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BOOK CHAPTER: DIGITALISATION OF EDUCATION IN ZIMBABWE: OPPORTUNITIES AND CHALLENGES

By

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ABSTRACT: The digital transformation of education is reshaping how teaching and learning take place across the globe. In Zimbabwe, there is growing momentum to integrate Information and Communication Technologies (ICTs) into the educational fabric, driven by global technological innovation, the Education 5.0 philosophy, and the impact of the COVID-19 pandemic. This chapter explores the opportunities and challenges that accompany the digital shift in Zimbabwe's education system. Using a qualitative desktop research approach, supported by an extensive literature review and policy analysis, it examines how digital technologies are transforming teaching, learning, administration, research, and access to education. The chapter highlights opportunities such as increased access to education, flexible learning options, improved teaching methods, innovation, the cultivation of digital skills, and enhanced research capabilities. It also reveals significant challenges, including inadequate ICT infrastructure, high internet costs, unreliable electricity, digital inequality, limited digital literacy, and weak policy enforcement. In conclusion, while digitalisation offers considerable potential to enhance educational quality and inclusivity in Zimbabwe, realising this potential will require sustained investment in infrastructure, teacher training, policy alignment, and strategies for digital inclusion. The chapter offers recommendations for policymakers, educational leaders, and practitioners seeking to drive inclusive and sustainable digital transformation in Zimbabwean education.

KEYWORDS: Digitalisation, Education, ICT, E-learning, Education 5.0, Zimbabwe, Online Learning, Digital Divide.

INTRODUCTION

The rapid rise of digital technologies has reshaped educational systems around the world. Educational institutions are increasingly embracing digital tools to enhance teaching, learning, communication, administration, and research. Digitalisation involves weaving digital technologies into institutional and social processes to boost efficiency, accessibility, and

innovation (Brennen & Kreiss, 2016). In education, this means leveraging Information and Communication Technologies (ICTs), online learning platforms, virtual classrooms, digital libraries, and educational software to support both learning and institutional management (Selwyn, 2016). In Zimbabwe, the push for digitalisation in education

has become a key policy focus, driven by global technological trends and national development goals. The Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development introduced the Education 5.0 philosophy to modernise higher education through teaching, research, community service, innovation, and industrialisation (Zimbabwe Ministry of Higher and Tertiary Education, 2020). This approach emphasises the importance of technology and innovation in tackling societal challenges and fostering economic growth (Nherera & Mukora, 2024). Education 5.0 aims to replace the earlier Education 3.0 model, which fell short in prioritising innovation and industrialisation—elements considered crucial in today's fast-paced technological landscape (Mweha, 2025).

The COVID-19 pandemic acted as a catalyst, accelerating the integration of digital technologies into Zimbabwean education. Schools and universities turned to online learning platforms such as Moodle, Zoom, Google Classroom, Microsoft Teams, and WhatsApp groups to sustain the learning process during lockdowns (Chikuvadze et al., 2025). While these developments opened doors for educational transformation, they also exposed underlying weaknesses in Zimbabwe's education system. Many institutions continued to grapple with limited digital infrastructure, unreliable internet connectivity, and insufficient digital literacy among teachers and learners, exposing gaps that policy interventions had yet to fully address.

2. Methodological Approach

This chapter adopts a qualitative desktop research approach, supported by a thorough literature review and policy analysis. The methodology is designed to provide an in-depth understanding of the opportunities and challenges associated with the digitalisation of education in Zimbabwe. By synthesising existing research, policy documents, and empirical evidence (Bowen, 2009), the chapter aims to present a comprehensive picture of the phenomenon under study.

The study is grounded in an interpretivist paradigm, which recognises that reality is shaped by social interaction and that understanding requires attention to context, meaning, and the perspectives of various stakeholders (Creswell & Poth, 2018; Merriam, 2009; Denzin & Lincoln, 2018). A descriptive case study design is employed, allowing close examination of

digitalisation practices within the Zimbabwean education system and offering rich, detailed insight into these phenomena as they exist in real-world settings (Yin, 2018; Stake, 2005). This approach is particularly suited to exploratory research that seeks to unpack complex social issues by analysing a variety of sources, including academic literature published between 2010 and 2026, policy documents, institutional reports, and media coverage.

To ensure a well-rounded perspective, data were drawn from a wide range of sources to promote triangulation and thoroughness. Academic literature was reviewed from peer-reviewed journals, book chapters, and conference proceedings focusing on ICT integration, e-learning, Education 5.0, and digital transformation within Zimbabwe and the broader Southern African context, using databases such as Google Scholar, Scopus, and ERIC. Policy documents, including national ICT policies, Education 5.0 frameworks, and institutional digital learning policies, were also analysed, alongside institutional reports from bodies such as UNICEF and the Global Partnership for Education. Reputable media sources from Zimbabwean and international outlets were consulted to capture recent government initiatives, infrastructure developments, and emerging digitalisation efforts not yet reflected in the academic literature. Sources were selected on the basis of relevance and currency to ensure a robust analysis.

Data were analysed using thematic analysis, following the six-phase framework proposed by Braun and Clarke (2006): familiarisation with the data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. This systematic approach enabled the identification of patterns and themes across sources. Ethical standards for desktop research were observed, including accurate attribution of sources, avoidance of misrepresentation, acknowledgement of limitations, maintenance of objectivity, and respect for intellectual property rights. While this desktop methodology has limitations—such as reliance on secondary sources, potential gaps in coverage, and the fast pace of change in digitalisation—the use of multiple sources, systematic analytical procedures, and attention to trustworthiness (credibility, transferability, dependability, confirmability, and reflexivity) strengthened the rigour of the findings presented in this chapter.

3. Statement of the Problem

Despite the increasing drive to integrate digital technologies into Zimbabwe's education system, many schools continue to face significant hurdles that hinder effective digital transformation. While some urban institutions have embraced e-learning platforms and ICT-based teaching methods, a large number of rural schools remain behind, lacking essential resources such as computers, internet access, electricity, and digital learning materials (Nherera & Mukora, 2024; Konyana & Konyana, 2013). The COVID-19 pandemic starkly exposed inequalities in access to digital education, with many students unable to engage in online learning due to poverty, inadequate infrastructure, and limited technical skills (Chikuvadze et al., 2025).

Moreover, some teachers and educational institutions remain inadequately equipped to implement digital teaching and learning effectively (Muchabaiwa & Zishiri, 2024). Research shows that school-based mentors often struggle with technology-driven teaching methods, even though they are expected to guide student teachers in modern pedagogies (Muchabaiwa & Zishiri, 2024). While the government actively promotes ICT integration through initiatives such as Education 5.0 and national ICT policies, there remains a noticeable gap in research exploring both the opportunities and challenges of digitalisation across Zimbabwe's education landscape. Some studies have examined e-learning adoption at specific institutions (Chitanana et al., 2008; Chikuvadze et al., 2025), but a comprehensive synthesis across the entire education system remains needed. Despite government investment in digital initiatives, there has also been little systematic evaluation of the implementation of Education 5.0 (Toward an evaluation framework, 2025). This underscores the urgent need to critically examine how digital technologies are reshaping education in Zimbabwe and to identify sustainable strategies for fostering inclusive digital education.

4. Theoretical Framework

This chapter draws on three interconnected theoretical frameworks that illuminate the digitalisation of education, each offering a distinct perspective on its technological, pedagogical, and social dimensions.

4.1 Technological Determinism Theory

Technological determinism posits that advancements in technology significantly shape social structures and drive institutional change (McLuhan, 1964). In education, digital technologies are transforming teaching methods, communication channels, and learning experiences. This theory is useful for understanding how the integration of digital technologies in Zimbabwe's education system could reshape educational practices, assessment techniques, and institutional frameworks. Critics, however, argue that technological determinism may overstate the independent impact of technology while downplaying the social, economic, and institutional factors that influence its adoption (Winner, 1993; Selwyn, 2016). In Zimbabwe, while technological determinism highlights the transformative potential of digitalisation, it is essential to consider the structural challenges that affect its implementation.

4.2 Constructivist Learning Theory

Constructivist theory, as proposed by Vygotsky (1978), holds that learners actively construct knowledge through interaction and experience. Digital technologies facilitate interactive, learner-centred educational settings in which students can engage with content, collaborate with peers, and develop understanding through exploration and problem-solving (Jonassen, 1999). This framework is particularly relevant for examining how digitalisation can shift pedagogy from a teacher-centred model toward a more learner-centred approach. In Zimbabwe, embracing digital technologies opens the door to moving away from traditional lecture-based teaching toward more engaging, student-focused learning experiences (Mweha, 2025).

4.3 Connectivism Theory

Connectivism, introduced by Siemens (2005), explains how learning occurs in an increasingly digital and interconnected world, where knowledge is distributed across technological platforms and online communities. This theory holds that learning in digital spaces involves navigating networks, linking sources of information, and developing the capacity to know beyond what is stored in one's own mind (Downes, 2012). Connectivism is especially relevant for understanding how the digitalisation of education in Zimbabwe fosters networked learning, expands access to global knowledge resources, and encourages participation in digital communities of

practice—significant, given the role that platforms such as WhatsApp played in sustaining online learning in Zimbabwe during the COVID-19 pandemic (Chikuvadze et al., 2025).

4.4 Integration of Theoretical Frameworks

This chapter draws together all three theoretical frameworks to build a well-rounded understanding of digitalisation. Technological determinism illuminates the transformative power of digital technologies; constructivism offers insight into how these tools can enhance learner-centred teaching; and connectivism reveals the interconnected, distributed nature of learning in digital spaces. Taken together, these frameworks recognise that digital transformation encompasses technological, pedagogical, and social dimensions that are deeply intertwined—a holistic view that is particularly useful for exploring digitalisation in Zimbabwe, where technological advancement meets traditional teaching methods, institutional capacity, and socio-economic challenges.

5. Literature Review

5.1 Conceptualising Digitalisation of Education

Digitalisation of education refers to the integration of digital technologies into educational systems and processes, including electronic devices, internet technologies, digital communication systems, and virtual learning environments that support teaching and learning (Brennen & Kreiss, 2016; Selwyn, 2016). Digital education technologies include:

- Learning Management Systems (LMS)
- Virtual classrooms
- Educational applications
- Online libraries
- Mobile learning technologies
- Artificial intelligence systems
- Cloud-based educational platforms

Digitalisation transforms traditional classroom-based education into more flexible and technology-driven learning systems. In Zimbabwe, digitalisation efforts have accelerated in response to global technological change and the need to modernise educational delivery (Mweha, 2025). The concept of digitalisation is distinct from digitisation—the latter refers to the conversion of analogue information into digital formats, while digitalisation encompasses the broader transformation of processes, practices, and

systems through digital technologies (Brennen & Kreiss, 2016).

5.2 Education 5.0 and Digital Transformation

Zimbabwe's Education 5.0 philosophy was introduced to align higher education with national industrialisation and innovation goals. The framework emphasises five pillars:

- Teaching
- Research
- Community service
- Innovation
- Industrialisation

Education 5.0 encourages universities to embrace digital technologies for research, innovation, entrepreneurship, and tackling technological challenges (Zimbabwe Ministry of Higher and Tertiary Education, 2020). The philosophy was introduced to address shortcomings in the earlier Education 3.0 model, which placed insufficient emphasis on innovation and industrialisation (Mweha, 2025). Education 5.0 places strong emphasis on problem-solving and value creation, aiming to help Zimbabwe become more industrialised, modern, and competitive (Nherera & Mukora, 2024). Digitalisation is crucial to realising Education 5.0, and the government has established innovation hubs in higher education institutions to lead digitalisation and industrialisation efforts (Zimbabwe Ministry of Higher and Tertiary Education, 2020). However, research indicates that the success of Education 5.0 depends on adequate digital infrastructure and the development of necessary digital skills (Muchabaiwa & Zishiri, 2024; Toward an evaluation framework, 2025).

5.3 Opportunities Associated with Digitalisation of Education

Digital technologies enable learners to access educational resources regardless of location. Online learning platforms allow students in remote areas to participate in educational programmes (Chikuvadze et al., 2025), and Open and Distance Learning (ODL) institutions in Zimbabwe have particularly benefited from digital learning technologies (Chitanana et al., 2008). Recent government efforts have further broadened digital access through collaboration with international organisations. UNICEF, with support from the Global Partnership for Education, has supplied ICT devices—including laptops, projectors,

and tablets—to underprivileged schools in Manicaland and Matabeleland South provinces (UNICEF, 2026). The government has also provided Starlink internet kits to rural schools, extending satellite internet connectivity to communities that need it most (Mudau, 2026).

Digitalisation also facilitates flexible and self-paced learning, allowing students to engage with learning materials whenever and wherever convenient, using smartphones, tablets, or computers (Chikuvadze et al., 2025). The recent introduction of the Learners Hub Chatbot, an AI-driven platform, allows learners to access educational content through affordable interfaces such as WhatsApp, extending learning beyond the traditional classroom (Makonese, 2026). Furthermore, digital technologies enhance learner engagement through multimedia instruction, interactive simulations, online discussions, digital assessments, and virtual laboratories, promoting learner-centred and collaborative teaching (Mweha, 2025). Nevertheless, many teachers still lack the skills needed to integrate technology effectively into their teaching, resulting in a persistent gap between policy intent and pedagogical practice (Muchabaiwa & Zishiri, 2024).

5.4 Research and Innovation

Digitalisation has broadened access to online academic resources, journals, and databases, supporting research and innovation. Digital learning environments are also essential for equipping learners with the technical skills needed to thrive in today's digital economy (Mweha, 2025), and the government's digitalisation drive is aimed at producing graduates who are both skilled and aligned with industry demands (Nagoli, 2026).

5.5 Challenges Associated with Digitalisation of Education

Inadequate ICT Infrastructure

Many schools in Zimbabwe lack computers and smart devices, reliable internet connectivity, electricity, smart classrooms, and ICT laboratories, with rural schools bearing the brunt of these deficits (Konyana & Konyana, 2013; Nherera & Mukora, 2024). Research shows that in schools where student teachers are placed, essential ICT infrastructure is often absent altogether (Muchabaiwa & Zishiri, 2024). Despite government targets for the digitalisation of education, many institutions still lack

the necessary resources (Government targets, 2018). As one teacher from a rural secondary school observed, "We were given a projector, but no laptop to connect it to. It's just hanging on the wall" (Ntaka, 2025).

For many students and teachers, internet access remains costly. High data prices constrain participation in online learning activities (Manyeruke, 2026), and the expense of purchasing computers, laptops, and smartphones poses a significant barrier for both learners and educators. As one commentary observed, "Even when learners own mobile phones or laptops, data costs remain prohibitive" (Manyeruke, 2026).

Digital Divide

Stark disparities in ICT access and technological resources persist between rural and urban schools. This gap threatens the integrity of the education system and risks leaving entire communities behind (Manyeruke, 2026). The digital divide extends beyond access to devices; it is a systemic issue involving infrastructure, affordability, and sustainability (Mudau, 2026). Recent efforts, such as the distribution of Starlink kits and the introduction of AI-powered chatbot platforms, aim to help bridge this divide.

Limited Digital Literacy

Many teachers and students continue to struggle with the digital skills necessary for effective online learning and teaching (Muchabaiwa & Zishiri, 2024). A significant number of educators find it difficult to navigate technology-based teaching methods (Chikuvadze et al., 2025), and school-based mentors, who are expected to support student teachers, often lack the requisite ICT skills and may be unfamiliar with modern e-learning approaches such as the flipped classroom or shared whiteboard (Muchabaiwa & Zishiri, 2024).

Electricity Challenges

Frequent power outages present a major obstacle to online learning, virtual classes, and sustained internet connectivity. In some remote areas, access to electricity or solar power systems remains minimal (Nherera & Mukora, 2024). UNICEF's digitalisation initiative has responded by prioritising schools that have already benefited from solarisation programmes, helping to ensure a reliable power source for digital learning (UNICEF, 2026).

Resistance to Technological Change

Some educators remain hesitant to embrace digital transformation because of insufficient training,

apprehension toward technology, and a preference for traditional teaching methods (Chikuvadze et al., 2025). This resistance has emerged as a significant barrier to the implementation of Education 5.0 (Mweha, 2025), and the frustrations expressed by teachers resonate with technological determinism theory, which holds that social and institutional factors shape how technology is adopted.

Policy Implementation Gaps

Although Zimbabwe has introduced digitalisation policies such as Education 5.0 and ICT integration frameworks, implementation remains inconsistent (Nherera & Mukora, 2024). Research on the digitalisation of higher education reveals that many institutions adopt externally developed digitalisation models without adequately tailoring them to local contexts (Nherera & Mukora, 2024), underscoring the need for context-specific digitalisation policies at both the ministerial and institutional levels.

5.6 Digitalisation in Comparative Context

Understanding Zimbabwe's digitalisation journey benefits from comparison with other African nations. Research across the continent identifies common challenges, including infrastructure deficits, high connectivity costs, and gaps in digital literacy (Adarkwah, 2021; Oyedemi, 2012). By contrast, countries such as Rwanda and Kenya have made notable progress through strategic investment in fibre-optic networks, mobile technology, and public-private partnerships (Kessy et al., 2020). Comparable evidence from Ghana further illustrates how the pandemic exposed pre-existing inequalities in ICT access and readiness for online teaching across the region (Adarkwah, 2021). These insights suggest that Zimbabwe could strengthen its digitalisation efforts through strategic alliances, sustained investment, and policy frameworks that prioritise equity and inclusion (Mweha, 2025).

6. Findings and Discussion

This chapter finds that the integration of digital technology in Zimbabwean education remains inconsistent. Urban schools and universities typically have access to better infrastructure and technological resources than their rural counterparts, a disparity that reinforces educational inequalities and hampers equitable access to digital learning opportunities (Manyeruke, 2026; Nherera & Mukora, 2024). At the higher education level, e-learning platforms such as

Moodle, Zoom, and Microsoft Teams have been widely adopted, a shift accelerated by the COVID-19 pandemic (Chikuvadze et al., 2025). However, as one university lecturer in Harare observed, "We have Moodle, but most teachers don't know how to upload materials. We need training" (Chikuvadze et al., 2025), underscoring a significant gap between policy aspirations and practice on the ground.

Recent government initiatives have sought to bridge the digital divide. The distribution of Starlink internet kits to rural schools and the introduction of the Learners Hub Chatbot platform represent clear efforts to enhance digital access (Mudau, 2026; Makonese, 2026). UNICEF's donation of 815 laptops, 708 projectors, and 2,112 tablets to 113 disadvantaged schools marks a further step toward more equitable access to digital learning (UNICEF, 2026).

6.1 Opportunities Identified

Expanded Access to Education

Digital technologies enable learners in remote areas to access educational resources and participate in programmes previously out of reach (Chikuvadze et al., 2025). Initiatives such as the UNICEF–GPE partnership and the Starlink rollout illustrate how targeted interventions can help bridge geographical gaps (UNICEF, 2026; Mudau, 2026).

Flexible Learning

Digitalisation enables students to learn at their own pace, at any time and place, using smartphones and other devices (Mweha, 2025). The Learners Hub Chatbot demonstrates how flexible, accessible learning can be delivered through widely used platforms such as WhatsApp (Makonese, 2026).

Improved Teaching Methods

Technology-enhanced learning supports interactive, learner-centred teaching through multimedia and collaborative tools (Mweha, 2025), enabling a shift from lecture-based methods toward more engaging, participatory approaches.

Research and Innovation

Digitalisation broadens access to academic resources and aligns with Education 5.0's focus on innovation and industrialisation (Nherera & Mukora, 2024), with university innovation hubs illustrating how digitalisation can be integrated with national development goals.

Digital Skills Development

Digital learning environments equip students with the skills needed for the digital economy (Nagoli, 2026),

supporting the government's commitment to producing industry-ready, employable graduates.

6.2 Challenges Identified

Infrastructure Gaps

A significant number of schools continue to lack basic ICT infrastructure, with rural schools facing the greatest challenges (Konyana & Konyana, 2013; Nherera & Mukora, 2024). The disparity between policy goals and implementation on the ground remains a major hurdle.

Connectivity and Cost

The high cost of internet access creates significant barriers, particularly for students from disadvantaged backgrounds (Manyeruke, 2026). While Starlink's distribution has improved connectivity, affordability remains a pressing concern.

Digital Literacy

A lack of digital skills among teachers and students hampers effective implementation (Muchabaiwa & Zishiri, 2024), reflecting a pedagogical mismatch that poses a serious obstacle to quality digital education.

Electricity Constraints

An unreliable power supply disrupts online learning, particularly in rural regions (Nherera & Mukora, 2024). Prioritising solar-powered schools for digitalisation initiatives offers a promising response to this constraint.

Policy Implementation

Although policies exist, execution remains inconsistent, with many institutions relying on externally developed models that lack local adaptation (Nherera & Mukora, 2024). The absence of a formal evaluation framework for Education 5.0 compounds these implementation difficulties (Toward an evaluation framework, 2025).

Resistance to Change

Some educators remain hesitant to embrace digital transformation due to insufficient training and apprehension toward technology (Chikuvadze et al., 2025), highlighting the broader challenges of educational change and the need for sustained professional development.

7. Discussion

The digitalisation of education in Zimbabwe presents both significant opportunities and structural challenges. Integrating digital technologies into education has enhanced access to information, encouraged flexible learning, improved

communication, and strengthened research and innovation. The COVID-19 pandemic underscored the critical role of digital learning systems in ensuring educational continuity during crises (Chikuvadze et al., 2025).

Digital transformation remains uneven across institutions. Urban schools and universities generally hold an advantage in infrastructure and technological resources over their rural counterparts, deepening educational inequalities and constraining fair access to digital learning opportunities. As one commentary observes, "If merit is to be genuinely established, access to technology must be treated as a priority. Without equal access, examinations cease to measure ability and instead reflect privilege" (Manyeruke, 2026).

The chapter also underscores the importance of teacher training and institutional support for successful digital transformation. Without adequate digital literacy and technical assistance, educational technologies may fail to deliver anticipated outcomes (Muchabaiwa & Zishiri, 2024). Research indicates that when school-based mentors lack ICT skills, a disconnect emerges that produces a mismatch in teaching methods (Muchabaiwa & Zishiri, 2024). The success of Education 5.0 depends heavily on adequate digital infrastructure and the development of necessary digital skills (Toward an evaluation framework, 2025).

Discussions of digitalisation must therefore extend beyond technological infrastructure to encompass the transformation of teaching methods, the promotion of inclusion, and the pursuit of sustainability. Recent initiatives that combine infrastructure investment with teacher training and ongoing support offer a promising model for effective implementation (UNICEF, 2026). Prioritising schools that have already benefited from solar energy programmes and offline server setups illustrates the value of building on prior investment to create robust digital learning ecosystems (UNICEF, 2026).

8. Recommendations

1. Investment in ICT Infrastructure

Government and relevant stakeholders should invest in school computer laboratories, reliable internet access (including satellite solutions such as Starlink for remote regions), smart classrooms, electricity infrastructure (including solar systems where the grid is unavailable), and educational technologies more broadly. Recent efforts to distribute Starlink kits to

rural schools (Mudau, 2026) should be expanded to cover all underserved communities, with clear plans for maintenance and long-term sustainability.

2. Teacher Training

Continuous professional development programmes are needed to strengthen digital literacy and online teaching skills among educators, focusing on ICT skills and technology-based teaching methods, the incorporation of digital tools into lesson planning, and blended learning strategies. As school-based mentors often lack ICT skills, in-service training should be prioritised for all teachers (Muchabaiwa & Zishiri, 2024), alongside infrastructure improvements that ensure digital tools can be used effectively (UNICEF, 2026). Pre-service teacher education should also be updated to include digital teaching methods and ICT competencies.

3. Affordable Internet Access

Telecommunications companies and government should collaborate to offer affordable data packages for students and teachers through zero-rating of educational websites, subsidised data for learning purposes, public-private partnerships to lower connectivity costs, and community Wi-Fi projects in underserved areas. The high cost of data remains a major barrier to equitable digital education (Manyeruke, 2026), and the UNICEF–GPE model—which combines infrastructure investment with attention to prior disadvantage—offers a valuable framework for inclusive rollout that accounts for geography, gender, and socio-economic status (UNICEF, 2026).

4. Policy Strengthening

Zimbabwe should develop comprehensive digital education policies addressing infrastructure standards, cybersecurity and data protection, the integration of digital skills into the curriculum, strategies for digital inclusion, quality assurance in digital education, and the local adaptation of digitalisation models. As institutions often adopt externally developed models without adequate local adjustment (Nherera & Mukora, 2024), distinct digitalisation policies should be established at both ministerial and institutional levels, developed through an inclusive process engaging educators, students, and other key stakeholders.

5. Public-Private Partnerships

Collaboration among government bodies, universities, private sector organisations, and development partners should be strengthened. Initiatives such as the UNICEF–GPE partnership and

the development of the Learners Hub Chatbot demonstrate the value of multi-stakeholder collaboration (UNICEF, 2026; Makonese, 2026) in providing technology, developing infrastructure, creating content, offering training and capacity building, and establishing sustainability mechanisms.

6. Monitoring and Evaluation

A robust framework is needed to assess digitalisation efforts and the rollout of Education 5.0. As no such evaluation framework currently exists (Toward an evaluation framework, 2025), its establishment would support evidence-based decision-making and continuous improvement, with attention to fidelity of implementation, learning outcomes, equity and inclusion, and long-term sustainability and cost-effectiveness.

7. Research and Knowledge Sharing

Investment in research on the digitalisation of education should be expanded, prioritising comparative studies across regions and institution types, longitudinal studies tracking implementation and outcomes over time, investigations into teachers' digital skills and professional development, research on equity and inclusion in digital education, and studies of student experiences and learning outcomes. Collaboration between institutions and across countries—through conferences, publications, and professional networks—should be encouraged to foster knowledge sharing.

9. Conclusion

The digitalisation of education in Zimbabwe presents considerable opportunities to enhance access, quality, innovation, flexibility, and research capability. As digital technologies are embraced, the teaching and learning landscape continues to evolve in alignment with Zimbabwe's Education 5.0 philosophy. Recent developments—including the distribution of Starlink internet kits, the launch of the AI-powered Learners Hub Chatbot, and the UNICEF–GPE device handover—demonstrate the government's commitment to this digital transformation (Mudau, 2026; Makonese, 2026; UNICEF, 2026).

Yet the path to successful digital transformation is not without obstacles. Inadequate infrastructure, high internet costs, electricity shortages, limited digital literacy, and disparities between rural and urban schools persist. Research indicates that many teachers still lack the skills required for effective technology integration, producing a disconnect in pedagogy (Muchabaiwa & Zishiri, 2024), and the success of

Education 5.0 depends heavily on the availability of digital infrastructure and the development of digital skills (Toward an evaluation framework, 2025).

To fully realise the benefits of digitalisation, Zimbabwe must implement inclusive and sustainable strategies focused on infrastructure development, teacher training, policy execution, and equitable access to technology. Prioritising schools that have already invested in solar energy and providing offline learning resources offer promising strategies for addressing infrastructure challenges (UNICEF, 2026), while the development of locally tailored digitalisation policies and evaluation frameworks would strengthen implementation (Nherera & Mukora, 2024; Toward an evaluation framework, 2025).

The future of education in Zimbabwe is increasingly tied to the country's ability to leverage digital technologies for inclusive national development and global competitiveness. As government reforms aim to produce industry-ready graduates, digitalisation will be key to equipping learners for success in the modern economy (Nagoli, 2026). The digital divide is not merely a technological issue; it is a moral one—denying students access to modern tools denies them a fair opportunity to succeed (Manyeruke, 2026). Achieving equality in education requires ensuring equal opportunity, and in today's world, that opportunity is increasingly rooted in digital access.

This chapter has examined the opportunities and challenges accompanying digitalisation in Zimbabwean education. The findings point to the need for coordinated and sustained effort across infrastructure, training, policy, and inclusion. By addressing these challenges directly, Zimbabwe can harness the transformative power of digitalisation to build an education system that is more accessible, equitable, and responsive to the diverse needs of all learners.

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