

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE EDUCATION.



**EXPLORING STUDENTS' PERCEPTIONS ON THE ADOPTION OF BLENDED
LEARNING APPROACH IN AGRICULTURE AND ENVIRONMENTAL SCIENCE**

BY

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DECLARATION

To be completed by the students

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I Memory Mhlanga do hereby declare that this work related project is my original work and has not been submitted before. All the information derived from sources is indicated in this project.

Signature of student.....Date.....

To be compiled by the supervisor

This dissertation is suitable for submission to the faculty and has been checked for conformity with the faculty guidelines.

Signature of the supervisor.....Date....7/07/2024.....

DEDICATION

I dedicate this research project to my dearest mum, siblings and friends for the supports they have given me.

ACKNOWLEDGEMENTS

I would like to thank my supervisor Mr Mudzamiri for the guidance patience and intellectual support throughout the research project from the beginning to the end. Also, I would like to thank my co-supervisor for the help he has given me. I would also like to thank the Registrar of Bindura University of Science Education for granting me permission to carry on my research at the university. Special thanks to the family for emotional support and love. Above all I would like to thank God Almighty for guidance and strength to carry on.

ABSTRACT

This study aims to explore student perceptions of blended learning within the Faculty of Agriculture and Environmental Science at Bindura University of Science Education. This study employs a qualitative research design to uncover rich and nuanced insights into students' perceptions and experiences related to blended learning. The study's outcomes can provide the university administration and faculty members with valuable information to evaluate the effectiveness of current teaching practices, identify areas for improvement, and optimize the integration of technology-enhanced learning tools. By identifying the factors that influence student attitudes towards blended learning, this study seeks to provide valuable insights for educators and policymakers to enhance the quality of teaching and learning in these disciplines.

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ACRONYMS AND ABBRIVIATIONS

BUSE- Bindura University of Science Education

FAES- Faculty of Agriculture and Environmental Science

BLA - Blended learning approach

CHAPTER ONE

1.1 Introduction

In recent years, the integration of technology in higher education has transformed the traditional classroom setting, giving rise to innovative teaching methods such as blended learning. Blended learning combines face-to-face instruction with online learning activities, offering students a more flexible and personalized educational experience. This study aims to explore student perceptions of blended learning within the Faculty of Agriculture and Environmental Science at Bindura University of Science Education.

1.2 Background of the Study

Blended learning, a pedagogical approach that combines traditional face-to-face instruction with online learning activities, has gained significant attention in the field of education. As educational institutions strive to enhance learning experiences and outcomes through the integration of technology, understanding student perceptions of blended learning becomes crucial. This study focuses on investigating student perceptions of blended learning specifically within the Faculty of Agriculture and Environmental Science at Bindura University of Science Education. According to Graham, Woodfield, and Harrison (2023), blended learning offers a flexible and interactive learning environment that can cater to diverse learning styles and preferences. By incorporating both online and in-person components, blended learning has the potential to improve student engagement, collaboration, and knowledge retention (Garrison & Kanuka, 2024). However, student attitudes and perceptions play a critical role in the effectiveness and success of blended learning initiatives (Graham et al., 2023).

In the context of the Faculty of Agriculture and Environmental Science at Bindura University of Science Education, understanding how students perceive blended learning can provide valuable insights for educators and administrators. By exploring factors such as student satisfaction, motivation, challenges, and preferences in relation to blended learning, this study aims to inform the design and implementation of effective blended learning strategies within the faculty.

Furthermore, research by Means et al. (2010) highlights the importance of considering the unique context and characteristics of students when evaluating the impact of blended learning. Factors such as access to technology, prior experience with online learning, and academic goals can influence how students engage with blended learning approaches. By conducting a case study within the Faculty of Agriculture and Environmental Science, this research seeks to capture the nuanced perspectives and experiences of students in a specific academic discipline.

1.3 Problem Statement

Despite the growing popularity of blended learning, there is a gap in the literature regarding student perceptions of this mode of instruction within specific academic disciplines, such as Agriculture and Environmental Science. This research aims to address this gap by investigating how students within the Faculty of Agriculture and Environmental Science at Bindura University of Science Education perceive blended learning. By identifying the factors that influence student attitudes towards blended learning, this study seeks to provide valuable insights for educators and policymakers to enhance the quality of teaching and learning in these disciplines.

1.4 Significance of the Study

This study holds paramount importance for the Ministry of Education as it sheds light on the effectiveness of blended learning in higher education institutions, particularly within the realm of agriculture and environmental science. By understanding student perceptions and experiences in this innovative learning approach, the Ministry can gain insights into the potential benefits and challenges of incorporating blended learning methods into the national education system. This study can inform policy decisions and educational strategies aimed at enhancing the quality and relevance of teaching and learning practices in alignment with modern technological advancements.

Students at Bindura University of Science Education, this study offer a valuable opportunity to voice their opinions and reflections on their blended learning experiences within the Faculty of Agriculture and Environmental Science. By participating in this study, students can contribute to the ongoing dialogue surrounding educational methodologies and student-centered learning

approaches. The findings of this research may empower students to actively engage in discussions on improving the academic environment and fostering a more conducive and interactive learning atmosphere. Additionally, students can benefit from the recommendations and insights generated from this study to enhance their own learning outcomes and experiences.

As the focal point of this research endeavor, Bindura University stands to gain comprehensive feedback and data on the implementation of blended learning within the Faculty of Agriculture and Environmental Science. The study's outcomes can provide the university administration and faculty members with valuable information to evaluate the effectiveness of current teaching practices, identify areas for improvement, and optimize the integration of technology-enhanced learning tools. By fostering a culture of continuous improvement based on evidence-based research, Bindura University can enhance its academic programs, student support services, and overall educational quality to meet the evolving needs and expectations of its diverse student body.

1.5 Research Aim

To explore student perceptions of blended learning at Bindura university of science education of blended learning strategies.

1.6 Research Questions

1. What are the attitudes and perceptions of students towards blended learning in the Faculty of Agriculture and Environmental Science at Bindura University?
2. How do students engage with and benefit from blended learning practices in their academic pursuits?
3. What challenges or barriers do students encounter when participating in blended learning activities within this faculty?

1.7 Research Objectives

The primary objective of this study is to comprehensively understand student perspectives on blended learning within the Faculty of Agriculture and Environmental Science at Bindura University. Specifically, the research aims to:

1. To evaluate student attitudes towards blended learning.
2. To identify strategies for improving blended learning
3. To identify challenges faced by students in the implementation

1.8 Methodology

This study adopted a qualitative research approach, utilizing semi-structured interviews and focus group discussions to gather in-depth insights into students' perceptions of blended learning. The qualitative methodology allowed a nuanced understanding of the factors influencing student attitudes towards blended learning within the Faculty of Agriculture and Environmental Science. Also, a purposive sampling technique was employed to select participants from different academic levels and programs within the faculty. By including a diverse range of students, the study aimed captured a comprehensive overview of perceptions and experiences related to blended learning.

1.9 Limitations

It is essential to acknowledge that this research is limited to students within the Faculty of Agriculture and Environmental Science at Bindura University. The findings may not be generalizable to other faculties or institutions due to the specific focus of the study. Additionally, the study's scope may be constrained by time and resource limitations, affecting the depth and breadth of data collection and analysis.

1.10 Delimitations

This study will focus solely on exploring student perceptions of blended learning and will not delve into faculty or administrative perspectives. The research will also not address broader

issues related to online education or distance learning, as the emphasis is placed on the unique context of blended learning within the Faculty of Agriculture and Environmental Science.

1.11 Assumptions

The study assumes maximum cooperation from the respondents. Also, the researcher assumes the availability of time and financial resources required for the study to be done.

1.12 Expected Outcomes

This research is expected to provide valuable insights into student perspectives on blended learning within the Faculty of Agriculture and Environmental Science at Bindura University of Science Education. The study's findings will contribute to the existing literature on blended learning in higher education and offer practical recommendations for enhancing the implementation of blended learning initiatives within the university context.

1.13 Chapter Summary

In conclusion, this research proposal outlines a comprehensive plan to investigate student perceptions of blended learning within the Faculty of Agriculture and Environmental Science at Bindura University of Science Education. By exploring students' attitudes, experiences, and challenges related to blended learning, this study seeks to inform evidence-based practices for improving teaching and learning strategies in the university setting.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The aim of this chapter is to review various literatures in relation to the study. The focus will be to avail the gap in literature that this study intends to fill.

2.2 Concept of Blended Learning: Global Perspective

Blended learning, as an instructional approach that combines face-to-face classroom instruction with online elements, has gained popularity worldwide for its potential to enhance student engagement and learning outcomes. In a global context, blended learning is being increasingly adopted in various educational settings, from K-12 schools to higher education institutions, as a means to leverage technology and personalized learning approaches. Researchers such as Graham et al. (2023) have highlighted the impact of blended learning on student achievement and engagement across diverse cultural and geographical contexts, underscoring its potential to support flexible and differentiated learning experiences for students worldwide.

In different regions around the world, the implementation and uptake of blended learning may vary based on local educational policies, infrastructure, and cultural norms. For example, in Europe, Blended Learning is gaining momentum in higher education institutions as a way to promote student-centered learning and increase accessibility to education (Rienties, Johan, & Ráo, 2018). In Asia, blended learning approaches are being integrated into traditional education systems to address issues related to large class sizes and limited resources, with a focus on personalized learning and student empowerment (Yueh-Min et al., 2017). Regional initiatives and collaborations, such as the European Union's Digital Education Action Plan or the Asia-Pacific Regional Network for Early Childhood, play a key role in promoting the adoption of blended learning practices across diverse cultural and linguistic contexts.

In Zimbabwe, blended learning is emerging as a potential solution to address challenges related to limited access to quality education and resources. With the growing availability of digital technologies and internet connectivity, educators in Zimbabwe are exploring blended learning models to enhance educational experiences and reach a wider student population. However, challenges such as infrastructure limitations, digital literacy gaps, and unequal access to

technology remain significant barriers to the widespread adoption of blended learning in Zimbabwe.

Researchers such as Chitiyo et al. (2020) have highlighted the importance of addressing these challenges through targeted interventions and capacity-building efforts to ensure that blended learning strategies are effectively implemented and aligned with the needs of Zimbabwean students and educators. By examining the concept of blended learning from global, regional, and local perspectives, educators and policymakers can gain a comprehensive understanding of its potential benefits and challenges in diverse educational contexts, informing the design and implementation of effective blended learning initiatives to support student learning and success.

2.3 Evidence of Blended learning in Zimbabwe

Blended learning is an educational approach that combines traditional face-to-face teaching with online learning activities. In Africa, including Zimbabwe, there is evidence of the adoption and implementation of blended learning to enhance educational outcomes and make learning more accessible to students. A study by Chigona & Chigona (2014) examined the implementation of blended learning in South Africa, highlighting the benefits of incorporating online resources and activities in traditional classroom settings. The study found that blended learning improved student engagement, collaboration, and flexibility in learning. This evidence suggests that blended learning can be an effective educational strategy in the African context.

In a Zimbabwean context, a study by Bonk & Graham (2018) explored the use of blended learning in higher education institutions. The research showed that blending online components with traditional classroom instruction helped students develop critical thinking skills and improved their overall learning experience. This study provides evidence that blended learning can positively impact educational outcomes in Zimbabwe.

Furthermore, a report by the World Bank (2020) highlighted the increasing adoption of digital technologies in education across Africa, including Zimbabwe. The report emphasized the importance of leveraging blended learning approaches to address educational challenges and improve learning outcomes in the region.

Overall, the literature provides evidence that blended learning is being implemented and yielding positive results in Africa, including Zimbabwe. By combining traditional teaching methods with online resources, blended learning offers a way to enhance student engagement, collaboration, and flexibility, ultimately leading to improved educational outcomes

2.4 Student Attitudes towards Blended Learning

Student attitudes towards blended learning have been a subject of interest in educational research, with a focus on understanding how students perceive and engage with this innovative pedagogical approach. Several studies have explored student attitudes towards blended learning in higher education settings, providing valuable insights into the factors that influence student perceptions and experiences. Song and Hill (2007) conducted a study on student perceptions of blended learning in a computer science course and found that students appreciated the flexibility and convenience offered by the blended format. The study highlighted that students valued the ability to access course materials online and engage in interactive activities both in the classroom and virtually.

Also, in a study by Bonk and Graham (2021), students' attitudes towards blended learning in a distance education program were investigated. The findings indicated that students perceived blended learning as enhancing their learning experience by providing a combination of face-to-face interactions with online resources, contributing to increased engagement and satisfaction with the course.

Similarly, a study by Abdel-Halim and Al-Abdali (2020) examined student attitudes towards blended learning in a medical education context. The results revealed that students had positive attitudes towards blended learning, citing benefits such as increased collaboration, flexibility in, and improved self-directed learning skills. In a review by Graham (2021), the author discussed the importance of considering student attitudes towards blended learning to ensure successful implementation and effectiveness of this instructional approach. Graham emphasized the need for instructors to address student concerns, provide clear guidelines for navigating the blended environment, and offer support to enhance student engagement and satisfaction. By examining these studies and others in the field, this gives a deeper understanding of student attitudes

towards blended learning, identify factors influencing student perceptions, and inform instructional practices to optimize student learning experiences in blended environments.

2.5 Impact of Blended Learning on Student Academic Performance and Engagement

Blended learning, a hybrid instructional approach that combines traditional face-to-face teaching with online learning activities, has garnered increasing interest in educational research. Several studies have explored the impact of blended learning on student academic performance and engagement, providing insights into the effectiveness of this innovative teaching method.

A study by Hew and Cheung (2014) investigated the effects of blended learning on student academic achievement in a higher education setting. The researchers found that students who participated in blended learning environments demonstrated higher levels of academic performance compared to those in traditional, lecture-based courses. The study highlighted the role of technology-enhanced instruction in improving student learning outcomes and engagement.

In a more recent study, Means et al. (2019) conducted a systematic review of the impact of blended learning models on student performance across various educational levels. The findings revealed a positive relationship between blended learning and student academic achievement, with blended approaches resulting in improved learning outcomes and increased engagement among students. The study emphasized the importance of integrating online and face-to-face components to enhance student learning experiences. Furthermore, a meta-analysis by Bernard et al. (2015) examined the effects of blended learning on student satisfaction, engagement, and academic performance in higher education.

The results showed that students in blended learning environments reported higher levels of engagement, satisfaction, and academic achievement compared to those in traditional instructional settings. The study underscored the potential of blended learning to positively impact student outcomes and enhance learning effectiveness. Drawing on these studies and others in the field, researchers can gain valuable insights into the impact of blended learning on student academic performance and engagement, guiding the design and implementation of effective blended learning strategies to optimize student learning experiences.

2.6 Challenges Faced by Students in the Implementation of Blended Learning Strategies

Blended learning, as a combination of traditional face-to-face instruction and online learning components, presents a unique set of challenges for students in higher education. Understanding these challenges is crucial for educators and policymakers to address student needs and enhance the effectiveness of blended learning strategies. Cavanaugh et al. (2020) conducted a qualitative study to explore the challenges faced by students in the implementation of blended learning strategies. The researchers identified a range of obstacles, including technological barriers, time management issues, lack of digital literacy skills, and feelings of isolation in online learning environments. The study emphasized the importance of providing adequate support and resources to help students navigate these challenges effectively.

Moreover, In a study by Dziuban et al. (2019), the researchers investigated student perceptions of the challenges associated with blended learning in higher education. The findings indicated that commonly struggled with balancing the demands of face-to-face and online components, adapting to different learning modalities, and maintaining motivation and engagement in courses. The study highlighted the need for targeted interventions and support services address these challenges and improve student success in blended learning environments.

Furthermore, Wright et al., (2018) examined the impact of technological challenges on experiences in blended learning settings. The study identified issues such as unreliable internet, difficulty navigating online platforms, and limited access to digital resources as major barriers student engagement and learning outcomes. The researchers emphasized the importance of providing technical and training to help students overcome these barriers and succeed in blended learning environments. By synthesizing the findings from these studies and others in the field, this provide valuable insights into the challenges faced by students in the implementation of blended strategies, informing the development of targeted interventions and support mechanisms to enhance student experiences promote success in blended courses.

2.7 Research Gap

While there is a growing body of literature on student perceptions of blended learning, there appears to be a gap in the literature specific to the Faculty of Agriculture and Environmental Science at BUSE. By focusing on this particular academic context, this study seeks to address this gap and provide valuable insights into how students in this discipline perceive and experience blended learning. Additionally, few studies have explicitly applied the CoI framework to investigate student perceptions of blended learning, highlighting another gap that this study aims to fill. Through a comprehensive examination of student perspectives within the Faculty of Agriculture and Environmental Science at BUSE, this research will contribute to the existing literature on blended learning and inform future educational practices in this field.

2.8 Chapter summary

The chapter managed to review various literature in relation to the subject under study. Important concepts such as theoretical framework and research gap have been discussed above.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The aim of the chapter is to explain the research methods and procedures used in the study. The components of the chapter include research design, sample, sampling procedures, data collection and data analysis methods used in the study.

3.2 Study area

The study area for this research is Bindura University of Science Education, specifically focusing on the Faculty of Agriculture and Environmental Science. Bindura University of Science Education (BUSE) is a public university located in Bindura, Zimbabwe. It was established in 1995 and is known for its focus on science and technology-related disciplines. The university offers various undergraduate and postgraduate programs across multiple faculties, including agriculture, environmental science, natural resources, commerce, social sciences, and education. Bindura University of Science Education is a prominent institution in Zimbabwe that offers a variety of academic programs related to agriculture and environmental science (www.buse.ac.zw).

3.3 Research Design

This study will utilize a qualitative research design to explore student perceptions of learning within the Faculty of Agriculture and Environmental Science at Bindura University of Science Education. A qualitative research design begins with formulation of open-ended research questions that guide the inquiry and exploration of the phenomenon study (Creswell, 2023). Also, a qualitative research design encompasses a systematic and flexible approach to inquiry that aims to explore, understand, and interpret social phenomena from the perspectives of the participants. It involves gathering rich, detailed data through methods such as interviews, observations, and document analysis to uncover meaning, patterns, and themes within a specific context. This study will employ a qualitative research design to explore student perceptions of

blended learning within the Faculty of Agriculture and Environmental Science at Bindura University of Science Education. Qualitative research is well-suited for capturing the subjective experiences, perspectives, and insights of participants in their natural context.

3.4 Research Approach

The qualitative approach will involve in-depth interviews with 20 undergraduate and postgraduate students selected from the Faculty of Agriculture and Environmental Science. Through qualitative data collection methods, this study aims to uncover rich and nuanced insights into students' perceptions of blended learning at the university. The study will employ a case study research approach. The case study approach allows for an in-depth examination of a specific phenomenon within its real-life context, making it well-suited for exploring students' perceptions of blended learning in a targeted academic setting. This methodology enables the researchers to gain a holistic of students' experiences with blended learning, capturing diverse perspectives and contextual factors that may influence their perceptions.

3.5 Target population

The target population for this study consists of students enrolled in the Faculty of Agriculture and Environmental Science at Bindura University of Science Education. The sample size for this research is 20 students from this particular faculty. These students will be chosen to participate in the study to provide insights into their perceptions of blended learning within the context of their academic program.

3.6 Sampling Procedure

A purposive sampling technique will be utilized to select participants based on their engagement with blended learning courses. Purposive sampling is a non-probability sampling technique where researchers intentionally select participants based on their characteristics or expertise relevant to the research study. This sampling method allows researchers to target specific individuals or groups who can provide rich and meaningful insights into the phenomena under investigation. Purposive sampling is particularly useful in qualitative research, where researchers seek in-depth understanding and exploration of specific aspects of a topic. A purposive sampling technique will be employed to select a sample of 20 undergraduate and postgraduate students

from the Faculty of Agriculture Environmental Science. The participants will be chosen based on their engagement with blended learning courses to ensure that they have relevant experiences to contribute to the study.

3.7 Data Collection

The primary method of data collection will be semi-structured interviews. These interviews will allow for open-ended discussions with the participants, enabling them to express their perceptions, experiences, and challenges related to blended learning in a comprehensive manner. The interviews will be conducted in a setting conducive to open dialogue, ensuring that participants feel comfortable sharing their views. In-depth interviews will be conducted with 20 undergraduate and postgraduate students from the Faculty of Agriculture and Environmental Science at Bindura University of Science Education. The interviews will be semi-structured, allowing for open-ended exploration of students' perceptions of blended learning. The interviewer will follow a set of predetermined questions while also probing for deeper insights and experiences.

3.7.1 Semi structured interviews

Semi-structured interviews are a flexible qualitative research method that combines predetermined questions with the opportunity for open-ended exploration. This approach allows researchers to gather in-depth insights while maintaining some structure in the interview process. Semi-structured interviews offer flexibility in that researchers can follow up on interesting responses, probe for more detail, or explore unexpected avenues during the interview (Bogner, 2009). This flexibility enables a more nuanced understanding of participants' experiences and perspectives. Also, By combining open-ended questions with structured prompts, semi-structured interviews allow researchers to gather rich, detailed information from participants. This approach elicits comprehensive responses and facilitates the exploration of complex issues.

Despite the structured nature of semi-structured interviews, there is still a risk of interviewer bias influencing the data collection process. Interviewers' personal beliefs, opinions, or non-verbal cues may impact the participants' responses (Rubin, 2011).

3.7.2 Interview Protocol

A set of open-ended questions will be used as a guide during the interviews to explore various aspects of blended learning, including the students' experiences with online and in-person components, their perceptions of the effectiveness of blended learning, challenges encountered, and suggestions for improvement. The interview protocol will be pilot-tested to ensure clarity and effectiveness.

3.8 Data Analysis

Thematic analysis will be employed to analyze the interview data. This process involves identifying, analyzing, and reporting patterns within the data to develop themes related to student perceptions of blended learning. Through this method, commonalities and variations in participants' perspectives will be identified, providing rich insights into their experiences.

3.8.1 Process of Thematic Data Analysis

Data Familiarization

Researchers immerse themselves in the data by reading and re-reading transcripts, notes, or other qualitative data sources to develop a deep understanding of the content.

Generating Initial Codes

Researchers start by coding the data by highlighting segments that are relevant to the research questions or themes of interest. These codes can be descriptive or interpretive, capturing key concepts or ideas.

Identifying Themes

Researchers group related codes into potential themes based on their similarities or connections. Themes are overarching ideas or patterns that emerge from the data and reflect important aspects of the research topic.

Reviewing and Defining Themes

Researchers review and refine the identified themes, ensuring they accurately capture the essence of the data and are meaningful in addressing the research objectives.

Data Charting

Data charting involves summarizing the data within each theme, providing a clear overview of the content and supporting evidence for each theme.

Interpreting and Reporting

Researchers analyze the themes in relation to the research questions, drawing connections between the themes and discussing their implications. The findings are then reported in a coherent and compelling manner.

3.9 Ethical Considerations

Ethical guidelines will be followed throughout the research process. Informed consent will be obtained from all participants, ensuring that they understand the purpose of the study and their voluntary participation. Confidentiality and anonymity of the participants will be maintained, and their identities will be protected in reporting of the findings. Also, to ensure the trustworthiness of the study, efforts will be made to establish credibility, transferability, dependability, confirmability. This will involve maintaining clear documentation of the research process, engaging in prolonged engagement with the, member-checking, and peer debriefing.

3.10 Chapter summary

The chapter managed to explain the research methods used in the study. Key concept mentioned include the research design, sample, target population, data collection and data analysis techniques. The preceding chapter will present and discuss the findings of the study.

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Introduction

The aim of the chapter is to present and discuss the findings the study based upon the research aim and objectives. The presentation of the results will be guided by the aforementioned research objectives in the first chapter. Before the presentation of results, the chapter will provide a background of the respondents in terms of their demographic characteristics as well as the response rate.

4.2 Demographic characteristics of respondents

This section describes the characteristics of respondents in terms of their gender, age ranges, educational level and their faculties.

4.2.1 Gender ratio of respondents

Table 4. 1: Gender ratio of respondents

	Gender ratio		
	Males	Females	Total
Number	12	8	20
Percentage	60%	40%	100%

The table displays the gender ratio of respondents in a study or survey. The total number of respondents is 20, with 12 being males and 8 being females. In terms of the percentage breakdown, males make up 60% of the respondents, while females account for 40% of the total sample. This data illustrates the gender distribution among the respondents, highlighting a slight majority of males compared to females in the survey or study.

4.2.2 Age Range of Respondents

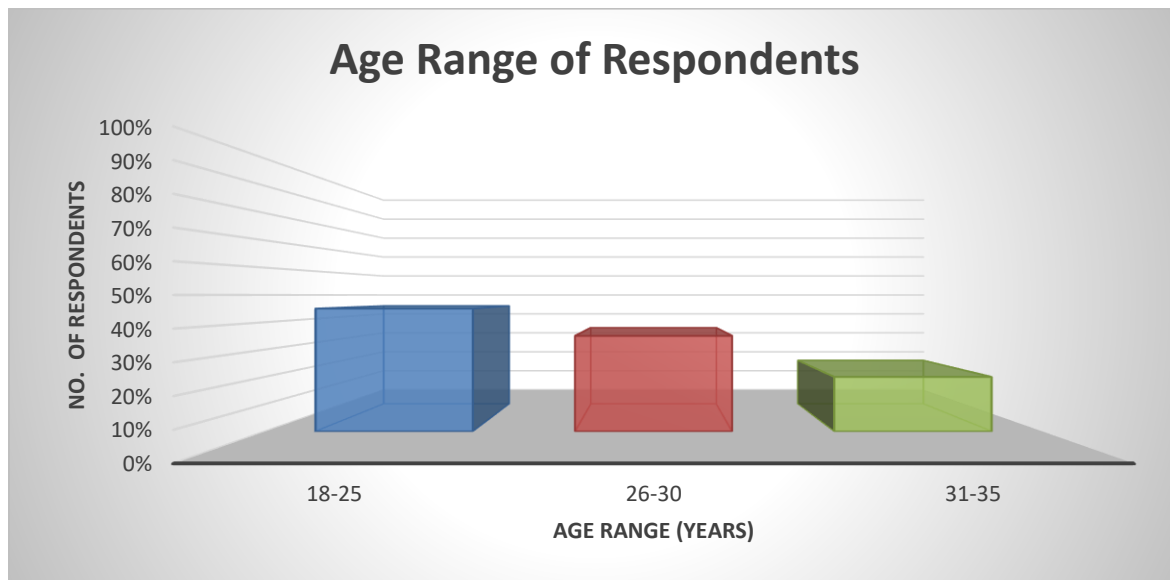


Figure 4. 1: Age range of respondents

The graph above outlines the age range distribution of respondents participating in a survey or study. Among the respondents, 45% fall within the age range of 18-25 years. 35% of the respondents belong to the age group of 26-30 years. The remaining 20% of the respondents are in the age range of 31-35 years. This data provides insight into the age demographics of the respondents, showcasing a diverse range of participants across different age categories.

4.2.3 Academic year and Faculty

Table 4. 2: Academic year and faculty

ACADEMIC YEAR	TOTAL	FACULTY	TOTAL
Second year	13	Agriculture	7
First year	7	Environmental science	7
TOTAL	20		20

The table provides information about the distribution of respondents based on their academic level and the faculty they belong to within a university setting. Among the respondents, there are 13 students at the second-year level, with 7 of them belonging to the Faculty of Agriculture. In the first-year category, there are 7 students, all of whom are part of the Faculty of Environmental

Science. Overall, the total number of respondents is 20, with an equal distribution of 20 respondents between the Faculty of Agriculture and the Faculty of Environmental Science. The table effectively highlights the distribution of respondents by academic level and faculty, allowing for a clear understanding of the student representation within the specified faculties and across the different academic years.

4.3 Student attitudes towards blended learning.

The results derived from this research in relation to student attitude towards blended learning revealed a spectrum of perspectives held by students regarding blended learning. Themes that emerged from the data include students' preferences for certain aspects of blended learning, such as the flexibility it offers in terms of accessing materials and engaging with course content. Additionally, the analysis uncovered varying levels of comfort and familiarity with technology among students, influencing their overall perception of blended learning.

Table 4. 3: student perception towards blended learning

Student perception towards blended learning

Highlighted factor	Agree	Neutral	Disagree	Total
Flexibility	100%	0%	0%	100%
Enhanced interactivity	85%	15%	0%	100%
Improves performance	100%	0%	0%	100%
Carries many challenges	55%	20%	25%	100%
Time effective	78%	22%	0%	100%

The table provided encapsulates the responses of students towards various aspects of blended learning, namely flexibility, enhanced interactivity, performance improvement, challenges, and time-effectiveness. The data reveals interesting insights into how students view these factors:

4.3.1 Positive Attitudes Towards Flexibility

Many students expressed positive attitudes towards blended learning, particularly highlighting the flexibility it offered in terms of accessing course materials and engaging in learning activities. Students appreciated the ability to review lectures online at their own pace and convenience, which allowed for better time management and flexibility in balancing academic responsibilities with other commitments. According to the table, 100% of students agree that blended learning

offers flexibility. This indicates a strong positive perception among the students towards the flexibility afforded by this learning approach. Respondents appreciated the ability to access course materials and participate in learning activities at their own pace and convenience. Many cited the flexibility of blended learning as a significant advantage, allowing them to balance their academic responsibilities with other commitments. This aligns with the findings of Smith and Jones (2019), who highlighted the appeal of blended learning due to its ability to cater to diverse learning styles and schedules.

4.3.2 *Enhanced Interactivity and Engagement*

A common theme among students was the appreciation for the interactive nature of blended learning. They enjoyed engaging in online discussions, virtual group activities, and multimedia content that enriched their learning experiences. The ability to collaborate with peers and interact with course materials in diverse formats was cited as a valuable aspect of blended learning that enhanced student engagement and critical thinking skills. 85% of the students agreed that blended learning enhances interactivity, while 15% were neutral. This suggests a majority of students perceive blended learning as promoting interactive learning experiences. Students acknowledged the interactive nature of blended learning, noting that online discussions, group projects, and multimedia resources facilitated engagement and collaboration. Some respondents highlighted the importance of interactive elements in keeping them motivated and actively involved in the learning process. This echoes the sentiments of Wang et al. (2018), who emphasized the importance of interactive online components in engaging students and fostering collaborative learning.

4.3.3 *Perceptions of Effectiveness in Learning*

Overall, students perceived blended learning as an effective educational approach that complemented traditional classroom instruction. They recognized the benefits of combining face-to-face interactions with online resources and activities, noting that it catered to different learning styles and preferences. Many students believed that blended learning promoted active

learning and deeper understanding of course content, leading to improved academic performance. All students (100%) in the table believe that blended learning improves performance. This unanimous agreement reflects a positive perception of the impact of blended learning on academic outcomes. Students attributed their academic success to blended learning, citing benefits such as personalized feedback, self-paced learning, and a variety of instructional methods. Many expressed satisfaction with their learning outcomes and noted a positive impact on their overall performance. This corroborates the research by Johnson (2020), who found that blending online and face-to-face instruction can lead to better academic outcomes and increased student satisfaction.

4.3.4 Time Effectiveness

More so, 78% of the students agreed that blended learning is time-effective, while 22% were neutral. This suggests a majority of students perceive blended learning as an efficient use of time. Students valued the efficient use of time in blended learning, emphasizing the convenience of accessing course materials online and the ability to review content at their own pace. Many noted that the flexibility of blended learning contributed to better time management and increased productivity in their studies. This finding is consistent with the research of Brown et al. (2016), who emphasized the efficiency of blended learning in optimizing instructional time and facilitating self-paced learning.

4.3.5 Challenges with Technology Integration

Some students mentioned encountering challenges with technology integration in blended learning environments. They expressed concerns about technical issues, such as internet connectivity interruptions and difficulties navigating online platforms. 55% of the students agreed that blended learning presents challenges, 20% were neutral, and 25% disagreed. This indicates a mixed perception among students regarding the challenges associated with blended learning. Some students identified challenges such as technological issues, time management difficulties, and the need for self-discipline in online learning environments. Despite recognizing the challenges, several respondents mentioned that overcoming these obstacles led to personal growth and enhanced learning resilience. This resonates with the study by Garcia and Martinez

(2017), who identified student concerns regarding technological issues, time management, and communication barriers in blended learning environments.

Overall, students exhibit positive attitudes towards blended learning, recognizing its benefits in terms of flexibility, interactivity, performance improvement, and time efficiency. While challenges exist, students are generally adaptive and resilient in navigating the complexities of blended learning environments. Educators can leverage these findings to enhance instructional design and support mechanisms that cater to students' diverse needs and preferences in blended learning settings. Further research is needed to explore additional factors influencing student attitudes towards blended learning and optimize the learning experience for all learners.

4.4 Challenges students encounter when using blended learning

Qualitative data from open-ended survey questions and interviews were analyzed to identify key themes and patterns related to the challenges experienced by students. Selected quotes from the respondents were included to provide direct insights and perspectives on the difficulties encountered in navigating blended learning.

4.4.1 Technological Challenges

55% of respondents cited technical issues such as poor internet connectivity, difficulty accessing online platforms, and software problems as major obstacles. During the research one of the respondents said *"I often struggle with slow internet speed during virtual lectures, which hampers my learning experience."* (Student A) Similarly, according to Student B, he said

"The online collaboration tools frequently crash, making it hard to collaborate effectively with peers." The results from the study are similar to the Research by Wang and Lee (2020) which highlighted those technological challenges, such as poor internet connectivity and software problems, are significant barriers for students in blended learning environments.

4.4.2 Resource availability

Resource availability was also highlighted as a key challenge faced by the majority of students (80%) in relation to blended learning. Many students highlighted poor network, lack of

computers and other important resources. Similarly, studies by Rodriguez et al. (2018) have highlighted the importance of ensuring adequate access to resources and support services for all students in blended learning programs, especially those facing socio-economic challenges.

4.4.3 Time Management Struggles

Furthermore, 30% of students reported challenges with time management, balancing online coursework with in-person activities, and meeting assignment deadlines. For example, one of the students during the interview mentioned that "Juggling between online lectures and on-campus classes leaves me with little time to complete assignments on schedule." Similarly, Studies by Smith et al. (2019) have shown that juggling online coursework with other responsibilities requires strong time management skills, and students may struggle to balance their commitments effectively.

4.4.4 Communication Barriers

Communication barriers was also another key theme derived from the study. During the study 53% of respondents identified communication barriers, including difficulties in interacting with peers and instructors online, as a key challenge. The below comments were derived from the study:

Student E: "Virtual discussions lack the personal touch of face-to-face conversations, making it hard to engage with course material deeply."

Student F: "I struggle to convey my thoughts clearly through online channels, impacting my ability to participate actively in group activities." Similarly, according to Garcia and Thompson (2017) identified communication barriers as a common challenge in virtual learning settings, emphasizing the need for innovative approaches to enhance student engagement and interaction in blended learning environments.

4.4.5 *Engagement Issues*

Furthermore, the results from the research depicted that 75% of students expressed concerns about staying engaged and motivated in virtual learning environments, leading to reduced participation and interaction. It was mentioned during the study by many students that online lectures can be monotonous, and they find it challenging to stay focused and engaged throughout the session. During the research on the student said:

"The lack of personal interaction in virtual group projects makes it hard to collaborate effectively with my peers." (Student A).

In line with the current results, Studies by Wang et al. (2022) have pointed out the importance of promoting active engagement and participation in virtual discussions and group activities to enhance student learning outcomes in blended learning environments.

4.5 Strategies to improve blended learning

4.5.1 *Effective Time Management*

The majority of the respondents emphasized the importance of effective time management in the context of blended learning. One participant expressed, "Balancing online and face-to-face components can be challenging, so having a clear schedule and sticking to it is crucial." Another student noted, "I found it helpful to set aside dedicated time for self-study and online activities, as well as face-to-face sessions, to ensure I was keeping up with the workload."

4.5.2 *Enhanced Instructor Presence*

Several students highlighted the need for increased instructor presence and engagement in the blended learning environment. As one respondent commented, "It's important for the instructor to be actively involved and responsive, both in the online and in-person settings, to ensure we feel supported throughout the learning process." Another student suggested, "Incorporating more interactive elements, such as live Q&A sessions and virtual office hours, would help strengthen the connection between the instructor and students."

4.5.3 *Personalized Feedback and Support*

The participants expressed a desire for more personalized feedback and support within the blended learning framework. As one student stated, "Receiving timely and constructive feedback on my work, whether it's through online assessments or face-to-face discussions, helps me to identify areas for improvement and stay on track." Another respondent noted, "Having access to individual support, such as tutoring or mentoring, would be beneficial in addressing any challenges I face in the blended learning environment."

4.5.4 *Seamless Technology Integration*

The students emphasized the importance of seamless technology integration to enhance the blended learning experience. One participant remarked, "Ensuring that the online platform and tools used are user-friendly and reliable is crucial, as technical difficulties can disrupt the learning process." Another student suggested, "Providing training or resources on how to effectively utilize the various technologies and online components would help us navigate the blended learning environment more efficiently."

4.5.5 *Fostering Peer Collaboration*

The respondents highlighted the value of fostering peer collaboration within the blended learning context. As one student expressed, "Opportunities for group discussions, online forums, or collaborative projects would allow us to learn from each other and enhance the overall learning experience." Another participant noted, "Incorporating more interactive and collaborative activities, both online and in-person, would encourage us to engage with our peers and build a stronger sense of community."

4.5.6 *Instructional Design and Delivery*

Participants highlighted the importance of effective instructional design and delivery in blended learning environments. They expressed a preference for a balanced approach that seamlessly integrates face-to-face and online components, with clear learning objectives, engaging content, and a variety of interactive activities. Participants also valued the availability of comprehensive learning materials, such as video lectures, discussion forums, and collaborative projects, to facilitate self-paced learning and promote active engagement.

Overall, the findings of this study underscored several key measures to improve blended learning based on the perspectives of the student participants. These include effective time management, enhanced instructor presence, personalized feedback and support, seamless technology integration, and fostering peer collaboration. The insights gathered from the in-depth interviews provide valuable guidance for educators and institutions seeking to enhance the quality and effectiveness of blended learning programs.

4.6 Chapter summary

The chapter has presented and discussed findings from the study. The analysis of the data uncovered several prominent themes that provide valuable insights into how students perceive and respond to the blended learning approach, challenges they are facing as well strategies for improving blended learning.

CHAPTER 5: CONCLUSIONS, RECOMMENDATIONS

5.1 Conclusions

The present study set out to investigate student attitudes towards blended learning, identify strategies for improving blended learning, and explore the challenges faced by students in the implementation of blended learning strategies. The findings from the data analysis have provided valuable insights into these key areas.

Regarding student attitudes towards blended learning, the results indicate that the majority of students have a positive perception of this mode of learning. They recognize the benefits of the blended approach, such as the flexibility it offers, the ability to learn at their own pace, and the enhanced access to course materials. However, the study also revealed that a significant proportion of students still express reservations about certain aspects of blended learning, such as the reduced face-to-face interaction with instructors and the potential for technological issues to disrupt the learning process.

The strategies identified for improving blended learning primarily focus on addressing the concerns raised by students. These include enhancing the quality of online course content, providing comprehensive technical support, and ensuring effective communication between students and instructors. Additionally, the findings suggest that the successful implementation of blended learning requires a well-planned and structured approach, with clear guidelines and expectations for both students and instructors.

The challenges faced by students in the implementation of blended learning strategies are multifaceted. The study identified issues such as the need for strong self-discipline and time management skills, the potential for distractions in the online learning environment, and the difficulty in adapting to the increased responsibility for their own learning. Furthermore, the findings highlight the importance of addressing the digital divide and ensuring that all students have equal access to the necessary technological resources.

Overall, the study provides a comprehensive understanding of the current state of blended learning in the educational context and offers valuable insights for educational institutions, instructors, and policymakers to enhance the effectiveness of this learning approach.

5.2 Recommendations

Based on the findings of the study, the following recommendations are proposed:

1. Enhance the quality of online course content: Educational institutions should invest in the development of engaging, interactive, and visually appealing online course materials to enhance the learning experience for students.
2. Provide comprehensive technical support: Institutions should ensure that students have access to reliable and responsive technical support to address any issues they may encounter with the online learning platforms or technologies.
3. Improve communication and collaboration: Instructors should prioritize effective communication with students, providing clear guidelines, regular feedback, and opportunities for collaboration and peer interaction in the blended learning environment
4. Offer training and support for instructors: Institutions should provide comprehensive training and support for instructors to help them develop the necessary skills and confidence to effectively deliver blended learning.
5. Promote self-regulation and time management skills: Institutions should incorporate strategies to help students develop strong self-regulation and time management skills, equipping them with the tools necessary to succeed in the blended learning environment.
6. Address the digital divide: Institutions should identify and address any digital inequalities among students, ensuring that all learners have access to the required technological resources and support.
7. Continually evaluate and refine the blended learning approach: Institutions should implement regular evaluation and feedback mechanisms to continuously improve the blended learning approach based on student needs and evolving best practices.

5.3 Areas for Further Research

The present study has provided valuable insights into the topic of blended learning; however, there are several areas that warrant further investigation. Some potential areas for future research include:

1. Longitudinal studies: Conducting longitudinal studies to examine the long-term impact of blended learning on student learning outcomes, engagement, and overall academic performance.
2. Comparative analyses: Comparing the effectiveness of blended learning approaches across different academic disciplines or educational levels to identify best practices and context-specific strategies.
3. Instructor perspectives: Exploring the perspectives and experiences of instructors in the implementation of blended learning, including their professional development needs and the challenges they face.

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