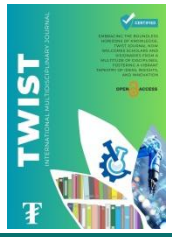
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Integration Techniques of ICT in the Teaching and Learning of Social Sciences in the Intermediate Phase

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Abstract
South Africa, as a developing country, is also seen to be persevering in integrating Information and Communication Technology (ICT) into education across various curricula. Unfortunately, there are limited studies that have explored this in association with the Social Sciences (SS) subject in the country. Evidence shows the country is lagging, with only two of the nine provinces showing satisfactory progress in the adoption of ICT in teaching and learning. Hence, this qualitative case study, guided by the Diffusion of Innovations Theory (DOI), aimed to explore SS teachers' experiences with integrating ICT into their teaching practices. Data collection was conducted through interviews and observations of six teachers from three schools in the Motheo District, Bloemfontein. Findings highlight that the majority of teachers are using technology for the teaching and learning of SS in diverse ways, such as lesson preparation, lesson presentation, homework, research, and assessment. It therefore concludes that continued adoption of ICT is highly likely and calls on the government, teachers, and policymakers to each take the initiative to advance education through technology.

Keywords
ICT, integration, social sciences, technology

INTRODUCTION

Technology in education is a growing and useful trend that is driving paradigm shifts for practitioners and providing learners with a long-lasting educational experience. Learners are exposed to a vast array of information, which makes their learning more meaningful and easier. For example, it has been shown that social media can be a powerful learning tool if used correctly (Meintjies, 2021; Mtshali, 2023). Clearly, if South Africa can invest generously in developing a more technologically advanced education system, it can produce not only tech-savvy learners but also ones that are relatable to the rest of the world. Additionally, it can see a reduction in inequality gaps present between rural and urban communities in the country (Mkuzo & Govender, 2025). As such, the National Education policies developed by Angola, Zimbabwe, and South Africa assume that no student will be left unaccommodated in the integration of ICT into the education system, as explained by Mathende and Beach (2022).

Fortunately, this country refuses to be left behind in this innovation, having introduced policies to support this trend. The history of the ICT policy in South Africa dates back to 2004. According to Isaacs (2007), the first government policy on e-Education to be accepted as official was titled *'Transforming Learning and Teaching through Information and Communication Technologies',* with the goal of producing technologically capable learners by 2013. A new e-Education strategy emerged in 2013, informed by the 2004 paper that described collaborations between MTN SA and Mindset Networks to promote technology adoption in education (Mathende & Beach, 2022). Moreover, in 2015, the government launched a 17-billion-rand project providing each learner with a tablet in seven schools, which were also furnished with internet connections.

There is no doubt that ICT enhances learning experiences because, for example, it provides fast, accurate feedback to learners (Das, 2019) and routine check-ins (Mdhlalose & Mlambo, 2023), enabling them to improve at an accelerated pace. Furthermore, ICT promotes personalised learning, allowing teachers to create lessons that suit each learner's learning style (Das, 2019), such as auditory or visual. In addition, technology encourages motivational engagement (Carlos et al., 2022) by providing learners with an active source of knowledge through pictures, demonstrations, simulations, and the like (Abdulrahaman et al., 2020); moreover, technological advances in education lead to the development of technological skills. According to Das (2019), when learners are technologically advanced, they are prepared for a highly digitalised workforce, making them compatible with the rest of the world (Afari et al., 2023). Improved communication and resources are undeniably another significant positive result of technology in education, as increased collaboration among learners and teachers is reported by Carlos et al. (2022) and Das (2019). In addition, Das (2019) highlighted improvements in administration resulting from technology integration in education. In South Africa, schools have SASAMS as an example of administrative innovation enabled by technology.

Therefore, with all the benefits of ICT integration in education, studies must continue to explore this phenomenon until the desired integration levels are achieved. With South Africa already having policies in place to support ICT adoption, it is clear that this implementation cannot be ignored if we do not want an outdated and irrelevant education system.

Reportedly, two departments showing sophistication in technology integration are the Western Cape Education Department (WCED), which developed smart classrooms in 2021 and the Gauteng Department of Education (GDE), which provides tablets to learners and prioritising teacher training (Mathende & Beach, 2022). It is concerning that only two provinces show this trend, considering that SA has a total of nine provinces. Furthermore, there is limited evidence on the integration of technology into Social Sciences (SS) classrooms in SA. Studies that have been conducted highlight integration techniques; however, these studies either focused on other subjects or were not from South Africa. For example, Nkosi and Ramaligela (2025) focused on the Technology subject and showed that teachers used ICT for lesson presentations, such as YouTube videos and PowerPoint (PPT) slides. Aladejebi (2023) focused on Social Studies in Nigeria and reported that teachers used maps, animations, audiovisuals, slides, and the internet to access learning materials. Considering the above, it is important to examine this closely; hence, this study aimed to investigate SS teachers' experiences in the South African context regarding the integration of ICT into their teaching.

RQ - *How are SS teachers integrating ICT in their teaching and learning in the intermediate phase?*

By exploring how teachers are integrating ICT in SS, this study contributes meaningfully to an ongoing discourse on ICT integration in education, closes the gap left by limited studies on this phenomenon in SS, and aims to encourage paradigm shifts and inform education policy. The subsequent parts of this article include a literature review, theoretical framework, methodology, findings, discussion, and conclusion.

LITERATURE REVIEW

ICT integration in the classroom

Mhlongo et al. (2023) report on the various ways in which ICT is integrated into the classroom. Firstly, there is the use of the internet, which allows human-to-human and smartphone-to-smartphone connections and assists teachers in presenting their content. Secondly, interactive whiteboards (IWBs) are used to display teachers' lesson presentations, moving away from traditional chalkboard and chalk methods, which promote interaction and engagement among learners. In addition, there are virtual (VR), augmented (AR) and mixed realities (MR) that further add an interesting and engaging learning environment for learners (Verhey et al., 2020). VR immerses the user in an artificial world generated by a computer through a head-mounted display. At the same time, AR presents computer-generated objects or information on real-life surfaces or environments, for example, Google Glass. Then, "MR is a digital display overlay combined with interactive projected holograms" (Mhlongo et al., 2023), an example includes fragments. These realities enhance conceptual understanding.

Ways of Integrating ICT in Social Sciences

The integration of ICT in the SS classroom can be observed through various techniques, depending on each school's infrastructure. Bariham (2019) found that teachers used videos and DVDs in their SS lessons. This could include presenting concepts to learners, exposing them to diverse viewpoints, and even playing educational movies, such as snippets of past events. Atubi (2022) emphasised the internet, social media, computers, and PPT presentations as substitutes for the SS textbook. Moreover, Bariham (2020) reported that mobile phones and the internet were popular technological tools utilised by learners and teachers in his study; this allowed learners to explore online content that could further explain complex concepts or introduce them to new ideas. Furthermore, several reports have shown that learners use smartphones and the internet for research when they have projects to complete.

Level of ICT integration in South African schools

The South African education system has long been challenged by inequalities (Mkuzo & Govender, 2025), from the time of Apartheid, when the quality of education was determined by racial class, with the existence of Bantu education

designated for the African group, to the present, where we witness post-Apartheid inequalities. Without a doubt, the government has been working tirelessly to address educational issues; the onset of ICT in education has widened the gap that the government must address (Chomunorwa et al., 2023). Even so, the country is persevering relentlessly towards joining the trend.

Various scholars have assessed the progress of technology integration in education in South Africa. It has been found that the effective use of ICT by teachers and learners is marked by a wide gap (Enaifoghe et al., 2021). These scholars state that there was little evidence regarding the integration of ICT into South African schools' classroom activities, as well as the acceptance and impact of technological advancements in the education sector. Ohei et al. (2023) also pointed out the failure of the government to meet the 2013 deadline outlined by the White Paper of 2004 on e-learning, of producing ICT competent learners and teachers. In light of these reports, it may seem as though South Africa is not making much progress in ICT integration, especially since Mulaudzi (2024) also posits that South Africa is still far behind in achieving digital equity in education.

These failures can be associated with several reasons, as previously reported by researchers. Even though the government has designed an ICT-relevant curriculum and ensured provision of technological resources to a particular extent, challenges such as lack of ICT skills, lack of infrastructure, poor ICT support, and lack of efficacy leading to negative attitudes are still plaguing this process, as found by Chimunorwa et al. (2023) and Ohei et al. (2023). In addition, Ohei et al. (2023) found that, unlike other education-related goals, South Africa has not given sufficient priority to integrating ICT into education. Moreover, teachers also lack guidance due to the lack of ICT policies in schools (Molotsi, 2022). Clearly, then, for the progress of ICT integration to be witnessed, these reasons must be addressed.

However, it is promising that South Africa is at the very top of the list of emerging economies in Africa. It can be argued that its education system must be doing something right, and that the progress in ICT integration might not be as good as expected. Baako and Abroampa (2023) conducted a bibliometric analysis of ICT integration in education on a global scale, examining trends, author prominence, and institutional contributions. Interestingly, South Africa was found to be the leading country in Africa, followed by Nigeria and Morocco. This was after the analysis revealed 33 publications and 143 citations on ICT in education, indicating great potential in the field. Similarly, Odunga's (2024) literature review on ICT in rural sub-Saharan Africa shows that most studies on ICT integration were conducted in South Africa.

This review shows that ICT can be integrated in different ways to achieve educational outcomes. In SS, specifically, videos, mobile devices and the internet are the most popular. However, SA still has a long way to go in education technology. This review made it clear that, although the integration of ICT in education has been explored in South Africa, there is no empirical evidence on SS teachers' experiences with integrating technology. Therefore, this study seeks to address this gap.

THEORETICAL FRAMEWORK

The Diffusion of Innovation (DOI) theory focuses on understanding the mechanics of the spread of novel ideas. According to Rogers (2003), any object, idea, or practice that is viewed as new by potential adopters in a social system, and that may present advancements relative to the previous idea, object, or practice, can be referred to as an innovation. For example, a recently launched cell phone brand that offers features no other brand possesses would be classified as an innovation. Diffusion is the communication of such an innovation within a target context. The decision to eventually adopt or follow these innovations is what is considered adoption. These concepts are the cornerstone of this popular multidisciplinary theory of novel idea-dissemination.

Rogers (2003) presents five factors that influence adoption. Firstly, relative advantage, which concerns how advantageous the innovation is relative to the prior idea, suggests that if an innovation is better than the prior one, potential adopters are more likely to adopt it. Secondly, compatibility suggests that the innovation's ability to align with the values and needs of potential adopters and to mitigate existing challenges increases its chances of adoption. Thirdly, complexity is concerned with ease of use and ease of understanding, and it states that if potential adopters can easily understand or use the innovation, they are most likely to adopt. Fourth, is an innovation's trialability, the ability to test or preview before initial adoption. Finally, an innovation's observability suggests that the results or impacts must be visible to potential adopters for successful integration.

The DOI theory is invaluable to this study as we seek to uncover SS teachers' experiences with adopting technology in their teaching and learning practices. Trialability is compatible for this undertaking because it can be concluded that the SS are still at the trial stage of ICT integration, given the low levels of adoption reported in the country. Trialability is defined by Rogers (2003) as the degree to which new ideas are tried or experimented with before full exposure and utilisation. Therefore, the study investigates the practices of SS teachers during this trial stage. If teachers can indeed use technology in education, it passes the trialability test, which may eventually lead to continued and official integration.

METHODOLOGY

The interpretivist perspective was chosen because the researcher intended to gain an understanding by exploring participants' experiences with the integration of ICT into the teaching and learning of SS. The approach followed a qualitative method, as the study involved exploring a phenomenon in its natural setting (Creswell, 2013). Due to its

flexibility in data collection tools, which allow for triangulation (Clough & Nutbrown, 2012) and the researcher's intent to engage with participants in their natural environment, the design was a case study. Data were collected through 30-50-minute interviews and 40-50-minute classroom observations from three quintile five schools in Bloemfontein, in the Motheo District. Their popularity informed the decision to use interviews as a data-gathering tool in qualitative studies. In addition, the researcher was interested in collecting highly personalised data, and semi-structured interviews specifically allow this, as well as for the researcher to improvise and probe during the discussion (Zhang & Wildemuth, 2016). The observations were chosen because the researcher wished to gain a deeper understanding of the phenomenon and to triangulate data from interviews.

The schools were chosen because the researcher believed they would be in a more advantageous ICT infrastructure position to help answer the research question. The criterion for selecting participants was that they must be qualified teachers teaching intermediate phase SS with at least 3 years of teaching experience. The existence of this criterion required that the selection be purposive through non-probability sampling. The selection of teachers based on the number of teaching experiences was grounded in the idea that they should be more knowledgeable about the teaching and learning dynamics of the subject and, therefore, produce rich data. The participants are named according to the school they belong to and the sequence of participation (A1, A2, B1, B2, C1, C2). For example, B1= Participant 1 in school B.

The data were thereafter analysed using thematic analysis to extract themes or patterns (Braun & Clarke, 2019). The first step was data familiarisation, during which the researcher engaged in depth with the data to notice any patterns and take notes. Then code generation followed, wherein patterns were connected and labelled, and excess or unnecessary data was discarded. Based on the research question, the codes were then organised into themes. From there, theme revision and definition took place, which basically entailed editing. Finally, the report was produced. Thereafter, member checking was used to ensure data credibility, including the compilation of transcripts and their subsequent distribution to relevant participants to confirm their contributions, as explained by Varpio et al. (2017). To protect participants and their contributions, each participant was provided with consent forms that outlined the study and how their contributions would be protected. Anonymity was prioritised by ensuring participants' identities were not revealed to third parties, and by assigning pseudonyms. In addition, the researcher applied for ethical clearance (Clearance number: UFS-HSD2024/2068) from the University of the Free State, which was granted to the school to proceed with data generation.

Demographics of teachers

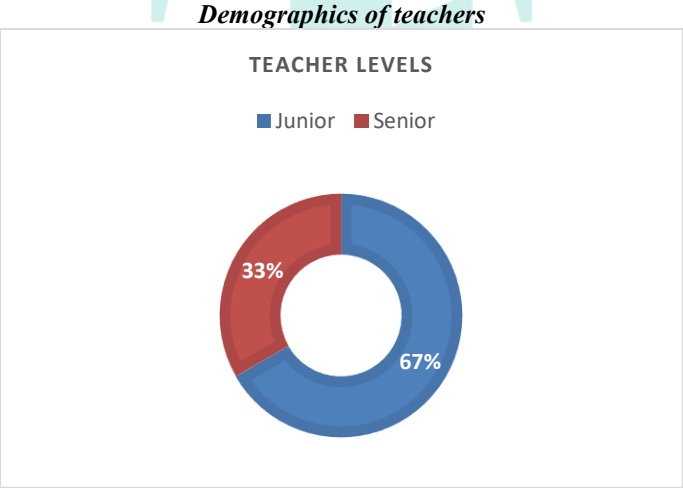


Fig. 1 Teachers' teaching experience levels

Fig. 1 shows the different levels of teachers based on their teaching experience. The majority of the teachers are still junior teachers with less than 5 years of teaching experience. On the other hand, only two of the teachers were at a senior level, with one having 11 years and the other having 15 years of experience.

FINDINGS

This enquiry explored the research question "How are Social Sciences teachers integrating ICT into their teaching and learning in the intermediate phase?" Data were collected through semi-structured interviews and observations, from which data were then thematically analysed. The researcher reported findings on the following main themes: lesson preparation, lesson presentation, homework/research/assignment, and assessment.

Lesson preparation

The participants were asked to comment on their experiences of their use of ICT for lesson preparations, and their responses produced two themes, namely lesson plans and content research, which were invaluable in painting a clear picture of SS teachers' integration practices.

Lesson plans

Technology was found to assist in optimising teachers' preparation for SS lessons, such as drafting lesson plans on computers and creating PPT slides. A similar finding was reported by Abedi (2023), who found that teachers used

technology for lesson planning and instructional material development. For example, A1 stated, *"But I will prepare my lesson or any other thing that I want to share with the kids",* suggesting that other than lesson plans, there were other things she prepared for using technology, which could include PPT presentations. A more detailed response from B1 said: *"I type my lesson plans using my laptop, prepare a PowerPoint presentation for grade 6 learners when the lesson requires debate".* Similarly, B2 added, *"We use Word document to prepare weekly lessons. There's a format that the school gives us. And then we sometimes use, I would make presentations for the learners for a certain topic.*"
C1 stated, *"I do use it to create my lesson plans"*, while C2 mentioned, *"Yeah, so preparation using my laptop to prepare slides".* Almost all participants acknowledged the role of ICT in their lesson plan preparation and PPT presentations.

Content research

As teachers prepare for their lessons, technology also helps them access relevant, up-to-date information and resources they need. Often, textbooks are limited and lack videos, and sometimes teachers themselves have limited knowledge of one of the two disciplines that make up the subject. ICT resolves this by providing access to ample amounts of information and visuals. A2 stated, *"Let's say, for instance, like we're talking about the volcanoes and the earthquakes. When you are preparing and when you are accessing information, it normally refers you to, if you want to, ~ say, give an enrichment worksheet or something, it always refers you to...you know, the next resource, the next resource, just like that.*"

This participant recognises how one search can lead to various other sources of information available on the internet. B2 added, *"I also use Google when I'm looking for maps, physical features, or freedom fighters, or national symbols from other countries because we don't have many posters in our classes".* The participant demonstrates that she can identify visuals to use in SS lessons to enhance understanding. In addition, teachers use technology to address content knowledge gaps. Sometimes teachers are more knowledgeable in only one of the two disciplines that make up the subject, and not the other. For example, C1 voiced, *"I watch videos of or on topics that I'm going to present so that I have a better understanding and I'm prepared for questions that I might get because I know that in classes we have smart kids that can ask you any question at any time and if you don't know that question I believe that it puts a question mark in your learners because they're like, how is it that the teacher doesn't understand or know this?"*
This participant emphasised that they were strong in only one of the two disciplines, as the subject they did in high school, which required them to go an extra mile in the preparation of the other discipline.
Overall, in this way, teachers gain access to up-to-date information and instructional resources, as reported by Abedi (2023), which might not be available from textbooks, which are often outdated. This was evident in C1's lesson observation, who had a laptop in class displaying a picture of a weather map she had prepared for learners, as shown in Fig. 2 below, aligning with the postulation that carefully planning instructional tasks and activities is imperative for technology integration, such as developing quizzes beforehand (Ramaila & Molwele, 2022).

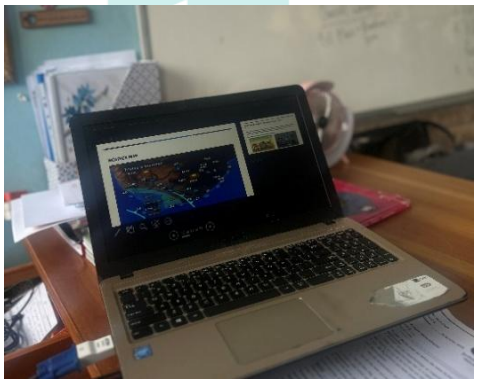


Fig. 2 Laptop screen

Based on this finding, the teachers are actively experimenting with technology in their SS lessons. This experimentation suggests that teachers are more likely to officially integrate ICT into their teaching practices, as Rogers (2003) postulated regarding the 'trialability' factor.

Lesson presentation

Content projection

The participants utilised technology to present their SS lesson through PPT slides, a video show, and images (as shown in Fig. 2), including social media platforms such as TikTok. This concept of videos was also reported by Bariham (2019) as one of the lesson presentation strategies used by teachers. In addition, Atubi (2022) shared a similar finding on the growing use of social media platforms for teaching. A1 mentioned, *"So I try my level best to incorporate the pictures and videos, or whether it's TikTok, if there is something good that has to do with learning for them, because like I indicated earlier, our kids learn through fun, technology.*"
C1 also stated, *"Like with my PowerPoints, because mostly I use my laptop to project the work for them and sometimes I do show them a video, but the disadvantage of using the video is that sometimes I have a speaker and then it doesn't work or another teacher has borrowed the speaker so I cannot play the video because the audio is not.*"

Furthermore, C2 finished off with *"So I'll use PowerPoints. Obviously displaying of pictures as well as making use of videos as well"*. A1, C1 and C2 show the significance of PPT presentations and visuals in their SS classrooms. This therefore benefits learners by making learning more engaging and relevant, ultimately facilitating improved understanding (Abedi, 2023).

A unique finding also emerged when A2 stated that their use of technology was situational, *"When it comes to, like, say, great, grade sevens, they still, they still believe in seeing things and then, you know, it's useless for you to discuss, let's say the South African flag. When they see it there, on the board, they... It stays in their heads.*"

This participant did not believe that ICT aligned with the history part of the subject, but mostly with the geography part. On the other hand, B1 added in more detail, *"I project my lessons on the board and handouts, we usually make handouts for them because we don't have textbooks. So, what we do, you know, I have one textbook that I make copies of for all of them. We call them handouts, so they're in black and white. So, when the handouts are more clear, I take pictures from the textbook, the one that I'm using, the one that is in color, and then I'll use the phone and send it to my laptop, and then I'll project it so that they can see what I can see in my book. Then sometimes for history lessons I play the Sarafina movie, Long Walk to Freedom movies from YouTube and then so that they can see what I'm talking about and explain that."*

For this participant, technology assists with the challenge of a shortage in textbooks and unlike A1, B1 actually finds ICT to resonate with history. Similarly, B2 also added, *"So, I will explain the content, explain to them who Nelson Mandela is, what he did, his life, his background and then maybe just show them a video of what his life was or who Nelson Mandela is, how his life was and what he did for South Africa."*

This participant, like their colleague B1, found ICT valuable for teaching about historical leaders through videos and movies.

From observation, four out of the six participants used ICT to teach, and the other two used the traditional chalk-and-talk method of instruction (A2 and B2). B2 had a broken overhead projector. At the same time, A1 showed no clear sign behind the lack of use except for their contribution during the interview, stating *"99% of a history lesson you do not really need the usage of technology",* which could explain their lack of use as the topic for that lesson was on a history Grade 6 topic "The Age of European Exploration". It could be argued that this teacher may still be stuck in more traditional teaching methods due to their seniority. Based on the guiding theory, teachers who are trying out technology in their SS lessons are likely to continue officially integrating ICT. In contrast, when the two teachers are not using ICT, especially A2, the chances of this official incorporation taking place are quite slim because trialability is not actively occurring.

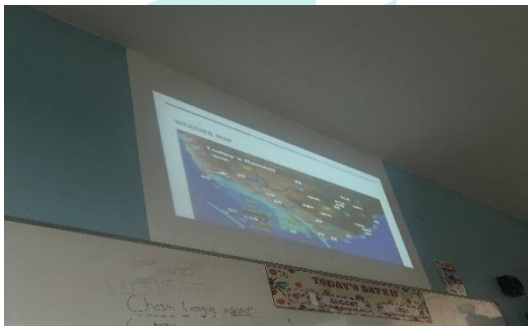


Fig. 3 Overhead projector screen

Homework, research and/or assignments

ICT capabilities are also exploited to assist with homework, research and even assignments. The responses to this section yielded two themes: WhatsApp and search engines.

WhatsApp

The popular social media platform, WhatsApp, was widely reported as an aid for homework, research, and assignments. Scholars such as Meintjies (2021) and Mtshali (2023) have previously highlighted the significance of social media in education. For example, A1 detailed that there are times when unforeseen circumstances hinder them from seeing certain groups for a lengthy period and that this platform assists; she stated, *"So, we send work. And sometimes we send the memo and say, 'Parents, you need to help us.' Because if we don't catch up, we are going to fall behind.*"

B1 also echoed this, with *"Firstly, we use the internet for WhatsApp to send homework and research questions to parents. We have a WhatsApp group"*. This participant specifically points out that they send not only homework but also research questions. B2 added, *"Yeah, we also send all the information, all homework is sent on WhatsApp"*. C1 also added, *"I do send them the work in the WhatsApp group. We have a WhatsApp group where we share pictures of the work done during the day. If the learners are not done, then we send it home. Or if other homework was not spoken about in the class, or if it was not new work."*

Interestingly, the participant explained that she not only sends homework but also keeps parents updated on the activities she completes during the day. Pasaribu et al. (2023) reported a similar finding: technology was used to create and share assignments, and teachers used WhatsApp to send assignments to parents and learners.

Search engines

Teachers' digital toolkits extend beyond WhatsApp as they also leverage search engines such as Google for homework, research and assignments. The internet is a popular finding in previous studies as a useful tool for teaching and learning SS (Bariham, 2020). A2 stated, *"Especially the grade sevens, because their content is now at the senior level, where they are actually equipped with finding information themselves. There are those sections where you can refer them to actually go and research and use the gadgets.*"

Although their example focused on Grade 7 learners, the important point is that they acknowledged ICT's role in research in the subject. Similarly, B1 mentioned, "*I will also use the internet to download pictures for their research to print them out*. C1 mentioned, *"We do have a project that they have to do all the way there. So they do have to also go out and do research on some of that"*. The participant also admitted encouraging learners to make use of Google for these projects. C2 also added, *"So, we tend to make use of the school computers because we do have school computers. So, we ask learners to go do research. They go to Google, search for different types of political leaders and do their research on them."*

This participant highlights the school's advantageous position in ICT infrastructure. This allows learners to conduct research at school, which is beneficial for those who may otherwise struggle to do so at home due to limited access to technological tools. Based on observations, A1's learners submitted homework responses from Google, indicating that the use of search engines is becoming increasingly popular for homework. The practice not only helps learners access information but also promotes self-directed learning as they gain valuable digital skills (Abedi, 2023).

These responses further highlight that teachers are working tirelessly to incorporate technology into their pedagogy, suggesting that trialability is active. According to Roger (2003), this positively influences the likelihood of ICT integration in SS classrooms and its continued use.

Assessment

An analysis of teachers' responses to integration practices provided valuable insights into the role of technology in assessment. Santosa et al. (2022) report a similar view of technology's value for assessment, noting, for instance, that teachers used games to assess learners' knowledge. This shows that technology is not only beneficial for access to information, but it also helps teachers track learners' progress. The SS teachers acknowledged that ICT assisted them when assessing learners, aiding in the projection of information and the access to relevant resources. This acknowledgement supports the conclusion that SS teachers are likely to continue incorporating technology into their teaching practices, as they are clearly active participants in the ICT trial.

Projector display

Two of the SS teachers reported using technology to project information for assessment purposes. A1 mentioned the use of a digital timer during assessment activities, *"I give classwork to write. It's time-consuming. So it's better if you give the kids there, then put the timer. So, they see this question, there is the timer, and then I must be done with this."*

In this way, learners get to adjust their pace as they work. B2 added, *"So, I would scan the assessment or the test that we did, scan it and then present it to them on the board so that they can also do their corrections."*

This suggests that the assessment with a memo is displayed for learners to see where they went wrong. In line with these responses, A1 also showed the rest of the class a worksheet for learners to complete on the projector, as observed during the class.

Resource access

The other two teachers mentioned that ICT played a huge role in information access for assessment in the SS classroom. C1 said, "*Yes. We make our test papers, our rubrics on the internet... oh, using our laptops and also there are pictures that we put in just to help them, so that also comes from Google."*

This participant did not go into much detail as to how exactly they use the internet to make their test papers and rubrics but C2 provided an extension to this response and stated, *"So, I would obviously go to the internet, try to search for assessments similar to what I'm teaching, try to infuse that, but also do my research on some of the possible test questions that are more similar or aligned to what we are teaching."*

Unfortunately, two of the six participants did not acknowledge ICT as helpful in SS assessment practices. For example, A2 stated, *"Not really. Not really. We still do it manually"*. On the other hand, B1 stated: "*So I do not use it for my learners as they do not have gadgets and also do not have access to the internet",* suggesting that for A2, formalised and sustained integration is unlikely because, as Rogers (2003) states, trying out innovations increases the likelihood of adoption. For B1, it simply indicates that trialability is low, because this is the only section where they have shown they do not leverage ICT.

DISCUSSION

South Africa, as a developing country, is working diligently to modernise educational paradigms, as evidenced by a bibliometric study that found South Africa leading in published literature on ICT integration (Baako & Abroampa, 2023). However, the literature review in the above section highlighted the lack of enquiry in the SS subject specifically. Thus, this enquiry focused on the different ways in which SS teachers integrate ICT into their practices. From the findings, it

became apparent that although most teachers are trying hard to incorporate ICT, one teacher still shows resistance. In addition, another teacher was not incorporating it because efforts to fix broken tools were not extended to her, forcing her to revert to conventional pedagogical approaches.

Nonetheless, a larger percentage of participants in the interviews reported integrating ICT into the subject, and the observations supported this. One way they did this was during lesson preparation, when they drafted lesson plans and created PPT presentations. They then presented these slides and showed other visuals, such as videos and pictures, relevant to the content. Moreover, they utilised platforms such as WhatsApp and Google for homework, research and assignment purposes. Lastly, technology was used to support the assessment of the subject, as teachers created and searched for relevant test papers and rubrics. These findings confirm those of Atubi (2022), who reported that the internet, social media, computers, and PPT presentations were common integration practices in the SS classroom.

The guiding theory's 'trialability' concept posits that experimentation with novel ideas increases the likelihood of continued adoption (Rogers, 2003). In this case, teachers' use of ICT suggests experimentation, increasing the likelihood that they will continue using it and officially adopt it as part of their instructional methods. That said, the prospects for a technology-enabled SS educational setting appear remarkably promising. Thus, these findings are significant towards bridging policy and practice gaps in Southern Africa.

LIMITATIONS

Unfortunately, this study has limitations in sample size and context. This is because the study's sample size was relatively small, comprising only six intermediate-phase SS teachers from the Motheo District. As a result, generalisation cannot be applied to larger populations. Thus, future studies could employ a larger sample size and perhaps utilise a mixed-methods approach that allows for the inclusion of larger populations. Furthermore, future researchers could consider diversifying their studies by focusing on both teachers and learners, or even parents. In addition, because for one of the two respondents who were not utilising ICT, no apparent reason for this lack of use could be accounted for, future research could investigate the possibility of age playing a role in teachers' resistance to integrating, since the respondent was one of the senior teachers.

CONCLUSION

This study investigated how intermediate-phase teachers integrate ICT into SS teaching and learning. From the enquiry, it was found that teaching practices were shifting towards a more technologically advanced environment as teachers integrated ICT in different ways and for different purposes, presented under four key themes: lesson preparation, lesson presentation, homework/research/assignments, and assessment. Although not all teachers were actively utilising ICT during observations, interviews revealed that all teachers had integrated ICT at some point, suggesting that teachers are willingly integrating ICT but at a less advanced level. When we consider that technology is an ever-evolving concept and that modern technologies such as VR and AR are gaining traction (Verhey et al., 2020), the trialability aspect of Rogers' (2003) DOIs is active and, therefore, continued integration to a more advanced level is eventually guaranteed. The significance of this study extends beyond South Africa to other developing countries, demonstrating the various ways technology can be used to enhance pedagogy.

RECOMMENDATIONS

Therefore, this study has a few recommendations to ensure continued use. Firstly, the government ought to support schools throughout the process of ICT integration by continually following up to investigate areas that remain problematic and prevent seamless incorporation. Secondly, teachers must also make it their responsibility to discover novel ways to make their teaching practices more engaging through technology, such as finding relevant programs and platforms for the curriculum and collaborating with colleagues. Lastly, policymakers should actively see to their responsibility to develop an evaluation framework that assists in tracking the progress of ICT adoption. In this way, all those involved would be taking part in the initiative, meaning continued utilisation is inevitable.

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DECLARATION OF CONFLICT

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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