

LEARNERS' PERCEPTIONS OF DIGITAL TOOL USE IN BUSINESS STUDIES THROUGH DIGCOMP

Mpho Lucky Kgalushi¹, Rhulani Maluleka², & Abelwe Maluleka¹

¹Department of Education & Curriculum Studies, University of Johannesburg (South Africa)

²Academy of Computer Science & Software Engineering, University of Johannesburg (South Africa)

Abstract

Digital transformation agendas position digital tools as central to curriculum innovation, yet learners' experiences of these tools in Business Studies remain uneven across socioeconomic contexts. The study reported herein investigated how secondary school learners perceive and experience the use of digital tools in Business Studies, using the European Commission's Digital Competence Framework for Citizens (DigComp) as an analytical lens. A qualitative phenomenological design within an interpretivist paradigm was employed. Focus group discussions and non-participant observations were conducted with eight Grade 10 to 11 learners from two socioeconomically contrasting Johannesburg schools: a quintile 1 township public school and an inner-city independent school. Thematic analysis followed Braun and Clarke's phases and was supported by Atlas.ti. The findings suggest that digital competence is shaped by more than access to devices and connectivity. Four interrelated constructs influenced learners' engagement across the DigComp domains: digital self-efficacy, perceived usefulness of tools for business-related tasks, peer influence, and socioeconomic barriers and opportunities. Learners in the independent school described routine use of collaborative platforms and productivity applications to search for information, co-author tasks, model basic business calculations, and develop multimedia presentations. In contrast, learners in the township school reported intermittent connectivity, restricted time on shared devices, and limited guidance on software use; however, they also demonstrated resourcefulness by relying on peer support and mobile technologies to complete tasks and sustain participation. Across both settings, learners valued digital tools for strengthening conceptual understanding and making Business Studies tasks feel authentic, such as budgeting, market research and business pitches. It is concluded that bridging digital inequities in Business Studies requires both infrastructural support and pedagogical design that explicitly teaches DigComp-aligned practices, including critical information evaluation and digital safety, while building learner agency through structured, collaborative routines that can function in low-connectivity environments.

Keywords: *DigComp, business studies, learner perceptions, digital self-efficacy, digital equity.*

1. Introduction

Business Studies is positioned in the South African school curriculum as a subject that develops entrepreneurial thinking, financial literacy, ethical decision-making and socioeconomic participation (Department of Basic Education (DBE), 2011). These purposes have become more demanding as business practices are increasingly mediated by digital platforms, productivity software and online communication. Learners are expected not only to know business concepts, but also to search for information, evaluate examples, design artefacts, communicate ideas and solve business-related problems using digital tools.

Digital transformation has therefore made digital literacy central to Business Studies education. Digital technologies can support learning when they create opportunities for participation, collaboration and knowledge production (Timotheou et al., 2023; Tinmaz et al., 2022). However, South African learners do not encounter these opportunities under equal conditions. Differences in connectivity, school infrastructure, access to devices, teacher guidance and peer support shape whether digital tools become meaningful learning resources or occasional add-ons to classroom work. This makes learner experience an important entry point for understanding digital integration in Business Studies.

The problem addressed in this paper is that much of the discussion on digital tool integration foregrounds policy, infrastructure and teacher preparedness, while learners' own accounts of how they use and interpret digital tools remain less visible. This is particularly important in subject-specific contexts such

as Business Studies, where digital tools are not neutral technologies but can support market research, budgeting, promotional design, business plans and entrepreneurial identity. Learner creativity is therefore treated in this paper as both the production of digital business artefacts, such as posters, logos, slides and presentations, and the resourceful adaptation of available tools under constrained conditions.

The study uses the Digital Competence Framework for Citizens (DigComp) as a conceptual lens. The framework provides five domains for analysing digital competence: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving (Carretero et al., 2017; Vuorikari et al., 2022). The paper addresses two focused research questions: How do Grade 10 and Grade 11 learners perceive and experience the use of digital tools in Business Studies across the five DigComp domains? What factors shape learners' creativity, confidence and participation when using digital tools for Business Studies tasks?

2. Literature and conceptual framework

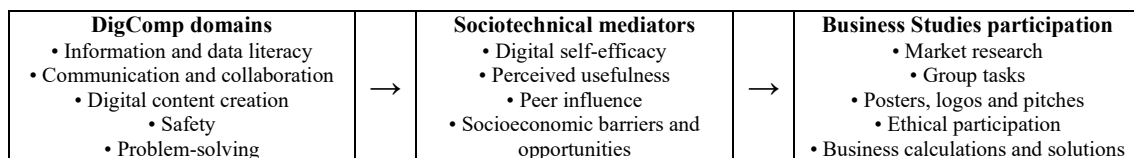
The literature reviewed shows that Business Studies can contribute to social and economic transformation when learners connect classroom concepts with lived economic realities. In the African context, business and management education has also been criticised for importing models without sufficient attention to local socioeconomic conditions (Honig & Hjortsø, 2018). In this study, that concern is extended to digital pedagogy; learners' digital competence cannot be separated from the places, resources and social relationships through which digital learning occurs.

DigComp was appropriate because it moves digital literacy beyond the simple ability to operate devices. The framework attends to how citizens locate and evaluate information, communicate and collaborate, create content, behave safely and solve problems in digital environments (Carretero et al., 2017; Vuorikari et al., 2022). These domains map closely onto Business Studies tasks. For example, learners may search for market information, work with peers on a business plan, create a digital advertisement, protect privacy when sharing work, or use spreadsheets to calculate costs and profit.

The analysis also drew on four constructs that emerged strongly in the project data. Digital self-efficacy explains how learners' confidence shapes persistence and willingness to try unfamiliar tools (Bandura, 1997). Perceived usefulness explains why learners are more willing to adopt a tool when it helps them understand a business task or produce a more meaningful artefact (Davis, 1989). Peer influence explains how classmates become informal mediators of digital learning, especially where formal training is uneven; this is consistent with sociocultural views of learning as socially mediated (Vygotsky, 1978; Wenger, 1998). Finally, socioeconomic barriers and opportunities draw attention to the digital divide as a problem of meaningful use, not only physical access (Warschauer, 2003).

Figure 1 presents the analytical model used. It synthesises the DigComp domains, the sociotechnical mediators identified in the findings, and the Business Studies forms of participation reported by learners.

Figure 1. DigComp-informed sociotechnical model of learners' digital engagement in Business Studies.



3. Methodology

The study adopted a qualitative phenomenological design within an interpretivist paradigm. Phenomenology was suitable because the purpose was to understand learners' lived experiences of digital tool use from their own perspectives (Moustakas, 1994), while the interpretivist orientation allowed attention to the meanings learners attached to digital participation in different school contexts (Creswell & Poth, 2018).

Participants were eight Business Studies learners in Grades 10 and 11 from two secondary schools in Johannesburg. Four learners were selected from a quintile 1 public school in Alexandra township and four from an independent school in Doornfontein. The public school had limited socioeconomic resources, although it had smartboards and a functional computer laboratory. The independent school had more consistent digital infrastructure and more routine instructional use of technology. Each school contributed two Grade 10 and two Grade 11 learners, with equal gender distribution, and participants were between 16 and 18 years of age.

Participants were purposively selected based on grade level, Business Studies performance, and access to digital tools within the school environment. Data was generated through focus group discussions, non-participant observations and analytic memos. The focus group questions were aligned with the five DigComp domains and asked learners to reflect on information searching, digital collaboration, content creation, digital safety and problem-solving in Business Studies.

Data analysis followed Braun and Clarke's (2006) six phases of thematic analysis: familiarisation, initial coding, searching for themes, reviewing themes, defining and naming themes, and producing the final account. Transcribed focus group data were imported into Atlas.ti to support coding, memoing and organisation of themes. The analysis combined inductive attention to learners' own language with deductive interpretation through the DigComp domains. Trustworthiness was strengthened through triangulation of focus group data, observations and analytic memos, as well as member checking, reflexive journaling and an audit trail of analytic decisions.

Ethical clearance and permissions were obtained through the University of Johannesburg, the Gauteng Department of Education, school principals, participants and guardians. Pseudonyms were used for all learners. Because the study involved only eight learners from two schools, the findings are not generalisable to the population. Instead, the paper offers context-rich insights that may be transferable to similar Business Studies classrooms where digital participation is shaped by unequal resources.

4. Findings and discussion

The findings are organised around the two research questions. First, the discussion presents learners' experiences across the DigComp domains. Second, it examines the factors that shaped creativity, confidence and participation. Table 1 below provides a concise comparative summary before the themes are discussed in detail.

Table 1. Summary of comparative learner experiences across DigComp domains.

DigComp domain	Independent school pattern	Township public school pattern	Creativity and participation insight
Information and data literacy	Learners cross-checked websites and used Google Docs, YouTube and other online resources to make sense of Business Studies content.	Learners waited for laboratory access, relied on phone data, checked the website's appearance, and asked peers to verify information.	Digital information became useful when it clarified business concepts such as demand and supply.
Communication and collaboration	Learners used Microsoft Teams, Google Docs and WhatsApp for routine collaboration and simultaneous editing.	Learners used WhatsApp more often and sometimes sent separate work for one peer to combine because connectivity was uneven.	Online spaces enabled quieter learners to participate and encouraged peer competition to improve slides.
Digital content creation	Learners used Canva, PowerPoint and related tools to design logos, slides and business pitches that felt authentic.	Learners designed posters and presentations, but experienced limited computer time and uneven software guidance.	Creative artefacts helped learners see themselves as capable business participants.
Safety	Learners reported formal teaching on passwords, plagiarism and safer links.	Learners relied more on instinct, deletion of suspicious messages and privacy caution.	Responsible digital participation requires explicit teaching, not only informal caution.
Problem-solving	Learners used Excel and other tools to test business calculations and understand profit changes.	Learners relied on mobile phones, WhatsApp support and peer help when computers were slow or unavailable.	Problem-solving appeared as both the analytical use of tools and innovation under constraint.

4.1. Learners' experiences across the DigComp domains

In the information and data literacy domain, learners value digital tools because they made Business Studies concepts easier to access and understand. Independent school learners engaged in more evaluative searching, including checking whether different websites provided similar information and considering whether online information was current. One learner explained, "I like checking different websites to see if they say the same thing" (Learner F). Township school learners also searched for information, but their practices were shaped by limited data, intermittent Wi-Fi and restricted laboratory time. One learner noted, "Sometimes we have to wait for the lab to open or the Wi-Fi to work" (Learner A). This shows that information literacy was not only a technical matter; it depended on opportunity, confidence and peer support.

In communication and collaboration, the two school contexts differed in the regularity and quality of digital interaction. Independent school learners described routine use of Google Docs, Microsoft Teams and WhatsApp. They valued shared documents because "we can work at the same time without fighting over who writes" (Learner F). Township school learners collaborated more through delayed exchanges, often sending individual pieces of work for one person to combine. However, digital communication still created spaces for participation. One learner said, "I'm usually quiet in class, but when we chat online,

I speak more because no one interrupts me” (Learner D). This indicates that digital participation can support confidence, especially for learners who may not dominate face-to-face classroom talk.

Digital content creation provided the clearest evidence of learner creativity. Learners connected tools such as Canva and PowerPoint with the production of business-related artefacts: logos, posters, slides, advertisements and business plans. Independent school learners experienced these tools as part of ordinary school practice, while township school learners often had to learn through peers and trial-and-error. Yet both groups associated creative digital production with relevance to Business Studies. Learner F stated, “When I designed my business logo on Canva, it felt real, like I was already running a business.” Learner D similarly explained, “Even if we don’t have much, when I make a poster that looks nice, I feel capable, like I belong in this digital world.” These responses show that creativity was linked to identity, belonging and future economic participation.

In the safety domain, learners demonstrated awareness of online risks, but the depth of this awareness varied. Independent school learners were referred to formal instruction on strong passwords, plagiarism, and unknown links. Township school learners tended to rely on more intuitive strategies, such as deleting suspicious messages or avoiding showing their faces online. One learner explained, “I didn’t like showing my face. Once it’s online, you can’t control it” (Learner D). Learners also recognised ethical issues in Business Studies tasks, including plagiarism and respect for others’ work. This finding suggests that digital safety cannot be assumed to develop automatically through tool use; it needs explicit teaching and practice.

In the problem-solving domain, learners linked digital tools to analytical thinking and real-world business preparation. Independent school learners described using Excel to complete business calculations and to observe how changes in numbers affected profit. Learner G stated, “When I used Excel to do my business calculations, I saw how small changes affect the profit.” Township school learners had fewer opportunities to use such tools consistently, but they demonstrated adaptability by using mobile phones, WhatsApp groups and peer explanations when school computers were slow or unavailable. Learner D explained, “If I can’t use the computer, I use my phone to search or type my notes.” This suggests that problem-solving in unequal contexts includes both formal analytical tool use and resourceful improvisation.

4.2. Factors shaping creativity, confidence and participation

Four cross-cutting factors shaped learners’ digital engagement across the DigComp domains. The first was digital self-efficacy. Learners who felt confident were more willing to experiment, troubleshoot and help peers. Learner F explained, “When I don’t know how to do something, I Google it or try different apps until it works.” In contrast, low confidence could result in withdrawal. Learner B stated, “When the computer doesn’t work, I stop. There’s no one to help, and I’m scared I’ll break something.” This supports Bandura’s (1997) argument that self-efficacy influences motivation and persistence.

The second factor was perceived usefulness. Learners were more positive about digital tools when those tools helped them complete authentic Business Studies tasks. PowerPoint and Canva were not valued only because they produced attractive work; learners valued them because they helped business ideas become visible. Learner D explained, “When I made a PowerPoint for my business plan, I actually understood my costs better.” This echoes Davis’s (1989) view that perceived usefulness influences technology acceptance. In the context of Business Studies, usefulness was strongest when the digital task supported entrepreneurship, marketing, budgeting or problem-solving rather than simply adding a technological requirement.

The third factor was peer influence. Learners repeatedly described classmates as sources of technical help, feedback and encouragement. Peer mediation was evident when one learner joined Google Docs because a friend explained how it worked, and when another learner said, “My friend taught me how to add animations in PowerPoint. Now I’m the one helping others” (Learner C). Peer influence supported creativity because learners exchanged techniques, improved slides, shared links and competed to produce better artefacts. This finding is consistent with Vygotsky’s (1978) view that learning is socially mediated and Wenger’s (1998) understanding of learning as participation in a community of practice.

The fourth factor was socioeconomic context. Township school learners encountered unstable internet, limited computer access, short laboratory time and uncertainty about technical support. Independent school learners described online work as part of the normal school routine. These differences support Warschauer’s (2003) argument that the digital divide is not only about access to devices, but also about meaningful use. Yet the township learners’ responses also show that constraint did not remove agency. Learners used phones, shared data, asked peers for help and improvised when formal access failed. In this sense, creativity appeared not only in polished digital products but also in the strategies learners used to remain part of digitally mediated Business Studies learning.

The cultural and contextual meaning of digital participation was also important. For township learners, digital work was associated with catching up, belonging and not being left behind. For independent

school learners, digital work was more normalised and connected to school expectations. These differences indicate that digital literacy in Business Studies is a sociotechnical practice shaped by skill, context and identity. A learner who says that a poster makes them feel capable is not simply commenting on design software; they are describing how digital creation can reposition them as someone who can participate in business ideas and digital futures.

5. Conclusion and recommendations

This paper examined Grade 10 and Grade 11 learners' perceptions and experiences of using digital tools in Business Studies through the DigComp framework. In response to the first research question, learners experienced these tools as useful across the five DigComp domains, although opportunities were uneven. Independent school learners had more stable access to search for information, collaborate, create content, practise safety and solve business-related problems. Township public school learners had less consistent access and guidance, yet still demonstrated resourcefulness through mobile phone use, peer support, and creative adaptation.

In response to the second research question, learners' creativity, confidence and participation were shaped by digital self-efficacy, perceived usefulness, peer influence and socioeconomic conditions. Creativity was evident in business logos, posters, slides and presentations, as well as in how learners worked around constraints. The findings suggest that digital competence in Business Studies is not only a technical skill, but a sociotechnical process that develops when learners have meaningful tasks, peer support, safety guidance and opportunities to connect digital production with business ideas.

Based on these findings, Business Studies tasks should make DigComp competences visible and assessable through market research, budgeting, business plans, promotional design, presentations and ethical online participation. Digital content creation should also strengthen learner creativity, rather than only improving presentation quality. Learners need explicit teaching on information credibility, plagiarism, privacy and digital safety. Schools in resource-constrained communities require support beyond devices, including reliable connectivity, teacher development and low-bandwidth routines for unstable infrastructure. The study is limited by its small sample of eight learners from two Johannesburg schools; therefore, the findings do not claim statistical generalisation. Future research should include larger, more diverse samples, including teachers and school leaders, and examine learner-generated digital artefacts as evidence of agency, confidence, and future economic aspirations.

References

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Carretero, S., Vuorikari, R., & Punie, Y. (2017). *DigComp 2.1: The digital competence framework for citizens with eight proficiency levels and examples of use*. Publications Office of the European Union. <https://doi.org/10.2760/38842>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Department of Basic Education. (2011). *Curriculum and Assessment Policy Statement: Business Studies Grades 10–12*. Department of Basic Education.
- Honig, B., & Hjortsø, N. C. (2018). Management education: Unique challenges presented by the African continent. *Africa Journal of Management*, 4(2), 125–136.
- Moustakas, C. (1994). *Phenomenological research methods*. SAGE.
- Timotheou, S., Miliou, O., Dimitriadis, Y., Sobrino, S. V., Giannoutsou, N., Cachia, R., Martínez-Monés, A., & Ioannou, A. (2023). Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. *Education and Information Technologies*, 28(6), 6695–6726. <https://doi.org/10.1007/s10639-022-11431-8>
- Tinmaz, H., Lee, Y.-T., Fanea-Ivanovici, M., & Baber, H. (2022). A systematic review on digital literacy. *Smart Learning Environments*, 9, Article 21. <https://doi.org/10.1186/s40561-022-00204-y>
- Vuorikari, R., Kluzer, S., & Punie, Y. (2022). *DigComp 2.2: The digital competence framework for citizens: With new examples of knowledge, skills and attitudes*. Publications Office of the European Union. <https://doi.org/10.2760/115376>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. MIT Press.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.