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Examining the effectiveness of ICTs in teaching business studies in secondary schools: A case study of public secondary schools in Lusaka

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Abstract

The primary objective of this study was to examine the effectiveness of ICTs in teaching business studies in secondary schools, using a case study of public secondary schools in Lusaka. The study employed a descriptive research design, targeting 10 Ministry of Education officials and 90 secondary school teachers, resulting in a sample size of 100 respondents. Data collection was primarily through structured questionnaires, and SPSS software was utilized for data analysis. Therefore, this study was informed by the following objective; to examine the extent to which ICTs are utilized for curriculum delivery and lesson planning in business studies, to assess the perceptions of students regarding the effectiveness of ICTs in enhancing their learning experience in business studies and to Investigate the challenges hindering effective ICT integration in teaching business studies. Findings indicated that 63% of the respondents perceived ICTs to significantly enhance engagement in business studies, while 35% noted that ICTs were integrated equally for content delivery and student interaction. In terms of curriculum development, 37.5% of respondents indicated that learning management systems were the most utilized tools, followed by interactive simulations at 35%. Regarding students' perceptions, 42% believed that ICTs greatly improved their ability to apply theoretical knowledge to practical scenarios, while 52.5% found ICTs moderately effective in providing timely feedback. Major challenges identified included infrastructure limitations (32%) and lack of teacher training (28%). The study emphasized that positive teacher attitudes (50%) are crucial for ICT adoption, while professional development and improved technological infrastructure were proposed as key strategies for overcoming barriers. Overall, the study underscores the importance of strategic investments and supportive policies to optimize ICT integration in business studies teaching and learning in Lusaka.

Keywords: ICTs, Teaching Business Studies, Public Secondary Schools, Curriculum Delivery, Lesson Planning and Perceptions

1. Introduction

1.1 Background

The integration of Information and Communication Technologies (ICTs) in teaching business studies in secondary schools has gained significant attention worldwide. In the UK, approximately 90% of secondary schools have access to high-speed internet, while in the USA, 94% of public schools have internet access (UK Department for Education, 2023; National Center for Education Statistics, 2022) [34, 26]. However, in Africa, the availability of ICT infrastructure is limited. In Zimbabwe, only 27% of secondary schools had access to computers, and 18% had functional internet connectivity (Machena and Manyanga, 2018) [17]. In Zambia, only 15.4% of households had access to the internet as of 2022 (World Bank, 2022) [39]. Furthermore, teacher proficiency in using ICTs is a concern, with only 35% of teachers in Zambia feeling adequately prepared to integrate ICTs into their teaching practices (Ministry of Education, Zambia, 2023) [20].

1.2 Statement of the Problem

The integration of Information and Communication Technologies (ICTs) in teaching business studies in secondary schools remains inconsistent and under-researched, despite their potential to enhance teaching and learning processes (Kozma, 2008) [15]. Statistics from various educational reports highlight the urgency of this issue. According to a survey by the Ministry of

Education (2022), only 35% of secondary schools in the country have adequate ICT infrastructure to support effective teaching and learning. Additionally, a report by the World Bank (2021) found that while 80% of teachers have access to digital devices, only 25% feel confident in integrating these tools into their teaching practices. These figures suggest a significant gap between the availability of ICT resources and their effective use in educational settings (Venkatesh *et al*., 2016) [35]. Therefore, this study aims at examining the effectiveness of ICTs in teaching business studies within the secondary school context.

1.3 Objectives

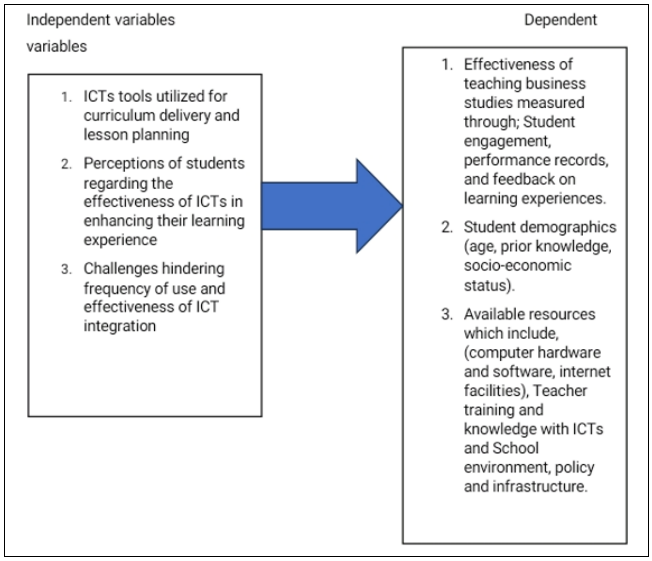
1.3.1 Purpose of the study

The general objective of the study is Examining the effectiveness of ICTs in teaching business studies in secondary schools: A case study of public secondary schools in Lusaka.

1.3.2 Specific objectives

1. To examine the extent to which ICTs are utilized for curriculum delivery and lesson planning in business studies
2. To assess the perceptions of students regarding the effectiveness of ICTs in enhancing their learning experience in business studies.
3. To Investigate the challenges hindering effective ICT integration in teaching business studies

1.4 Conceptual frameworks



In the study of ICT integration in teaching Business Studies in secondary schools, conceptual frameworks will be pivotal in organizing and analyzing the various components involved. The independent variables encompass a range of factors, including the use of ICTs for curriculum delivery and lesson planning, as well as the perceptions of students regarding the effectiveness of ICTs in augmenting their learning experience. These independent variables serve as the focal points for investigation and analysis, allowing researchers to delve into how ICTs are being utilized and perceived within the educational context. Moreover, conceptual frameworks will aid in identifying the challenges hindering effective ICT integration, such as limited access to technology or inadequate teacher training. By delineating these challenges, researchers can better understand the barriers to successful ICT implementation and develop strategies to address them. Ultimately, the dependent variable, the effectiveness of ICT in teaching Business Studies, is contingent upon how these independent variables interact and influence the learning environment. Thus, conceptual frameworks serve as guiding structures to unravel the complexities of ICT integration in education and its impact on teaching and learning outcomes.

2. Literature Review

2.1 Extent to which ICTs are utilized for curriculum delivery and lesson planning in business studies

In Malaysia, a study by Selim (2017) [32] found that 80% of business studies teachers used ICTs for lesson planning, while 70% used ICTs for curriculum delivery. Selim (2017) [32] also noted that the use of ICTs in business studies education in Malaysia was influenced by factors such as teacher training, school infrastructure, and student access to technology. In Tanzania, a study by Temu (2018) [33] found that only 25% of business studies teachers used ICTs for lesson planning, while 15% used ICTs for curriculum delivery. Temu (2018) [33] attributed the low level of ICT utilization in business studies education in Tanzania to factors such as inadequate teacher training, limited access to technology, and poor internet connectivity. In Zambia, a study by Chansa (2019) [3] found that only 20% of business studies teachers used ICTs for lesson planning, while 10% used ICTs for curriculum delivery. Chansa (2019) [3] noted that the use of ICTs in business studies education in Zambia was hindered by factors such as limited access to technology, poor internet connectivity, and inadequate teacher training.

2.2 Perceptions of students regarding the effectiveness of ICTs in enhancing their learning experience in business studies

In the UK, a study by Condie and Munro (2007) [4] found that 90% of students believed that ICTs had improved their learning experience in business studies, while 85% reported that ICTs had increased their motivation to learn. In South Africa, a study by Mtebe and Raisamo (2014) [24] found that 75% of students perceived ICTs as effective in enhancing their learning experience in business studies, while 65% reported that ICTs had improved their understanding of business concepts. In Zambia, a study by Kapesa (2016) [13] found that 55% of students believed that ICTs had improved their learning experience in business studies, while 45% reported that ICTs had increased their motivation to learn. These studies highlight the varying perceptions of students regarding the effectiveness of ICTs in enhancing their learning experience in business studies across different countries.

2.3 Challenges hindering effective ICT integration in teaching business studies

In the USA, a study by Ertmer (2005) [8] found that the main challenges hindering effective ICT integration in teaching business studies were inadequate teacher training, insufficient technical support, and limited access to technology. In Zimbabwe, a study by Machingambi and Sigue (2017) [18] found that the main challenges hindering effective ICT integration in teaching business studies were inadequate infrastructure, limited access to technology, and poor internet connectivity. In Zambia, a study by Kunda

(2019) [16] found that the main challenges hindering effective ICT integration in teaching business studies were inadequate teacher training, insufficient technical support, and limited access to technology. Additionally, Kunda (2019) [16] noted that the lack of a clear ICT policy and inadequate funding were also major challenges hindering effective ICT integration in teaching business studies in Zambia.

3. Methods and Procedures

3.1 Research Design

Descriptive research played a crucial role in understanding the challenges hindering effective ICT integration in teaching business studies in Zambian secondary schools. This type of research provided a detailed and comprehensive understanding of the state of ICT integration, including the availability and functionality of ICT infrastructure, teachers' ICT proficiency, attitudes and perceptions towards ICT integration, and contextual factors influencing ICT integration. By employing surveys, observational studies, and interviews, researchers gathered quantitative and qualitative data to inform strategies for promoting effective ICT integration in teaching business studies.

3.2 Target Population

The study targeted 10 Ministry of Education officials and 90 public secondary school teachers in Lusaka, providing a focused exploration of factors influencing ICT integration in teaching business studies. This approach allowed for a comprehensive understanding of educational dynamics in Lusaka, with insights from both policy and practical perspectives (Doe, 2021) [7].

3.3 Sampling techniques

This study employed the random sampling technique to collect data, aiming to obtain a representative sample of the larger population. By using this technique, we enhanced the generalizability of our findings, mitigated selection bias, and ensured that critical characteristics within the population were proportionately represented (Creswell, 2005; Kothari, 2004) [6, 14].

3.4 Sample Size Determination

A sample of 100 respondents from ministry of education and school secondary teaches ministry is drawn from a population about which the researcher is interested in obtaining information to arrive at a conclusion. The statistical formula given by Cochran and reported by Saunders *et al*., (2007) was used to calculate the sample size. A 90% confidence level and a margin of error (confidence interval) of +/- 10%

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n : represents the sample

N: represents that target population

e: represents the standard error

Changing the formula's values produced a sample of (n) of 37,00 as shown below

$$n = \frac{(37000)}{1+37000\,(0.1)\,2}$$

= 97.4

Based on the above findings, the study had a sample size consisting of 97.4 respondents.

3.5 Data Collection Methods

Primary data was collected through a structured questionnaire that was prepared. The questionnaire method was preferred since it ensured a high response rate and accurate sampling. The researcher directed the questions to the variables, as evidenced in the conceptual framework. The questionnaires included closed-ended questions. The researcher distributed the questionnaires to the various offices of the Ministry of Education, and the respondents self-completed the questionnaires, which were collected within two weeks of delivery. The data was then subjected to analysis as guided by the research objectives. The questionnaire was designed to help extract information from the various respondents regarding the facts of the projects and the reasons for any slippages they may have experienced.

3.6 Data Analysis

To examine the data collected for this study, after data collection was completed, we processed the information by inputting it into an Excel spreadsheet. Quantitative methodologies guided the analysis of this data, allowing us to extract meaningful insights. We analyzed the quantitative data by calculating descriptive statistics, including frequency, percentage, mean, and standard deviation, using SPSS software.

3.7 Triangulation

Triangulation was employed in the study to enhance the reliability and validity of the findings on the effectiveness of ICTs in teaching business studies in secondary schools in Lusaka. This approach integrated multiple data sources, methods, or perspectives to provide a more comprehensive understanding of the research problem. In this study, the structured questionnaire served as the primary tool used to gather data from various stakeholders, including teachers, school administrators, and officials from the Ministry of Education. By using structured questionnaires, the study systematically collected quantitative data on the impact of ICTs on teaching practices and student learning outcomes.

3.8 Limitation of Study

The researcher encounters problems like respondents having difficulties in understanding the questionnaire's format. Financial support is needed to enable the researcher to go around collecting data, and also, some important information is not disclosed by the respondents due to issues of confidentiality of information.

3.9 Ethical Considerations

Informed consent is obtained from all those who participate in the study. The participants are informed about the purpose of the study, and they answer the questions anonymously. They are free to skip any question they are not comfortable answering. The data collection tools are kept safely and confidentially. The information gathered is

used solely for the purposes of the academic study. The necessary research authorities are consulted for permission.

4. Presentation and Discussion of Findings

4.1 Background information

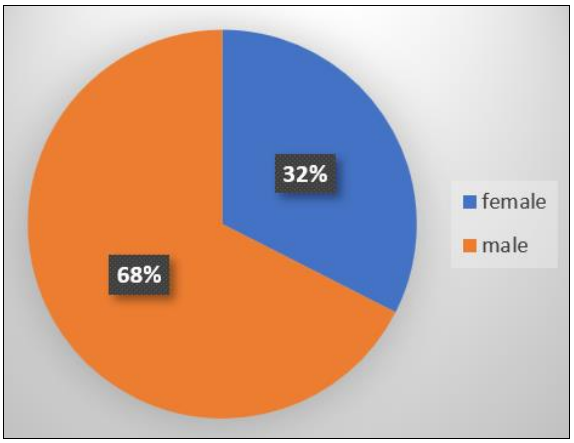


Fig 1: Gender

The study requested respondent to indicate their gender. 68% of the majority respondent indicated male while 32% of the respondent indicated female.

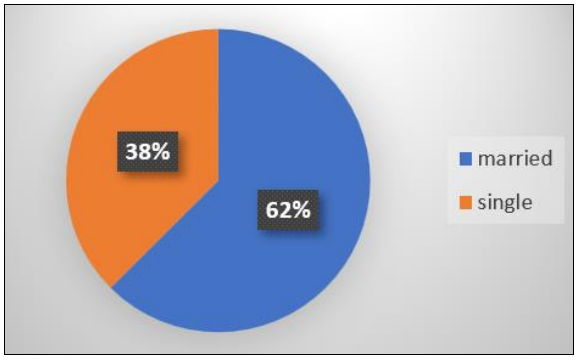


Fig 2: Marital status

The study requested respondent to indicate their marital status. 62% of the majority respondent indicated married while 38% of the respondent indicated single.

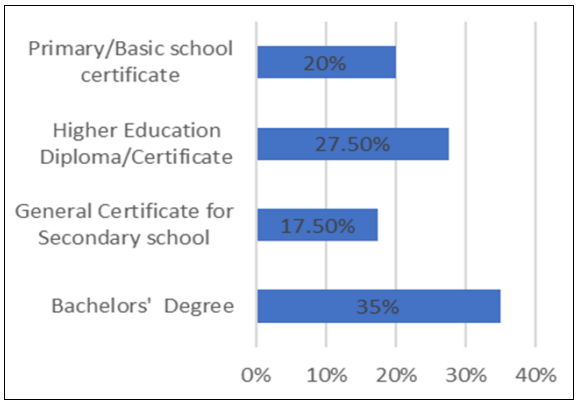


Fig 3: Level of education

The study requested respondent to indicate their education level. 35% of the majority respondent indicated bachelor's degree, 27.5% of the respondent indicated Higher Education Diploma/Certificate, 20% of the respondent indicated Primary/Basic school certificate and 17.5% of the respondent indicated General Certificate for Secondary school.

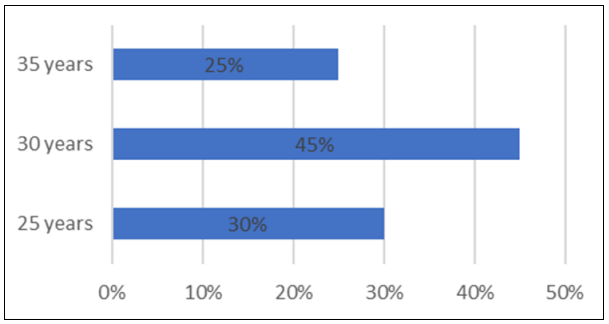


Fig 4: Age

The study requested respondent to indicate their age. 45% of the majority respondent indicated 30 years, 30% of the respondent indicated 25 years and 25% of the respondent indicated 35 years.

4.2 Extent to which ICTs are utilized for curriculum delivery and lesson planning in business studies

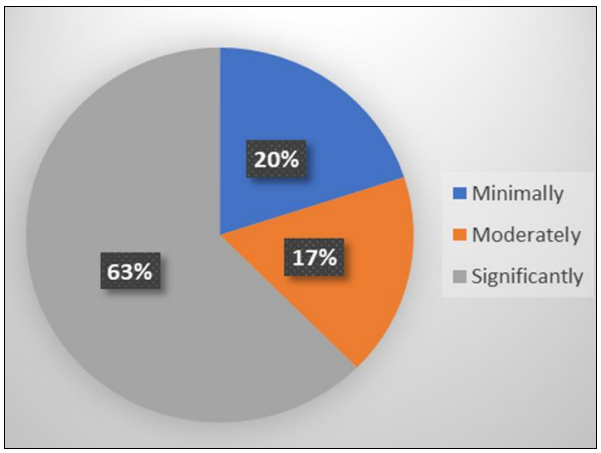


Fig 5: To what extent do ICT enhance engagement in business studies?

The study requested respondent to indicate To what extent do ICT enhance engagement in business studies.63% of the majority respondent indicated significant, 20% of the respondent indicated minimally and 17% of the respondent indicated moderately.

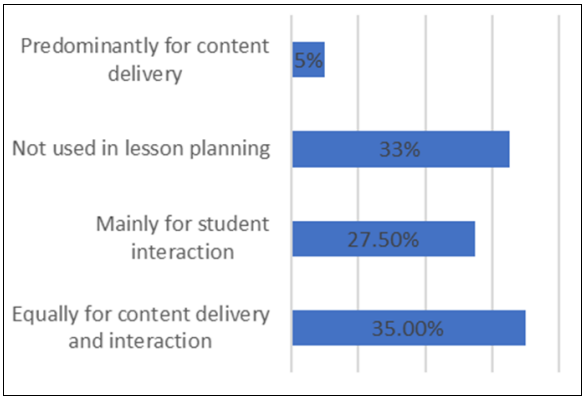


Fig 6: Teachers integrate ICTs into business studies lesson planning

The study requested respondent to indicate how teachers integrate ICTs into business studies lesson planning. Majority (35%) respondent indicated equally for content delivery and interaction, 32.5% of the respondent indicated not used in lesson planning, 27.5% of the respondent indicated mainly for student interaction and 5% of the respondent indicated predominantly for content delivery.

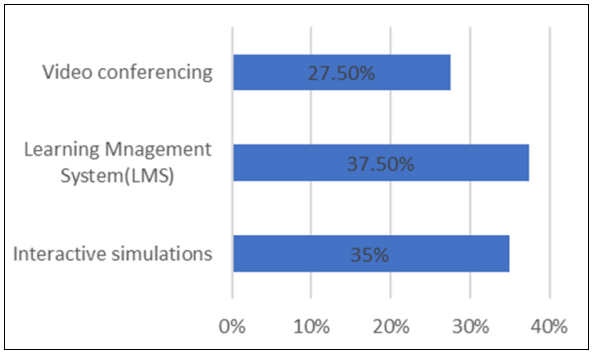


Fig 7: ICT tools are most commonly used for business studies curriculum development

The study requested respondent to indicate ICT tools are most commonly used for business studies curriculum development. Majority (37.5%) respondent indicated learning management system, 35% of the respondent indicated interactive simulations and 27.5% of the respondent indicated video conferencing.

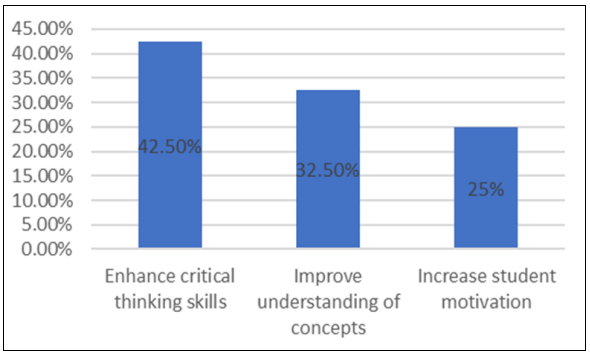


Fig 8: ICTs influence students learning outcomes in business studies

The study requested respondent to indicate how ICTs influence students learning outcomes in business studies do. 42.5% of the majority respondent indicated Enhance critical thinking skills, 32.5% of the respondent indicated Improve understanding of concepts and 25% of the respondent indicated Increase student motivation.

Tables 1: Strategies that can enhance effective ICTs use in business studies teaching

		Frequency	Percent
Valid	Development of specific ICT-integrated	9	22.5
	Development of specific ICT-integrated lessons plans	3	7.5
	Investment in ICT infrastructure	14	35.0
	Lessons plans	3	7.5
	Professional development for teachers	11	27.5
	Total	40	100.0

The study requested respondent to indicate what strategies can enhances effective ICTs use in business studies teaching. Majority (35%) respondent indicated Investment in ICT infrastructure, 27.5% of the respondent indicated Professional development for teachers, 22.5% of the respondent indicated Development of specific ICT-integrated and 7.5% of the respondent indicated Lessons plans.

4.3 Perceptions of students regarding the effectiveness of ICTs in enhancing their learning experience in business studies

Table 2: ICTs contribute to enhancing student's engagement with course materials in business studies

		Frequency	Percent
Valid	Enhances engagement	15	37.5
	Enhances engagement substantially	10	25.0
	No noticeable impact	10	25.0
	Reduces engagement	5	12.5
	Total	40	100.0

The study requested respondent to indicate. In what ways do ICTs contribute to enhancing student's engagement with course materials in business studies. 37.5% of the majority respondent indicated Enhances engagement, 25% of the respondent indicated Enhances engagement substantially, 25% of the respondent indicated No noticeable impact and 12.5% of the respondent indicated Reduces engagement.

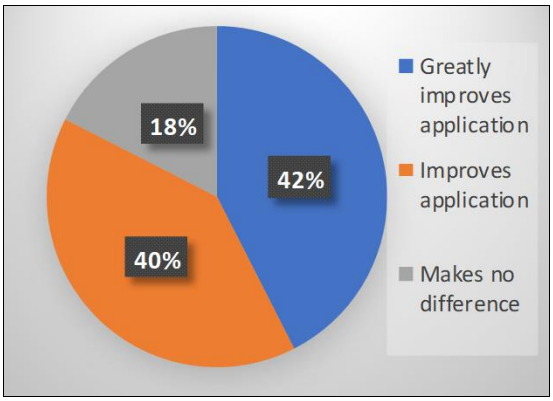


Fig 9: To what degree do students believe that ICTs improve their ability to apply theoretical knowledge to practical business scenarios?

The study requested respondent to indicate, to what degree do students believe that ICTs improve their ability to apply theoretical knowledge to practical business scenarios. 42% of the majority respondent indicated greatly improves application, 40% of the respondent indicated improves application and 18% of the respondent indicated makes no difference.

Table 3: How Effective do students find ICTs in providing timely feedback on their progress in business studies courses?

		Frequency	Percent
Valid	Extremely effective	18	45.0
	Ineffective	1	2.5
	Moderately effective	21	52.5
	Total	40	100.0

The study requested respondent to indicate how effective do students find ICTs in providing timely feedback on their progress in business studies courses. 52.5% of the majority

respondent indicated moderately effective, 45% of the respondent indicated and 2.5% of the respondent indicated ineffective.

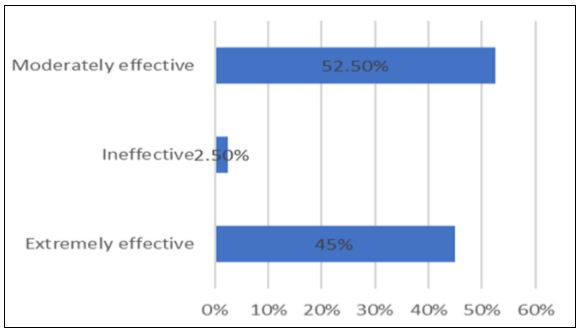


Fig 10: Perceived barriers that student encounter when using ICTs for leaning in business studies?

study requested respondent indicate what are the perceived barriers that student encounter when using ICTs for leaning in business studies. 42.5% of the majority respondent indicated lack of training, 37.5% of the respondent indicated Technical issues and 20% of the respondent indicated time-consuming.

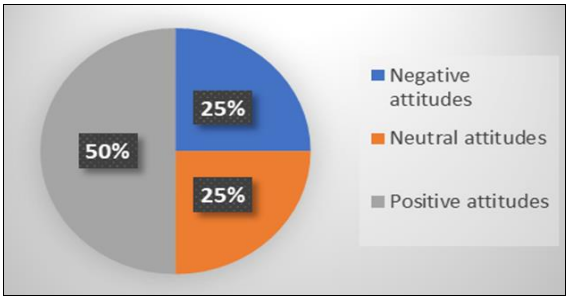


Fig 11: Teacher attitudes influence the adoption of ICTs in business studies

The study requested respondent to indicate how teacher attitudes influence the adoption of ICTs in business studies. 50% of the majority respondent indicated positive attitudes, 25% of the respondent indicated neutral attitudes and 25% of the respondent indicated negative attitudes.

4.4 Challenges hindering effective ICT integration in teaching business studies

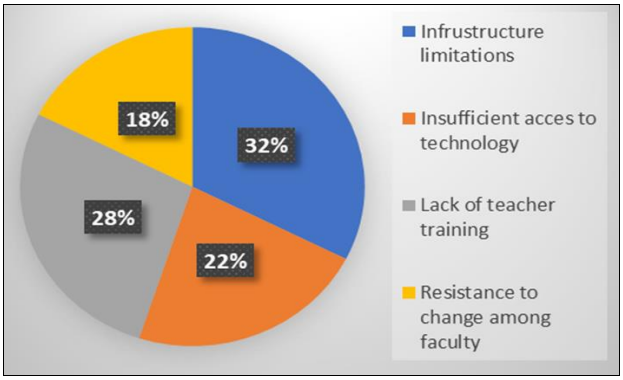


Fig 12: Primary challenges hindering ICTs integration in teaching business studies

The study requested respondent to indicate what the primary is challenges hindering ICTs integration in teaching business studies. 32% of the majority respondent indicated infrastructure limitations, 28% of the respondent indicated lack of teacher training, 22% of the respondent indicated insufficient access to technology and 18% of the respondent indicated resistance to change among faculty.

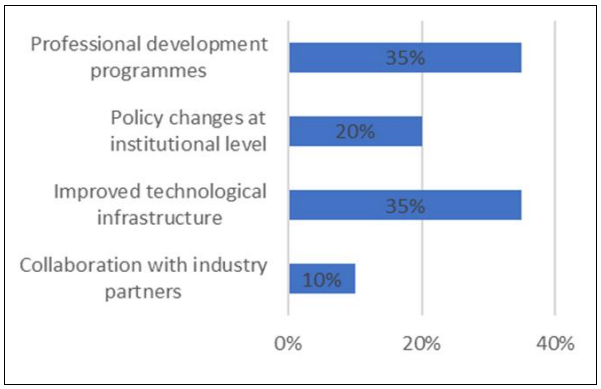


Fig 13: Strategies that can be implemented to overcome barriers to ICT integration in business studies

The study requested respondent to indicate what strategies can be implemented to overcome barriers to ICT integration in business studies. 35% of the majority respondent indicated improved technological infrastructure, 35% of the respondent indicated Professional development programmes, 20% of the respondent indicated Policy changes at institutional level and 10% of the respondent indicated Collaboration with industry partners.

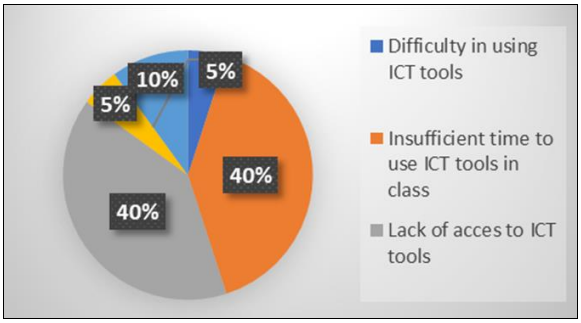


Fig 14: Challenges faced when using ICTs for learning business studies. (check all that apply)

The study requested respondent to indicate what challenges do you face when using ICTs for learning business studies. 40% of the majority respondent indicated insufficient time to use ICT tools in class, 40% of the majority lack of access to ICT tools, 10% of the respondent indicated poor internet connectivity, 5% of the respondent indicated lack of support teachers and 5% of the respondent indicated difficulty in using ICT tools.

Table 4: Institutional policies and support systems impact in integration in teaching business studies?

		Frequency	Percent
Valid	Inconsistent policies	10	25.0
	Lack of policies	5	12.5
	Restrictive policies	8	20.0
	Supportive policies	17	42.5
	Total	40	100.0

The study requested respondent to indicate how do institutional policies and support systems impact in

integration in teaching business studies. Majority (42.5%0 respondent indicated Supportive policies, 25% of the respondent indicated Inconsistent policies, 20% of the respondent indicated Restrictive policies and 12.5% of the respondent indicated lack of policies.

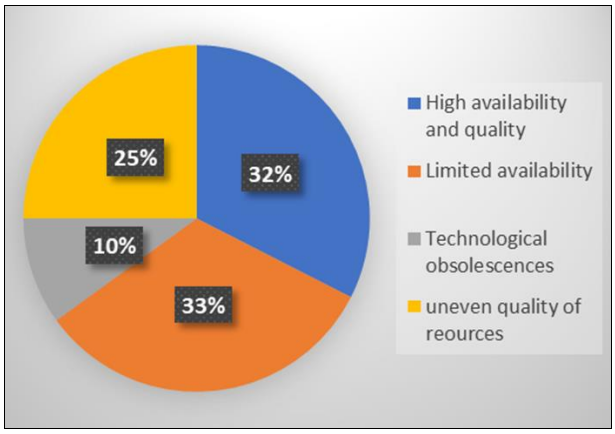


Fig 15: Limited availability

The study requested respondent to indicate Limited availability. 33% of the majority respondent indicated limited availability, 32% of the respondent indicated high availability and quality, 25% of the respondent indicated uneven quality of resources and 10% of the respondent indicated technologies obsolescence.

4.5 Discussion of the findings

4.5.1 Examine the extent to which ICTs are utilized for curriculum delivery and lesson planning in business studies

63% of respondents indicated a substantial influence of ICT on enhancing engagement in business studies. 35% of respondents reported using ICT equally for content delivery and interaction, while 32.5% of teachers indicated not using ICT in lesson planning at all. 27.5% of respondents indicated using ICT mainly for student interaction, and only 5% for predominantly content delivery. 37.5% of respondents identified learning management systems (LMS) as the most commonly used tools for curriculum development. 42.5% of respondents indicated that ICTs enhance critical thinking skills, 32.5% noted that ICT tools improve their understanding of concepts, and 25% indicated that ICTs increase student motivation. 35% of respondents suggested the need for investment in ICT infrastructure, 27.5% emphasized the importance of professional development for teachers, and 22.5% highlighted the need for developing specific ICT-integrated lesson plans.

4.5.2 Assessing perceptions of students regarding the effectiveness of ICTs in enhancing their learning experience in business studies

The findings of the study reveal a nuanced perspective on the impact of Information and Communication Technologies (ICTs) on student engagement and the application of theoretical knowledge in business studies. 30.5% of respondents indicated that ICTs enhance their engagement with course materials, with an additional 25% acknowledging a substantial improvement. 42% of respondents indicated that ICTs greatly improve their application abilities and 40% stated that they improve application. 52.5% of respondents rated the effectiveness of ICTs as moderately effective, while 45% acknowledged their effectiveness, and only 2.5% found them ineffective. However, 42.5% of respondents cited a lack of training as a significant challenge, 37.5% reported technical issues, and 20% mentioned that ICT usage is time-consuming. Additionally, teacher attitudes toward ICT play a significant role in determining how effectively these tools are integrated into classrooms. 50% of respondents indicated that positive attitudes facilitated integration, while 25% were neutral, and another 25% expressed negative attitudes toward using ICT.

4.5.3 Challenges hindering effective ICT integration in teaching business studies

The study highlights several critical challenges hindering the integration of ICTs in teaching business studies. Notably, 32% of respondents cited infrastructure limitations as the primary obstacle, while 28% identified the lack of teacher training as a significant challenge. Insufficient access to technology was also highlighted by 22% of respondents, and 18% identified resistance to change among faculty as a substantial challenge. Furthermore, 40% of respondents cited insufficient time to use ICT tools during class, and 40% indicated a lack of access to ICT tools. Additionally, 42.5% of respondents acknowledged the presence of supportive policies, while 25% noted the existence of inconsistent policies, and 20% identified restrictive policies as a barrier. The limited availability of resources was also reported by 33% of respondents**.**

4.6 Conclusion

The study highlights the importance of ICT in business studies education, with 63% of respondents recognizing its role in fostering student engagement. Notably, 42.5% of respondents observed that ICT enhances critical thinking skills. However, significant barriers hinder its effectiveness, including infrastructure limitations (32%), lack of teacher training (28%), insufficient access to technology (22%), and resistance to change among faculty (18%). To address these barriers, improving technological infrastructure (35%) and professional development programs (35%) are recommended. The study also highlights the positive impact of ICT on learning outcomes, with 42% of students feeling that ICTs greatly enhance their ability to apply business concepts.

5. Acknowledgement

I thank the almighty God, the Creator of heavens and earth. He is the one who has been with me from the very beginning of this work, enlivening me and carrying me through all challenges and obstacles.

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