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The Use of Tablets in Teaching: Examining Competencies, Challenges and Opportunities among Public Primary School Teachers in Tanzania

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Technology is increasingly becoming inevitable in the transformation of socio-economic practices including education. The integration of technological tools e.g. tablets, computers and mobile phones in teaching and learning has gained significant attention in recent years. This research investigates competencies, challenges and opportunities associated with the use of tablets in teaching in primary schools in Tanzania. In this study, a questionnaire survey was deployed to collect data from 130 teachers in 10 schools which were randomly selected. It was found that primary school teachers have a moderate level of competence in using tablets for teaching ($M = 3.78$, $SD = .46177$). Secondly, the findings revealed a moderate level of challenges when it comes to incorporating tablets into their teaching methods. However, the study depicted opportunities created by the integration of tablets in teaching among teachers. These opportunities include innovative teaching strategies and fostering professional growth to facilitate collaboration and communication, as well as broadening the subjects/content to teach. The study recommends training among teachers in order to enable the utilization of tablet technology. The study concludes that it is crucial to address the identified challenges and capitalize on the opportunities in order to harness the power of technology in education.

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INTRODUCTION

In the modern and ever-changing world, technology has become indispensable rather than a choice, playing a vital role in reshaping various socio-economic aspects. This transformation is evident in its impact on business operations, education enhancement, information dissemination, global connectivity, and the empowerment of individuals and communities, leading to a re-imagining of governance dynamics (URT, 2003). The education sector has also been affected by the widespread use of information and communication technology (ICT). In many countries, ICT has been integrated into the teaching and learning dynamic (Tamim et al., 2015; UNESCO, 2023). This is evident as many governments have established stronger policies, procedures, and infrastructure in ICTs to enhance the educational process (Tamim et al., 2015). This integration is exemplified by the formulation of ICT policies in education, the replacement of conventional chalkboards with interactive digital whiteboards, the use of students’ personal smartphones, laptops, tablets, and e-readers for learning, and the innovative “flipped classroom” model where students watch lectures at home on the computer and use classroom time for more interactive exercises (UNESCO, 2023).

Tanzania also actively supports the integration of ICT in education. Three policy documents underline the significance of ICT implementation within the Tanzanian education sector: the ICT Policy for Basic Education of 2007 (United Republic of Tanzania (URT), 2007), the Tanzanian ICT Policy of 2016, and the National Education and Training Policy of 2014 (URT, 2015). These strategic frameworks emphasize the effective use of ICT for teaching and learning across all levels, diverse

learning contexts, teacher education, and curriculum development. Tanzania’s vision extends even further, aiming to provide a “smart class” for every school by the year 2025 (URT, 2022). Moreover, the country envisions equipping every child in primary and secondary schools, universities, and vocational training institutes with laptops (URT, 2022). Supported by a well-established ICT infrastructure including an extensive optical fibre backbone spanning 8319 km across the country, the National ICT Data Centre (NIDC), and submarine cables like EASSY and SEACOM, the nation is uniquely positioned to facilitate the adoption of new technologies at a reduced cost and expedite the expansion of broadband connectivity to rural areas (URT, 2021).

This impressive groundwork establishes a solid foundation for the widespread use of ICT across various sectors, including education. In the education sector, Tanzania has made notable investments in ICT equipment and training within its schools. The government has distributed digital and related technologies to primary and secondary schools, including desktop computers, smartphones, laptops, printers, photocopiers, projectors, and televisions (Manyengo, 2021). Collectively, these comprehensive endeavours point out Tanzania’s commitment to leveraging ICT for the advancement of its education sector and beyond (Ibid.).

A study carried out by Manyengo (2021) looked at how teaching and learning are being digitized in Tanzania and showed that teachers in primary, secondary, and technical secondary schools have varying levels of digital literacy. However, a significant hurdle lies in effectively integrating these digital competencies into the teaching and learning processes. The study’s results also

highlighted that some teachers use digital tools for simple tasks like typing examination questions and managing examination results (Manyengo, 2021). In line with this, a study by Lytle (2012) that compared the rate of technological use between American and Chinese teachers revealed that US teachers are not using technology to enhance their instruction nearly as much as Chinese teachers. Lytle suggests that part of the problem might be a need for more intentional technological training in our teacher preparation programs. Though teachers are often able to use the technology (and often do so for their personal or administrative purposes), they are less familiar with specifically how to best (beyond just games or internet searches) integrate technology into instruction and assessment.

The issue of teachers' inability to use ICT tools for teaching and learning effectively can be linked to their training at colleges and universities. Manyengo (2021) highlights that the training provided in teacher education programs related to ICTs primarily concentrates on basic technical and elementary skills, often overlooking gaps in pedagogical practices. Recognizing this challenge, the Tanzanian government made significant efforts to solve this issue after becoming aware of it. For instance, in an effort to improve the ICT skills of tutors and lecturers, short-term retooling and in-service training were implemented in 2015–2016 (URT, 2018). This action represents a proactive approach by the government to bridge the gap and empower teachers with the skills required for effective use of ICT tools in the classroom.

As the ICT world continues to progress rapidly, tablets, the most recent addition to the long list of technological innovations, have been brought into education. Tablets are thought to support and improve the teaching and learning processes. As highlighted by UNESCO (2023), the availability of low-cost educational software (apps) that can be installed on tablets makes them useful tools for educational purposes. Consequently, tablets enhance the learning experience, increase access to

pedagogical techniques, and enhance educational administration.

The potential of tablets in education is stimulating numerous initiatives worldwide, spearheaded by governments that recognize their transformative impact. Illustratively, various countries such as Antigua & Barbuda, Australia, Brazil, India, Iran, Jamaica, Kazakhstan, Pakistan, Russia, Turkey, and the United Arab Emirates have embraced tablet initiatives as an integral part of their educational strategies (Tamim et al., 2015). In the USA, less expensive tablets for widespread use in schools have been adopted (Ditzler et al., 2016). However, this adoption occurred without clearly articulated learning objectives or substantial engagement of teachers in the planning stages. Despite the presence of articles and reports discussing the integration of iPads in educational settings, these works often exclude the viewpoints of the users regarding the value and effectiveness of the technology (Ibid.). Furthermore, Shoemaker (2012) points out that many of the installed apps on tablets focused on content acquisition rather than on increasing higher-order thinking and creative thinking.

Similarly, Tanzania has aligned with such advancements by making notable investments in ICTs and training within schools. For instance, the Tanzanian government distributed a total of 293 400 tablets during the 2022 fiscal year as evidence of its commitment to improving teaching and learning through ICT (Daily News, 2022). This allocation included 185,404 tablets designated for primary school teachers, 89,805 for secondary school teachers, and 1,666 for school quality assurance officers. Beyond this, the tablets also reached various educational stakeholders, including rectors in public teachers' colleges (1,353), community development colleges (297), education officers at regional, district, and ward levels (5,772), Vocational Education Training Authority (VETA) personnel (996), and the National Examination Council of Tanzania (NECTA) members (8,357). Collectively, these comprehensive endeavours

present Tanzania's commitment to leveraging ICT for the advancement of its education sector and beyond (Ibid.).

The use of tablets and other technological devices in education has recently become a focus of research. Many studies have looked at how tablets impact students' academic performance (Kongsgården & Krumsvik, 2016; Haßler et al., 2016; Walczak et al., 2018; Mulet et al., 2019). However, it's important to note that the effectiveness of tablets is not solely determined by the device itself; it depends on how they are used for educational purposes (Schmid et al., 2014). Tablets are most effective when they serve as cognitive support rather than just presentation tools.

On the other hand, there is limited research on how teachers use tablets in their teaching practices. A study in the USA found that some teachers struggle with using tablets and see them as distractions rather than helpful tools (Ditzler et al., 2016). In Finland, a study revealed that the actual use of tablets in schools was less than what teachers had initially expected in terms of benefits (Rikala et al., 2013). This variation in digital practices is explained by teachers' digital competencies and their ability to integrate technology into their teaching methods. To improve this situation, implementing digital didactic methods that enhance teacher-pupil interaction during the learning process is crucial.

In Sub-Saharan Africa, Tanzania is one of the nations that has acknowledged the importance and effectiveness of ICT in education (BEST, 2020). The Ministry of Education and Vocational Training (MoEVT) has carried out a number of initiatives and programs in recognition of that respect (Lubuva et al., 2022). Success stories have been documented ten years after these efforts were launched, including an improvement in ICT infrastructure in schools and colleges, a rise in ICT awareness among teachers and students, and a rise in the use of ICT to streamline administrative tasks in schools (Rakisheva & Witt, 2023). Despite these success stories, ICT in education has not yet reached its full

potential in this country. Particularly, ICT integration in teaching and learning is still in its infancy in Tanzanian institutions (Ngeze, 2017). Ineffective ICT infrastructure used in the teaching and learning environment, limited ICT competency among teachers and tutors, and a lack of thorough ICT training that focuses on effective ICT integration in teaching and learning are some of the issues that have contributed to this situation (Manyengo, 2021; Dias & Victor, 2022).

In Tanzania, no single study on the use of tablets in teaching and learning has been found. Therefore, understanding how teachers use tablet technology in the classroom is an important step to guide the proper use of technology and to produce enhanced tools for teaching and learning. The current study attempts to bridge this gap by exploring teachers' competencies, challenges, and opportunities in using tablets in the classroom. Therefore, the aim of this study is to examine teachers' competencies, challenges, and opportunities for using tablets in teaching.

Specifically, the study is guided by the following objectives:

- Determine the level of teachers' competence in using tablets for teaching.
- Identify challenges associated with the use of tablets in teaching.
- Establish the opportunities offered using tablets in teaching.

THEORETICAL FRAMEWORK

The theoretical framework of the current study is informed by constructivist learning theory, which was initially formulated by Jean Piaget in 1972 and later expanded upon by Lev Vygotsky in 1978. This theory serves as our guiding framework, underpinning our understanding of how teachers interact with and adapt to tablet technology in their teaching practices.

Constructivism posits that learners, in this case, the teachers, are not passive recipients of knowledge but actively construct their understanding through their interactions with the environment. When applied to the context of tablet usage in education, this theory suggests that teachers engage proactively with tablets to discover how these devices can enhance their teaching methods. It elucidates how teachers experiment with various instructional strategies, seek out information and resources, and reflect on their experiences to develop competence in tablet integration. Furthermore, the constructivist learning theory is particularly pertinent when we examine the challenges encountered in using tablets for teaching. It stresses the notion that learners, including teachers, derive valuable insights from their experiences, even when those experiences involve failures and challenges. In this study, the constructivist framework aids in exploring how teachers perceive and respond to these challenges. It allows us to dwell on how these challenges prompt teachers to engage in problem-solving, seek assistance or guidance, and adapt their teaching techniques. This adaptive process can lead to meaningful changes in their pedagogical approaches (Dhital, 2018).

Conversely, when considering the opportunities presented by the utilization of tablets in education, constructivist principles guide our investigation into how teachers harness these devices to create engaging and authentic learning experiences. It also assists in exploring how teachers design learning activities that encourage students to actively construct knowledge through their interactions with tablet technology.

In summary, the constructivist learning theory is well-suited to this study as it acknowledges that teachers are active participants in the integration of tablets into their teaching practices. It places significant emphasis on experiential learning, reflection, and adaptability as essential components in developing competence and addressing challenges. Additionally, constructivism highlights

the potential of technology to facilitate authentic and meaningful learning experiences, which is pivotal in our exploration of the opportunities afforded by tablet usage in education.

EMPIRICAL LITERATURE REVIEW

This section of the literature review is dedicated to exploring empirical studies specifically centred on the use of tablets for educational purposes. The discussion focuses on key aspects, including teachers' competence, opportunities for educators to integrate tablets, and the challenges that arise in the process of tablet integration.

Competences in the Use of Tablets in Teaching

Competence in the context of education refers to the combined skills, abilities, and knowledge that teachers possess to effectively carry out their teaching responsibilities. Specifically, when it comes to utilizing tablets as an instructional tool, competence is understood as the set of skills and abilities that teachers have or should develop to methodologically incorporate technologies in the classroom (Revuelta-Domínguez, 2022). Kalogiannakis and Papadakis (2019) categorized competencies in the use of tablets into two categories, namely basic tablet skills and advanced tablet skills. Basic tablet skills include skills such as using search engines to look for information on the internet, using presentation programs, using the internet to communicate, using word processing programs etc. in education (Aslan & Zhu, 2016). Advanced tablet skills include using simulated tasks to discover, experience, and experiment, selecting and evaluating educational software, creating lesson plans through ICT, having the knowledge and skills necessary for ICT integration, etc.) in teaching practices. Teachers with experience in basic and advanced tablet skills are more likely to use tablets as instructional tools (Kalogiannakis & Papadakis, 2019). In supporting that, Smarkola (2008) argued that teachers must move beyond being "computer literate" to "technology competent" to integrate technology into education effectively.

DiVall and Zgarrick (2014) conducted a study on the usage of tablet technology by faculty members in pharmacy education settings at the School of Pharmacy at Northeastern University in Boston, Massachusetts. The findings revealed that most faculty members used iPads for connectivity with students (86%), paper/project annotation (68%), assessment (57%), and demonstration of tools used in practice (36%). For teaching, 61% of faculty members used iPads in seminars or laboratories, 57% used iPads in an experiential setting, and 43% used iPads in the classroom.

The study by Aslan and Zhu (2016) in Belgium compared ICT competence levels between pre-service and teachers. The study showed that the pre-service teachers were more competent than the starting teachers in using basic ICT skills (e.g., presentation skills, word processors, etc.). Although the preservice teachers were also more competent in using integrated ICT skills (e.g., using simulated tasks to discover, experiment, and experience, etc.), the teacher groups were not necessarily competent in using integrated ICT skills.

Dwyer (2016) conducted a study on tablet usage in secondary mathematics education at Assumption College in the Philippines. The overall findings indicated that 95% of teachers never used their tablets for creating instructional materials. Moreover, 70% of teachers had never employed tablets for maintaining school records, while 65% had not used them for making presentations, never used tablets for keeping school records, and 65% of teachers never used tablets for making presentations or giving assignments. The findings further revealed that teachers were more comfortable and confident using tablets for simple tasks such as performing calculations and taking notes.

In Finland, Rikala et al. (2013) examined tablet integration in schools. The study found that actual tablet usage was considerably less than teachers had initially anticipated, revealing variations in digital practices among teachers. The findings of the study

further revealed variations in teachers' digital practices in school.

These studies collectively feature the importance of teacher competence in tablet integration, variations in tablet utilization across educational contexts, and the need for effective professional development to bridge knowledge gaps and facilitate successful tablet integration in teaching.

Challenges in the Use of Tablets

The integration of tablets into primary school teaching introduces a unique set of challenges for educators (Kongsgården & Krumsvik, 2016). According to Ali (2013), these challenges can be categorized into three main areas: social issues, pedagogical issues, and technical issues.

Various studies have been carried out to investigate the challenges of using tablets. A study by Kumi-Yeboah and Campbell (2015) revealed that some teachers in the USA lack instructional pedagogy on how to incorporate devices into the learning process to augment the use of tablets in promoting the content knowledge of students. Teachers also face the challenge of understanding the mechanics of using tablets in the classroom, which include computing environments, how different apps and types of files interact with each other, file format compatibility and file conversion tools, evaluating all-in-one management solutions, and translating these concepts simply and effectively to teachers (Ibid.).

Dias & Victor's (2022) research explores the nuanced aspects of mobile device usage in the context of teaching and learning. Their findings resonate strongly with both teachers and students, portraying these devices as catalysts for enhanced student motivation and the potential to revolutionize pedagogical methodologies (Ali, 2013; Lubuva et al., 2022). While recognizing certain barriers, such as challenges related to communication, collaboration, and research capabilities, which may impede the effective utilization of ICT devices (Dias & Victor, 2022), the overall sentiment among

educators and students remains remarkably optimistic. The integration of instructional tools facilitated by ICT devices unlocks innovative applications and facilitates swift access to a wealth of educational resources (Ngeze, 2017; Dhital, 2018).

Further insights into the impact of technology in education come from a study conducted by Masasi, Mtitu, and Ogondieki (2021) on the challenges of employing mobile phones for teaching and learning in secondary schools. This research, utilizing both qualitative and quantitative exploratory approaches, involved a diverse participant pool, including instructors, school administrators, students, quality assurance officers, and district education officers. Findings from this study highlight critical issues, notably the lack of sufficient training for teachers in utilizing technological devices to enhance educational practices. Additionally, it highlighted the detrimental influence of inadequate ICT infrastructure on hindering technological advancements, especially in the educational sector (Masasi et al., 2021). These findings align with previous research by Montrieux (2015) and Ojo & Adu (2018).

Similarly, Camilleri and Camilleri (2020) examined the utilization of mobile learning technologies among primary school students, specifically focusing on their experiences with educational applications (apps) on smartphones and tablets. Their qualitative investigation revealed that students' engagement with educational apps through tablets positively impacted their mathematical skills (Camilleri & Camilleri, 2020). While this research predominantly centred on students' perspectives regarding the use of educational apps on technological devices, it emphasizes the need to research teachers' experiences, particularly concerning their engagement with technology, especially in using tablets for teaching.

To gain deeper insights into the impact of tablet use on teaching and learning, an exploratory focus

group study was undertaken. This research, conducted in a secondary school with a history of tablet integration since 2012, involved 18 teachers and 39 students. The overarching conclusion, as illuminated by Montrieux et al. (2015), is that tablets indeed are influencing both teaching and learning processes significantly. These tablet devices often catalyze transformations in the way students acquire knowledge, creating engaging and interactive learning environments enriched with diverse multimedia resources. This observation concurs with the findings of earlier experts in the field. However, it is vital to highlight the imperative of assessing how effectively teachers can harness technological devices to bolster their teaching practices.

Lastly, Dhital's (2018) review in Nepal critically examined the fundamental concepts and roles of information and communication technology (ICT) within government schools. This investigation primarily revolved around the myriad challenges encountered by these schools in leveraging ICT to enhance the quality of education. Dhital (2018) asserts that ICTs serve as highly efficient tools for advancing knowledge and skills, ultimately elevating the quality of education delivery. Nevertheless, the review identified several formidable challenges, encompassing the shortage of qualified teachers, inadequate hardware and software resources, and an unstable electricity supply (Dhital, 2018). Given the integral role of information and communication technology (ICT) in rendering teaching and learning activities more meaningful, it becomes imperative to address specific prerequisites for its effective utilization in government schools. These requisites encompass the necessity for a proficient workforce, reliable electricity infrastructure, sufficient hardware, and appropriate software resources (Dias & Victor, 2022; Masasi et al., 2021).

Opportunities offered using tablets in teaching

The integration of tablets into education has unequivocally opened a myriad of opportunities for

educators. These opportunities are firmly grounded in research and practical experience. According to Haßler et al. (2014), technology, including tablets, has emerged as a pivotal enabler for teacher professional development and substantial pedagogic change. This recognition emphasizes the fundamental role that technology plays in nurturing educators' growth and fostering innovative teaching methods. Delgado et al. (2015) reiterate this perspective by highlighting that technological tools provide educators with a transformative capacity to effectively reshape their teaching methodologies. This aligns with the findings of DiVall and Zgarlick (2014), who discovered that the use of tablets empowered faculty members to explore new teaching strategies, marking a significant shift in their instructional approaches.

Furthermore, Chou's (2014) research stresses the tangible benefits derived from the integration of iPads into teaching and learning activities, particularly within a large school district in the Midwest of the United States. This integration has boosted opportunities for collaboration and sharpened the sense of creativity among educators and students. Adding to that, Dhital (2018) asserts that the adoption of technology, including tablets, has sparked teachers' innovation within the teaching process. For instance, a study conducted in Nigeria on the opportunities offered by technology revealed that technological devices in teaching provide pedagogical innovations among teachers (Onyema, 2019).

Generally, the utilization of tablets in teaching has firmly established a transformative landscape where technology acts as a catalyst for professional development, pedagogic evolution, and experimentation with new teaching strategies, collaboration, creativity, and teacher-led innovation. These opportunities collectively contribute to an enriched and contemporary educational experience.

METHODOLOGY

This quantitative study employed random sampling methods to select respondents and public primary schools involved in the study. The target population encompassed 140 primary schools and 1,277 primary school teachers in the research area (BEST, 2020).

Data Collection Instrument

To investigate the competencies, challenges, and opportunities related to tablet usage in teaching, an instrument comprising 18 items was administered to primary school teachers. These items were designed as statements and rated on a five-point Likert scale, ranging from "1 - Strongly Disagree" to "5 - Strongly Agree." The survey was conducted with a sample of 130 public primary school teachers from 10 selected schools.

Informed Consent and Ethical Considerations

It is important to note that participation in this study was entirely voluntary, and participants had the right to withdraw their consent at any point, for any reason, without facing any obligations or consequences. At the outset of the research, both the researchers and participants engaged in the informed consent process. During this process, participants received detailed information regarding the purpose, goals, and objectives of the study. They were explicitly instructed to provide their responses with clarity and honesty.

Data Analysis

The responses gathered from the participants were subjected to rigorous analysis using the Statistical Package for the Social Sciences (SPSS) software, version 20.0. This analytical approach facilitated the extraction of valuable insights from the data, allowing for a comprehensive examination of teachers' competencies, challenges, and opportunities in using tablets for teaching.

FINDINGS AND DISCUSSION

Demographic Characteristics

The study involved a total of 130 primary school teachers drawn from 10 primary schools located in Misungwi District, Mwanza Region. Among these participants, 53.1% were females, and 46.9% were males.

Competences in Using Tablets in Teaching

Teachers need to have skills and competencies if they have to teach with tablets in the classroom. In

this study, we were interested in eliciting their self-reported levels of competence in the use of tablets to enhance teaching. The study found that, on average, teachers have a moderate level of competence in using tablets for teaching ($M = 3.78$, $SD = .46177$). The findings also indicate that the relatively low standard deviation indicates that competence levels across the eight items are fairly consistent among the surveyed teachers as shown in Table 1

Table 1: Descriptive statistics of Teachers' Responses on Competencies in using Tablets

Statements	Mean	SD
I know how to turn on and off the Tablet	4.72	.543
I can select and prepare teaching notices using a Tablet	4.11	.934
I can use a Tablet to access online resources and various apps installed on it	4.07	1.021
I can use programs like Microsoft Word, PDF, and PowerPoint that are on the tablet	2.74	.885
I can use the tablet to present a lesson using PowerPoint	3.15	1.023
I can search for study materials using the tablet	3.93	1.136
I can attach and send study materials to my colleague teacher using the tablet	3.78	1.042
I can save the file for future reference	3.78	1.078
Overall	3.7856	.46177

In summary, the findings indicate that teachers possess a strong foundation in basic tablet operations such as turning the Tablet on and off and selecting and preparing teaching materials. However, there is more variability in their abilities to use specific software programs like Microsoft Word, PDF, and PowerPoint, as well as in conducting advanced tasks such as searching for study materials. The results of this study align with the findings of two previous studies conducted by Ditzler et al. in 2016 and Lubuva et al. in 2022. Both studies highlighted the recurring issue of teachers facing challenges when it comes to using new devices and applications in their teaching practices. These challenges appear to stem from a significant gap in their ICT training during their college education. Specifically, many teacher education programs do not adequately prepare teachers for effective ICT integration into their teaching and learning methods, as observed by Manyengo in 2021 and Dias & Victor in 2022. These findings

hold valuable implications for educational institutions that aspire to improve teachers' digital competence. To address these issues, it is essential for institutions to customize their training programs to meet the specific needs of teachers. This might involve tailoring training to focus on areas where competence levels are lower, as identified in this research. Furthermore, there is a call for additional research to focus deeper into these specific areas of concern and to develop targeted training strategies that can effectively bridge the competence gap among teachers in utilizing technology for educational purposes.

Challenges in Using Tablets in Teaching

The second objective of this study was to pinpoint the challenges that teachers encounter when incorporating tablets into their teaching practices. To gain insights into the challenges teachers face in using tablets for teaching, we conducted a survey in which participants were asked to respond to four

statements, each rated on a five-point Likert scale (from 1 - Strongly Disagree to 5 - Strongly Agree). The respondents' perceptions regarding these challenges are summarized in Table 2

Table 2: Descriptive statistics of Teachers' Responses on Challenges in Using Tablets in Teaching

Statement	Mean	SD
I don't use tablets during teaching due to limited access to reliable electricity	3.50	.926
I lack technical support from the school management when the tablet encounters a problem	3.82	1.033
I have not received adequate training to effectively use tablets for teaching	3.68	.874
I lack confidence in using the tablet for teaching	4.01	.721
Overall	3.7500	.47821

The findings of the study revealed that the overall perception of challenges in using tablets for teaching had a mean score of 3.75 (with a standard deviation of 0.47821). This mean score indicates that, on average, teachers perceived a moderate level of challenges when it comes to incorporating tablets into their teaching methods. In more detail, however, the findings indicate that teachers perceive various challenges in using tablets for teaching. Limited access to reliable electricity appears to be a moderate concern, while the lack of technical support from school management and inadequate training for effective tablet use are also areas of concern, though they fall within the moderate range. Notably, teachers express a lack of confidence in using tablets for teaching, with a mean score indicating agreement. This finding concurs with that of Greener and Wakefield (2015) and Yeboah and Campbell, (2015) which found that higher education teachers had issues surrounding

digital confidence and the pedagogical reasoning for integrating new technologies in teaching. These findings reiterate the need to address these challenges to enhance the integration of tablets into the teaching process effectively. School administrators and policymakers should consider strategies to provide better technical support, training, and resources to boost teachers' confidence in using tablets as an educational tool.

Opportunities in Using Tablets for Teaching

The third objective of this study was to establish opportunities offered using tablets in teaching. To gain insights into these, we conducted a survey in which participants were asked to respond to six statements, each rated on a five-point Likert scale (from 1 - Strongly Disagree to 5 - Strongly Agree). The respondents' perceptions regarding these challenges are summarized in Table 3.

Table 3: Descriptive statistics of Teachers' Responses on Opportunities in using Tablets

Statement	Mean	SD
The use of tablets encourages teachers to experiment with innovative teaching strategies	3.98	1.049
The use of the tablet does not help teachers to increase their technological skills and digital literacy	2.52	1.307
Using tablets in teaching fosters professional growth and encourages lifelong learning	4.11	.874
Tablets enable teachers to collaborate and share teaching resources with colleagues more easily	4.33	.811
Tablets provide a platform for teachers to communicate more effectively with parents and guardians	4.31	.805
The use of tablets helps to broaden the range of various subjects/content to teach	4.20	.741
Overall	3.91	.504

The findings indicate that, on average, teachers perceive a moderate to high level of opportunities for enhancing their teaching practices through the integration of tablets, with a mean score of 3.91 ($SD = 0.504$). Generally, the findings of this study stress that teachers recognize a wide range of opportunities associated with the use of tablets in teaching. These opportunities range from encouraging innovative teaching strategies and fostering professional growth to facilitating collaboration and communication, as well as broadening the range of subjects/content to teach. This finding concurs with that of DiVall and Zgarrick, (2014) who found that the use of tablets allowed faculty members at Northeastern University in Boston to improve productivity and some faculty also tried new teaching strategies and tools. These insights can inform educational strategies and policies aimed at harnessing the potential of tablet technology for improved teaching and learning experiences.

Suggestions for Future Research

While this study concentrated on the competencies, challenges, and opportunities associated with the use of tablets in teaching, it is crucial to acknowledge its limitations and propose avenues for future research to expand and refine our understanding of this topic. One of the major limitations of this study is the relatively small sample size, which consisted of 130 teachers from 10 schools in the Misungwi district of Mwanza region, Tanzania. Given that Tanzania has over 185,404 primary school teachers spread across 139 districts, future research should aim to involve a more extensive and diverse pool of educators. Expanding the geographical scope to include multiple districts and regions can provide a more comprehensive perspective on the competencies, challenges, and opportunities related to tablet usage in teaching within Tanzania. Another limitation lies in the sole use of a quantitative approach in this study. Future research could benefit from adopting a mixed-methods approach, combining quantitative

surveys with qualitative interviews or focus group discussions. Qualitative methods can offer deeper insights into the nuances of teachers' experiences, challenges, and potential solutions, providing a more holistic understanding of the subject. In future studies seeking to gain more understanding of the competencies and challenges, researchers consider demographic factors such as age, experience, subject specialization, and technological proficiency. Examining these demographics may reveal variations in perceptions and needs among different teacher groups. In conclusion, despite its limitations, this study provides a foundational understanding of teachers' competencies and skills in using tablets for teaching in a specific context. To enhance this knowledge base and guide educational policies and practices effectively, future research should aim for broader participation, diverse methodologies, and a more comprehensive exploration of the multifaceted aspects of using tablets in education.

CONCLUSION

In recent years, the use of tablets and other smart devices in educational settings has gained attention as a research topic. The government of Tanzania has made notable investments by distributing tablets to every primary school teacher. This study embarked on an exploration of the competencies, challenges, and opportunities that arise from using tablets in teaching. The findings of this study indicated that teachers have a moderate level of competence in using tablets for teaching. The findings also revealed that, on average, teachers demonstrated a moderate level of competence in utilizing tablets for teaching purposes. However, a notable concern emerged regarding teachers' lack of confidence in using tablets effectively as educational tools. In light of these findings, the following recommendations are put forward. It is strongly recommended that school administrators and policymakers take proactive measures to address these challenges. This can include the provision of enhanced technical support, comprehensive training

programs, and the allocation of additional resources to bolster teachers' confidence in using tablets as a valuable educational tool.

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