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EXAMINING THE IDEAL 21ST CENTURY TECHNOLOGY APPLICATIONS USED BY ACCOUNTING TEACHERS TO TEACH ACCOUNTING: VOICES OF THE EASTERN CAPE TEACHERS

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ABSTRACT

In this study the researchers have investigated 21st century technology applications that can be used by accounting teachers when teachers' accounting are in their classroom. The researchers used a case study research design in conjunction with a qualitative approach to achieve this goal. The researchers employed semi-structured interviews to collect data from accounting teachers. The researchers prepare an interview guide for these interviews to make sure that the teachers answer the questions correctly. The researchers chose six teachers using convenient and purposefully sampling methods. In the convenient sampling method, the researcher looks at the fact that it was convenient to access these teachers all their time of participation in the study. For purposeful sampling the researcher looked at the fact that these teachers have the knowledge of the study being investigated. The results showed that, in the 21st century, teachers lack awareness understanding of the available technology applications that can be used in the classroom. The results further reveal that only the young teachers who are willing to make use of the available applications to improve the teaching of accounting but provided they have been workshop. Another result shows that technology must be used in tracking the changes to be implemented in accounting classroom. The researchers recommend that online discussion forums need to be open, to help the teachers on how to use available applications to improve the teaching of accounting. Formation of partnerships with network companies to assist with connectivity since these applications need network when they are used. The researchers recommended that barriers to technology adoption beyond connectivity e.g. infrastructures and skills of the teachers be improved.

Keywords: 21st century, technology applications, accounting and teachers, teachers training and technology integration

INTRODUCTION AND BACKGROUND

Teaching accounting in the twenty-first century should enable students to recognize the normative foundations of all economic theory and put the discipline cognitively along a long historical timeline (Michell, 2023). This means that it should inspire students to question the rigid, hard-science-like mindsets of outdated ideas, paving the way for new, pluriversal models that more accurately reflect our warming planet. However, according to Dutt and Kvangraven (2023), sophisticated, flexible, and dynamic frameworks that take into consideration a variety of situations are the only ways to address global concerns like climate change. According to Moreeng (2009), teaching accounting involves intricate interactions between teachers, students, and classroom assignments. However, Coe, Aloisi, Higgins, and Major (2014) argued that effective accounting instruction improves students' performance by

utilizing outcomes that are important to their future success and advancement. Furthermore, according to Suleman (2012), successful and productive learning in accounting classrooms depends on the caliber of instruction, which calls for academically qualified teachers who are concerned about the welfare of children and young people. However, Pia (2015) emphasized that the teaching-learning process is a deliberate engagement that encourages behavioral change. However, Thomas (2021) shows that Western knowledge systems, based on erroneous presumptions about human nature and comparative advantage, predominate in accounting courses. But according to Thomas (2021), Western knowledge systems that are based on erroneous presumptions about human nature, comparative advantage, and the causes of inequality predominate in accounting curriculum. According to Sharma (2016), to improve productivity and make life easier, accounting education in the twenty-first century needs to be supplemented by contemporary technology applications. Sharma (2016) goes on to say that the usage of contemporary technology in accounting classrooms helps both the instructor, and the students gain a deeper knowledge because they can see how other individuals across the world are doing in accounting.

Since technology is now a part of everyday life in modern civilization and will always be seen as a "prime mover" in history, teachers who employ it inspire their students. It is crucial for 21st-century education that educators adopt new technology and use them in the classroom. In the twenty-first century, technology use is a crucial kind of education, and educators should be familiar with it. The physical presence of the teacher in the classroom is no longer necessary for learning thanks to 21st-century technologies. According to Poole, Sky-McIlvain, and Evans (2009), learning occurs anywhere and at any time, and content is accessible through a variety of media. According to Maphosa and Mashau (2014), students that take part in computer-connected learning networks exhibit higher levels of motivation, a better comprehension of topics, and a greater desire to take on challenging problems. By working together and solving problems, this guarantees improved cognitive learning. Therefore, a teacher in the twenty-first century should be able to use learning management systems (LMS) to encourage students to learn more deeply. This demonstrates that learning for its own sake should not be prioritized in school. As a result, both students and educators need to understand how teaching frequently serves as a means of reproducing preexisting power hierarchies. Considering this, the researchers set out to investigate the best 21st-century digital tools utilized by accounting instructors in South Africa's Eastern Cape Province.

OBJECTIVES

The study was guided by the following objectives:

- To examine what 21st century technology applications that are used to teach accounting effectively
- To investigate what can be done to make accounting teachers ready to use the available technology applications in their classrooms

LITERATURE REVIEW

Nearpod

Teachers can design dynamic, interesting lessons for their students with Nearpod, a potent educational technology tool (Hakimi, 2020). This means that when accounting professors utilize Nearpod, they can quickly develop and present captivating, multimedia-rich lectures using 3D models and simulations, monitor students' comprehension in real time, and offer formative feedback to make sure every student is actively participating in the learning process. But according to Daniela, Visvizi, Gutiérrez-Braojos, and Lytras (2018), Nearpod is a crucial tool for educators in the twenty-first century and offers a distinctive, captivating method for educators to engage with their students. Teachers should create learning activities that rely on students' personal devices and encourage students to participate in them, when necessary, to boost student interactions (Santos & Boheco, 2017).

Google Classroom

Google Classroom is integrated with Google Drive for storing and sharing files for assignments, Google Docs for word processing, Google Sheets for spreadsheets, Google Slides for presentations, Google email for communication, and Google Calendar for setting deadlines (Nancy, Parimala and Livingston, 2020). As a result, Google Classroom is simple to use for educators and students who are familiar with Google Docs (Ugla and Abdullah, 2022). Many educators and students may not be familiar with the HTML-enabled textbox used by other LMSs (Asamoah and Oheneba Sakyi, 2023). The most popular learning management system among teachers who work in institutions without advanced LMSs like Moodle or Blackboard is Google Classroom, according to Khairani, Daud, and Mahdum (2020). Google Classroom is popular among educators because of its simplicity of use, minimal computer storage memory requirements, and capacity to assist teachers and students in meeting learning objectives (Octaberlina and Muslimin, 2020). Unlike other complex LMSs like Moodle, Google Classroom's features are easy to use (Goyal, Khaliq, and Vaney, 2023). Google Classroom is regarded by educators and learners as a user-friendly educational resource (Ugla and Abdullah, 2022).

Quizlet

Teachers can create educational resources using the Quizlet app, a free website (Hoffman, 2019; Robertson, 2020). Additionally, Quizlet can be used, organized, and improved to enhance students' performance in any subject (Wang & Lee, 2022). Additionally, the Quizlet app can be used to create games and learning strategies in flashcard mode with descriptions and matching answers (Meier, 2020). Additionally, Quizlet app development makes it easier for students to engage in online learning activities. Students must be able to comprehend the lessons taught by the instructor using the Quizlet app during the learning process. Thus, it can be used to ascertain how students feel and think when utilizing the Quizlet app. Correct and good vocabulary is one of the many tasks assigned by the teacher that require a great deal of interest and effort when using the Quizlet application. Technology is currently developing at a very quick pace, and learners benefit greatly from these developments, particularly in the field of education (Epelle & Gerogiorgis, 2020). With the aid of this Quizlet app, students are more actively involved in their education. Online learning should not just take the place of traditional learning because it offers numerous benefits. This software encourages students to improve their intellect and practice speaking, listening, writing, and reading.

Kahoot

Kahoot is a new, user-friendly game-based learning tool that has gained popularity in educational settings. Teachers can create multiple-choice tests, surveys, polls, jumble, and discussions using this interactive game-based learning platform, allowing students to interact and challenge one another. At the conclusion of the game session, the top scorer or overall winner will be shown on a scoreboard (Ismail et al., 2019). In recent years, there has been a surge in the incorporation and modification of interactive game-based applications in educational settings. By their very nature, game-based applications make it easier to impose pertinent technology-enhanced teaching strategies to enhance students' motivation, engagement, and overall learning experiences (Chaiyo & Nokham, 2017). Teachers must design learning settings that give students meaningful opportunity to experiment and enjoy learning utilizing a variety of technology devices and game-based learning applications because modern learners are adept at using these tools. Because it is more effective than traditional teaching techniques, game-based learning has become more popular in the educational community. Using games to improve student learning is known as game-based learning.

Baamboozle

Teachers can construct interactive quiz questions using the game-based program Baamboozle. A point system to encourage learners, a visually appealing presentation, and the ability to divide questions according to difficulty level are all elements of this program that may be tailored to meet learning needs (Sari et al., 2018). Because of the more laid-back and competitive environment this gamification technique creates, students can complete the test without feeling anxious (Durrani et al., 2022). This school is well-known for fusing Islamic religious instruction with contemporary methods, such as utilizing digital technologies. According to the teacher's directions, students can take quizzes directly in class or at home using gadgets like laptops or cell phones (Ramdani et al., 2023). Using Baamboozle not only increases student engagement but also improves educators. Depending on the competencies to be assessed, teachers can use this application to design a variety of questions, including multiple choice, short answer, and fill-in-the-blank. Additionally, the use of Baamboozle aligns with 21st century learning principles, which highlight the significance of technological proficiency, critical thinking abilities, teamwork, and creativity. In addition to being tested on their comprehension of the course material, assessments created with Baamboozle also educate students how to think rapidly, collaborate in groups, and approach challenges appropriately.

METHODOLOGY

The interpretive paradigm, which emphasizes comprehending people's subjective meanings and lived experiences within their particular social contexts, served as the foundation for the study (Pervin & Mokhtar, 2022). According to this paradigm, participants and the researcher jointly develop knowledge, and reality is socially constructed (Denzin & Lincoln, 2011). The interpretive paradigm was relevant because the study's goal was to investigate the best 21st-century digital applications that accounting instructors utilize to teach accounting. It made it possible to gain deep, contextually relevant insights into the attitudes and behaviors of participants. The intricate, context-dependent experiences of accounting professors were examined using a qualitative research methodology. This method attempted to evaluate

participants' viewpoints in their natural environments and gave rich, descriptive data precedence over quantification (Creswell, 2012). Because the study's goal was to identify the best 21st-century technological tools that accounting instructors could utilize to teach accounting. In-depth, nuanced understanding of the best 21st-century technological apps utilized by accounting instructors to teach accounting was produced via the qualitative technique. The study used a generic qualitative design, which does not rigorously adhere to any one qualitative tradition, such as phenomenology or grounded theory, but instead draws widely from interpretive approaches (Percy et al., 2015). This approach was appropriate because the study's goal was to investigate, characterize, and analyze the best 21st-century technological applications to teach accounting in the classroom rather than to produce theory or explain lived occurrences in a phenomenological sense. Because of the design's flexibility in data collecting and analysis, the researcher was able to fully meet the exploratory goals of the study. To choose people with certain, pertinent traits required for the study, a purposive sampling strategy was used. This non-random, criterion-based sampling guaranteed that information was collected from informed people whose backgrounds matched the instructional leadership research objective. A flexible, guided style for semi-structured interviews allows participants to explain their experiences in their own terms while allowing the researcher to explore for clarification and a deeper understanding (Morse, 2015).

Presentation of Data

21st century technology applications that can be used to teach accounting effectively

The first question that was asked by the researchers was about the 21st century technology applications that are used to teach accounting effectively. When the participants were responding to this question it was clear that accounting teachers do not have any clue about the available technological applications that can be used in the teaching of accounting. Moreover, the researcher have also noted that accounting teachers are interested in knowing what applications are available and how they can be used to teach accounting.

Teacher 1: Stated that *“I will be honest to you, I don’t know any technological applications that are available or can be used in the teaching accounting. However, if there are any technological applications that are available in the teaching of accounting, I am very willing to use them.”*

Teacher 2: added that *“The only technology application I use is what’s app, even that one I only used it to communicate with my learners nothing else. But I believe the are applications that can be used to teach any subject, but if what are those applications and how they work, it doesn’t have any information”*

Teacher 3 confirms that *“Let me tell you something, I am studying with another university, in one of the lectures, I was introduced to various technological applications that can be used to support my learners in the classroom. But I have never tried them in my classroom”*

Teacher 4: opine that *“In my classroom I don’t use any technological applications, but I know there are many applications that can be used in supporting teaching and learning. At the same time, if I can be workshopped about these applications I can use them in my classes,*

because our learners have smart phones which will make the use of those applications very easy”

What needs to be done to make accounting teachers ready to use technology applications in their classrooms

The second question that was asked by accounting teachers was about what can be done to make accounting teachers ready to use available technology applications in their classrooms. In this question it was clear that teachers are ready to use this application, but they need to workshop on how they work. Moreover, it was also mentioned that there is a big gap between information technology (ICT) offices located in the district office and the servicing of teachers in their school.

Teacher 1 revealed that *“The first thing that needs to be done is to make sure that the ICT office in the district office is servicing teachers in their school. I have noticed that these officials working in that department don’t do anything about servicing teachers.*

Teacher 2 stated that *“We can only be able to use them only if we can be workshopped by the ICT officials, otherwise we are ready to use them”*

Teacher 3 added that, *“If we can encourage to make use of those applications I am telling you we can use them since our learners they already have smart phone which are needed to use those applications”*

Teacher 4 added that *“The first point is to ask the ICT officials in the district office to service teachers in their school. Another strategy is to supply schools with ITC resources like whiteboards, boards, and projectors since all teachers were given laptops”*

DISCUSSION OF FINDINGS

In this study the researchers will discuss the findings of the study according to the objectives of the study which were derived from the hidden sub-research questions of the study.

21st century technology applications that can be used to teach accounting effectively

According to the survey, instructors in the twenty-first century are not aware of or knowledgeable about the various technological tools that can be utilized in the classroom. These results unequivocally demonstrate a disconnect between the information technology officials who are supposed to assist teachers with all matters pertaining to technological growth. Teachers' jobs are made easier when they have access to innovative technology information since they can use it in the classroom. This result contradicts the views of Sharma (2016), who contends that to improve productivity and ease of life, accounting education in the twenty-first century must be bolstered by contemporary technological applications. This implies that when educators are knowledgeable of how to use 21st-century tools, students are better able to understand how these tools can benefit their education. This demonstrates how teachers' ignorance of this application has a detrimental effect on the standard of instruction they provide in their classrooms. Teachers need to be conversant with apps like Nearpod, Baamboozle, Kahoot, Quizlet, and Google Classrooms to possess 21st century skills. Because it allows both educators and students to design 21st-century

classrooms, this program aids educators in making teaching and learning innovative. This app can be used by educators to enhance their classroom instruction. By opening quizzes, tests, and gamifications that students can complete at home in accordance with the teacher's instructions, students who use these programs in the classroom continue to learn even outside of the classroom (Ramdani et al., 2023). These results show that, even though the field of accounting is growing and educators must develop students with the skills required by a world that is constantly changing, little was done by educators to ensure that accounting education met the demands of the twenty-first century, which is marked by the constant use of technology. Motaghian, Hassanzadeh, and Moghadm (2013) argue that the use of technology in accounting classrooms has been identified as an important feature and an innovative way of providing quality education through web-based communication, collaboration, multimedia, knowledge transfer, and training to support active learning unhindered by time and space barriers. They also support the use of available applications in the classroom to improve teaching and learning.

What needs to be done to make accounting teachers ready to use technology applications in their classrooms

The study also shows that while some accounting instructors are prepared to use the available technological tools to teach accounting, all of them must be given the opportunity to participate in training on how these tools operate. Furthermore, these results indicate that much work must be done to ensure that educators are knowledgeable about the latest technical tools and how to apply them in the classroom. It should be mentioned, though, that while some schools in South Africa's Eastern Cape Province have computers, most of them are not used. This is further corroborated by the Daily Dispatch newspaper's 2019 report that some devices are lost or stolen because of inadequate security in schools, and schools within the same education district are finding it difficult to maintain their technology to stay up to date with current global trends.

According to Dahawy, Tooma, and Kamel (2014), teaching methods in courses like accounting have rapidly altered over a relatively short period of time because of technology globally. This has an impact on how teachers teach when they are not prepared to employ digital applications. However, this enables teachers to access and utilize the state-of-the-art materials in their classrooms once they are prepared to employ them. Furthermore, when educators lack the necessary training to utilize these tools, they are forced to rely solely on information found in textbooks and study guides, which restricts their and students' options. But as a result, the integration of technological applications into the teaching and learning process is getting better, and both educators and students can use these applications to go beyond the boundaries and obtain all the knowledge they require. The study also demonstrates the urgent need to bridge the communication gap between district office-based information communication technology officials and teachers to prepare them for the use of these applications. These authorities are supposed to assist teachers with ICT-related matters, but this isn't occurring as they haven't planned any events to train instructors in how to implement the new, cutting-edge teaching techniques in their classrooms. Additionally, relationships with networking firms, academic institutions, and the businesses that provide these applications to support teachers locally must be established to prepare instructors for the usage of the available technology applications. This will enable educators to be prepared to always employ all these tools in the classroom.

CONCLUSION

The optimal 21st century technology tools that accounting instructors utilize to teach accounting were examined in this study. In order to achieve this, the study concentrated on South African high schools in the Eastern Cape province. Based on the research findings from the study's two research objectives, the researcher draws this conclusion. Since the curriculum for the courses taught by teachers is evolving and requires them to use technology, the district office officials tasked with assisting teachers with all aspects of technology must fulfill their duties. However, the Eastern Cape's Department of Education's ICT department must recognize that teachers must receive comprehensive training regarding their e-learning readiness to effectively use the available technology applications in any classroom. This is because teachers' knowledge, skills, and expertise are what can help with the use of these applications. The study also concludes that, from the teachers' point of view, all phases of capacitation—from providing school infrastructure to upskilling educators—must occur right now. Additionally, the online discussion forum must be accessible so that educators can offer suggestions for how these technological tools might be utilized in the classroom. Since these apps aid in providing high-quality education, particularly in classrooms of the twenty-first century, young educators should be encouraged to use them.

RECOMMENDATIONS

The objectives and achievements of the educational system in the twenty-first century are different from those of the previous century. The current objective is to help students develop critical thinking and self-learning skills so they may become self-sufficient learners and lifelong learners. Therefore, the best way to change educational practices in all of South Africa's provinces is to deploy 21st century applications in the classroom with instructors who have received the necessary training. In order to support teachers by keeping them informed on how to use ICTs in the classroom, the researcher suggests that district-level ICT administrators create educational platforms at the cluster level. The Eastern Cape Department of Education must build connections or partnerships with nearby universities so that their specialists may advise instructors on how to use e-learning in the classroom. Another suggestion is that all classrooms, not just those used to teach accounting, be remodeled to accommodate e-learning. This is because it is useless to give teachers laptops if they are unable to use them because of power outages, damaged outlets or plug points, etc. Additionally, the study suggests encouraging educators to take charge of enhancing their skill sets, especially in ICT-related areas, by enrolling in short courses.

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