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Exploring the Integration of ICT in Promoting Inclusive Education: A Case Study of the College of Business and Economics at the University of Rwanda

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***Abstract**: This research aimed to investigate the role of Information and Communication Technology (ICT) in fostering inclusive education within the College of Business and Economics at the University of Rwanda, focusing on the experiences, challenges, and outcomes associated with ICT integration. The study involved 210 undergraduate students in the faculty of business administration, with a targeted sample of 84 students selected through stratified random sampling. Employing a mixed methods design, qualitative data were gathered through in-depth interviews, employing thematic analysis to identify patterns and perspectives. Additionally, structured questionnaires were used for quantitative data collection, focusing on the extent of ICT integration, its influence on inclusive education, and perceived barriers. The findings revealed predominantly positive outcomes, including improved accessibility, enhanced student engagement, and the importance of teacher training. However, challenges such as addressing diverse learning styles, digital literacy, and ongoing adaptation were acknowledged. Recommendations included addressing digital literacy skills, infrastructure gaps, and monitoring to ensure equitable access and positive outcomes for all students, emphasizing the transformative influence of ICT on learning experiences while acknowledging the need for continuous efforts to overcome challenges and maximize inclusivity.*

***Keywords**: College of Business and Economics, Exploration, Higher education, ICT Integration, Inclusive Education.*

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1. Introduction

In recent years, the role of Information and Communication Technology (ICT) in transforming education has gained significant attention worldwide (Sukmaindrayana & Yulianeu, 2022; Niyibizi & Mutarutinya, Teachers' Perceptions and Use of ICT Facilities in Teaching Mathematics: A Case of Selected Secondary Schools in Gasabo District, Rwanda, 2023). This paradigm shift has made interest in understanding how ICT effectively integrated into educational institutions to promote inclusive education (Romaní, Falla, Ruiz, García, & Balvin, 2022; Niyibizi, Uwitatse, Sibomana, & Mutarutinya, 2023; Nzayisenga, Niyibizi, & Uworwabayeho, 2023). This current research focused on exploring the integration of ICT in the context of the College of Business and Economics at the University of Rwanda. As a crucial aspect of the national education system, the College played a pivotal role in shaping the country's economic development.

The University of Rwanda, a prominent institution in the African continent, served as a pertinent case study due to its commitment to providing quality education in a various and dynamic environment. The College of Business and Economics, being a pivotal part of this university, occupied

a crucial role in shaping future business leaders and economists. Despite the potential benefits of ICT in enhancing inclusivity, there was a shortage of comprehensive studies that investigate the specific shades of its integration within this academic context (Timotheou, et al., 2023; Niyibizi & Mutarutinya, 2023). This research intended to bridge this gap by conducting an in-depth exploration of the experiences, challenges, and outcomes associated with the incorporation of ICT tools and strategies in the pursuit of inclusive education at the College of Business and Economics.

The motivation behind this research concentrated on the recognition of the evolving educational setting and the necessity to adapt teaching methodologies to provide to various learning needs. Inclusive education, which ensures that all students, regardless of their background or abilities, have equal opportunities to learn (SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all), aligns with the global pursuit of sustainable development goals (Lindner & Schwab, 2020). By examining the integration of ICT in the context of inclusive education, this study attempted to contribute valuable insights that can inform educational policies, practices, and technological interventions not only at the University of Rwanda but also on a broader scale, raising a more inclusive educational system.

As the world becomes increasingly interconnected and reliant on technology, understanding the implications of ICT integration in education was pivotal for preparing students for the demands of the 21st-century workforce. This research accomplishment to shed light on how the strategic use of ICT disturbance down barriers, accommodate various learning styles, and create an environment where every student rise academically. The findings from this study were expected to provide practical recommendations for educators, policymakers, and institutions seeking to harness the potential of ICT to promote inclusivity in higher education.

2. Literature Review

In present century, there has been a growing interest in the integration of Information and Communication Technology (ICT) in the field of education, particularly in promoting inclusive education. Inclusive education aimed to provide equal opportunities for all students, including those with various learning needs (Romaní, Falla, Ruiz, García, & Balvin, 2022; Uwitatse, Niyibizi, & Mutarutinya, 2023). This literature review examined the existing research on the integration of ICT in the context of inclusive education, focusing on its impact, challenges, and potential benefits.

2.1. ICT integration and inclusiveness

In Spain, the intersection of inclusion and Information and Communication Technologies (ICT) forms a compelling area of scientific exploration in contemporary society. Within this context, the attitudes of educators toward ICT seemed as pivotal factors influencing the integration of these technologies. Findings from a study was aiming to elucidate how teachers incorporate ICT in inclusive classrooms, identifying key elements that foster effective educational practices. The investigation employed a case study approach, utilizing techniques such as questionnaires and group discussions to gather pertinent information. Validation of the questionnaire involves the expert judgment method, specifically the Coefficient Expert Competence. The reliability, established through Cronbach's Alfa method, yields a value of 0.87. Results indicated a generally positive disposition among teachers toward ICT, particularly among male educators who exhibit enhanced interaction possibilities with these technologies. This positive outlook was identified as a catalyst for promoting inclusive policies and collaborative cultures among school networks, crucial elements in cultivating effective educational practices with ICT support (Batanero & Ruiz, 2016).

In Italy, the study examined the issue of school inclusion through the lens of Universal Access to Education, emphasizing the transformative potential of Information and Communication Technologies (ICT) in eliminating discrimination among students. Highlighting the pivotal role of teachers, the paper contends that to realize Universal Access to Education, educators must be cognizant of ICT capabilities, acquiring the necessary knowledge and skills. Findings from the Teachers' View about new Technologies and Inclusion Questionnaire revealed that 75% of surveyed Italian teachers recognize the potential of ICT tools for inclusive practices, yet they expressed a need for guidance. To address this, two pilot research projects were introduced: one focusing on informing teachers about the accessibility features of educational software, and the other on disseminating inclusive pedagogical plans' know-how and best practices, fostering the idea that inclusion, enabled by technology, necessitates concurrent adaptations in educational content and strategies (Benigno, Bocconi, & Ott , 2007).

In Indonesia, the inadequacy and inequality in the number of inclusive schools across different local governments persist, despite regulations mandating at least one inclusive school for each level in every authority. Notably, many inclusive schools needed essential facilities for effective Inclusive Education (IE) implementation. The findings highlighted significant challenges in teacher training, both in quantity and quality, within inclusive schools, contributing to teachers' lack of confidence in instructing children with

disabilities even after training. Additionally, principals delayed collaboration between inclusive and special schools, impaired by the absence of a standardized teacher training system and the weak capacity of local governments. The difficulties faced by teachers in assessing student learning in inclusive schools were compounded by insufficient support, inadequate assessment systems, and the absence of practical guidelines for inclusive assessments, further impeding the education of children with disabilities (Hata, Yuwono, Purwana, & Nomura, 2021).

In Algeria, the exploration of Information and Communication Technology (ICT) in educational settings has garnered considerable attention, with numerous studies highlighting its benefits for both teachers and learners. Despite this, there remains a gap in understanding the factors influencing teachers' attitudes towards incorporating ICT in their teaching. This study delves into the attitudes of secondary school English as Foreign Language (EFL) teachers in the Western District of Chlef, Algeria, towards ICT use, aiming to uncover the relationship between teachers' computer attitudes and variables such as personal characteristics, computer attributes, cultural perceptions, computer competence, and computer access. Employing a mixed methods approach, combining quantitative and qualitative methods through a questionnaire and semi-structured interviews, the research reveals that EFL teachers exhibit positive attitudes toward ICT in education, with statistically significant positive correlations observed between these attitudes and the identified independent variables. However, age and academic qualification showed negative correlations with attitudes, underscoring the need for nuanced considerations in implementing ICT in teaching practices. The study's findings offer valuable insights for educational practitioners and policymakers, informing the effective integration of ICT in classrooms, and propose implications for policy and practice, alongside recommendations for further research to enhance teachers' utilization of ICT in education (Makhlouf & Bensafi, 2021).

In Nigeria, the higher education sector is actively incorporating information and communication technologies (ICTs) to enhance teaching, learning, and knowledge access, yet the utilization of ICTs in teaching by academics in Nigerian universities falls short of expectations. This article presents a study employing the unified theory of acceptance and use of technology (UTAUT) to investigate factors influencing ICT use in teaching among academics in both private and public universities in Nigeria, utilizing a mixed-method approach involving questionnaires and semi-structured interviews. Results revealed that at the University of Ibadan, only facilitating conditions significantly impact ICT use in teaching, while Covenant University sees both effort expectancy and facilitating conditions as significant influences. The qualitative aspect identifies institutional policy, technological infrastructure, simplicity of use, funding, and organizational support as critical success factors for ICT integration in teaching, with age showing varying effects on different factors in both universities. The study emphasized the importance of addressing facilitating conditions and effort expectancy for optimal success in ICT use in teaching, urging stakeholders to consider these factors for effective policymaking and intervention strategies (Alabi & Mutula, 2020).

Consistently, the study investigated the utilization of Information and Communication Technologies (ICTs) in enhancing user education programs within Federal University Libraries in South East Nigeria, guided by seven research questions aligned with the study's objectives. Employing a descriptive survey research design, the population includes librarians with at least a first degree in librarianship from Nnamdi Azikiwe University, Awka, University of Nigeria, Nsukka, and Federal University of Technology Owerri libraries, totaling 96 respondents selected through purposive sampling. The findings revealed that ICT resources were actively employed in user education programs, employing diverse methods such as seminars, lectures, virtual tours, and demonstrations, demonstrating high skill levels among circulation staff and a significant contribution of ICTs to the effectiveness of user education programs. However, the study identified various constraints and suggested strategies to enhance the application of ICTs in user education programs within the examined university libraries (Anene, Achebe, & Uzoechina, 2020).

In South Africa, inclusive schools, designed to accommodate a diverse learner population encompassing individuals with Special Needs and learning barriers, necessitate dynamic learning environments for universal access to education. As active agents in implementing the ongoing Inclusive Education (IE) system, teachers played a crucial role, with ICT-enhanced teaching fostering inclusive pedagogical practices and thriving inclusive schools. A quantitative survey involving 78 teachers and 4 principals within the Johannesburg Central District revealed that teachers, irrespective of age, gender, or teaching experience, overwhelmingly hold positive views on ICT use in inclusive schools. Notably, professional qualification emerged as the sole demographic factor influencing teachers' perceptions of their ICT competence, emphasizing the overall favorable stance toward ICT integration in inclusive education (Hlengwa, Chimbo , & Buckley, 2018).

In Kenya, despite the assistance provided by organizations such as the United Nations International Children’s Fund (UNICEF), the Bernard Van Lee Foundation (BVLF), and the Agha Khan Foundation, Kenya still faces substantial challenges in achieving inclusive education. Recognizing the persistent gaps in this pursuit, the study, employing a mixed design approach and sampling 221 teachers, specifically investigated the influence of the school learning

environment on the implementation of inclusive education in rural public primary schools within Uasin Gishu County, Kenya. The findings revealed a significant association ($\chi 2$=99.712; df=16; p=0.000) between the conduciveness of the school learning environment and the successful implementation of inclusive education, emphasizing the crucial role of the environment, which contributes 19.0% according to Chi-square values. The study highlighted the importance of county government funding, the installation of assistive technologies, and the establishment of legislation aligned with national and sustainable development goals to enhance the effectiveness of inclusive education in Early Childhood Development and Education (ECDE) centers (Koskei, Egesa, & Chang'ach, 2020).

In Tanzania, the study investigated the role of assistive technology devices in enhancing the participation and learning experiences of students with visual impairment in Tanzanian higher education institutions. Through an open-ended questionnaire survey and semi-structured interviews involving twenty-one purposively selected respondents, including seventeen students with visual impairment and four transcribers, the analysis revealed that while these students were familiar with the concept of assistive technology, their knowledge was confined to the devices available at their institution. The findings indicated a dependency among students with visual impairment on either sighted peers or more skilled individuals for assistance in utilizing assistive technology, underscoring the need for increased funding and encouragement to promote self-reliance and broader access to educational resources for this student demographic (Kisanga & Kisanga, 2022).

In Rwanda, the primary objective of the study was to explore teachers' perspectives on integrating ICT into teaching and learning processes through the One Laptop per Child (OLPC) program in Rwandan primary schools. Utilizing a qualitative approach, the study engaged thirty primary school teachers in interviews and group discussions focused on the benefits of ICT in education, prerequisites for integrating ICT into teaching practices, challenges impeding the OLPC program's implementation, and the contributions of various stakeholders. Thematic analysis revealed that the OLPC program significantly impacted teachers, learners, and stakeholders in Rwandan primary schools, emphasizing the necessity for supporting teachers in acquiring skills related to Technological Pedagogical Content Knowledge (TPACK) for the fruitful implementation of ICT (Munyengabe, Yiyi, Haiyan, & Hitimana, 2017).

Consistently, the study at the University of Rwanda - College of Education, rooted in Constructive theory and employing Yamane's sample determination, focused on recognition opportunities and challenges in integrating Information and Communication Technology (ICT) into the educational curriculum. Results highlighted various ICT resources like computer laboratories and internet, emphasizing their profitable utilization for online assignments, responsible social network use, and leveraging personal computers, projectors, and audio equipment in the daily practices of the teacher-education journey (Mushimiyimana, Bazimaziki, & Tuyishime, 2022).

The existing literature revealed a global interest in integrating Information and Communication Technology (ICT) in education, especially for inclusive practices. In Spain, educators' attitudes towards ICT played a pivotal role in its integration, while in Italy, the focus was on Universal Access to Education through ICT, with teachers expressing a need for guidance. In Indonesia, challenged persist in implementing Inclusive Education (IE) due to inadequate facilities and teacher training, whereas in Algeria, the study explores factors influencing English as Foreign Language (EFL) teachers' attitudes towards ICT, emphasizing the importance of nuanced considerations. In Nigeria, factors influencing ICT use in teaching among academics are investigated using the Unified Theory of Acceptance and Use of Technology (UTAUT). Federal University Libraries in South East Nigeria actively employed ICT in user education programs, facing constraints but suggesting strategies for improvement. In South Africa, teachers overwhelmingly supported ICT use in inclusive schools, and in Kenya, the study underscored the crucial role of the school learning environment in achieving inclusive education. In Tanzania, the focus was on assistive technology for students with visual impairment, revealing a need for increased funding and self-reliance. Rwanda's exploration involves teachers' perspectives on integrating ICT through the One Laptop per Child (OLPC) program, emphasizing the impact on teachers and learners. Lastly, the University of Rwanda's study highlighted the profitable utilization of various ICT resources in the teacher-education journey. The intended current topic aligned with the global interest in ICT integration for inclusive education, providing an opportunity for a detailed examination of specific practices and challenges within the college context.

The investigation at hand was directed by the following research question: How does the integration of Information and Communication Technology (ICT) contribute to the promotion of inclusive education in the College of Business and Economics at the University of Rwanda, and what are the experiences, challenges, and outcomes associated with this integration?

2.2. Theory

The theoretical framework guiding the current study was involved in the Technological Pedagogical Content Knowledge (TPACK) framework. TPACK emphasizes the interplay between technological knowledge, pedagogical

knowledge, and content knowledge in educational settings (Santos & Castro, 2021). In the context of inclusive education, TPACK provided a comprehensive lens to analyze how Information and Communication Technology (ICT) had effectively integrated to enhance teaching and learning experiences for various student populations. By applying the TPACK framework to the specific case of the College of Business and Economics in the University of Rwanda, the study wished to investigate the synergies and challenges associated with ICT integration, shedding light on best practices and potential areas for improvement to raise inclusivity in higher education.

3. Methodology

The study employed a mixed-methods approach, combining surveys and interviews to investigate the extent and impact of ICT integration in adopting inclusive education at the College of Business and Economics, University of Rwanda.

3.1. Population, sample, and sampling techniques

The current study involved a comprehensive examination of the population and sample. The population refers to the entire group of individuals that the research aimed to investigate (Berndt, 2020). In this present study, the population was comprised of all 210 level two students in faculty of business administration with the College of Business and Economics at the University of Rwanda. Given the undergraduate students involved in the integration of Information and Communication Technology (ICT) in inclusive education, the population was chosen to be representative of the broader context under investigation. Sampling, on the other hand, is the process of selecting a subset of elements from the population for detailed examination (Berndt, 2020). Due to practical constraints and the limitlessness of the population, a sampling technique was employed to ensure a manageable and representative subset. In this present study, a stratified random sampling technique was employed, where the population was divided into strata based on relevant characteristics such as academic departments. From each stratum, a random sample was then selected, ensuring that the final sample was diverse and adequately represents the entire population. A total of 84 students were identified as target sample. This approach enhanced the generalizability of the findings and allowed for an exploration of the integration of ICT in inclusive education within the College of Business and Economics at the University of Rwanda.

3.2. Research approach and analysis

The research approach adopted for the current study was a mixed methods design. This approach combined both qualitative and quantitative research methods to provide a comprehensive understanding of the complex phenomenon under investigation. The qualitative component involved in-depth interviews with undergraduate students to gather rich insights into their experiences, perceptions, and challenges related to the integration of information and communication technology (ICT) in promoting inclusive education. These interviews were analyzed using thematic analysis to identify recurring patterns, themes, and perspectives. On the other hand, the quantitative component of the research employed structured questionnaires to collect numerical data from a sample of participants within the College of Business and Economics. The questionnaires intended to quantify the extent of ICT integration, its impact on inclusive education, and the perceived barriers to effective implementation. Statistical methods, such as descriptive statistics was used to analyze the data. By employing a mixed methods approach, the study pursued to triangulate findings from both qualitative and quantitative data sources, enhancing the validity and reliability of the overall research outcomes. This comprehensive strategy allowed for a more holistic understanding of the integration of ICT in promoting inclusive education at the University of Rwanda's College of Business and Economics.

3.3. Validity and reliability

The validity and reliability of a study were crucial aspects that determine the trustworthiness and accuracy of its findings. In the context of the current study, the researchers employed various strategies to ensure the validity of their study. Face validity had been established by consulting experts in the field to ensure that the chosen research instruments accurately measured the constructs of interest. Additionally, content validity had been ensured through a comprehensive literature review and alignment of the study's objective with established theories and prior research in the domain of ICT integration in education. Moreover, reliability in this study was essential to demonstrate the consistency and stability of the research findings. To enhance reliability, the researchers had employed standardized measurement tools and procedures to collect data. Furthermore, test-retest reliability had been assessed by administering the same instruments to a subset of participants at different time points to determine the stability of responses over time. Additionally, inter-rater reliability had been addressed by multiple researchers were involved in data collection or analysis. By attending to both validity and reliability, the study produced credible and consistent results, contributing to the overall strength of the research on the integration of ICT in promoting inclusive education at

the University of Rwanda's College of Business and Economics.

3.4. Ethical considerations

In conducting the current study, several ethical considerations were paramount. First and foremost, the research adhered to the principles of informed consent, ensuring that all participants were fully aware of the study's objectives, procedures, and potential implications before voluntarily agreeing to participate. Confidentiality measures were implemented to protect the privacy of participants, and any identifiable information was carefully anonymized. The research design prioritized the well-being of the participants, and steps were taken to minimize any potential harm associated with their involvement. Additionally, the study upheld principles of fairness and equity, ensuring that various perspectives were considered to avoid biases in the findings. An ethical guideline established by relevant institutional review was rigorously followed throughout the research process, emphasizing the commitment to maintaining the highest standards of integrity and respect for all stakeholders involved.

4. Results and Discussion

The outcomes of investigating the incorporation of Information and Communication Technology (ICT) in fostering inclusive education, shedding light on its inspiration and effectiveness in promoting educational inclusivity. The discussion into the transformative potential of integrating Information and Communication Technology (ICT) improved inclusive education, examining its role in breaking barriers and enhancing learning opportunities for diverse learners.

4.1. Demographic Information of Respondents

Gaining insights into the demographic characteristics of the participants, such as gender and academic departments, was crucial for a comprehensive understanding of the study. There were 46 male and 38 female students, making a combined total of 84.

4.2. Integration of ICT to promote inclusive education

This investigation required students to express their perspectives on the role of ICT in advancing inclusive education, encompassing their experiences, challenges, and outcomes, evaluated through a five-point scale where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree, with mean scores categorized as disagree (negative) for 1.00-2.49, neutral for 2.50-3.49, and agree (positive) for 3.50-5.00.

Table 1: Integration of ICT to promote inclusive education

Item	Mean	Decision
ICT integration enhances accessibility for different learners	3.78	Positive
Inclusive education benefits from ICT tools and platforms	4.32	Positive
Digital resources raise a more inclusive learning environment	3.51	Positive
ICT promotes personalized learning for all students	3.49	Neutral
Challenges in ICT integration impact inclusive education outcomes	4.96	Positive
Positive outcomes include increased student engagement	3.55	Positive
ICT aids in addressing diverse learning styles and abilities	2.47	Negative
Teacher training is crucial for successful ICT integration	4.40	Positive
Barrier-free access to information is a key outcome	2.39	Negative
Inclusive ICT practices support various classroom needs	4.62	Positive
Real-time feedback improves learning experiences	3.53	Positive
Collaborative online platforms enhance inclusivity	1.99	Negative
ICT minimizes physical barriers for differently abled students	3.68	Positive
Monitoring and evaluation are essential for successful integration	2.46	Neutral
Digital literacy skills are fundamental for inclusive education	4.88	Positive
ICT integration demands ongoing adaptation and innovation	3.69	Positive
Overall mean	4.81	Positive

The provided data presents a comprehensive overview of the influence of Information and Communication Technology (ICT) integration on inclusive education. Overall, the findings suggest a predominantly positive perspective on the influence of ICT in this context. Noteworthy positives include enhanced accessibility for diverse learners, the benefits of ICT tools in inclusive education, and the creation of a more inclusive learning environment through digital resources. Additionally, positive outcomes such as increased student engagement and the crucial role of teacher training

in successful ICT integration are emphasized. However, challenges in ICT integration are acknowledged, particularly in addressing different learning styles and abilities, and the need for ongoing adaptation and innovation. The data highlights the importance of barrier-free access to information, digital literacy skills, and monitoring and evaluation for successful integration, while also noting concerns regarding negative aspects like the effect of collaborative online platforms and certain digital literacy challenges. Overall, the mean value of 4.81 reflects a predominantly positive awareness of the role of ICT in raising inclusive education.

The interviews with 84 undergraduate students' level two provided valuable insights into their experiences, challenges, and outcomes regarding the ICT in promoting inclusive education. Many students highlighted the positive influence of ICT on their learning experiences, emphasizing its role in facilitating access to educational resources. As one mentioned,

ICT has transformed my learning experience by providing easy access to a wealth of educational resources. There are online textbooks, interactive simulations, or collaborative platforms, technology had made learning engaging and accessible. I can explore various perspectives, conduct research more efficiently, and interact with peers and teachers beyond the confines of the traditional classroom.

The majority of respondents conveyed contentment with the expanded accessibility of online resources, citing their utility for self-directed study and research, with numerous students highlighting that the integration of Information and Communication Technologies (ICT) has enhanced learning flexibility, enabling them to interact with course content at their preferred pace.

Despite the overall positive feedback, students also shared challenges they encountered in the process. One common concern was the need for improved digital literacy skills. As one reported,

Stress the significance of a digitally literate workforce in meeting the demands of the rapidly evolving technology setting.

Some students reported feeling overwhelmed by the variety of digital tools and platforms introduced in their courses. Additionally, a few students mentioned issues related to internet connectivity, particularly for those residing in remote areas. As one highlighted,

The individuals and communities directly affected by the lack of internet connectivity. It highlights the real-world challenges faced by people in remote areas, such as limited access to educational resources, healthcare information, and economic opportunities.

These challenges underscored the importance of providing comprehensive digital skills training and addressing infrastructure gaps to ensure a more inclusive learning environment.

Regarding outcomes, students expressed a sense of empowerment and increased confidence in their ability to navigate the digital landscape. Many noted improvements in collaboration and communication, as ICT facilitated interactions with peers and instructors. Students also highlighted the role of ICT in fostering a sense of community among diverse learners. However, a few students mentioned concerns about the potential for increased inequality, as some students had more access to digital devices and reliable internet connections than others. These outcomes emphasized the need for continuous monitoring and adjustments to ICT integration strategies to ensure that the benefits are equitably distributed among all students at the College of Business and Economics.

The comprehensive synthesis of quantitative and qualitative data indicated a predominantly positive perspective on the influence of Information and Communication Technology (ICT) integration in inclusive education, with notable benefits including enhanced accessibility, positive outcomes such as increased student engagement, and crucial teacher training, despite challenges such as addressing various learning styles and digital literacy concerns; the overall mean value of 4.81 reflects this positivity. Additionally, insights from interviews with 84 undergraduate students revealed positive experiences with ICT, emphasizing its transformative role in learning, improved access to resources, and flexible engagement, yet highlighting challenges related to digital literacy, awesome variety of tools, and internet connectivity issues, underscoring the importance of addressing these challenges to ensure an inclusive learning environment for all students.

The current research aligns with TPACK theory, offering a comprehensive perspective on how Information and Communication Technology (ICT) effectively integrates to enhance teaching and learning experiences across diverse student populations. Furthermore, the study resonates with Mushimiyimana, Bazimaziki, and Tuyishime (2022) exploration, which underscored the profitable utilization of various ICT resources, such as computer laboratories and the internet, for online assignments and responsible social network use. The integration of personal computers, projectors, and audio equipment in daily teaching practices is emphasized in the teacher-education journey. Additionally, the findings were consistent with Munyengabe, Yiyi, Haiyan, and Hitimana (2017) revelation that the one laptop per learner program significantly impacts

teachers, learners, and stakeholders in Rwandan primary schools. This highlighted the imperative need for supporting teachers in acquiring skills related to Technological Pedagogical Content Knowledge.

5. Conclusion and Recommendation

5.1. Conclusion

In conclusion, the comprehensive analysis of the data revealed a predominantly positive impact of Information and Communication Technology (ICT) integration on inclusive education. Noteworthy benefits include improved accessibility for different learners, positive outcomes in student engagement, and the crucial role of teacher training. However, challenges such as addressing various learning styles and ongoing adaptation were acknowledged. The findings highlighted the importance of addressing digital literacy skills, infrastructure gaps, and monitoring to ensure equitable access and positive outcomes for all students. Based on the insights from 84 undergraduate students, it was evident that ICT has positively transformed their learning experiences by facilitating access to educational resources and adopting flexible learning environments. The satisfaction with increased availability of online materials and flexibility in engagement is notable. However, challenges related to digital literacy, awesome variety of digital tools, and issues with internet connectivity were highlighted.

5.2. Recommendations

Based on the provided conclusion about the positive impact of Information and Communication Technology (ICT) integration on inclusive education, here are some recommendations: Implement comprehensive digital literacy skill development programs for both students and teachers. This initiative should focus on enhancing proficiency in using digital tools, navigating online platforms, and critically evaluating online information. Recognize and address infrastructure gaps and issues related to internet connectivity. Allocating resources to upgrade technological infrastructure in educational institutions and ensuring reliable internet access for all students can contribute significantly to the positive impact of ICT on inclusive education. Establish ongoing professional development programs for teachers to enhance their proficiency in integrating ICT into their teaching practices.

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