CONSUMER STUDIES EDUCATORS' DIGITAL TECHNOLOGY USE: A CASE IN NORTH WEST, SOUTH AFRICA

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ABSTRACT

Digital technologies can significantly promote education and will especially benefit current school learners who are digital natives, preparing them for life and the world of work. Increasingly, research reports how digital technologies support education in various school subjects. However, no such research could be uncovered for Consumer Studies (CS) – a valuable and meaningful South African school subject. As CS teachers have repeatedly reported a dearth of resources to foster education in the subject, digital technologies could contribute to ameliorating this problem. The purpose of this paper is, therefore, to report on a study that explored CS teachers' use of digital technologies to support teaching-learning in this valuable subject. The objectives of the research were to understand if and how CS teachers are utilising digital technologies for teaching-learning purposes and to develop recommendations for enhancing its use to buttress CS education in South Africa. An exploratory qualitative case study was conducted using purposive convenience sampling in the North West province. Twenty CS teachers completed an online questionnaire. The data were inductively analysed. Although findings indicate that several CS teachers embrace digital technologies, it is done with a limited range of educational intentions and teachers need more guidance in this regard.

KEYWORDS

Consumer Studies education; digital technologies; enacted curriculum; Gen Alpha; Gen Z; social constructivism

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INTRODUCTION

The World Bank (2023) claims that more than 22 million young Africans enter the global workforce annually, and increasing the uptake of digital technologies to prepare these young people for their futures has become critical. Digital technologies, also called Information and Communication Technologies or ICTs, include software, applications, systems, and hardware devices capable of creating, processing, transmitting, or storing digital

information. They are used extensively in most employment sectors, necessitating their inclusion in educational spheres. Digital media shapes how learners learn and "how they know" – especially the millennials and subsequent generations (Schrader 2015:28). Millennials (born between 1981 and 1996) were the first generation to have extensive exposure to digital technologies such as the Internet and cell phones and became "new creators of knowledge" and "active contributors to the co-construction of knowledge across the globe" (Schrader 2015:32). The subsequent generation, known as 'Gen Z' (born between 1996 and 2012), was "born into widespread access to the internet and digital technology" and are, therefore, referred to as digital natives due to their everyday familiarity with digital devices (Journey Matters 2023). Digital technologies are almost inherent in the most recent Gen Alpha generation (born between 2013 and 2025). They were born into and are growing up in a world where technology is ubiquitous, and their access is enabled by various devices and platforms (ibid. 2023). Present school learners are either Gen Z or Gen Alpha, therefore, digital technology is probably ingrained in their everyday lives.

Digital media can enhance learners' 21st-century skills, including communication and creativity (Schrader 2015), creating opportunities for socialising and learning and enhancing learners' preparation for functioning and working in a digital world. It should, therefore, also be used in formal education. Digital technologies and their associated uses, including artificial intelligence, can "augment teacher capabilities rather than replacing teachers" (Begazo, Blimpo & Dutz 2023:85). This will not only benefit learners but can also support educators in their profession. For example, teachers use social media tools to "provide them avenues to engage in various self-directed professional activities with colleagues both near and far" (Carpenter & Harvey 2019:9). Hence, in subjects with limited teaching resources, digital technologies can support teachers in facilitating learning – for themselves and their learners. The adoption and use of digital technologies have been explored in South African school subjects such as Mathematics (Mlotshwa, Tunjera & Chigona 2020), Science (Olivier & Kruger 2022), and Tourism (Adukaite, Van Zyl & Cantoni 2016). Nevertheless, similar studies are inadequate for Consumer Studies (CS) – a unique and relatively new South African school subject, indicating a lacuna in the research.

PROBLEM STATEMENT AND RATIONALE FOR THE RESEARCH

Digital technologies can effectively support teaching-learning and should be adopted and used more frequently to align education with the needs of current Gen Z and Gen Alpha learners. International studies have shown its relevance for subjects such as Home Economics, which is similar to CS. For example, Ma and Pendergast (2010) explored using ICTs as a pedagogical approach to foster lifelong learning of Hong Kong Home Economics learners, and Sundqvist and Eklund (2021) explored Finnish Home Economics teachers' use of ICTs to enhance students' learning. Although CS share several topics and other similarities with Home Economics, the educational contexts in Hong Kong and Finland differ vastly from those in South Africa. Therefore, findings from international research cannot simply be applied in the local context. The current study aimed to explore if and how CS teachers have adopted and are utilising digital technologies in the subject, with the objective to investigate how these educators could be supported and guided to enhance its use in the South African context to benefit local learners. Launching such an investigation across all nine provinces in the country would be extremely costly regarding time and financial inputs. Therefore,

the North West province was selected as a starting point for a potential subsequent nationwide study. The question that guided the current investigation was: How are Consumer Studies teachers in the North West province utilising digital technologies to support teaching-learning in this subject?

LITERATURE REVIEW

Providing background on the rationale for the research, CS is elucidated as a subject in the South African school curriculum. The preferred pedagogical approaches for enacting the CS curriculum are then outlined, followed by a synopsis of the potential benefits of incorporating digital technologies into education.

Consumer Studies as a valuable but under-resourced subject

CS was introduced as a new school subject in the South African curriculum in 2004. Home Economics preceded it, and both subjects still share some common topics (Umalusi 2014). However, whereas Home Economics focuses on the family and family members as *producers*, CS focuses on the family and individuals as *consumers* (Lombard 1997). The new subject was intended to align more closely with international trends, changing societal needs, and familial structures (Umalusi 2014). The subject's name indicates its unique focus on education regarding consumer behaviour, consumer decision-making, and optimal use of resources, with an overall goal "to improve human well-being" (Department of Basic Education [DBE] 2011:8). As many countries still prefer a focus on Home Economics, CS as a school subject is unique (Umalusi 2014). CS teaches invaluable life skills (Umalusi 2014:14), with 'the consumer' as the subject's core concept intertwined with all other subject topics, including a significant focus on developing

entrepreneurship (p. 16). CS is, by far, the subject in the South African school curriculum with the most entrepreneurship education content (Du Toit & Kempen 2018).

CS topics such as food and nutrition or clothing (DBE 2011) have many real-life applications for learners. Yet, the extensive entrepreneurship integrated with several other CS topics and its practical production increases its uniqueness and value (Du Toit & Kempen 2018). South Africa, with its extremely high unemployment, needs subjects that combine entrepreneurship education with feasible opportunities to apply such learning in practical ways to generate income or employment (Booyse, Du Randt & Koekemoer 2013). Yet, CS' full potential is often disregarded or misunderstood outside the profession (Umalusi 2014). Numerous studies have echoed the dearth of pedagogical guidance and a severe lack of resources for teaching this valuable subject (Booyse *et al*. 2013; Du Toit & Booyse 2015; Ngwenya & Shange 2019), which hinders the effectiveness of teachers' enactment of the learning in the subject curriculum, and, therefore, the intended beneficence associated with CS does not always reach learners.

Preferred pedagogies in Consumer Studies education

Although pedagogical guidance for CS teachers is limited in the curriculum documents (Du Toit 2014), several studies have explored preferred pedagogies for implementing or enacting this subject in practice (Booyse *et al*. 2013; Du Toit & Booyse 2015; Umalusi 2014). These studies reported that interactive, learner-centred teaching-learning approaches are preferred in CS, that learning must be linked to learners' lived experiences, and be transferable to novel contexts. They noted that socio-constructivism provides ideal theoretical

underpinnings for the type of teaching-learning envisioned for CS as part of the South African school curriculum. Those studies aimed to ameliorate the lack of pedagogical guidance for CS teachers.

Nevertheless, research to ameliorate the lack of resources for enacting the CS curriculum is still scarce. The use of "technology to support teaching and learning (thereby contributing to pedagogy) in CS should be addressed in the curriculum by providing teachers with structured guidance to make teaching and learning in this subject even more relevant in the 21st century and to learners of this century" (Du Toit & Booyse 2015:24). An extensive review of literature published since then, searching for research on developing or utilising resources in CS education, produced only one result: a study on the use of digital technologies in CS, specifically smartphones, as a resource to support teaching-learning therein (Du Toit 2019). Home Economics includes many objectives "that require the use of ICT and development of related competences" and using ICTs in Home Economics education has been researched in Finland, Nigeria, Estonia and Hong Kong (Sundqvist & Eklund 2021:116). Using digital technologies is "in line with the recommended learning environments and working methods for HE…" (p. 117). Considering the similarities between these subjects, the same is probably also valid for CS. Therefore, the lacuna in research on digital technologies in CS education needs to be addressed.

Nevertheless, it was important to understand which benefits they hold before we could explore if and how digital technologies are being adopted and used in CS education. As the literature on their use in CS is limited, a broader, more generic overview of the benefits of using such technologies in education was conducted.

Potential benefits of incorporating digital technologies in education

Although extensive research has been conducted on the benefits of digital education for distance education, the current study focused on its use of closer, in-person teaching-learning. Based on a recent literature review, the benefits and possibilities of digital technologies to enhance teaching-learning seem almost endless. They "create opportunities for the evolution of knowledge" (Schrader 2015:28) and provide increased access to education, even in remote settings (Du Toit 2019). The interconnectivity supported by digital technologies expands the learning community and can lead to broader learning, exposing learners to new, exciting and unexpected learning (Schrader 2015). Using ICTs, therefore, promotes socially constructed learner collaboration but can also support learner independence (Mojane 2021) through developing self-directed learning skills for life-long learning (Haleem et al. 2022). Teachers can involve learners as co-constructors of learning by assuming new roles as facilitators of learning rather than being the givers of knowledge (Mafojane 2021).

Including digital technologies in teaching-learning develops positive learning attitudes, enhances learning enjoyment, heightens learner motivation, and can improve learners' academic performance (Shrader 2015; Torres & Giddie 2020). Increased learner participation and engagement with the process contribute to developing several 21st-century skills, including communication skills, creativity, critical thinking, and digital competencies (Sundqvist & Eklund 2021). Digital technologies can be customised to learners' needs (Haleem et al. 2022) and enrich learners' vocabulary (Torres & Giddie 2020). Utilising digital technologies in education can support improved teaching-learning (Mafojane 2021).

Incorporating digital technologies into teaching-learning benefits learners and teachers in several ways (Du Toit 2019). Teachers construct and maintain professional networks and communities of practice using digital technologies (Carpenter & Harvey 2019). They also identify, select, share and discuss a variety of resources for teaching content, pedagogical support and assessment (Sundqvist & Eklund 2021). These patterns align with self-directed learning processes and contribute to teachers' lifelong learning and professional development.

Next, the theoretical framework and research methods used for the current investigation are explained.

THEORETICAL UNDERPINNINGS

Constructivism, and particularly social constructivism, is often used as a theoretical framework or lens for investigations on CS education (Booyse et al. 2013; Du Toit 2020; Ngwenya & Shange 2019). The nature of education, where various aspects and role players contribute to constructing effective and meaningful learning experiences, can be viewed as a type of social interaction. In such interactions, the various role players – most frequently learners and teachers – co-construct knowledge and understanding in the learning process. Digital technologies can also contribute to the co-construction of knowledge and understanding, or 'meaning-making'. As the current cohort of school learners consists mainly of digital natives (Gen Z and Gen Alphas) (Journey Matters 2023), they would expect to utilise these resources in their educational processes. Digital technologies expand the learning horizon by supporting much broader interaction than only in the classroom. They enable 'many to many' communication and support constructivist learning-from-others (Pedro, De Oliveira Barbosa & Das Neves Santos 2018:12). This

co-constructed learning experience fosters shared and expanded understanding. Digital technologies are mediators of learning: they serve as intermediary tools to improve access to education but can also mediate, shape or moderate our perspectives on the world – what we deem as knowledge, how we view knowledge and interpret our meaning-making thereof (Schrader 2015). Digital technologies also support individual or self-directed learning – within and outside the classroom, contributing to learners' and teachers' lifelong learning (Du Toit 2019). The current study, therefore, endeavoured to explore if and how CS teachers in the North West province are utilising digital technologies to construct meaning-making to support teaching-learning in this subject.

RESEARCH METHODS

The research was approached as an exploratory qualitative case study. The constructivist paradigm is mainly associated with qualitative research and is used in educational research to reflect the nature of human interactions in such contexts (Thanh & Thanh 2015). The purpose of the research was exploratory, as limited information was available on the issue (digital technology use in CS education). The case study was bound by geographical and time constraints, limited to the North West province in 2022. Considering these boundaries, the population for the investigation consisted of all teachers actively teaching CS in 2022. An independent person employed purposive convenience sampling, resulting in a sample of 20 participants. The current study was part of a larger University of South Africa study conducted by an extended group of researchers with Ethics Approval number Ref: 2020/09/09/90173551/05/AM. Participation in the study was voluntary, and all participants were required to give informed consent before inviting them to complete an online Google

Forms questionnaire. The questionnaire mainly included open-ended items, most of which explicitly related to their adoption and use of digital technologies in the enacted CS curriculum, for example, 'What is/are your main goal(s) for integrating digital technologies into your Consumer Studies lesson(s)?' and 'What type of support do you receive from your school with regards to the use of digital technologies in delivering your lessons?'. The data were analysed inductively by a team of researchers to develop patterns which would provide insights toward answering the research question. Inductive codes relating to *if* and *how* CS teachers use digital technologies were used, which were subsequently categorised and are reported as three themes.

Limitations

The current investigation only included CS teachers in one of South Africa's nine provinces. Educational contexts and management differ significantly across the various provinces. These findings are, therefore, not necessarily transferable outside provincial boundaries. Only female CS teachers participated in the current investigation, and including male participants might introduce alternate findings.

FINDINGS AND DISCUSSION

Three themes from the findings are reported here: (1) the participants' demographics and its impact on their digital technology use; (2) emerging patterns in these CS teachers' adoption and use of digital technologies; and (3) if and how they use digital technologies to realise the preferred pedagogies for CS.

Demographics and their impact on digital technology use

All participants were female. Their age distribution shows that 45% were 51 to 60 years old, and 5% were 61 years or older when completing the questionnaire (Figure 1). This finding was worrisome for two main reasons. Firstly, the pattern found in the current study for CS teachers echoes other studies that indicate a looming crisis in South African education due to an ageing population of its teachers. This pattern indicates that few young people are entering teaching, leaving too few educators to teach the number of learners when current teachers leave the profession or older teachers retire in a few years (Maphalala & Mpofu 2019). Similar concerns are reported globally for Home Economics and other subjects closely related to CS, indicating a critical area for investigation to future-proof these subjects
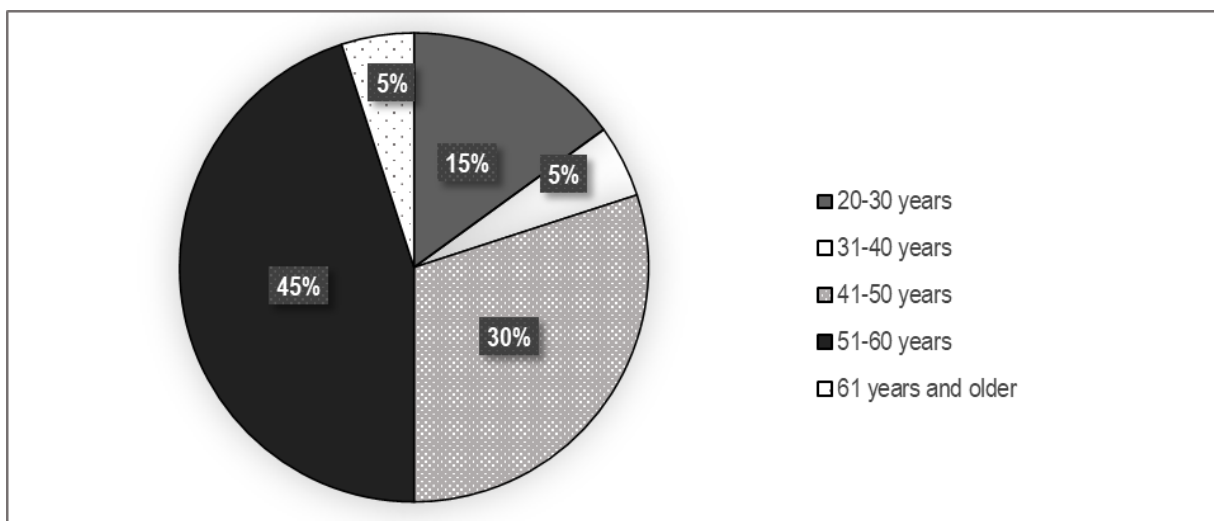
**FIGURE 1: DISTRIBUTION OF PARTICIPANTS' AGE IN 2022**

(Pendergast 2012).

Secondly, older teachers generally tend to be less willing to adopt and use digital technologies (Mafojane 2021). Therefore, many older CS teachers may be less inclined to adopt and use ICTs in their classes and are not adapting their praxis to the needs of their current learners, who are digitally native Gen Zs and Gen Alphas (Journey Matters 2023).

The participants in the current study were very experienced in CS education and (previously) Home Economics. Ten per cent of them had more than 16 years of experience teaching these subjects, 40% had been teaching in this field for over 20 years, and only 20% of participants had less than five years of teaching experience in CS. Newly qualified teachers use digital technologies more, as they were probably trained to do so in their professional qualifications (Mafojane 2021). These findings reiterate the preceding concerns regarding the changing demographics of teachers that fail to meet the needs of the education system in South Africa, pointing to a critical need to recruit, train and develop more younger CS teachers.

Consumer Studies teachers' adoption and use of digital technologies

More than half of the participants reported that they seldom or never use digital technologies in the subject (Figure 2). This finding aligns with the earlier suggestion that an older population of teachers are less likely to fully utilise digital technologies. Although five participants noted that they use digital technologies in 'most' of their CS lessons, only one teacher used these resources in practical lessons (Figure 2). This was surprising, especially against the background of the frequent reports of a lack of resources in CS. ICTs can bring 'real' examples into the practical classroom with meagre costs, for example, by showing learners photographs of items they must produce or video clips of processes used in practical lessons (Du Toit 2019; Ngwenya & Shange 2019), saving time and money as teachers do not physically have to plan or set up such demonstrations, and learners see 'actual' or real products (or products-in-process).

These digital images will guide learners towards attaining the intended learning outcomes, especially in cases where they have to produce items that might be unfamiliar to them, like éclairs or Swiss rolls (Du Toit
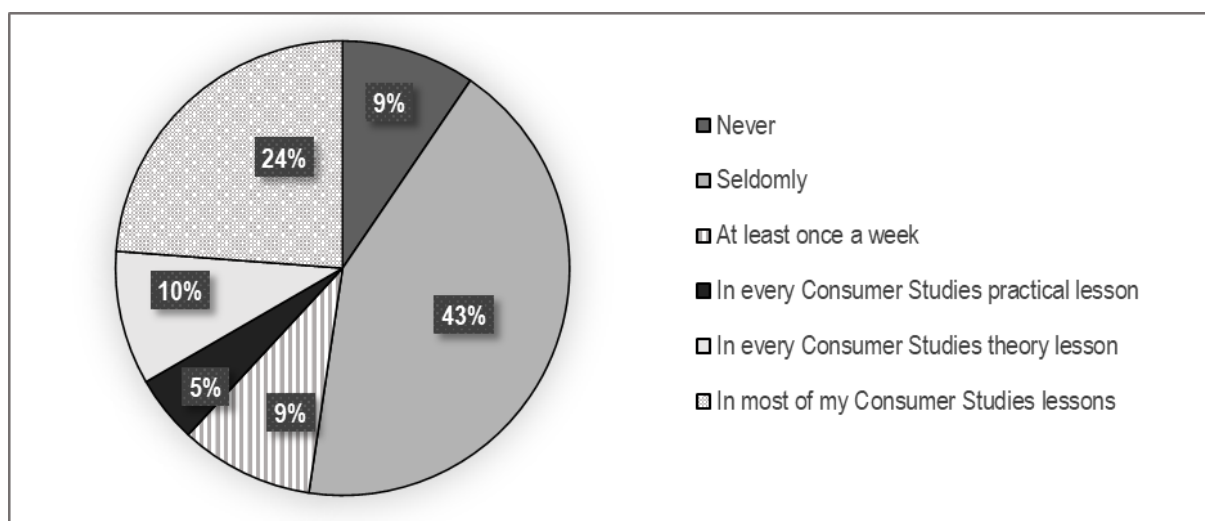
FIGURE 2: FREQUENCY OF INTEGRATION OF DIGITAL TECHNOLOGIES INTO CONSUMER STUDIES LESSONS

2019). Digital technologies bring "everyday life and interactions into the classroom and insinuates processes afforded by social media into the activities that constructivist theories purport support learning, knowledge construction and development" (Schrader 2015:26).

The questionnaire also inquired about how teachers integrate digital technologies into their CS lessons. Their responses indicate that most participants use digital technologies for images and videos, as suggested by Du Toit (2019). Triangulation of findings confirmed participants' use of digital technologies for images and videos, for example:

"To enable learners to understand the concepts through pictures and relate to terminologies for the topics to done." (Participant 2)
"I use YouTube videos to better explain

content." (Participant 10)
"For lessons and examples of how recipes work [sic] or I show them videos of how to do certain recipes." (Participant 13)

Participants provided a variety of answers when asked what their goals or intentions were for using digital technologies (Figure 3). The researchers compiled response options for this question from the literature on teachers' use (in general and across various subjects) of digital technologies specifically to support teaching-learning (Figure 3). Uses such as administration were therefore not included. Supporting learning or linking learning to real life by showing images using digital technologies was a primary goal for 75% of participants, echoing reports by Ngwenya and Shange (2019). Most participants (85%) used digital technologies to make content more interesting for their learners and help explain complex concepts (80%).
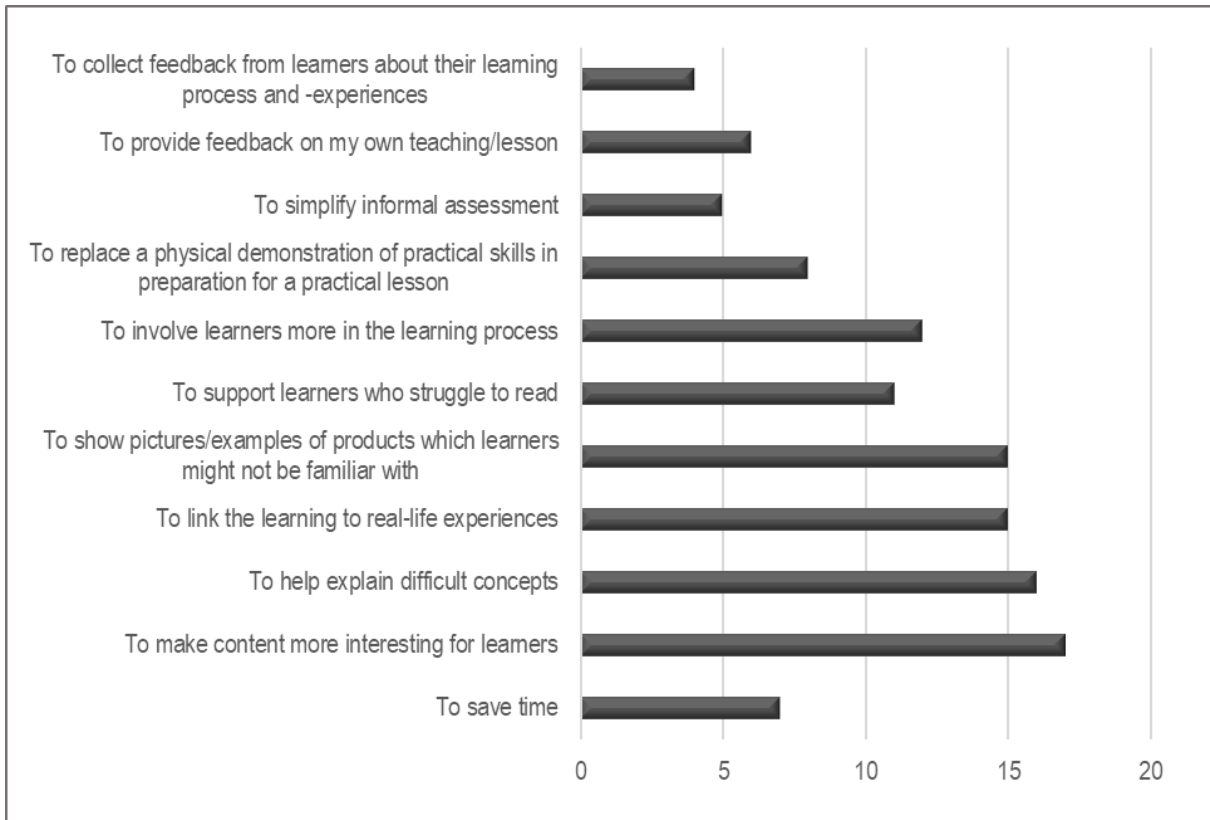
FIGURE 3: CONSUMER STUDIES TEACHERS' GOALS FOR INTEGRATING DIGITAL TECHNOLOGIES IN LESSONS

This finding was foreseeable, as few resources are available for CS education, and in some cases, learners do not even have their own textbooks (Du Toit 2018; Ngwenya & Shange 2019). Confirming the earlier finding of the limited use of digital technologies for CS practical lessons, only 40% of participants indicated that they used them 'to replace a physical demonstration of practical skills in preparation for a practical lesson' (Figure 3).

Surprisingly, few participants used digital technologies intending to save time (Figure 3). This could be due to the challenges and issues they reported regarding access to hardware, electricity and networks, or – alternatively – because they believe that digital technologies make teaching-learning more time-consuming (Mafojane 2021; Sundqvist & Eklund 2021). Few (only 25%) participants reported using digital technologies to simplify informal assessments, perhaps due to their perception that it takes time to set up digital informal assessments. This finding is in contrast to reports by Du Toit (2019) and Mafojane (2021) that using software or applications such as Kahoot!, Quizizz, Padlet or Mentimeter simplifies informal assessment, saves time, fosters learner motivation through enjoyment of learning, develops 21st-century skills, and increases learner engagement.

Another discouraging finding was that participants seldom use digital technologies to 'collect feedback from learners on their learning process and -experiences' (Figure 3), as interactive, learner-centred learning (Umalusi 2014) and learner reflection (Ngwenya & Shange 2019) are preferred when implementing the CS curriculum. Digital technologies and applications such as Padlet and Mentimeter offer numerous opportunities for simple, anonymous participation (and honest feedback) from learners, which teachers can use for self-reflection on their praxis to enhance and improve their teaching-learning efforts (Ma & Pendergast 2010). The current findings show that few participants use ICTs to collect learners' feedback on their own teaching praxis, indicating a lack of self-reflection, which is a critical competency for teachers to have (Du Toit 2019).

Realising the preferred pedagogies for Consumer Studies through digital technologies

This study found that North West CS teachers are implementing digital technologies with various goals in mind. Another objective was to explore whether these teachers' implementation of digital technologies contributes to realising the preferred pedagogies (or pedagogical principles) for CS education. Teaching-learning in CS must be learner-centred and interactive (Umalusi 2014). Learners should become co-constructors of the learning process in a socio-constructivist manner (Du Toit 2019). Findings show that some CS teachers use digital technologies to align their educational approach better to the needs of the digital natives currently in their classes, but that more can be done with digital technologies to enhance interactive socio-constructivist learning in the subject. For example, 60% of participants (n=12) stated that their goal for integrating digital technologies in their CS classes is to 'involve learners more in the learning process' (Figure 3). Another learner-centred goal was evident from participants' efforts to be inclusive and supportive of learners with different learning needs – those who struggle to read and will benefit from seeing an image rather than written text (Figure 3). Yet few teachers use these resources to obtain learners' feedback about their learning process or on the teachers' praxis (Figure 3). These last two options would give learners a voice (or 'agency') in their learning process, allowing them to become co-creators of knowledge in the CS classroom. This limited agency of learners is an aspect that needs strengthening in utilising

digital technologies.

The four most-mentioned goals for using digital technologies in CS education (Figure 3) will contribute to linking learning to learners' real-life or lived experiences by endeavouring to make learning engaging, accessible and, therefore, more meaningful, which aligns to recommendations by Booyse *et al*. (2013). Utilising digital technologies for images and videos will bring a more extensive world from outside the classroom into CS lessons (Ngwenya & Shange 2019). Learners may see products and processes they may never have come across or imagined very differently. This could be utilised as a strategy to promote the transferability of learning to real-life or novel situations, which is another crucial pedagogical principle in CS (Du Toit & Booyse 2015).

CONCLUSIONS

Current Generation Z or Gen Alpha school learners are digital natives who will benefit from incorporating digital technologies into their educational processes. These technologies support learning and develop critical skills and competencies learners need for the world of work. Furthermore, they offer opportunities for self-directed learning and the co-creation of knowledge. Yet, these opportunities are not always realised in CS. The South African North West province's CS teacher cohort is an ageing population who had limited training in using digital technologies and often do not use them in CS education. Those who do mostly use it to a limited extent, which negates much of the potential benefits these technologies hold for teaching-learning in the subject. The current findings indicate that digital technologies can contribute to attaining the preferred pedagogies for CS education, but they are not utilised to their full extent. Focused training must be developed and provided to CS teachers to use digital technologies in

practical lessons, support and expand learner engagement, and extend its use in informal assessment. In addition, it is recommended that a platform be developed where CS teachers can share non-licensed images or self-created video clips of subject-relevant content. These will save time and offer opportunities for teachers to learn from each other, improve their praxis, and continue their lifelong learning.

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