ATTITUDE AND BEHAVIOURAL INTENTION OF SCIENCE STUDENTS TOWARDS BLENDED LEARNING IN TERTIARY INSTITUTIONS IN EKITI STATE

Alake, Ese Monica[1] Department of Science Education, Bamidele Olumilua University of Education, Science and Technology, Ikere-Ekiti, Nigeria
E-mail: alake.ese@bouesti.edu.ng   ORCID ID 0000-0001-6411-2122

&

Omodara, **Oladele Dennis** [2] Department of Educational Technology, Bamidele Olumilua

University of Education, Science and Technology, Ikere-Ekiti, Nigeria

E-mail: omodara.oladele@bouesti.edu.ng   ORCID ID 000-0001-5267-8444

*Corresponding Author: **Alake, Ese Monica***

Abstract

The study investigated science students' attitude and behavioural intentions towards blended learning in tertiary institutions in Ekiti State. Three hundred and twenty-six (326) respondents who were selected from three (3) higher institutions of learning, which comprised one hundred and seventy-six (176) male students and one hundred and fifty (150) female students constituted the survey sample. For the investigation, a straightforward random sample methodology was used. The study used a descriptive survey design since it makes it possible to get data from a representative sample of a specific population and to describe situations as they exist. The instrument used for data collection was a self-structured questionnaire designed by the researchers based on some perceived variables on the attitude and behavioural intention of science students towards blended learning in tertiary institutions in Ekiti State. Two research questions were raised to guide the study and were answered descriptively using a weighted mean. Three research hypotheses were formulated for the study and tested using a t-test of independent sample and Pearson Product Moment Correlation (PPMC). A notable connection between the data showed up during data analysis was the perceived level of the attitude of tertiary institution science students and the use of blended learning for effective learning. It was further revealed that there was a significant relationship between the behavioural intention of tertiary institution science students and the use of blended learning. Lastly, it was revealed that there was no significant difference in the behavioural intentions of male and female students of tertiary institutions towards the use of blended learning for instructional purposes. The study recommended that blended learning should be encouraged by institutions of higher education as it combines both face-to-face and online learning and that blended learning must be embraced synchronously and asynchronously.

Keywords: Blended learning, Behavioural Intention, Attitude, Science Students, Tertiary Institutions

Introduction

Right and equity examine the intricate social-political dynamics determining the accessibility, affordability, and availability of high-quality instruction. This emphasizes the significance of blended learning and how it can exacerbate and lessen existing inequalities in the educational system (Kleine et al., 2014). A teaching strategy known as blended learning combines the most compelling interactive in-person and online instruction strategies to create a system that is always correlated and functioning as a single unit. Krasnova (2015) and Bryan and Volchenkova (2016). Information and communications technology (ICT) is being more widely integrated into educational systems worldwide due to the advancement of technology in education, according to Puentedura (2010) and Yusuf & Addie (2019).

During the 2020 COVID-19 pandemic, when many Nigerian institutions were under lockdown and face-to-face or traditional teaching methods were invisible, demand for online instruction and teaching increased sharply. However, with blended learning, some Nigerian universities achieved academic excellence. The COVID-19 pandemic has compelled educational systems across the globe to look for face-to-face instruction substitutes. For example, Edo State in Nigeria launched the EdoBest program in 2018. Still, the pandemic in 2020 compelled it to be executed entirely with assistance from the International Development Association (IDA) in its second year of implementation. Digital learning was an exploited development, fostering EdoBest @ home, the online learning substitute for traditional classroom instruction. (World Bank, 2021).

Modern civilization is based on science subjects which constitute the major part of school curriculum in Nigeria. The knowledge of science is fundamental to national and global development and science education is a key agent in producing a science literate society, technological and industrial advancement (Modebelu, (2007). Appropriate teaching of science will enable students to develop curiosity, interests, enjoyment and understanding of their environment and the world at large. The teaching of science revolves round principles, theories and practical activities in the laboratory. It means that one essential component of educational activities is therefore practical teaching and learning. (Kamble, Gauba, Desai, & Golhar 2021). To attain maximum potential in knowledge, skills, behaviour, interest, and attitude, learners must be able to engage with their surroundings. This is typically illustrated in learning environments. The perceptions regarding the existence or nonexistence of variables that facilitate or hinder behavior and performance are the root cause of perceived behavioural control. When individuals have more control over their behavior, they anticipate fewer challenges and believe they have more resources.

The self-efficacy notion can quantify perceived behavioural control in a mixed learning setting. According to Liaw (2008), behavioural intention, which can be understood as understandable ideas about the outcomes of a behaviour, dictates attitude towards an action. An individual's attitude toward behaviour in a mixed learning environment can be deduced from how useful and

straightforward they believe it to be. Park (2009). Therefore, educational institutions require high-calibre change agents to promote improvement in Nigeria's education industry. An individual's disposition can be constructive or detrimental, depending on their emotions, thoughts, convictions, or points of view. (Arrozi Adhikara & Dihin, 2013). An attitude is a group of thoughts, feelings, and behaviours connected to a sure thing, person, object, or event in psychology. Their attitude can significantly influence an individual's conduct. (Cherry, 2023). An individual's experiences and upbringing often influence their attitudes. Opinions change even as they endure. (Ossiannilsson, 2012).

A robust behavioural intention will indicate an individual's acceptance of and use of technology as the primary indicator of success in the classroom (Fishbein & Ajzen, 1975; Yi et al., 2016; Abioye & Adelakun-Odewale, 2017; Hamza et al., 2023). Behavioural intention is the probability or gauge of the degree to which someone intends to carry out a specific behaviour. Beliefs regarding the existence or lack of elements that support or obstruct behaviour performance determine how one perceives one's intention to behave. People will feel more in control of their behaviour if they believe they have more necessary resources and expect fewer barriers. Control beliefs influence the perception of one's ability to carry out a behaviour. Self-efficacy is a valuable metric for measuring perceived behavioural intention in an online learning environment. (Arunachalam, 2019).

According to Fishbein, as stated in Bervell, Nyagorme, and Arkorful (2020), attitudes might predict behaviours favourably or negatively. Because of this, the attribute attitude serves as a yardstick for determining behaviour before a final assessment of the behaviour's execution is made. The cutting-edge idea of blended learning combines the best aspects of both conventional classroom instruction and ICT-supported learning, encompassing both online and offline learning (Lalima & Kiran, 2017). While Boelens, Van Laer, De Wever, & Elen (2015), Bowyer, & Chambers (2017) stated that blended learning is education in a setting where intentional integration of online and in-person classroom interventions is used to initiate and promote learning.

Blended learning is a method that offers creative solutions for education by combining online, mobile, and traditional classroom instruction with engaging activities for educators, trainers, and students (Rao, 2019). In order to give students all the abilities they need to succeed inside and outside of the classroom, blended learning combines in-person and virtual interactions with the students Shittu, Gambari, & Sule, (2013). Science students' attitudes and behavioural intentions toward blended learning in post-secondary institutions have been the subject of numerous research studies. These studies have also examined the relationship between blended learning and several other factors, including learners and instructors' characteristics, online teaching competency, online course and platform quality, online interaction, and support.

In a study on applying the technology acceptance model to the behavioural intention of academics to use learning management systems, Alharbi & Drew (2014), cited in Falode (2018),

found that respondents' behavioural intention and perceived attitude toward electronic learning were both positive. Mo, Cheng, and Duan (2023), in their study on the elements influencing Chinese higher education students' satisfaction with blended learning as a teaching style, found that blended learning systems had a higher likelihood of facilitating "deep learning." These research findings enhance better judgments when implementing blended learning and can effectively help students achieve more meaningful and in-depth learning.

Another study on the impact of blended learning on students' achievement in grammar revealed enhancement in students' self-regulated learning since they complete course assignments with assurance, diligence, and awareness of their ability to complete particular learning tasks (Shen & Liu, 2011; Tongchai, 2016 & Arina, 2021). According to Sabahz (2014) study on students' attitudes and motivations toward e-learning, students view e-learning as having a teaching efficiency of roughly 82.2% and 83% higher than face-to-face and blended learning, respectively. The findings also show a strong relationship between technical proficiency and online learning attitudes. On the other hand, students who use computers more frequently (54% of the student body) are more inclined to accept e-learning, with a favourable attitude of roughly 82.4%. Information Technology, English, and Accounting students had a favourable impression regarding the internet's impact on their educational experience of 79%, 74.3% and 68.2%, respectively.

Studies on blended learning have revealed students' favourable attitudes and behavioural intentions (López-Pérez et al., 2004; Paechter et al., 2010; Wang et al., 2009; Li, 2019). Liaw (2008) asserts that comprehending learners' attitudes towards blended learning is crucial to enhancing e-learning. His study, "Investigating Students' Perceived Satisfaction, Behavioral Intention, and Effectiveness of E-Learning," aims to examine and decipher the mechanisms underlying learners' behavioural intention to use the e-learning system continuously. Based on the findings, strategies are developed to continuously enhance learners' intention to use the blended learning system.

In their study on the blended learning teaching practice of "child development and educational psychology," Li Li et al. (2021) used the UMU platform. They discovered that the outcomes of the online course evaluation from the first semester, which had a high completion rate with mixed teaching, also showed higher results than those from the second semester, which did not have mixed teaching. Additionally, when there are many classes, there can be in-depth exchanges between the teachers and the students, raising their awareness of active learning and increasing their enthusiasm for learning and their capacity for dialectical thought.

Bokolo, et al. (2020), according to an article on the theory of planned behaviour perspective's predictors of blended learning deployment in higher education institutions, students' intention to accept blended learning is positively predicted by their perceived behavioural intention, which is related to how easy or difficult behaviour is perceived. Comparing students' opinions of blended learning to their learning styles, Akkoyunlu and Soylu (2008), Bayram Güzer, and Hamit Caner

(2013) conducted research score of 8.44 demonstrated that students had a favourable opinion of blended learning on a scale of 1 to 10, where one is the lowest and ten is the greatest. According to Kintu et al. (2017), there is also evidence that attitudes and behavioural intentions impact student satisfaction.

Statement of the Problem

A notable concern regarding blended learning in Ekiti State's higher education institutions is science students' seeming lack of thorough comprehension. Because of this, it may be difficult for blended learning to be implemented and accepted effectively because students may need help understanding its advantages and disadvantages. The successful implementation of blended learning may face significant challenges related to the accessibility and availability of the technological infrastructure required, including devices, software, and internet connectivity. Science students in Ekiti State may need equal access to these resources, which could lead to differences in their educational experiences and make it more challenging to conduct blended learning projects fairly. Teaching approaches must undergo a paradigm shift to incorporate blended learning. Teachers' possible aversion to or unfamiliarity with this approach may impact students' attitudes and behavioural intentions toward blended learning, which could lead to less-than-ideal instruction. A healthy learning environment must be fostered by recognizing and resolving pedagogical issues. Students' motivation and engagement are key factors that determine how well-blended learning works. The success of blended learning programs may be negatively impacted by problems with poor motivation, apathy, or distractions during online components.

To increase the adoption of blended learning in postsecondary institutions, looking into the elements impacting science students' motivation and engagement is imperative. Students' attitudes and intentions toward blended learning can be significantly influenced by how relevant and applicable they believe the content to be to their academic and professional objectives.

Fostering a positive attitude and promoting active involvement in blended learning activities requires ensuring the course material and science students' expectations align. The success of blended learning implementation is mainly dependent on the degree of assistance offered by higher learning institutions and the presence of supportive policy frameworks. Blended learning efforts need to be more effectively integrated into the tertiary education landscape of Ekiti State due to challenges stemming from poor institutional support and regulations that need to be well-developed. By addressing these identified issues, researchers and education stakeholders can help develop a more nuanced understanding of the factors influencing science students' attitudes and behavioural intentions toward blended learning in Ekiti State's tertiary institutions. This will ultimately help develop targeted interventions and improve the adoption of blended learning practices. Limited understanding of blended learning, technological infrastructure and access barriers, and pedagogical concerns, teaching quality, students' motivation and engagement, perceived relevance and applicability of blended learning content, institutional support and policy frameworks.

Purpose of the Study

The study aims to investigate tertiary science students' attitudes toward blended learning and the behaviours they plan to exhibit as a consequence. The research specifically examined:

1. How much tertiary science students think blended learning may be used to improve learning

   efficiency

2. The behavioural intentions of the science students about the use of blended learning in higher education

Research Questions

The following research questions were raised to guide the study.

1. What is the perceived level of the attitude of tertiary institution science students towards the use of blended learning for effective learning?
2. What is the behavioural intention of tertiary institution science students' towards the use of blended learning?

Research Hypotheses

The following hypotheses were formulated for the study.

1. There is no significant relationship between the perceived level of the attitude of tertiary institution science students and the use of blended learning for effective learning.
2. There is no significant relationship between the behavioural intention of tertiary institution science students and the use of blended learning.
3. There is no significant difference in the behavioural intentions of male and female science students of tertiary institutions towards the use of blended learning for instructional purposes.

Methodology

The research design used in this study was a descriptive survey research design type that allows information to be obtained from a representative sample of a targeted population to describe situations as they exist. In this case, the targeted population was all tertiary institutions in Ekiti State during the 2022–2023 academic session and it included undergraduate science students from state and federal higher education institutions in the State.

For the investigation, a straightforward random sample technique was used. One hundred and seventy-six (176) male science students and one hundred and fifty (150) female science students

made up the total of three hundred and twenty-six (326) respondents who were chosen from three (3) higher education institutions. A self-structured questionnaire created by the researchers based on specific perceived students' characteristics about the attitude and behavioural intention of science students towards blended learning in tertiary institutions in Ekiti State was the instrument utilized for data collection for this survey. This is because of the type of analysis that needs to be done and the type of information that is required.

There were two sections to the questionnaire: A and B. While section B was used to get information on the study variables, section A was used to gather information on the respondents' demographic data. Experts in Science Education and Educational Technology, as well as experts in test and measurement at Bamidele Olumilua University of Education, Science and Technology, Ikere-Ekiti conducted an assessment of the face and content validity of the instruments. The test-retest approach to reliability testing was used to ascertain the instrument's dependability. The instrument was deemed suitable for the investigation based on the reliability coefficient of 0.83. The acquired data were put through the proper statistical testing. To address the two (2) research questions posed by the study, the researchers employed weighted mean descriptive statistical tools for data analysis. The three (3) hypotheses developed for the study were tested using SPSS Version 23's t-test of the independent sample and Pearson's Product Moment Correlation (PPMC) at the 0.05 significance level.

Results

Descriptive Analysis

1. **Research question 1:** What is the perceived level of the attitude of tertiary institution science students towards the use of blended learning for effective learning?

Table 1: Response of the perceived level of the attitude of tertiary institution science students towards the use of blended learning for effective learning

S/N	Items	SA	A	D	SD	Mean	Remarks
1.	I prefer blended learning to any form of instructional method.	110 33.7%	124 38%	26 8%	66 20.2%	2.85	Agreed
2.	I have no time for blended learning instruction.	33 10.1%	117 35.9%	68 20.9%	108 33.1%	2.23	Disagreed
3.	Lack of funds makes it difficult for me to show interest in using blended learning.	75 23%	138 42.3%	60 18.4%	53 16.3%	2.72	Agreed
4.	I regard blended learning as a waste of time.	35 10.7%	79 24.2%	115 35.3%	97 29.8%	2.15	Disagreed
5.	Blended learning is not better than any other instructional method.	57 17.5%	103 31.6%	88 27%	78 23.9%	2.42	Disagreed
6.	Blended learning makes me more desirous of learning.	73 22.4%	151 46.3%	57 17.5%	45 13.8%	2.77	Agreed
7.	Blended learning motivates me to become lazy in reading my books as I spend more time on the computer.	67 20.6%	97 29.8%	98 30.01	64 19.6%	2.51	Agreed
8.	I prefer face-to-face methods of teaching to blended learning.	97 29.8%	132 40.5%	54 16.6%	43 13.2%	2.86	Agreed
9.	Blended learning boosted my independent learning.	89 17.3%	151 46.3%	43 13.2%	43 13.2%	2.87	Agreed
10.	Since I am not proficient in ICT usage, blended learning is irrelevant.	48 14.7%	78 23.9	100 30.7%	100 30.7%	2.22	Disagreed
	Grand Mean					***2.56***	***Agreed***

Source: Field survey 2023

Science students' perceived attitudes about using blended learning for effective learning in tertiary institutions were shown by the data in table 1. According to the results, most respondents (71.7%) preferred blended learning over all other educational methods. 65.3% of respondents said that their inability to pay prevents them from being interested in using blended learning.

Similarly, 68.3% of respondents believe blended learning increases students' desire to learn. 54% of the participants found that blended learning encourages pupils to read less because they spend more time on the computer.

Whereas, 70.3% of respondents preferred in-person instruction over blended learning and 63.6% felt that the latter enhanced their ability to study independently. Nonetheless, 54% of the respondents disagreed that there was insufficient time for instruction in blended learning and 65% indicated that they thought mixed learning was a mistake. Additionally, 50.9% of respondents felt blended learning differs from other teaching approaches. At last, 61.4% of respondents said blended learning was irrelevant since they lacked ICT proficiency. This suggests that science students at postsecondary institutions have a favourable opinion regarding using blended learning for efficient learning. Further, elucidate questions 1 through 10 in the questionnaire, mean, frequency counts and percentages were employed to ascertain the perceived level of science students' attitude towards using blended learning for successful learning (low, moderate, and high).

Table 2. Level of the attitude of tertiary institution science students towards the use of blended learning for effective learning

Perceived level of the students' attitude of tertiary institution science students towards the use of blended learning for effective learning	Mean	SD	Frequency	Percentage
Low (13-30)			159	48.8%
Moderate (31-33)	1.84	0.897	57	17.5%
High (34-40)			110	33.7%
Total			*326*	*100%*

Source: Field survey 2023

Table 2 revealed the perceived level of the science students' attitude of tertiary institution towards using blended learning for effective learning. The results indicated that out of 326 respondents sampled, 159, representing 48.8%, had a low level of attitude towards the use of blended learning for effective learning, and those with a moderate level of attitude towards the use of blended learning for effective learning were 57 representing 17.5% while those with high level were 110 representing 33.7%. This implies that the perceived level of the science students' attitude of tertiary institution towards using blended learning for effective learning was low.

Research question 2: What is the behavioural intention of tertiary institution science students towards the use of blended learning?

Table 3. Response of the behavioural intention of tertiary institution science students towards the use of blended learning

S/N	Items	SA	A	D	SD	Mean	Remarks
11.	I intend to use blended learning in every aspect of my studies.	109 33.4%	126 38.7%	27 8.3%	64 19.6%	2.85	Agreed
12	I am improving my internet searches by using a variety of search engines.	102 31.3%	173 53.1%	30 9.2%	21 6.4%	3.09	Agreed
13	I wish to develop skills essential for the 21st century through blended learning.	126 38.7%	146 44.8%	36 11%	18 5.5%	3.16	Agreed
14	I aspire to be resourceful and capable of seeking solutions to any problem in my study through blended learning.	115 36.3%	150 46%	31 9.5%	30 9.2%	3.07	Agreed
15	I am contemplating becoming more skilled in using blended learning for future purposes.	121 37.1%	151 46.3%	29 8.9%	25 7.7%	3.12	Agreed
16	I have the mind to advance in the knowledge of attaching a document to any e-mail message through blended learning.	101 31%	165 50.6%	23 7.1%	37 11.3%	3.01	Agreed
17	Blended learning will make me more familiar with internet usage.	129 39.6%	149 45.7%	28 8.6%	20 6.1%	3.18	Agreed
18	Blended learning will teach me how to download files from the internet.	104 31.9%	165 50.6%	30 9.2%	27 8.3%	3.06	Agreed
19	I intend to understand how to save files from any document on my computer through blended learning.	121 37.1%	153 46.9%	32 9.8%	20 9.8%	3.15	Agreed
20	I propose to be more skillful and proficient in typing and word processing through blended learning.	129 39.6%	139 42.6%	29 8.9%	29 8.9%	3.12	Agreed
	Grand Mean					*3.08*	*Agreed*

Source: Field survey 2023

The findings in table 3 show the behaviour of science students in tertiary institutions on the usage blended learning in in science subjects. While 84.2% of the respondents felt that using different search engines would improve their online searches, most respondents (72.1%) said

they planned to employ blended learning in their studies. Similarly, 83.5% of respondents want to utilize blended learning to acquire 21st-century skills. 82.3% of those surveyed expressed interest in using blended learning to enhance their search to answers of issues they may encounter in their academic endeavours.

Furthermore, according to 81.6% of the respondents, 83.4% of them said they were thinking about using blended learning to improve their proficiency in computer usage in future. They also wanted to learn how to attach documents to emails through blended learning. While 82.5% of respondents said that blended learning will teach students how to download things from the internet, while the majority of respondents, 85.3%, agreed that it will increase their familiarity with the internet. 84% of respondents said they planned to use blended learning to learn how to save files from any document on their computer, 82.2% said they planned to use blended learning to become more proficient and skilled in word processors and keyboarders. The findings demonstrate that science students tertiary educational institutions intend to use blended learning positively. The grand mean score of 3.08 indicates the respondents had good behavioural intentions about using blended learning

.**Hypotheses Testing**

Hypothesis 1

There is no significant relationship between the perceived level of the attitude of tertiary institution science students and the use of blended learning for effective learning.

Table 4: Pearson product moment correlation showing the relationship between the perceived level of the attitude of tertiary institution science students and the use of blended learning for effective learning.

Variables	N	Mean	Std. Dev	r_{cal}	Sig.
level of the attitude	326	13.08	1.890	0.090*	0.008
Use of blended learning		12.02	2.096		

P<0.05 (Significant)

The Pearson Product Moment Correlation study of the association between science students' perceived level of attitude in tertiary institutions and their use of blended learning for effective learning is displayed in table 4. It was discovered that P=0.008 < 0.05; rcal = 0.090. The null hypothesis is thus rejected because the P value is less than 0.05. This indicates that the utilization of blended learning for effective learning and science students' perceived level of attitude in tertiary institutions are significantly correlated. This suggests that science students' attitude in Ekiti State's tertiary institutions is positive towards the use of blended learning. As a result, the null hypothesis was not upheld.

Research Question 2

There is no significant relationship between the behavioural intention of tertiary institution science students and the use of blended learning.

Table 5: Pearson product moment correlation showing the relationship between the behavioural intention of tertiary institution science students and the use of blended learning

Variables	N	Mean	Std. Dev	r_{cal}	Sig.
Behavioural Intention	326	13.71	2.685	0.147*	0.000
Use of blended learning		12.02	2.096		

*P<0.05 (Significant)

The association between science students' behavioural intentions in tertiary institutions and their use of blended learning was revealed by the results displayed in table 5. Findings showed that P=0.000 < 0.05 and rcal =0.147 were found. Consequently, the null hypothesis is rejected. Science students in tertiary institutions that employed blended learning have substantial behavioural intentions. This finding suggests a relationship between behavioural intention and blended learning utilization among science students. In light of this, the null hypothesis was rejected.

Hypothesis 3

There is no significant difference in the behavioural intentions of male and female science students of tertiary institutions towards the use of blended learning for instructional purpose.

Table 6: t-test showing the difference in the behavioural intentions of Male and Female science students of tertiary institutions towards the use of blended learning for instructional purpose.

Variables	N	Mean	Std. Dev	Df	t_{cal}	t_{tab}	Remark
Male	176	19.23	2.592	861	1.280	1.96	NS
Female	150	19.45	2.253				

P>0.05 (Not Significant)

The mean score for male science students at Ekiti State tertiary institutions was 19.23, with a standard deviation of 2.592, as shown in the independent sample t-test statistic in table 6. The mean score for female science students at tertiary institutions was 19.45, with a standard deviation 2.253. Additionally, the mean difference between the male and female science students was (0.22), although the standard deviation which measures variability, showed a difference of (0.339). Table 6 also demonstrated that the crucial value of 1.96 was not met by the t-calculated value 1.280 (P<0.05). Accepted is the null hypothesis which claims that male and female tertiary

science students' behavioural intentions toward using blended learning for instructional purposes are not significantly different. Thus, the null hypothesis was upheld.

Discussion of Findings

The study examined how science students in Ekiti State's tertiary institutions felt about blended learning and what they intended to do behaviorally. Science students preferred and made time for blended learning over other instructional methods as evident in the descriptive analysis of a study on the perceived attitude of tertiary institution science students regarding using blended learning for effective learning. Even while financial limitations may prevent undergraduate science students from expressing interest in blended learning, they are nonetheless highly motivated by it because of its usefulness and significance in improving learning.

Undergraduate science students rarely choose face-to-face instruction over blended learning, even though the latter forces them to spend more time on computers. Nevertheless, they did agree that blended learning improved their autonomous learning because it is related to their use of ICT. According to the descriptive analysis of the study on the behavioural intention of science students in tertiary institutions towards the use of blended learning, undergraduate science students consciously incorporate blended learning into every aspect of their studies because they believe that using a variety of search engines improves their ability to conduct internet searches and helps them develop the skills necessary for the twenty-first century.

Additionally, most undergraduate science students wanted to be resourceful, able to find solutions to any issue they encountered in their studies and willing to advance in their understanding of attaching documents to emails through blended learning. They reasoned that this would increase their familiarity with internet usage, teach them how to download files from the internet and teach them how to save documents on their computers. It was also discovered that most undergraduate science students believe blended learning will help them become more proficient and skillful in word processors and keyboarders.

According to the study's inferential analysis, a substantial correlation exists between science students' perceived attitudes in tertiary institutions and their use of blended learning to enhance their learning. This finding supported the argument by Zhu, Au, & Yates (2013), who stated that, when attitudes are examined or analyzed, they indicate a students' readiness for blended learning. It was also shown that there was a strong correlation between blended learning use and science students' behavioural intentions in tertiary institutions. The results verified the research conducted by Kocaleva et al. (2014), Lakhal et al. (2013), and Tarhini et al. (2017), which demonstrated a favourable correlation between behavioural intention and usage behaviour in the e-learning field, including blended learning in higher education. The study's findings confirmed the findings of Ashraf et al. (2021), who comprehensively analyzed the literature on blended

learning and noted its advantages, such as improved students' involvement, flexibility, and resource accessibility.

Conclusion

The study's findings demonstrated that science students in tertiary institutions had a positive attitude and a solid behavioural intention toward using blended learning. The study also showed a strong relationship between science students' behavioural intentions and the usage of blended learning and between students' reported level of attitude and the use of blended learning for effective learning. Additionally, it was found that there needed to be a discernible difference in the behavioural intentions of male and female tertiary institution science students about using blended learning for instructional purposes.

Recommendations

Considering the study's results, the researchers suggested that universities promote blended learning, which integrates in-person and virtual learning. It will establish equilibrium between science students who lean toward conventional teaching method and those who do not. In addition, the past global pandemic has demonstrated to developing countries the unavoidability of digitally mediated systems. For this reason, blended learning needs to be used synchronously and asynchronously. Thus, it is advised that blended learning be used in tertiary institutions to encourage science students to learn at their speed.

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