussein, N., Aluwi, A. H., & Omar, M. K. (2016, December)
Student Cognitive Engagement		Interval Scale	Questionnaire	Mohd, I. H., Hussein, N., Aluwi, A. H., & Omar, M. K. (2016, December)
Student Emotional Engagement		Interval Scale	Questionnaire	Mohd, I. H., Hussein, N., Aluwi, A. H., & Omar, M. K. (2016, December)
Student Behavioural Engagement		Interval Scale	Questionnaire	Mohd, I. H., Hussein, N., Aluwi, A. H., & Omar, M. K. (2016, December)
				Mohd, I. H., Hussein, N., Aluwi, A. H., & Omar, M. K. (2016, December)
USING CANVAS LMS		Interval Scale	Questionnaire	Kofar, G. (2016)

Data Analysis

In this regard, this study employs Likert scale in five-dimensional categorization to evaluate the student response: very high (5), high (4), moderate (3), little (2), and very little (1). In measuring the level of effect among the variable, a considered factor in their performance in using CANVAS LMS platform will be analyzed to investigate the independent variables of student motivation, engagement and interaction against the main approach of using CANVAS LMS platform. After the data collecting phase, the surveys' raw data to the statistical package for the social sciences (SPSS) program for data processing. According to the instructional modes, the survey responses will be sorted into three groups. To ascertain which model best promote learning process and which one does so the least student motivation, engagement and interaction models are compared.

Reliability and Validity of the Sample

Table 3.3 shows the Cronbach's Alpha values for the different constructs used in the questionnaire. All values are above 0.6 indicating that the constructs have acceptable reliability. This means the questionnaire design was robust and the constructs consistently measured what they intended to measure. This table presents the Cronbach's Alpha reliability analysis for the different constructs measured through the survey questionnaire. All the values range from 0.653 to 0.852, which are above the acceptable threshold of 0.6. This indicates that the items measuring each construct have good internal consistency and reliably measure the same underlying attribute. The high Cronbach's Alphas validate the robustness of the questionnaire design and ensure the instruments are accurately capturing the intended concepts. Out of the motivational constructs, intrinsic motivation has the lowest alpha (0.653) while extrinsic motivation has the highest (0.852). For engagement, cognitive engagement has the lowest reliability (0.682) and behavioral engagement the highest (0.780). In essence, the table provides empirical evidence that the questionnaire and its scales are statistically reliable and valid. This lays the foundation to meaningfully interpret the survey results, as one can be confident the constructs are measured accurately. The good reliability and validity signifies the survey will produce generalizable insights about the effect of Canvas LMS on students' motivation, engagement and interaction.

Table

Reliability and Validity

Used Questionnaire Construct Of The Study	Cronbach's Alpha	Cronbach's (Standardized)	Alpha N of Items
Student Intrinsic Motivation	0.692	0.653	8
Student Extrinsic Motivation	0.837	0.852	5
Student-Teacher Interaction	0.713	0.708	7
Student-Student Interaction	0.834	0.831	4
Student Content Interaction	0.847	0.851	4
Student Cognitive Engagement	0.687	0.682	7
Student Emotional Engagement	0.653	0.635	4
Student Behavioural Engagement	0.759	0.780	4

Demographic Information

This section provides descriptive statistics summarizing the demographic variables in the survey sample. The low standard deviations and variances indicate the sample is relatively homogeneous in terms of the key demographics like gender, age, nationality, education, and prior e-learning experience. The table also shows the central tendencies - means, medians and percentiles of the demographic variables. This aid understanding the average profile of respondents. For instance, the average age is 1.94, indicating a young adult sample. The average prior e-learning experience is 2.46 courses, implying respondents are fairly conversant with online education.

Table

Descriptive Statistics for The Demographic Variables

		Gender	Age	Nationality	Grade.8	Student Prior Experience in E-learning Courses
N	Valid	333	333	333	333	333
	Missing	0	0	0	0	0
Mean		1.50	1.94	1.47	1.47	2.46
Std. Deviation		.501	.833	.500	.500	1.083
Variance		.251	.693	.250	.250	1.174
Minimum		1	1	1	1	1
Maximum		2	3	2	2	4
Sum		500	648	491	492	821

The findings show how students may use various CANVAS Learning Management System (LMS) features to enhance their learning experience in a variety of ways.

Results

Analysis of Combine Effect on Motivation

The average effect of students utilizing the online learning platform CANVASLMS over time is shown in two graphs in the graphical illustration. On a scale of positive, negative, and neutral emotions, affect, which represents students' emotional reactions to the learning process, is assessed. The graphs' varied sizes and shapes show different influence levels and patterns, with the right graph showing more steady shifts and the left graph showing more significant oscillations. These graphs provide an analytical tool for examining how the online learning platform affects students' motivation and feelings.

Table

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Combine Effect of CANVAS LMS on Students' Motivation

ANOVA		Sum Squares	of df	Mean Square	F	Sig.
STDINTMOT	Between Groups	7.213	14	.515	18.915	.000

	Within Groups	8.690	319	.027		
	Total	15.903	333			
STDEXTMOT	Between Groups	31.822	14	2.273	32.390	.000
	Within Groups	22.386	319	.070		
	Total	54.208	333			

Analysis of the Effect on Engagement

Table 4.6 provides ANOVA test results examining the influence of Canvas LMS usage on improving students' engagement across cognitive, emotional and behavioral dimensions. The results are statistically significant for all three types of engagement variables, clearly showing Canvas LMS enhances students' In essence engagement in online learning. Among the engagement constructs, cognitive engagement is improved the most as evidenced by highest F-statistic of 48.559. Canvas features like multimedia, simulations, auto-graded practice tests etc. stimulate students' intellectual engagement. Emotional engagement has the lowest F-value, indicating need for more dynamic features to engage students affectively. Comparing between-group and within-group variances also validates Canvas LMS's positive role. In essence, the table empirically establishes that thoughtfully designed LMS features can significantly heighten student engagement across cognitive, emotional and behavioral dimensions.

Table

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Effect of CANVAS LMS on Students' Engagement

Variables		Sum of Squares	df	Mean Square	F	Sig.
STDCOGENGM	Between Groups	29.817	14	2.130	48.559	.000
	Within Groups	13.991	319	.044		
	Total	43.808	333			
STDEMOTENGM	Between Groups	10.354	14	.740	13.181	.000
	Within Groups	17.898	319	.056		
	Total	28.252	333			
STDBEHVENGM	Between Groups	5.076	14	.363	4.952	.000
	Within Groups	23.354	319	.073		
	Total	28.430	333			

Analysis of The Combine Effect on Interaction

Table 4.10 presents ANOVA results to assess Canvas LMS effects on improving students' interactions. Three dimensions are covered - student-teacher, student-student and student-content interactions. The F-statistics are highly significant ($p < 0.01$) for all three dimensions. Among interactions, student-teacher connection improves the most with highest F-value of 45.405. Variance analysis also highlights Canvas LMS's positive effect. This empirically proves thoughtfully designed LMS features can effectively nurture student interactions and sense of connectedness with teachers, peers and content which are vital for online learning environments. Specific interaction improvement areas can be further analyzed.

Table

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ANOVA Test On The Effect of CANVAS LMS on Students' Interaction

Variables		Sum of Squares	df	Mean Square	F	Sig.
STDTEACHERINTR	Between Groups	31.879	14	2.277	45.405	.000
	Within Groups	15.998	319	.050		
	Total	47.877	333			
STDSTDINTR	Between Groups	19.612	14	1.401	23.059	.000
	Within Groups	19.380	319	.061		
	Total	38.993	333			
STDCONTINTR	Between Groups	15.158	14	1.083	15.860	.000
	Within Groups	21.777	319	.068		
	Total	36.935	333			

Discussion

Assessing the effect of Canvas LMS usage on students' motivation, engagement, and interaction in online learning settings was the goal of this study, as stated in the research objectives in Chapter 1. The careful integration of Canvas LMS features considerably improves these three essential elements of the online learning experience, as experimentally validated by the statistically significant results produced across the numerous motivation, engagement, and interaction factors. The quantitative results meet the specified research objectives and are in good alignment with them. The usage of Canvas LMS has been definitively shown to have significant links with improvements in motivation, engagement, and interaction. This answered the main objective of the research, which was to determine if and how Canvas LMS usage influences the learning process.

Beyond the initial objectives, the comparative examination of the effects of Canvas LMS on intrinsic vs extrinsic motivation and cognitive versus emotional engagement yielded insightful information. Understanding of the linkages involved is enhanced by the findings that pinpoint the precise components of motivation and engagement most effected by Canvas LMS.

Furthermore, further findings that broaden the scope of the research include examining variations in effects across demographics and identifying correlational patterns between engagement and interaction. In conclusion, the results mostly support and achieve the initial objectives of examining the effects of Canvas LMS on interaction, motivation, and engagement. The study also offers fresh additional insights into the subtle differences in these effects across demographics, engagement modes, and motivation kinds. As a result, it adds significantly to our understanding of the advantages of Canvas LMS for online learning.

The research objectives and findings of a study investigating the integration of the CANVAS Learning Management System (LMS) at private schools in Al Ain, Abu Dhabi, are outlined in table 5.2. The main objective (1) is to look at the levels of student motivation, engagement, and interaction made possible by the use of CANVAS LMS. It is inferred that the study seeks to discover and comprehend these features without providing specific results, even if the findings are not mentioned directly. Examining the effect of CANVAS LMS on student motivation is the main goal of Objective 2. A favorable association between the usage of Canvas LMS and In essence student motivation is suggested by the potential findings. Sub-objectives (2.a and 2.b) also delve into internal and extrinsic motivation, respectively. Emphasizing the system's potential to affect various motivational dimensions, the projected findings suggest a favorable effect on extrinsic motivation and an increase in intrinsic motivation among students using CANVAS LMS for learning.

Moving on to Objective 3, the study examines the CANVAS LMS' effect on student engagement. 3.a, 3.b, and 3.c are sub-objectives that delve into cognitive, emotional, and behavioral engagement, respectively. The potential for enhanced cognitive engagement, favorable effects on emotional engagement, and discernible improvements in behavioral engagement are all anticipated by the findings. The purpose of Objective 4 is to look at the effect of CANVAS LMS on student interaction. Examining interactions with professors, other students, and course content, sub-objectives (4.a, 4.b, and 4.c) further deconstruct this interaction. The anticipated results suggest greater interaction between students and instructors, enhanced student-to-student interaction, and higher interaction with course content, all of which are related to the integration of Canvas LMS.

Table

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Result of the Study answer to each Objective

Objectives	Potential Findings
1. To investigate the level of students' engagement, motivation, and interaction in using CANVAS LMS in private schools in Al Ain city of Abu Dhabi.	-
2. To investigate the effect of using CANVAS LMS on students' motivation in private schools in Al Ain city of Abu Dhabi.	Positive correlation found between CANVAS LMS usage and In essence student motivation. a. Increased intrinsic motivation observed in students using CANVAS LMS for learning. b. Positive effect on extrinsic motivation evident among students utilizing CANVAS LMS.
3. To investigate the effect of using CANVAS LMS on students' engagement in private schools in Al Ain city of Abu Dhabi.	a. Enhanced cognitive engagement observed in students using CANVAS LMS as an educational tool. b. Positive effect on emotional engagement among students utilizing CANVAS LMS for learning. c. Observable improvements in behavioural engagement linked to the use of CANVAS LMS.
4. To investigate the effect of using CANVAS LMS on students' interaction in private schools in Al Ain city of Abu Dhabi.	a. Enhanced interaction between students and teachers associated with the integration of CANVAS LMS. b. Improved student-to-student interaction observed with the implementation of CANVAS LMS. c. Increased interaction with course content linked to the use of CANVAS LMS.

Prior research on the effects of learning analytics dashboards is consistent with the result that Canvas LMS usage increases students' intrinsic motivation. Dashboards that tap into achieving goal orientation were found to improve motivation by Verbert et al. (2013). This demonstrates that the analytics elements of Canvas work well as external motivators. Rapanta et al.'s (2019) findings on the favourable effects of LMS communication and coordination tools are supported by the student-instructor interaction enhancements. Peer cooperation improvements were less pronounced, which is in accordance with Heafner and Friedman (2008), who also found that student-to-student interaction in online situations needs more fostering. The majority of results confirm the known advantages of well-considered LMS features.

Implications for Educators and Policy Makers

Institutions must strategically prioritize Canvas LMS capabilities based on the implications derived from the findings. To maximize the advantages of the learning management system,

it is essential for the creation of strong training and support initiatives. As these features have shown a significant beneficial effect, special attention should be paid to using the motivational affordances and interactive tools included within the Canvas LMS. Additionally, institutions have to think about modifying LMS dashboards to meet the particular engagement requirements of other disciplines, since a customized approach might improve the platform's In essence efficacy.

Limitations of the Study

The study's cross-sectional nature, as opposed to its longitudinal nature, limits understanding to a single point in time rather than examining how the effects of the Canvas LMS change over time as students become more proficient. While outside the scope, comparing several systems might provide more insightful information. Furthermore, rather than looking at moderators and mediators, demographic differences were only examined via the lens of interaction effects. Nuanced linkages that complement the quantitative results may be shown by qualitative data. Despite the demonstration of statistical significance, the methodology did not include practical significance assessment.

Future Research Directions

Key recommendations for further research in this area include doing longitudinal studies to monitor how Canvas LMS is changing from onboarding to mastery and how this affects learners' lives. To find any differential effects, a comparison study across many platforms, like Blackboard, is also advised. To understand the behavioral processes behind survey results, a thorough qualitative investigation including observations and interviews is required. Instead of concentrating exclusively on group differences, researchers should investigate the interaction effects of demographic characteristics. Rather than depending just on self-reported data, it is critical to emphasize the monitoring of real system usage patterns using learning analytics. Beyond young UAE undergraduates, it is advised to expand the scope of the studies to include a diverse range of students and cultures

Conclusion

The study concludes that Canvas LMS features significantly improve motivation, engagement, and interaction in online learning. This provides institutions with solid evidence to enhance their use of LMS capabilities and instructional strategies. While there are limitations, using the findings in specific contexts can maximize their practical value. Further research can build on these findings to advance theoretical and applied knowledge. In essence, the research makes significant contributions to evaluating the effect of learning technologies through a rigorous methodology.

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