

*Evaluation of Innovative Teaching Tools 'Canvas' Learning Management System:
A Case Study of Benazir Bhutto Women University Peshawar*

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Abstract

The COVID-19 pandemic has had a significant impact on all aspects of life, including education. Many countries opted to physically close all educational institutions. As a consequence, there was a shift towards online teaching and learning methods. Educators and students were unprepared for this transition and encountered numerous obstacles. This study investigates the efficacy of the 'Canvas' learning management system in facilitating learning and education. Using a theoretical framework underpinned by the Technology Acceptance Model, the study employed a research design that combined both qualitative and quantitative methods in a sequential and explanatory manner. The study centers on female students of Shaheed Benazir Bhutto Women's University, aged 17 to 25, who were enrolled in the Intensive English Language course. US Mission Pakistan delivered This course through the Canvas application in Khyber Pakhtunkhwa. Simple random sampling was used for the quantitative portion, involving 132 respondents. For the qualitative component, purposive sampling method was employed, involving face-to-face interviews with 10 respondents. SPSS was used to conduct an analysis of the quantitative data. A regression model was employed to assess the impact of the independent variables—perceived ease of use, perceived usefulness, behavioral intent, and—on the dependent variable—actual use of the Canvas application. The study's findings show that the utilization of Canvas and its associated tools played a vital role in fostering students' satisfaction and facilitating positive experiences with the platform. Thus, it is also recommended to utilize the Canvas application for accredited campus courses.

Keywords: Canvas Learning Management System, Transition, Distance Learning, Perceived Ease of Use, Perceived Usefulness, Behavioral Intent, Experiences

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Introduction

The global outbreak of COVID-19 has had a severe impact on the field of education across the globe. Educational institutions encountered various obstacles and had to adjust to new conditions in order to maintain learning, while placing a high emphasis on the safety and welfare of students, educators, and personnel. Many countries implemented the temporary closure of educational institutions as a measure to mitigate the spread of the virus. This resulted in the adoption of online teaching and learning methods. It was noted that higher educational institutions were unprepared for this shift.

The lack of a suitable learning management system posed numerous challenges for both teachers and students. The lectures were presented using PowerPoint presentations, video calls, or videos. However, students expressed a general dissatisfaction with the teaching method. Online education was delivered through various methods, with a crucial requirement of a well-designed learning management system (LMS). A system that allows teachers to easily share resources and enable students to access the educational material, and Students have the convenience of collaborating on assignments and receiving feedback from their teacher, regardless of their geographical location. Research indicates that despite students expressing boredom and a desire to discontinue online classes, the use of online learning with suitable learning management systems (LMS) experienced a notable rise (Costales, et al., 2022).

This research investigates an LMS application for the technology-enabled learning of students according to international standards through virtual learning programs. The evolution of Technology led higher education Institutions and Universities to embrace the new system of learning to spread education around the globe, manage and supervise online learning, reach out the remote audiences, and engage them for their well-being. Teachers who use technology-enabled teaching approaches are more scientific-minded and prefer evidence-based methods in teaching. Teachers' cognition, learning, and practice justify advantages when coupled with multimedia (Cavus & Zabaddi, 2014).

Canvas is a software application where instructions are disseminated through virtual education. Canvas has made countless efforts to assist and support the teachers and the students to create a powerful impact on the students to participate in their desired program and learn directly or indirectly.

The usage of Canvas application in the education sector is the highest one as compared to the other sectors like trade and mechanics. Canvas has a positive effects on student's performance (Yaparak, 2022). Canvas application enables teachers to create customized curriculum plans for the students according to their individual needs, teachers share the learning material with the students, assign them tasks and get feedback from them (Tsang, 2019). This turned the traditional face-to-face classes into interactive online sessions. Canvas application was initially embraced by the Universities and educational institutions as formal web-based learning to benefit teachers and students in some subjects (Davis, *et al.*, 2009; Mpungose, 2020a). Later on, a variety of subjects were offered to the students for effective formal and informal learning (Bates, 2018; Khoza, 2019). Now the Canvas has become the most popular LMS for learning. This application is not only used by the developed countries but the developing countries have also amalgamated it for the spread of education (Cavus & Zabaddi 2014; Mpungose 2020d).

The Canvas application features provide a platform to the users for discussions, tests, lectures, videos, files, announcements, course progress, and others. Canvas learning management system features provides many functions to its users for the successful completion of the course (Cavus & Zabbadi, 2014). Students customize their course according to their interest from the huge variety of course combinations available. Learning takes place via presentations, sharing of views, chats, and discussion Threads, video conferencing on Zoom, webinars, and emails (Mpungose, *et al.*, 2022). Teachers use quizzes and assignments to evaluate the students' performance, progress; and assign grades to them to successfully complete the course (Bates, 2018; Black & William, 2009).

Canvas features are built on modern web based systems to be used on computers, laptops, tablets, and mobile devices. Canvas features include a dashboard, activity tracking, notification alerts, attendance tracking, course management, progress reports, certification, and licensing.

Teachers who incorporate technology into their teaching methods often possess a logical mindset and prioritize research-based approaches. Research has provided support for the advantages of integrating multimedia into teachers' cognition, learning, and practice. Blackboard, Canvas, and Moodle are widely utilized Learning Management Systems in higher education institutions across the United States. Blackboard has the largest market share, with 31%, followed closely by Canvas at 30%, and Moodle at 18%. Enrollment in leading Learning Management Systems (LMSs) has experienced a notable surge, as reported by Canvas Network (2022).

The registration process in Canvas is simple and quick to follow. Students have the option to register for their preferred program, enabling them to access course content, training materials, process seminars, and important announcements on their dashboard. The entire process is organized according to the unit level, activity level, and lesson level. Upon enrolling in the course, a panel containing various sections such as home, assignments, discussions, grades, people, pages, files, syllabus, quizzes, and modules becomes available for use. Upon completing a module, students will gain access to the next module in the sequence, allowing them to track their progress over time. The instructors offer comprehensive technical guidance to the students, allowing them to successfully complete the quiz and achieve favorable outcomes (Benbunan-Fich & Hiltz, 2013). The course is meticulously designed, allowing for seamless execution. The popularity of Canvas has increased due to its features. Canvas is an online learning management system (LMS) that caters to the needs of the growing population of students who are opting for online education. The platform caters to the needs of educators and learners in the digital education space (Moore & Kearsley, 2011). Research conducted by Fisher *et al.* (2010) indicates that there is no significant difference between the outcomes of online courses and face-to-face sessions. Online courses have created opportunities for a wide range of users to acquire new skills through flexible learning methods.

Objectives

The study objectives were to:

1. Investigate the effect of perceived ease of use and the actual use of the Canvas learning management system.
2. Examine the effect of students' perceived usefulness and satisfaction on the actual usage of Canvas.

Research Questions

This study sought to investigate the following research questions:

- i. What is the relationship between students' perceived ease of use and actual use of Canvas in their virtual classrooms?
- ii. What relationship exists among students' perceived usefulness, satisfaction, and actual use of canvas application?

Research Hypotheses

- H₁. There is no significant relationship between the perceived ease of use of students' actual use of Canvas learning management system.
- H₂. There is no significant relationship among students' perceived usefulness, satisfaction, and actual use of Canvas application.

Theoretical Framework

Technology Acceptance Model (TAM)

In this study, a Technology Acceptance Model (TAM) is used. TAM reveals that Variables are reliant on each other and perceived ease of use affects the perceived usefulness (Davis *et al.*, 2009). This model identifies the relationship between perceived usefulness, perceived ease of use, attitude toward using, behavioral intention to use, and actual usage. If the technology is useful and enhances the performance of the user then the user develops a Positive attitude, which affects the behavioral intention to use the technology. If the behavioral intention is positive, then the user uses the technology in order to achieve a positive result.

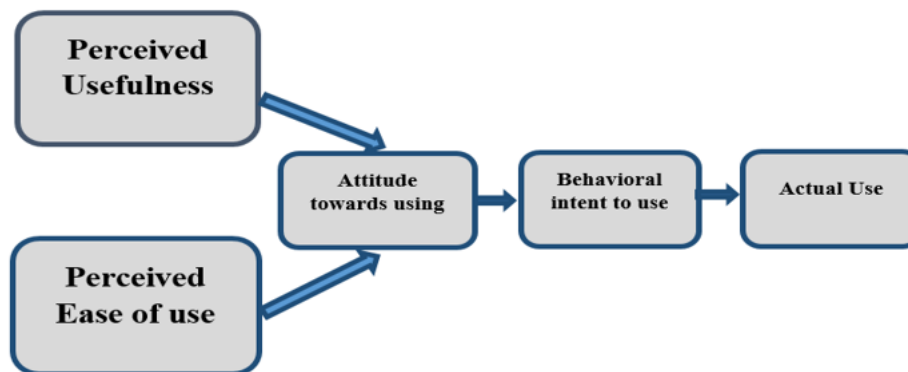


Figure 1: Research Framework: TAM Model

Technology Acceptance Model and Canvas

The widely used Technology Acceptance Model (TAM) has had a huge impact on the field of technology adoption and innovation. It sheds light on what factors promote technology adoption acceptance and usage. For years these have been well-studied academic models; therefore they can be used to develop highly accurate models of technology adoption behavior. Their concise nature and academic quality make them particularly useful.

The current study is based on the Technology Acceptance Model (TAM) to its attitude and use of Canvas applications among teachers' students. The core ideas of the Technology Acceptance Model (TAM) argue that the relationship between variables should be examined mindfully, and perceived ease of use will increase perceived usefulness. The ultra-user-friendly characteristics of the Canvas platform have been highly acclaimed. The study aimed to gauge users' satisfaction with and how well they can find information in system navigation among people engaged in the educational process -- students, lecturers, and tutors or instructors. When a digital platform for educational purposes is designed to be user-friendly, user adoption is more rapid. This study covers a variety of Canvas application scenarios, including how easily people can communicate online with their fellow students or colleagues, submit assignments, access course materials and other related information. TAM is a well-accepted tool for assessing learning management system implementation in education scenarios. By focusing on the platform's features and user makes it possible to create better engagement.

Satisfaction

Satisfaction is the feeling of happiness after the desire is fulfilled. Students are satisfied when their perceived results are equal to or greater than their expectations (Elliot, *et al.*, 2022). On the other hand, dissatisfaction occurs when the results are less than expectations which leads to withdrawals from the course.

Perception of Students About LMS

Perception means how an individual see the world around them, their understanding depends upon their experiences and beliefs. The perception of students about LMS determines the Adoption and usefulness of LMS. Disseminating the use of educational technology involves several influential factors.

Perceived Utilization (Usefulness)

The definition of perceived usefulness is "the extent to which an individual believes that utilizing a particular system would improve his or her job performance" (Davis, *et al.*, 2009). Numerous empirical studies (Bagozzi, *et al.*, 1992) demonstrate that end-users' intentions to adopt a new system are heavily influenced by their perception of its usefulness.

Attitude Toward Using (ATU)

An individual's attitude toward using technology is a crucial factor that decides whether students are going to use technology in the class. If instructors have a positive attitude toward the technology they are considering implementing, they should do so (Aldunate & Nussbaum, 2013). The individuals who adopted technology early and spent more time learning about it had a more favorable attitude toward it. However, their attitude towards the new technology depended on how difficult it was to use.

Behavioral Intention to Use (Intent)

Initiating actions and behaviors constitute the cognitive process or planning that leads to actual use of application. Recent research conducted by Schonboom (2014) demonstrates a statistically significant correlation between behavioral intention to use and both LMS

usefulness and ease of use. Low LMS intention was explained by low task importance, low task performance, low LMS utility, and low LMS usability (Schoonenboom, 2014). Schoonenboom (2014) utilized the TAM to explain why some instructors intend to utilize certain LMS tools more than others. Confirming previous research (Chen & Tseng, 2012; Lin & Chen, 2013; Motaghian, *et al.*, 2013), perceived utility and ease of use affected behavioral intent to utilize technological tools. In a qualitative study, it was discovered that instructors' behavioral intention to use LMS features was influenced by features that appear to provide an efficiency gain, the convenience of online grading, as well as peer and student pressure (Tsang, 2019). Teachers found the novel features on which they were trained to be beneficial, influencing their behavioral intent to use. The integration of new features of Canvas may have also inspired users to modify their intent to use the system.

Actual Use of the System (ASU)

TAM originated from the Theory of Reasoned Action by Ajzen and Fishbein (1980). Within TAM, "perceived usefulness" and "perceived ease of use" are recognized as two key internal beliefs (Towne, 2018). External variables are the main inputs to these two "main internal beliefs." Together, perceived ease and perceived usefulness shape users' attitudes and perceptions of the feature. A user's attitude influences their behavior, which in turn leads to their desire to use the system, which leads to actual system use (Wang & Wang, 2009).

The study explores the dynamics of technology integration in education through the Technology acceptance model (TAM). TAM provides a theoretical framework for understanding the relationship between user perception and technology adoption, emphasizing the role of attitudes and behavioral intentions.

Together, these perspectives underscore the significance of technology in education, highlighting its potential to shape the learning experience and outcomes.

Significance of the Study

The COVID-19 pandemic has caused significant disruptions to the traditional mode of face-to-face education, resulting in various challenges for students and teachers as they strive to maintain their educational programs. Institutions that implemented an advanced Learning Management System (LMS) and embraced hybrid learning methods encountered fewer interruptions and attained superior outcomes. Before the pandemic, traditional classrooms were the norm, characterized by limited utilization of technology. Nevertheless, the extensive integration of technology and shifts in educational systems have proven that utilizing technology improves academic achievement. Asynchronous learning, which involves accessing video lectures through an LMS, has the advantage of reducing costs and allowing for a greater number of students to enroll.

It is a valuable tool for fulfilling students' academic requirements. The implementation of Canvas LMS at Benazir Bhutto Women's University for the Intensive English Language and Soft Skill Development course during the COVID-19 pandemic has been remarkably successful. This study has the potential to offer valuable insights for policymakers and educators who are considering the implementation of Canvas LMS in various subject areas to enhance and optimize the learning process. Canvas enhanced the learning experience for students in the Intensive English Language and Soft Skill Development course, making it more efficient and dynamic. The positive outcomes of integrating Canvas LMS into the

Intensive English Language and Soft Skill Development course during the pandemic demonstrate its ability to improve learning across different disciplines. Policymakers and teachers should consider this study when making decisions about adopting educational technologies and platforms for online education that are effective and engaging.

Methodology

The study used a sequential explanatory research design, which combines both quantitative and qualitative research methodologies. The questionnaire was designed using a five-point Likert scale. The model of regression was used to quantify the impact of the independent variable on the dependent variables. This study examines the impact of the program's actual use on many independent variables, including perceived ease of use, perceived usefulness, satisfaction, and intent to use the application.

The study population consisted of 200 female students from Shaheed Benazir Bhutto Women's University who participated in the rigorous English Language and soft skills development virtual course between 2021 and 2022. Raosoft table has been utilized to determine the sample size for quantitative data, which in this case consisted of 132 respondents. Regarding the qualitative aspect, went through interviews with a total of 10 respondents, and the data obtained reached a point of saturation. This research used a simple random sample procedure for the quantitative component. The qualitative section of the research included purposive sampling.

Tools for Collecting Data

The data collection tools used in the present research consisted of questionnaires and semi-structured interviews. To collect quantitative data, a questionnaire was created using themes derived from the study goals and research questions. The questionnaire used a five-point Likert scale. Interviews provide a method of actively and systematically conversing in order to get an in-depth understanding of particular scenarios.

Data Analysis

An analysis was undertaken separately for both quantitative and qualitative data. The collected quantitative data was analyzed using SPSS version 23:

1. The data is given in a descriptive manner, including information on frequency and proportion.
2. The regression model is used to assess the assumptions in the technology acceptance model.

The data collected from interviews is analyzed using theme analysis. The patterns and themes in the answers are thoroughly analyzed. The theme analysis focused specifically on obtaining a deeper understanding of the viewpoints and intricacies related to student experiences.

Section A: Quantitative Data Analysis

The quantitative data comprises the following themes: (i) Perceived ease of use, (ii) perceived usefulness, (iii) behavioral intention to use, and (iv) actual use. At the end Regression Model is applied and an interpretation of the hypothesis is presented.

Table 1: Perceived Ease of Use

S#	Statement	SA	A	UD	DA	SDA
1.	Initially, I used to be told about the functions of each tab.	25 (19.1)	84 (64.1)	12 (9.2)	10 (7.6)	0 (0)
2.	My interaction with LMS is clear and understandable	35 (26.7)	83 (63.4)	13 (9.9)	0 (0)	0 (0)
3.	My dashboard tab notifies me about the course I am registered in and shows me the progress of my course.	59 (45)	67 (51.1)	5 (3.8)	0 (0)	0 (0)
4.	I complete my assignments on Canvas before deadline.	32 (24.4)	82 (62.6)	10 (7.6)	6 (4.6)	1 (0.8)

Item 1 signifies that 83.2% of the respondents agreed or strongly agreed that initially, they used to be told about the functions of each tab, 7.6% of the respondents disagreed or strongly disagreed, whereas only 9.2 % of the respondents remained undecided.

Item 2 indicates that 90.1% of the respondents agreed or strongly agreed that they had clear and understandable interaction with LMS, 0% of the respondents disagreeing or strongly disagreeing with the statement; whereas only 9.9 % of the respondents remained undecided.

Item 3 highlights that 96.1% of the respondents agreed or strongly agreed that their dashboard tab notifies them about the course they have registered in and shows them the progress of their course, 0% of the respondents disagreed or strongly disagreed, whereas only 3.8% of the respondents remained undecided.

Item 4 shows that 93.1% of the respondents agreed or strongly agreed that different avenues within the canvas have been helpful for me to locate files, modules, assignments, people and grades, 1.5% of the respondents disagreed or strongly disagreed, whereas only 5.3% of the respondents remained undecided.

Table 2: Perceived Usefulness

S#	Statement	SA	A	UD	DA	SDA
1.	After the online class, I did the assignment on Canvas related to my topic which strengthened my understanding of the topic	47 (35.9)	70 (53.4)	8 (6.1)	2 (1.5)	4 (3.1)
2.	Canvas quizzes have a significant role in formative assessment of the topic.	48 (36.6)	70 (53.4)	11 (8.4)	2 (1.5)	0 (0)
3.	The time duration to attempt the quiz is enough on Canvas	47 (35.9)	71 (54.2)	11 (8.4)	2 (1.5)	0 (0)
4.	Canvas increases my productivity and it is easy for me to become skillful by using Canvas application	36 (27.5)	73 (55.7)	18 (13.7)	4 (3.1)	0 (0)

Item 1 indicates that 89.3% of the respondents agreed or strongly agreed that after the online class, they did the assignment on Canvas related to their topic that strengthens their understanding about the topic, 4.6 % of the respondents disagreed or strongly disagreed, whereas only 6.1% of the respondents remained undecided.

Item 2 reveals that 90% of the respondents agreed or strongly agreed that Canvas quizzes has a significant role in formative assessment of the topic, 1.5% of the respondents disagreeing or

strongly disagreeing with the statement; whereas only 8.4% of the respondents remained undecided.

Item 3 signifies that 90.1% of the respondents agreed or strongly agreed that the time duration to attempt the quiz is enough on Canvas, 1.5% of the respondents disagreed or strongly disagreed, whereas only 8.4% of the respondents remained undecided.

Item 4 shows that 83.2% of the respondents agreed or strongly agreed that Canvas increases their productivity and it is easy for them to become skillful by using Canvas application, 3.1 % of the respondents disagreeing or strongly disagreeing with the statement; whereas only 13.5% of the respondents remained undecided.

Table 3: Behavioral Intention to use

S#	Statement	SA	A	UD	DA	SDA
1.	Are you satisfied with the use of canvas	50 (38.2)	60 (45.8)	17 (13)	4 (3.1)	0 (0)
2.	Canvas gives me 2 nd chance to attempt my quiz; if I score below 70 in the first attempt, which gives me space to improve	51 (38.9)	75 (57.3)	3 (2.3)	2 (1.5)	0 (0)
3.	When my quiz disappears I have to re-attempt the quiz and submit it which is very time-consuming	14 (10.7)	45 (34.4)	31 (23.7)	38 (29)	3 (2.3)
4.	It's well organized and I can keep track of my grades and activities	16 (12.2)	31 (23.7)	39 (29.8)	34 (26)	11 (8.4)
5.	I strongly prefer using the canvas tool for the digital learning environment. This is my first time and the traditional classroom seemed very outdated to me	34 (26)	77 (58.8)	15 (11.5)	2 (1.5)	3 (2.3)

Item 1 signifies that 84% of the respondents agreed or strongly agreed that they were satisfied with the use of Canvas, 3.1% of the respondents disagreeing or strongly disagreeing with the statement; whereas only 13% of the respondents remained undecided.

Item 2 shows that 96.2 % of the respondents agreed or strongly agreed that Canvas gave them 2nd chance to attempt my quiz; if they scored below 70 on the first attempt, it gave them space to improve, 1.5 % of the respondents disagreed or strongly disagreed, whereas only 2.3% of the respondents remained undecided.

Item 3 reveals that 45.1 % of the respondents agreed or strongly agreed that when the quiz disappeared they had to re-attempt the quiz and submit it, which was very time-consuming, 31.3% of the respondents disagreed or strongly disagreed, whereas only 23.7% of the respondents remained undecided.

Item 4 shows that 35.9% of the respondents agreed or strongly agreed that It was well organized and they could keep track of their grades and activities, 34.4% of the respondents disagreed or strongly disagreed, whereas only 29.8% of the respondents remained undecided.

Item 5 indicates that 84.4% of the respondents agreed or strongly agreed that they strongly preferred using the canvas tool for the digital learning environment, the traditional classroom

seemed very outdated to them, 3.8% of the respondents disagreeing or strongly disagreeing with the statement; whereas only 11.5% of the respondents remained undecided.

Table 4: Actual Use

S#	Statement	SA	A	UD	DA	SDA
1.	Once I started using Canvas I found it hard to stop	39 (29.8)	86 (65.6)	5 (3.8)	1 (0.8)	0 (0)
2.	In my University students who use LMS are considered more prestigious	26 (19.8)	60 (45.8)	17 (13)	25 (19.1)	3 (2.3)
3.	According to the security point canvas is a secure platform that does not share data without permission	27 (20.6)	57 (43.5)	37 (28.2)	7 (5.3)	3 (2.3)

Item 1 indicates that 95.4% of the respondents agreed or strongly agreed that once they started using Canvas they found it hard to stop, 0.8 % of the respondents disagreed or strongly disagreed, whereas only 3.8% of the respondents remained undecided.

Item 2 signifies that 65.5% of the respondents agreed or strongly agreed that the University students who used LMS were considered more prestigious, 21.4% of the respondents disagreeing or strongly disagreeing with the statement; whereas only 13% of the respondents remained undecided.

Item 3 shows that 64.1% of the respondents agreed or strongly agreed that according to cyber security canvas is a secured platform which did not share the data without permission, 7.6% of the respondents disagreed or strongly disagreed, whereas only 28.2% of the respondents remained undecided.

Table 5: Regression Model

Hypotheses	R	R2	F	p-value
Ho1: There is not a significance relationship between the perceived ease of use and actual use of Canvas learning management system.	.576	.332	92.41	0.003

Ho1: Regression model was used to test the hypothesis that there is not a significant relationship between the perceived ease of use and actual use of Canvas learning management system. Independent variable *perceived ease of use* which is has significant influence on dependent variable and *actual use of Canvas learning management system*; results are significant at level 0.05.

The finding of the analysis is significant ($F=92.41$) with $p=0.003$. The results also show that a linear combination of the two variables *perceived ease of use* on and *actual use of Canvas learning management system* has a significant influence, the correlation coefficient ($R=.576$)

shows strong influence between *perceived ease of use of student's learning* and *actual use of Canvas learning management system*; thus the model has significant influence. Moreover, $R^2 = .332$ indicates that 33% difference is found in the model for the respondents. Hence, we reject our null hypothesis that Regression model is used to test the hypothesis that there is not a significant relationship between the perceived ease of use of student's learning and actual use of Canvas learning management system.

Table 6: Regression Model

Hypotheses	R	R2	F	p-value
Ho2: There is no significance relationship among students' perceived usefulness, satisfaction and actual use of Canvas application.	.672	.452	153.14	0.000

Ho2: There is not a significant relationship among students' perceived usefulness, satisfaction and actual use of Canvas application. Independent variable *perceived usefulness, and satisfaction* has a significant influence on dependent variable *actual use of Canvas application*, results is significant at level 0.05. The findings of the analysis is significant ($F=153.14$), with $p=0.000$. The results also discover that there is linear combination of two variables (*perceived usefulness, satisfaction* on dependent variable *actual use of Canvas application*) has a significant influence, The correlation coefficient ($R = .672$), shows that *perceived usefulness, satisfaction* has very strong effect on dependent variable *actual use of Canvas application*; thus the model has significant influence. Moreover, $R^2 = .452$ indicates that 45% of the difference is found in the model for the respondents. Hence, we reject our hypothesis that the Regression model which is used to test the hypothesis that there is not a significant relationship among students' perceived usefulness, satisfaction, and actual use of the Canvas application.

Qualitative Data Analysis

Thematic Analysis of Students' Interviews

Thematic analysis was carried out after conducting interviews with students supported by quotations gleaned from the statements.

One of the respondents stated:

In this course, we attended webinars, which are a great to expand your knowledge and gain new insights on a variety of topics. It's important to continually learn and grow in our understanding of the world around us, and webinars provide a convenient way to do so, if I learned about a new productivity tool during a webinar, I tried to incorporate it into my work routine to see how it can increase my productivity. (Respondent 1)

It's the best platform for virtual learning. Canvas is worth using as it is a popular cloud-based learning management system (LMS) that allows educational institutions, businesses, and organizations to manage and deliver online courses and training programs. (Respondent 1)

If I get the opportunity to use Canvas I definitely use it in the future. (Respondent 1)

I definitely recommend it to my friend and I actually recommend it to all my fellows because of the educational and professional benefits of the courses. (Respondent 1-10)

The majority of the respondents reported that Canvas's easy-to-use design is one of its best features, it also has a number of tools, that make it easier to work together or individually in an effective way, and it has a user-friendly interface and mobile accessibility. Hence, it all-around worthwhile option to enhance the learning experience, So Canvas is worth using as an LMS. Canvas offers a great benefit in its capacity to interface with an extensive array of educational technologies. Students give great value to this application and programs offered through it and recommend it to others as well so everyone could benefit from this great educational application.

Conclusions

- The study has provided a comprehensive analysis of students' perceptions and experiences regarding the Canvas application and its associated tools in the context of online learning. In this concluding section, the key findings from the study are synthesized, and conclusions are drawn regarding the impact of Canvas on online education. The study has examined various aspects, including students' perceptions of Canvas, its ease of use, perceived usefulness, behavioral intentions to use, and actual use.
- From one of the prominent findings of the study, it can be concluded that there is an overwhelmingly positive perception of Canvas among students. Students generally appreciated its user-friendly nature and found it easy to navigate, especially after becoming familiar with the platform.
- It can be concluded that a significant portion of students expressed satisfaction with Canvas as a digital learning platform.
- In essence, Canvas was valued for its user-friendly design, convenience, and ability to facilitate a variety of learning activities. The study indicated that while Canvas is effective for many students, its suitability varies with individual digital skills and highlighted the benefits of flexible online learning. Further improvements in system performance, technical support, and addressing technical issues are necessary to enhance the overall learning experience for students using Canvas and associated tools. Despite some challenges, Canvas remains a valuable platform for managing courses and engaging in online learning activities.

Recommendations

- The study explored that the Canvas application is heavy for their system, which leads to reloading problems and causes frustration for students, so it is recommended that the application server be improved.
- Based on the study's findings, Canvas's self-paced classes are good for intrinsically motivated students, but it has been found that some students lack intrinsic motivation and

lose their focus in virtual classes, so it is recommended that instructors take feedback from all the students and motivate such students who lose their interest in the class.

- The technical support system should be improved for a more user-friendly interface to resolve the issues.
- Canvas LMS is used for a non-credited course of English language and soft skills development, but as this study proved, students are satisfied with the use and features of Canvas, so it is recommended that the policymakers should employ Canvas application for campus courses as well, or a similar compatible system should be introduced on campus to enhance students technological experience for advanced learning.
- A future study can be conducted to compare Canvas with other learning management systems (LMSs) to evaluate their strengths and weaknesses in supporting teaching and learning. This study could also compare the user experience of Canvas with other LMS.
- This study considers only female students, and it is suggested that in the future, research should be conducted with both male and female students.
- This study investigates students' perceptions of Canvas in a virtual learning environment for future research. It is interesting to investigate the use of Canvas learning management systems in a different learning environment, such as blended environment.
- This study has the potential to provide valuable insights for stakeholder's policymakers and educators who are considering implementing Canvas LMS in different subject areas to improve and maximize the learning process.

References

- Bates, A. (2018). *Teaching in a digital age: Guidelines for designing teaching and learning for a digital age*. London: Tony Bates Associates Ltd.
- Canvas Network. (2022). *About Us*. Canvas Network. Instructure. Retrieved December 10, 2022, from <https://info.canvas.net/>
- Cavus, N. (2013). Selecting a learning management system (LMS) in developing countries: instructors' evaluation. *Interactive Learning Environments*, 21(5), 419–437.
- Chen, H. R., & Tseng, H. F. (2012). Factors that influence acceptance of web-based e-learning systems for the in-service education of junior high school teachers in Taiwan. *Evaluation and program planning*, 35(3), 398-406.
- Chris N. Wenger. (2019). "Student Satisfaction with Canvas Use in Face-to-Face Courses at Colorado Mountain College" (doctoral dissertation University of Denver Colorado Mountain College United States). Retrieved from. https://digitalcommons.du.edu/he_doctoral
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.
- Davis, B., Carmean, C., & Wagner, E. D. (2009). The evolution of the LMS: From management to learning. *Santa Rosa, CA: e-Learning Guild*, 24.
- Fathema, N., & Akanda, M. H. (2020). Effects of instructors' academic disciplines and prior experience with learning management systems: A study about the use of Canvas. *Australasian Journal of Educational Technology*, 36(4), 113-125.
- Habib University. Canvas at Habib University. Retrieved from <https://habib.edu.pk/HU-news/habib-university-canvas>
- Khoza, S., & Mpungose, C. (2018, July). Use of the Moodle curriculum by lecturers at a South African University. In *ICEL 2018 13th international conference on e-Learning* (p. 171). Academic Conferences and publishing limited.
- Moore, M. G., & Kearsley, G. (2011). *Distance Education: A Systems View of Online Learning*. Belmont: Wadsworth Publishing.
- Mpungose, C. B. (2020a). Beyond limits: Lecturers' reflections on Moodle uptake in South African universities. *Education and Information Technologies*, 25(6), 5033-5052. <https://doi.org/10.1007/s10639-020-10190-8>
- Mpungose, C. (2020b). Is Moodle or WhatsApp the preferred e-learning platform at a South African university? First-year students' experiences. *Education and Information Technologies*, 25(2), 927–941. <https://doi.org/10.1080/18146627.2018.1479645>

- Mpungose, C. (2020c). Is Moodle a platform to decolonise the university curriculum? Lecturers' reflections. *Africa Education Review*, 1(2019), 1–16. <https://doi.org/10.1007/s10639-019-10005-5>
- Mpungose, C. (2020d). Student teachers' knowledge in the era of the fourth industrial revolution. *Education and Information Technologies*, 2020(1), 1–17. <https://doi.org/10.1007/s10639-020-10212-5>
- Mpungose, C. B., & Khoza, S. B. (2022). Postgraduate students' experiences on the use of Moodle and Canvas learning management system. *Technology, Knowledge and Learning*, 27(1), 1-16.
- O'Leary, C. (2016). *Effects of training on intent, ease, self-efficacy, frequency, and usefulness in multimedia-based feedback for university-level instructors using Canvas® LMS*. University of San Francisco.
- Thu Dang, (2020). Factors influencing students' perception of usefulness of Canvas as a learning management system and factors that might influence their perceived usefulness of Canvas. University of Gothenburg.
- Towne, T. N. (2018). *Exploring the phenomenon of secondary teachers integrating the LMS canvas in a blended-learning course*. Liberty University.
- Tsang, W. (2019). *A case study exploring high school teachers' perceptions of usefulness and ease of use of canvas learning management system* (Doctoral dissertation, Northcentral University).
- Yaparak, Z., (2022). The Use of Canvas, A Learning Management System, to Reduce EFL Learners' Public Speaking Anxiety. *International Journal of Progressive Education*, 18(5), 333-347.
- Ying Li, (2019). *University teachers' pedagogical work with Canvas: An exploration of teachers' conceptions, design work, and experiences with an LMS* (Master's thesis).

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