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PEDAGOGICAL INTERPRETATION IN TEACHING GRADE 10 ACCOUNTING USING ADVANCED TECHNOLOGY: SOUTH AFRICAN PERSPECTIVE

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Abstract

The qualitative study investigated the integration of technology in teaching Grade 10 accounting, focusing on a purposive sample of 15 accounting teachers from five schools in the OR Tambo Coastal region. The research explored how educators adapted their methodologies to incorporate various technological tools, such as online platforms and interactive software, following transformations prompted by the COVID-19 pandemic. Data were collected through in-depth interviews, revealing that while many educators adopted blended learning approaches that enhanced student engagement and promoted critical thinking, they faced challenges, including inadequate training, technical difficulties, and limited access to resources. Students also encountered barriers such as disparities in technological proficiency and access to devices. The study adopted a constructivist learning theory framework, suggesting that students learn best when they actively engage with the material and build understanding through experiences. To address these challenges, the study recommended ongoing professional development programs tailored for accounting teachers, prioritizing resource allocation for technology access, and establishing collaborative learning communities among educators. Additionally, training programs for students were developed to enhance their technological skills. Updating the curriculum to emphasize digital literacy and creating robust support systems for technical issues was essential. The study concluded that while technology integration offered significant benefits for educational outcomes in accounting, it revealed challenges requiring comprehensive training programs and strategic investments in resources. Future research should explore the long-term impacts of technology integration on student performance and identify best practices for teacher professional development.

Keywords: *Technology integration, blended learning, teacher training, student engagement, accounting education.*

1. Introduction

The integration of technology in teaching Grade 10 accounting has gained significance, particularly after the COVID-19 pandemic. The subject is crucial as it provides students with essential skills for the business world (Agustina & Setiawan, 2020). The pandemic required a shift from traditional classrooms to online learning, prompting educators to adopt innovative strategies to engage students effectively(Ahshan, 2021). Various technological tools, such as online platforms and interactive software, were utilized to enhance the learning experience (Haleem, Javaid, Qadri, & Suman, 2022). These changes aimed to maintain educational standards during challenging times while preparing students for a future where technology is integral to accounting practices (Agustina & Setiawan, 2020). Understanding these strategies was vital for improving teaching methods and ensuring students acquire necessary accounting skills (Ahshan, 2021). The research question identifies the teaching approaches educators employed to integrate technology into Grade 10 accounting instruction.

Research questions

1. What teaching approaches were employed by educators to incorporate technology in instructing Grade 10 Accounting students?
2. How do Grade 10 accounting teachers in South Africa perceive and implement advanced technology in their pedagogical practices?

2. Literature review

Recent studies highlight the transformative impact of technology in education, particularly in enhancing student engagement and critical thinking while improving access to learning materials (Okolie

et al., 2022). Innovative methods such as project-based learning and flipped classrooms have gained traction, promoting active student participation (Nkomo, Daniel, & Butson, 2021). However, many educators continue to rely on traditional teaching methods, indicating a need for effective training programs to facilitate meaningful technology integration. In Grade 10 accounting, the use of technology has become increasingly important post-COVID-19, yet its implementation remains inconsistent (Sangster, Stoner, & Flood, 2020). Teachers often struggle with modern technology despite acknowledging its significance for future job preparation. Addressing challenges such as technical issues, limited resources, and gaps in student technical skills is crucial for successful integration (Onyema, 2020).

2.1. Challenges faced by teachers in using advanced technology to teach grade 10 accounting

Recent research underlined the transformative role of technology in education, particularly in enhancing student engagement and critical thinking while improving access to learning resources (Nkomo, Daniel, & Butson, 2021). Innovative instructional methods, such as project-based learning and flipped classrooms, have gained popularity for fostering active student participation (Rothwell, 2020). However, many educators still rely on traditional teaching approaches, highlighting the necessity for effective training programs to support meaningful technology integration. In Grade 10 accounting, the importance of technology has increased post-COVID-19, yet its implementation remains inconsistent. Teachers often face challenges with modern technology, necessitating improved training and support to address technical issues and resource limitations effectively.

2.2. Challenges faced by grade 10 learners in learning accounting using advanced technology

Grade 10 learners face several challenges when using advanced technology to learn accounting, which can hinder their understanding of key concepts (Sangster, Stoner, & Flood, 2020). A significant issue is the gap in technical skills; many students lack the necessary abilities to operate advanced accounting software, leading to frustration. Additionally, unequal access to technology, such as computers and reliable internet connections, creates disparities in learning opportunities. The complexity of advanced software can also present a steep learning curve for beginners, discouraging participation (Rothwell, 2020). Furthermore, some students may resist using technology due to discomfort with change or a preference for traditional methods. A lack of teacher support further complicates these challenges, making it difficult for students to navigate software effectively (Nkomo, Daniel, & Butson, 2021). Addressing these issues requires enhanced training, improved access to resources, and robust support systems.

3. Theoretical framework

The study adopted constructivist learning theory, which posits that students learn most effectively through active engagement and personal experience (Banihashem, Farrokhnia, Badali, & Noroozi, 2022). Within the framework, students were encouraged to utilize technology to explore and apply accounting concepts rather than passively receive information. Tools such as interactive simulations and accounting software facilitate practice in real-world scenarios. Learner-centered pedagogy emphasizes active student participation, enabling teachers to create collaborative environments where students can ask questions and solve problems together (Banihashem, Farrokhnia, Badali, & Noroozi, 2022). Techniques like flipped classrooms and project-based learning further promote engagement and critical thinking. To effectively integrate technology, educators can employ models that evaluate technology use in lessons. Collaborative learning through online tools enhances understanding while developing essential workplace skills. Addressing challenges such as technical issues and inadequate teacher training is crucial for successful implementation.

4. Methods

4.1. Research approach

The study, titled "Pedagogical Interpretation in Teaching Grade 10 Accounting Using Advanced Technology," employed a qualitative research approach to investigate how teachers interpret and utilize advanced technology in their instruction (Chong & Reinders, 2020). A case study design focuses on specific educators and their methods, allowing for an in-depth examination of technology integration in accounting lessons. An interpretive approach was used to understand the meanings attributed to experiences with technology, exploring how both educators and students engaged with advanced tools in accounting education. Ethical guidelines were strictly followed, including obtaining participant consent and ensuring confidentiality. The study acknowledges potential limitations, such as a small participant pool that may affect generalizability (Chong & Reinders, 2020). Nevertheless, the approach aims to provide valuable insights into teaching practices in Grade 10 accounting through the use of advanced technology.

4.2. Population and sample size

For the qualitative study on integrating advanced technology in teaching Grade 10 accounting, the population consisted of 15 accounting teachers from various schools within the OR Tambo Coastal region that had incorporated technology into their lessons. The group was crucial as they directly experienced the impacts of technology on teaching and learning processes. The sample size was limited to facilitate in-depth insights into their experiences, providing a diverse range of perspectives on how they utilized technology in their classrooms. The sample size was suitable for qualitative research, emphasizing a deep understanding of experiences and opinions. By gathering data completely from teachers, the study uncovered effective strategies for technology use in accounting education while identifying the challenges they encountered. The focused approach enhanced teaching methodologies and ensured that educators were equipped to prepare students with the necessary skills for careers in accounting.

4.3. Data collection

Interviews were employed as the primary data collection method in the study, specifically through semi-structured interviews with Grade 10 accounting teachers (Mkhize, Mtshali, & Ntombela, 2023). The approach involved posing open-ended questions that enabled teachers to articulate their thoughts, experiences, challenges, and strategies regarding the use of technology in their instruction (Braun & Clarke, 2021). Such a method facilitated a deeper understanding of how educators integrate technology into their teaching practices and the various factors influencing their experiences.

4.4. Data analysis

The study employed thematic analysis to identify patterns and themes within the collected data (Braun & Clarke, 2021). The process involved systematically organizing information obtained from interviews, focus groups, observations, and documents to highlight key insights regarding the use of technology in the teaching of Grade 10 accounting (Mkhize, Mtshali, & Ntombela, 2023). By analyzing the data thematically, the research aimed to uncover significant trends and understand how technology is integrated into instructional practices.

5. Findings

Figure 1. Traditional vs. Modern Pedagogies in Accounting Education.

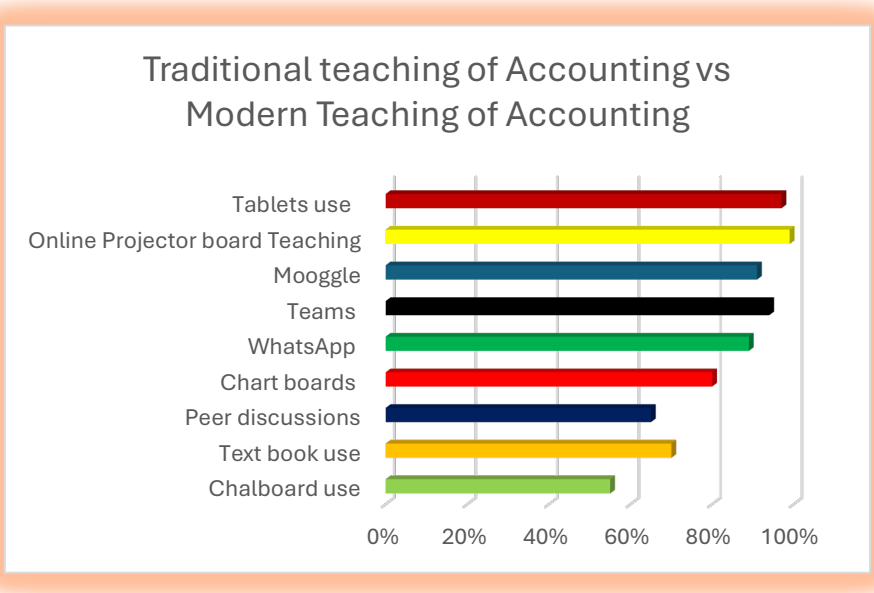

Figure 1 shows usage rates: chalkboards 55%, textbooks 70%, peer discussions 65%, chart boards 80%, WhatsApp 89%, Teams 94%, Mooggle 91%, tablets 97%, and online projectors 99%.

Figure 2. Pedagogy Challenges in Accounting.

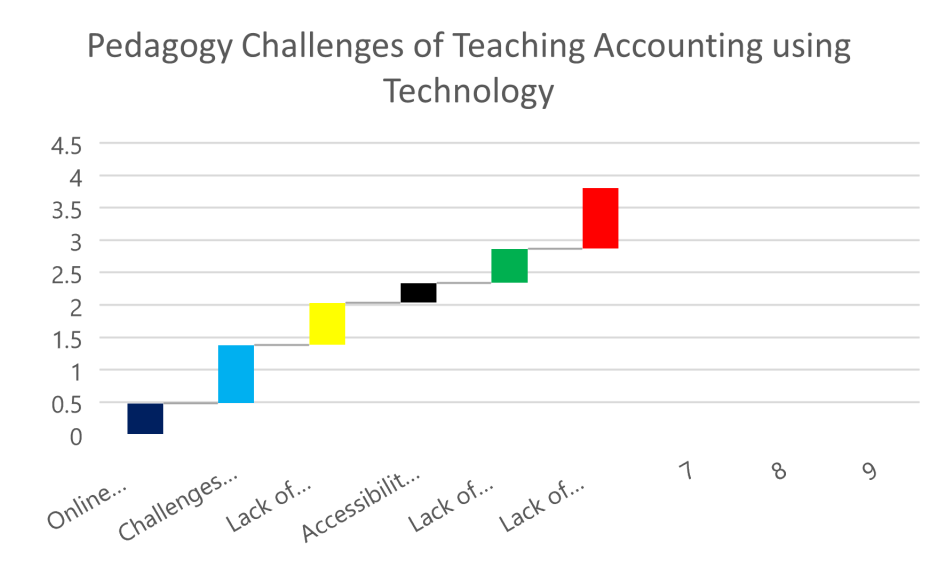

Figure 2 illustrates the challenges of pedagogy in teaching accounting with technology, highlighting issues such as teacher preparedness, resource limitations, and varying student readiness that hinder effective technology integration.

Figure 3. Effective Accounting Teaching Strategies.

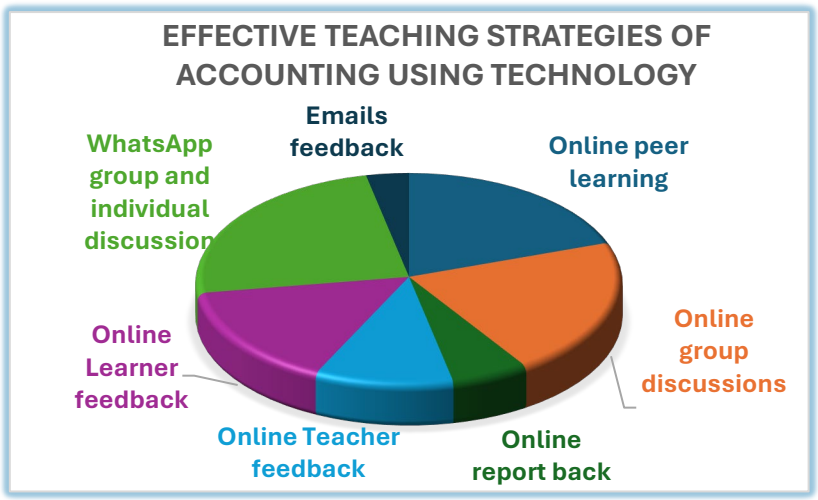

Figure 3 shows effective accounting teaching strategies: Email feedback 13%, WhatsApp discussions 94%, online learner feedback 60%, teacher feedback 41%, report back 23%, group discussions 82%, and peer learning 77%.

6. Discussions

The data revealed varying degrees of technology integration in accounting education, with significant preferences for digital tools (Onyema, 2020). Online Projector Board Teaching was the most utilized method at 99%, followed by Tablets at 97% and Microsoft Teams at 94% (Das, 2024). However, traditional methods such as chalkboards (55%) and textbooks (70%) remained common, indicating resistance to digital transformation (Oyinloye, 2022). The findings highlighted critical gaps in resources, teacher preparedness, and technological accessibility (Starkey, 2020). 94% of schools lacked projector boards, limiting educators' ability to present complex concepts effectively. Approximately 53% of teachers reported insufficient knowledge of online teaching methodologies, emphasizing the need for professional development (Sangster, Stoner, & Flood, 2020). Connectivity issues further complicated the landscape, with 90% of teachers experiencing online connectivity challenges. Effective teaching strategies emerged, with WhatsApp groups and individual discussions favored by 94% of participants (Nkomo, Daniel, & Butson, 2021). Adapting teaching strategies to incorporate interactive communication tools is essential for enhancing student satisfaction and improving learning outcomes in accounting education.

7. Conclusion

In conclusion, the qualitative study underlined the importance of effectively integrating technology into Grade 10 accounting education. While many teachers adopted blended learning approaches that enhanced student engagement and critical thinking, significant challenges persisted, including inadequate training, technical difficulties, and limited access to resources. These barriers not only affected educators but also created disparities in students' technological proficiency and access to devices. To address these issues, the study recommends ongoing professional development for teachers, improved resource allocation, and the establishment of collaborative learning communities. Additionally, enhancing students' technological skills and updating the curriculum to emphasize digital literacy are essential for successful technology integration in accounting education.

8. Recommendations

The study recommends implementing ongoing professional development programs specifically designed for accounting teachers to enhance their technological skills. It emphasizes the importance of prioritizing resource allocation to improve access to technology for both educators and students. Establishing collaborative learning communities among teachers is also suggested to foster shared experiences and strategies. Additionally, training programs should be developed for students to improve their technological proficiency. Updating the curriculum to emphasize digital literacy and creating robust support systems for addressing technical issues are essential steps. Future research should investigate the long-term effects of technology integration on student performance and identify effective practices for teacher development.

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