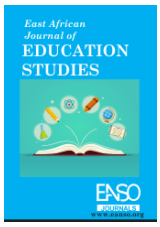

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Original Article

The Effect of the Provision of Instructional Materials on Students' Retention in Bugisu Sub-Region

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ABSTRACT

The introduction of Universal Secondary Education (USE) in Uganda in 2007 was intended to expand access to secondary education, particularly for marginalised groups. However, despite a significant increase in enrolment, student retention remains a persistent challenge, with many students failing to complete their secondary education due to factors such as inadequate resources, school fees, and poor infrastructure. This study investigates the role of instructional materials in promoting student retention in USE schools within the Bugisu sub-region. Employing a mixed-methods research design, the study combines quantitative surveys and qualitative interviews with students, teachers, and community stakeholders to evaluate the availability, effectiveness, and impact of instructional materials. The findings demonstrate that instructional materials, including textbooks, libraries, and science laboratories, significantly enhance student retention by fostering academic engagement and confidence. However, the quantitative analysis reveals that instructional materials account for only a small portion (4%) of the variance in retention, indicating that other factors, such as teacher quality, classroom environment, and resource distribution, also significantly influence retention outcomes. The study underscores the importance of integrating instructional materials into pedagogical practices, addressing infrastructural deficiencies, and ensuring equitable access to resources. It concludes with recommendations for enhancing teacher professional development, improving resource distribution, and addressing systemic challenges to optimise the potential of instructional materials in promoting student retention within Uganda's secondary education system.

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INTRODUCTION

The implementation of Universal Secondary Education (USE) in Uganda, initiated in 2007, was designed to increase access to secondary education, particularly for marginalised groups such as orphans, girls, and children from economically disadvantaged backgrounds (MoES., 2020). While the policy has significantly raised enrolment rates, issues of student retention persist, with many students failing to complete the secondary school cycle. Retention and successful completion of education have long been global concerns, as those who fail to finish secondary school are more likely to face prolonged unemployment, low-wage jobs, and limited community engagement (Gray & Hackling, 2009). Studies have shown that while the USE policy has led to greater enrolment, it does not automatically translate into sustained retention (UNICEF, 2024), with students dropping out due to factors such as inadequate school fees, limited infrastructure, and insufficient instructional materials (Ntabadde, 2019).

Retention is a multifaceted issue influenced by a combination of individual, institutional, and socio-economic factors (Niehues et al., 2021). Bronfenbrenner's Ecological Systems Theory and Downton's Transformational Leadership Theory provided useful frameworks for understanding these dynamics. The Ecological Systems Theory highlights the complex interactions between students and their environments, from immediate school settings (microsystem) to broader cultural influences (macrosystem), and underscores the importance of supportive relationships in promoting retention (Crawford, 2020). Meanwhile, Transformational Leadership Theory suggests that school leadership plays a crucial role in shaping a positive and motivating environment that encourages student retention (Breevaart & Bakker, 2018; Vahalik, 2022).

In the context of Uganda's secondary education system, the implementation of USE has not fully addressed the challenge of retention, particularly in areas like Bugisu, where the study was conducted. Despite government support for tuition fees, many students from low-income families still face challenges that lead to dropouts, such as the inability to pay supplementary fees, limited school infrastructure, and overcrowded classrooms (Kiyingi, 2024). This study seeks to examine the effect of the provision of instructional materials on student retention in USE schools in the Bugisu sub-region, aiming to contribute to the broader discourse on improving educational outcomes in Uganda's secondary schools.

LITERATURE REVIEW

The role of instructional materials in enhancing students' retention has been widely studied across various educational contexts. Farombi (2018) defines instructional materials as encompassing books, audio-visual tools, and educational technology, emphasising that their availability, adequacy, and relevance significantly affect the quality of teaching and, consequently, student academic performance. This connection between instructional resources and academic outcomes is vital for delivering quality education.

Balogun (2012) underscores that effective science education is not achievable without the appropriate

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equipment, as instructional materials help students develop essential problem-solving skills and scientific attitudes. Tety (2016) further elaborate that providing instructional materials tailored to the teaching process allows students to access reference materials and learn at their own pace, leading to better academic performance.

Farombi (2018) also emphasises that classroom resources such as furniture, chalkboards, and practical instruments play a crucial role in teaching, suggesting that their effectiveness is maximised when paired with other essential factors, like quality classroom environments. However, Alemayehu (2021) points out that the specific role of instructional materials in student retention remains underexplored and warrants further investigation.

Gogo (2002) highlights the poor condition of instructional facilities in some schools, noting hazards such as missing roofing and a lack of basic furniture, which hinder effective learning. Similarly, Alemayehu's (2021) research revealed a critical shortage of instructional materials, particularly for teaching science and mathematics, a factor that contributes to low student retention in these subjects.

Libraries, a key instructional resource, are also essential for fostering student retention. Okwu, & Opurum (2021) stress that libraries should be continuously updated and adequately funded to support a wide range of materials and services, which enhance learning outcomes and student retention.

Instructional material theories, as posited by Gagné, & Medsker (1996), argue that there is a direct link between the resources teachers use and students' learning outcomes. The use of these materials supports the development of higher-order intellectual skills, facilitates systematic learning, and encourages students to solve problems independently, which positively affects retention.

Human resources, especially teachers, are crucial to the effective use of instructional materials. Studies stress the importance of teacher management in promoting retention, as teachers are central to utilising instructional resources effectively (Asena et al., 2016). Additionally, with the increase in student numbers due to the Universal Secondary Education (USE) policy, there is greater pressure on teachers, leading to challenges in maintaining quality education and student retention.

Studies highlight the strong correlation between the availability of instructional resources and improved academic performance, which directly influences student retention (Issacar & Hesbon, 2021). For instance, studies indicate that private schools, with better access to instructional resources, perform better than public schools, where resources are often scarce (Issacar & Hesbon, 2021). Similarly, studies also suggest that quality instructional materials lead to better learning experiences, which can positively affect student retention (Issacar & Hesbon, 2021).

Research on grade retention, such as that conducted by García-Pérez et al. (2014) and Mariano et al. (2018), reveals that repeated grade practices negatively affect retention, with repeated students exhibiting lower academic achievement and a greater likelihood of dropping out. On the other hand, studies on mixed learning approaches (e.g., Egara & Mosimege, 2024) indicate that innovative instructional methods, such as mixed learning, significantly enhance both academic achievement and retention.

In Africa, studies by Kyakimwa et al. (2024) and Santos et al. (2023) further emphasise the relationship between instructional materials, school environment, and student retention, particularly in inclusive settings. In line with this, Kabilito (2024) also underscores the role of diverse instructional materials in improving student performance and fostering retention.

A series of studies, including those by Asogwa et al. (2021) and Lami, & Shaorga (2023), provide

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evidence that instructional materials directly influence student academic achievement and retention, particularly in subjects like physics and fisheries. These studies also demonstrate that the use of instructional materials is more beneficial for female students, contributing to higher achievement and retention rates.

Despite the clear benefits of instructional materials, some studies, such as those (Bacia, 2024), suggest that many schools still face challenges in ensuring their availability and effective use, which negatively affects student retention. Similarly, (Mugisha et al., 2023) highlight that instructional materials make learning more engaging and help students retain content better.

However, while the evidence strongly supports the importance of instructional materials in fostering student retention, there remain gaps in understanding the specific mechanisms through which these materials influence retention, particularly in the context of USE schools in Uganda. Further research is needed to investigate how these materials can be optimally utilised to address the unique challenges of overcrowded classrooms and resource scarcity and to explore how other factors, such as teacher training and school management, interact with instructional materials to affect student retention.

METHODOLOGY

This study employed a descriptive research design with a mixed-methods approach to investigate the effect of instructional materials on student retention in Universal Secondary Education (USE) schools. The combination of qualitative and quantitative methods allowed for a comprehensive exploration of the research problem, providing both broad and nuanced insights into how instructional materials influence student retention (Creswell, 2014). Triangulation, which involves comparing data from different sources to validate findings, was used to enhance the validity and reliability of the study. By integrating quantitative data (e.g., statistical correlations between instructional material availability and retention) with qualitative insights from students, teachers, parents, and community leaders, the study ensured a more accurate and comprehensive analysis (Flick, 2018).

The quantitative component of the study involved surveys to assess the availability and effectiveness of instructional materials, while the qualitative aspect consisted of interviews and focus group discussions to provide deeper context and understanding (Tashakkori et al., 2021). The study focused on 8,909 students in secondary schools in the Bugisu sub-region. A sample of 383 students was selected using Slovin's formula, along with 27 key informants (community development officers, head teachers, and teachers) and 21 parents for focus group discussions. Simple random sampling was used for students, purposive sampling for key informants, and snowball sampling for parents. This multi-source approach ensured diverse perspectives from various stakeholders (Bryman, 2016).

Data collection included questionnaires for students, in-depth interviews with teachers and community leaders, and focus group discussions with parents. Documentary reviews of school records and policy documents were also conducted. To ensure reliability and validity, a pilot study was undertaken, and instruments were revised based on expert feedback. The reliability of the instruments was confirmed with a Cronbach's alpha coefficient of 0.823, and the content validity index (CVI) was 0.90 (DeVellis, 2016). Quantitative data were analysed using SPSS, with descriptive and inferential statistics, including Pearson's correlation and Chi-square tests. Qualitative data were analysed through content analysis to identify recurring themes and patterns (Bazeley, 2020).

Ethical considerations, including informed consent and confidentiality, were strictly followed throughout the study (Lincoln et al., 2011). This research offers a robust examination of the role of instructional materials in student retention, with

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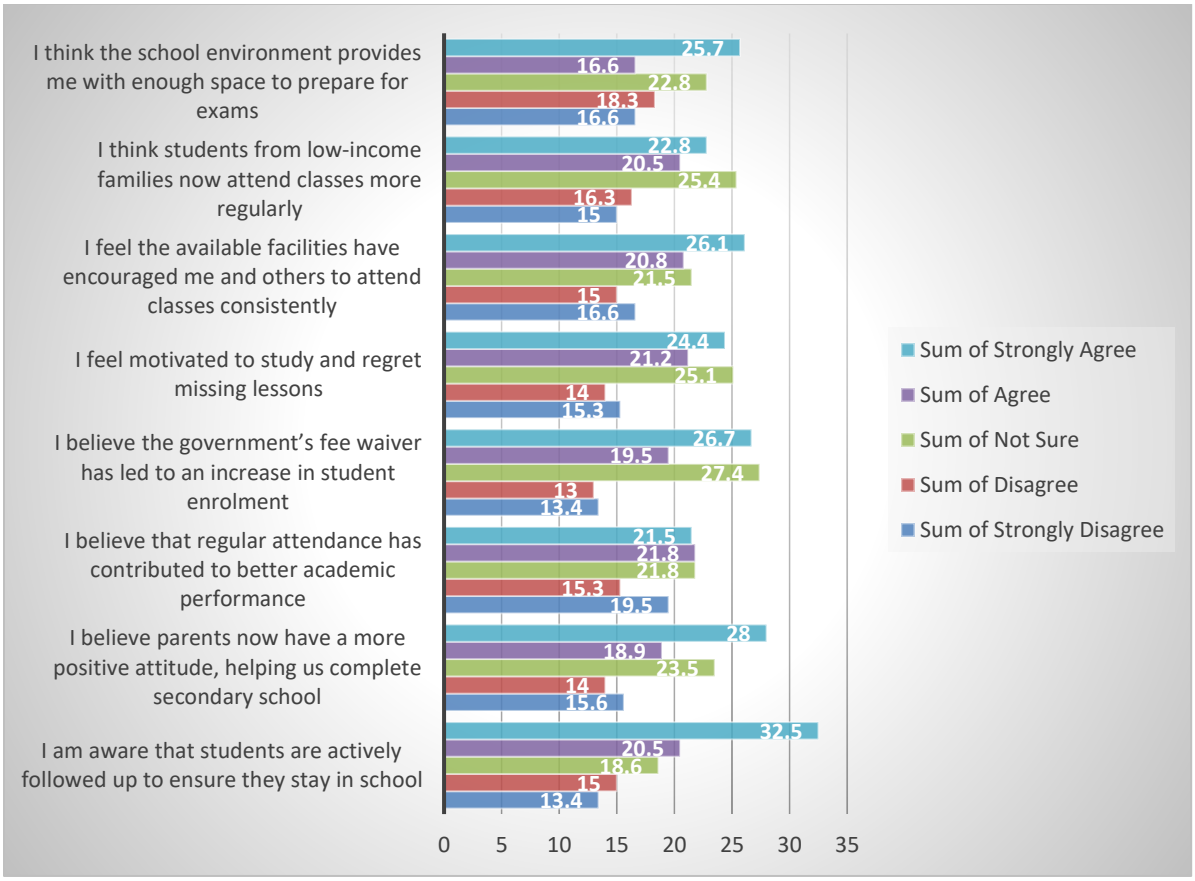
triangulation enhancing the credibility and depth of the findings.

FINDINGS

Student School Retention in USE Schools

Respondents were asked for statements that explore general factors influencing student retention in schools within the Bugisu sub-region, including government initiatives, facilities, and student motivation. Figure 1 below presents the findings.

Figure 1: Distribution of Responses on Student School Retention



The findings highlight a generally positive yet mixed perception of factors influencing student retention in secondary schools. The majority of students (46.2%) agree or strongly agree that the government's fee waiver contributes to increased enrolment, though a notable proportion (26.4%) express disagreement, with 27.4% unsure, indicating some uncertainty about its effectiveness. Similarly, while 43.3% of students believe financial support improves attendance among low-income families, 31.3% disagree, while 25.4% remain uncertain, suggesting that challenges persist in ensuring consistent attendance.

Regarding the relationship between regular attendance and academic performance, 43.3% of students affirm its importance, though 34.8% remain unconvinced, indicating that other factors may play a role in academic success. The majority (46.9%) of students perceive school facilities as encouraging regular attendance, although 31.6% express doubt, pointing to a potential gap in the perceived effectiveness of these resources.

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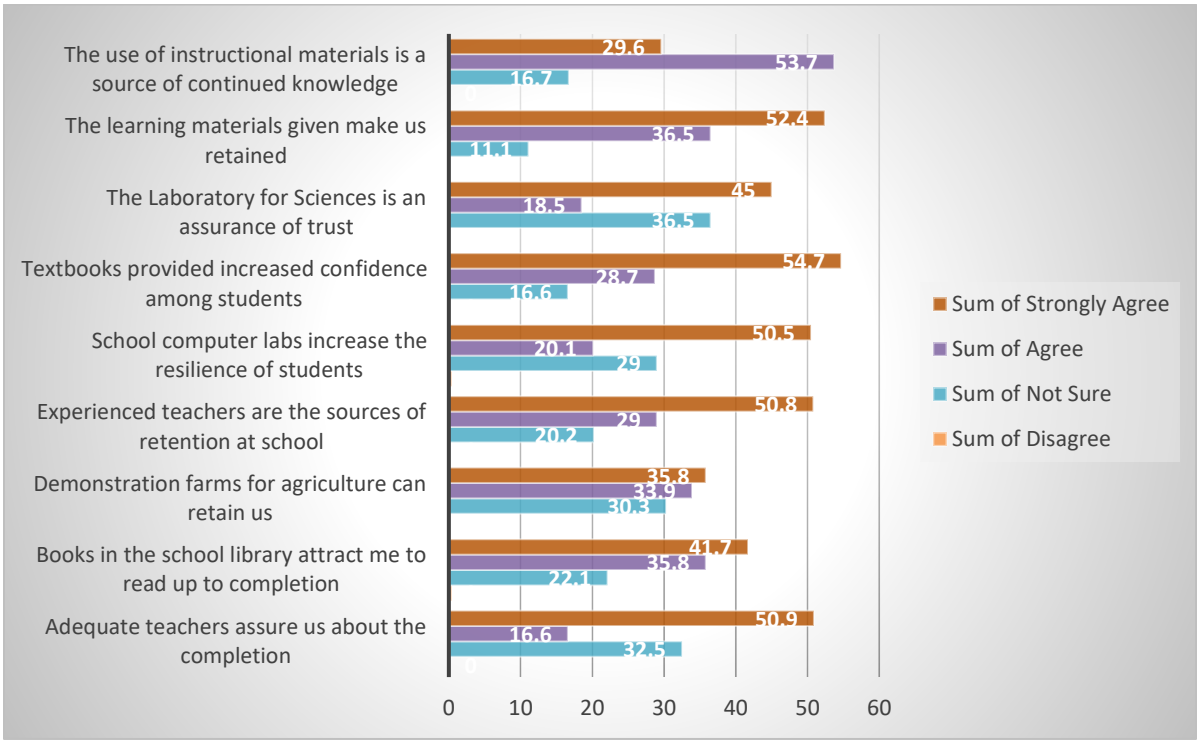
The follow-up mechanisms aimed at ensuring student retention are viewed positively, with 53% of students acknowledging their impact. However, 28.4% express uncertainty or disagreement, suggesting room for improvement in their implementation or awareness. Motivation to study and regret for missing lessons are also seen positively by 45.6% of students, but a significant proportion (29.3%) feel less motivated, highlighting variability in student engagement.

Finally, while 46.9% of students report increased parental support for education, 29.6% disagree or remain unsure, indicating inconsistent parental involvement. Overall, the data suggests that while students benefit from government initiatives, school facilities, and follow-up efforts, there are areas where further improvements are necessary to enhance retention and academic success.

Effect of Instructional Materials on Students' Retention

The study aimed to assess the impact of instructional materials and teaching practices on student retention in secondary schools, with data collected from a sample of 307 respondents. Figure 2 below presents the results of the findings.

Figure 2: Distribution of Responses on Instructional Resources



The findings indicate that school libraries play a crucial role in motivating students to read, with 41.7% of respondents strongly agreeing and 35.8% agreeing that books in the library encourage them to finish reading assignments. Only 22.1% of respondents were unsure about this statement, while a very small proportion (0.4%) disagreed, suggesting that library resources generally enhance students' engagement with reading.

The role of instructional materials in fostering retention was also emphasised in the study. A significant 52.4% of students strongly agreed, and 36.5% agreed that the learning materials provided helped them retain knowledge. Only 11.1% of students were unsure about the effectiveness of these materials, highlighting their perceived importance in the learning process.

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Textbooks, in particular, were reported to have a strong impact on student confidence. Over half of the respondents (54.7%) strongly agreed, and 28.7% agreed that the textbooks provided in school contributed to increased confidence among students. However, 16.6% were unsure about this effect, suggesting that while textbooks are widely recognised as beneficial, their impact may vary across individual experiences.

The availability of computer labs was also examined, with 50.5% of students strongly agreeing and 20.1% agreeing that the use of computer labs increased their resilience as learners. On the other hand, 29.0% of students disagreed with this statement, and 0.4% were unsure, indicating that access to and utilisation of computer labs might not be consistent across all schools, and some students may face challenges in benefiting from these resources.

Science laboratories were recognised as an important resource for fostering trust in the learning environment. Among the participants, 45.0% strongly agreed, and 18.5% agreed that science labs contributed to building trust in the educational process. However, 36.5% were uncertain, which could reflect issues related to the availability or adequacy of science facilities in some schools.

Agricultural demonstration farms were found to have a positive effect on student retention, with 35.8% of respondents strongly agreeing and 33.9% agreeing that these resources were valuable for retention. Despite this, 30.3% of students were unsure about the impact of demonstration farms, suggesting that such facilities may not be accessible or utilised uniformly across schools, which could limit their effectiveness in supporting retention.

In terms of teaching staff, the availability of adequate teachers was strongly linked to student retention. A majority of respondents (54.1%) strongly agreed, and 34.5% agreed that having enough teachers ensured the completion of their studies. Only 11.4% of students were unsure, indicating that the presence of sufficient teaching staff is viewed as critical to their academic success and retention in school.

Experienced teachers were also considered crucial to student retention, with 50.8% of students strongly agreeing, and 29.0% agreeing that experienced teachers contributed significantly to their ability to remain in school. However, 20.2% of students were uncertain about the role of experienced teachers, suggesting that while many students value experienced educators, their impact may vary based on other factors such as teaching style and subject expertise.

Overall, the findings highlight the importance of instructional materials, including books, textbooks, and science laboratories, in promoting student retention. Additionally, the role of experienced and adequate teaching staff is critical in ensuring students remain engaged in their education. However, the varied responses regarding computer labs, agricultural demonstration farms, and science laboratories suggest that access to these resources may not be uniform, which could affect their potential to improve retention. The study emphasises the need for schools to improve the accessibility and utilisation of these resources to further enhance student retention outcomes.

Findings from Qualitative Data

The qualitative data gathered from the Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) offer valuable insights into the provision of instructional materials in USE schools and their impact on student retention. According to the KIs, particularly the Community Development Officers (CDOs), the provision of learning materials has been a significant development by the government since the implementation of Universal Secondary Education (USE) in 2007. These materials, which have been used across multiple generations, are seen as essential tools for teachers to help illustrate abstract concepts. One KI noted,

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> *Rather than growing older, these learning materials have been used over the centuries by different generations. There are some raw materials used by teachers only to illustrate abstract issues to learners. Otherwise, not all learning materials are exposed to learners* (KIs on 22 May 2024).

This suggests that while instructional materials are available, their usage is sometimes limited to specific educational contexts, and not all resources are made available to students directly.

The role of textbooks in increasing student confidence and academic success was also highlighted. The KIs pointed out that textbooks, particularly with the introduction of the new curriculum, play a central role in fostering a student-centred learning approach. One KI emphasised,

> *With the new curriculum, textbooks encourage a shift from teacher-centred to student-centred learning, helping students feel more confident in their ability to succeed.* (KIs on 23 May 2024)

The provision of computer labs was another key initiative by the government, contributing to student retention and resilience. The KIs elaborated on the importance of these resources, explaining that computer labs foster academic engagement and technological proficiency. One KI noted,

> *The computer labs have been crucial in supporting students' learning, especially in subjects requiring digital engagement. However, the key challenge remains internet connectivity, which limits their full potential.* (KIs on 22 May 2024).

In addition to textbooks and computers, the provision of science laboratories was identified as a critical component of the government's efforts to support practical learning, especially in subjects like biology, physics, and chemistry. The KIs noted that these laboratories provide students with the opportunity to engage in hands-on learning, which boosts their confidence in science subjects. As one KI explained,

> *The science labs are a source of trust for students, assuring them that they can succeed in these subjects* (KIs on 21 May 2024).

However, the KIs also highlighted the shortage of qualified science teachers, which hinders the effective use of these laboratories. One KI stated,

> *There are few teachers of sciences, despite the government's efforts to build the infrastructure. This limits the full potential of these resources* (KIs on 24 May 2024).

The government's establishment of demonstration agricultural farms in USE schools was also discussed. According to parents in the FGDs, this initiative could be valuable, as agriculture is a major employment sector in Uganda. One parent remarked,

> *Agriculture is a practical field, and these demonstration farms could offer students hands-on skills that would keep them in school.*

However, the KIs noted that despite the potential benefits, few students expressed interest in agriculture. As one KI observed,

> *Although the demonstration farms have great potential, few students are voluntarily engaged in agricultural activities* (KIs on 23 May 2024).

In exploring the use of instructional materials as a source of continued knowledge, the KIs emphasised that many of these materials have been in use for over a decade and continue to be valuable resources for successive generations of students. One KI stated,

> *Some of these instructional materials have lasted more than ten years and continue to be valuable sources of knowledge, even though they may be outdated in certain ways* (KIs on 21 May 2024).

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This observation underscores the ongoing relevance of older resources, which continue to serve as essential tools for learning in schools.

Lastly, the role of teachers in student retention was widely acknowledged in the KIs. The KIs emphasised that experienced and qualified teachers are crucial to students' academic success and retention. One KI remarked,

> *Teachers who have been in the profession for over ten years are key to maintaining students' engagement and ensuring they stay in school* (KIs on 22 May 2024).

These findings suggest that while instructional materials play a significant role in enhancing student retention, the effectiveness of these materials is influenced by various factors, including internet access, teacher availability, and student engagement.

HO1: There is no Statistically Significant Relationship between the Availability of Instructional Materials and Students' Retention

To investigate the relationship between the provision of instructional materials and students' retention, the study tested the null hypothesis ($H_0 1$), which suggested that instructional materials have no significant effect on student retention. The results of a simple linear regression are presented in Table 1 below;

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Table 1: A Simple Linear Regression between Instructional Materials and Retention

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.145[a]	.021	.018	6.15643	.021	6.541	1	304	.011

a. Predictors: (Constant), Instructional Materials
b. Dependent Variable: Students' Retention

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	247.909	1	247.909	6.541	.011[b]
	Residual	11522.078	304	37.902		
	Total	11769.987	305			

a. Dependent Variable: Students' Retention
b. Predictors: (Constant), Instructional Materials

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	20.734	2.086		9.938	.000					
	Instructional Materials	.138	.054	.145	2.558	.011	.145	.145	.145	1.000	1.000

a. Dependent Variable: Students' Retention

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The regression model summary reveals that the provision of instructional materials explains 2.1% ($R^2 = 0.021$) of the variation in students' retention. This indicates that while instructional materials contribute to retention, other factors likely account for a greater proportion of the variance in retention outcomes.

The ANOVA table indicates that the relationship between the provision of instructional materials and students' retention is statistically significant ($F(1, 305) = 6.541$, $p = 0.01$). This suggests a linear relationship, meaning that any change in the provision of instructional materials leads to a corresponding change in students' retention. The residual sum of squares (11522.078) and the mean square error (37.902) further support the model's statistical reliability.

The coefficient analysis shows that the constant term is 20.734 with a standard error of 2.086, which is statistically significant ($t = 9.938$, $p = 0.000$). This implies that even in the absence of instructional materials, students' retention has a baseline value of 20.734. The unstandardized coefficient for the provision of instructional materials is 0.138, with a standard error of 0.054, and it is also statistically significant ($t = 2.558$, $p = 0.011$). This suggests that for every unit increase in the provision of instructional materials, students' retention is expected to increase by 0.138 units, assuming all other factors remain constant. The standardised beta coefficient of 0.145 further emphasises the positive influence of instructional materials on retention, demonstrating a moderate effect.

In summary, the analysis indicates that while the provision of instructional materials has a statistically significant positive effect on students' retention, it accounts for only a small proportion of the variance in retention outcomes. Although the relationship is meaningful, other factors not examined in this model may also play a significant role in influencing students' retention. Nonetheless, these findings suggest that enhancing access to instructional materials could contribute to improved retention rates in educational settings.

DISCUSSION

The findings from this study provide valuable insights into the role of instructional materials in enhancing student retention, particularly in the context of Universal Secondary Education (USE) schools in Uganda. This discussion synthesises the quantitative and qualitative results and places them within the broader theoretical framework and literature to explore the meaning of these results.

Instructional Materials and Student Retention

The study confirms the critical importance of instructional materials in fostering student retention. The quantitative findings, which indicate that 52.4% of students strongly agreed that learning materials helped them retain knowledge, demonstrate the perceived significance of these resources. Textbooks, libraries, computer labs, and science laboratories were identified as key resources that support students' academic confidence and engagement. Over half of the students reported that textbooks improved their confidence (54.7%), while 41.7% agreed that the availability of books in libraries motivated them to complete reading assignments.

The findings align with prior studies such as those by Farombi (2018) and Adeogun (2021), which highlight the positive correlation between instructional materials and improved academic performance. Textbooks, for example, are directly linked to fostering a student-centred learning approach as emphasised by the Key Informant Interviews (KIIs). With the introduction of the new curriculum, textbooks were seen as pivotal in empowering students to engage more actively with their learning. This transition from teacher-centred to student-centred learning is crucial for improving student retention, as it nurtures greater ownership over learning and builds students' academic confidence.

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Despite these positive findings, the regression model summary revealed that the provision of instructional materials only explains a small portion (2.1%) of the variation in student retention. While the relationship between instructional materials and retention is statistically significant, the small effect size suggests that other factors are at play. This aligns with the conclusions of studies such as Adeogun (2021), which point out that instructional materials, though important, do not operate in isolation. Teacher quality, classroom management, and school infrastructure also contribute significantly to student retention, explaining the other 97.9% of the variance. Thus, while instructional materials are essential, their full impact on retention is moderated by other variables such as teacher effectiveness, school climate, and resources beyond instructional materials, such as administrative support.

Availability and Effectiveness of Instructional Materials

The study also found that while the provision of instructional materials was generally beneficial, there were variations in their availability and effective utilisation. The responses about the use of computer labs and agricultural demonstration farms reflected mixed outcomes, suggesting that while these resources have the potential to enhance student learning and retention, their actual use is not always consistent across schools. The KIIs further supported this by noting challenges such as limited internet connectivity and a lack of student engagement with agricultural activities. These findings resonate with Gogo's (2002) observations on the poor condition of instructional facilities, highlighting that the mere presence of resources is insufficient without proper support and maintenance.

The limited use of some resources can be attributed to factors such as inadequate infrastructure, insufficient training, or lack of student interest. For instance, although agricultural demonstration farms have the potential to provide practical, hands-on learning experiences, the low student engagement may point to a mismatch between the students' interests and the perceived relevance of agricultural education to their future career paths. This suggests that for instructional materials to be most effective, their content and delivery need to align with students' aspirations and the broader educational context.

Teacher Impact and Instructional Practices

Another critical finding is the strong link between experienced teachers and student retention. The quantitative results, where 50.8% of students agreed that experienced teachers significantly contributed to their ability to remain in school, underscore the importance of teacher quality. The KIIs also emphasised that qualified and experienced teachers are pivotal to maintaining students' engagement and ensuring retention. This finding is consistent with the work of Mzinga & Onyango (2021), who argue that teacher management and qualifications are integral to leveraging instructional materials effectively.

Experienced teachers bring a wealth of knowledge and pedagogical skills, which are essential for translating instructional materials into meaningful learning experiences. In line with Farombi (2018), the ability of teachers to manage classroom resources effectively—particularly in overcrowded classrooms—is crucial for fostering a conducive learning environment. However, the study also highlights the challenges related to the shortage of qualified teachers, particularly in science subjects, which hampers the full utilisation of instructional materials such as science laboratories. This limitation points to the need for ongoing teacher training and professional development, especially in resource-constrained environments.

Limitations in Resource Distribution

The qualitative data from the KIIs and FGDs also bring attention to the issue of resource distribution. While instructional materials such as textbooks,

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libraries, and science labs are generally seen as beneficial, their impact is often compromised by their unequal distribution across schools. The KIIs revealed that some schools struggle with the adequacy and modernity of instructional resources, leading to disparities in student engagement and retention. The findings from the ANOVA analysis, which indicated a significant relationship between the provision of instructional materials and retention, should be interpreted with caution, as the real-world distribution of resources may not always align with the theoretical availability of these materials.

The study also suggests that while older instructional materials continue to serve students well, there may be a need for more updated and diverse resources to address changing educational needs. This echoes the findings of Alemayeho (2021), who highlighted the underexplored role of updated instructional materials in improving student retention. The prolonged use of outdated resources, even if they remain valuable, may limit the potential for dynamic and cutting-edge learning experiences, particularly in fast-evolving subjects like science and technology.

CONCLUSION AND RECOMMENDATIONS

The study underscores the positive impact of instructional materials on student retention, with textbooks, libraries, science labs, and computer labs playing vital roles in fostering student engagement and confidence. However, the small proportion of variance explained by instructional materials in the regression model suggests that other factors, such as teacher effectiveness, classroom conditions, and resource availability, also play significant roles. The mixed findings regarding certain resources, like computer labs and agricultural farms, indicate the need for more consistent and tailored strategies to optimise the use of instructional materials.

To improve student retention, schools must not only focus on increasing the availability of instructional materials but also ensure their effective integration into teaching practices. This includes providing adequate training for teachers, improving the quality of teaching materials, and addressing infrastructural challenges, such as internet connectivity and teacher shortages. Furthermore, a more inclusive approach to resource distribution—ensuring that all students have equal access to quality learning materials—is essential for enhancing retention rates across diverse educational contexts.

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