

The Role of Capacity Building Programs on Empowering Education Administrators for Digital Transformation in Umzingwane Rural District Schools, Zimbabwe

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ABSTRACT

This study explores the role of capacity building programs on empowering education administrators for digital transformation in schools. As schools increasingly adopt digital technologies, administrators need the skills and knowledge to effectively lead digital transformation initiatives. Effective capacity building is crucial for empowering and enhancing the participation of school administrators for successful digital transformation in educational institutions. The government launched the Presidential Schools Computerization Programme in year 2000, which aimed at transforming the country into an information technology hub. This initiative introduced computers and ICTs in schools, marking the beginning of digital transformation in the education system. However, after this welcomed move, there has been little commitment or urgency to implement this policy by most education administrators. Notwithstanding the potential of digital technologies, it is discovered that efforts to harness digital transformation in education in some schools remain stunted. Hence, this study explores the role of capacity building programs on education administrators for promoting digital transformation in educational settings. The study reveals challenges that limit capacity building programs on empowering education administrators for digital transformation in schools. The study further assesses effective practices that promote and facilitate successful capacity building programs on empowering education administrators for effective digital transformation in schools. Additionally, the study provides recommendations for policy makers on how to enhance capacity building programs on empowering education administrators for digital transformation. The study will employ a purposive sampling procedure and will particularly target school administrators.

Keywords: capacity building programs, empowerment, education administrators, digital transformation

INTRODUCTION AND BACKGROUND

Building capacity for digital transformation can be a daunting prospect because digital education also known as technology-enhanced learning is a complex system. Capacity building empowers school leaders for digital transformation by equipping them with strategic vision, technical skills, and mindset shifts. This enables them to create technology supportive cultures, foster innovation, implement policies effectively and drive sustainable change, ultimately preparing students for a technology-driven world by integrating technology into teaching and learning processes. These programs move beyond simple training to cultivate confidence, collaborative networks and data-driven practices, making education administrators catalysts for comprehensive digital evolution. Although there is substantial research on digitisation of schools in broader African and developing contexts, there remains a significant gap in literature focusing specifically on capacity building on digital transformation for education administrators. This research contributes to the currently limited body of research on the role of capacity building on empowering education administrators on digital transformation in schools.

School administrators play a pivotal role in driving digital transformation in schools. Their ability to promote digital transformation strategies determines the extent to which digital technologies can be integrated effectively into school systems. By automating workflows, enhancing coordination, providing data-driven

insights, and fostering transparency, digital governance not only improves organizational efficiency but also builds trust among stakeholders, including students, teachers, parents, and policymakers (Hanisch et al., 2023). The awareness and readiness of school leaders to embrace digital governance practices are vital for managing digital platforms across operations, instructional delivery, and administrative tasks (Reis-Andersson, 2024). However, many school leaders face challenges, including insufficient familiarity with digital tools, limited infrastructure, and gaps in professional development (Krein, 2023; Tømte & Smedsrud, 2023). These barriers highlight the need for capacity-building programs, systematic resource allocation, and strategic policy interventions.

Additionally, capacity building programs are essential for empowering education administrators to lead digital transformation effectively. Hence, programs for education administrators are a crucial aspect for successful digital transformation. School administrators need to be equipped with the skills and knowledge to effectively use digital tools and technologies in their teaching practices (Joseph & Uzundu, 2024). Continuous professional development programs can help school administrators stay updated with the latest technological advancements and pedagogical strategies, thus improving their teaching effectiveness and enhancing student learning outcomes (Veckalne & Tambovceva, 2022). Despite widespread reforms in curricula, pedagogy and technology integration, educational outcomes often fall short when school leaders lack the skills, vision and support necessary to transform technology in schools. There is need for effective capacity building programs for school administrators for successful digital transformation in educational institutions. As supported by Bush, (2018) capacity building programs are essential for school administrators because they act as catalysts for change, navigating challenges such as curriculum reform, inclusive education, and technological integration.

In essence, capacity building programs equip leaders with the "what," "why," and "how" of digital transformation, ensuring technology serves strategic goals rather than just being a collection of tools, ultimately leading to meaningful and sustainable educational change. Capacity building is the process of raising the knowledge, skills, and capacities of an individual, an organisation, or a system so that they can perform their work efficiently. In education, it becomes a deliberate strategy to enhance the skills of administrators so that they can adapt to changes, embrace new teaching methods, and continuously develop their professional competence (Kanwar, 2024).

Capacity building has been defined by the Whitelock, et al., (2024) as: the process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in a fast- changing world. An essential ingredient in capacity building is transformation that is generated and sustained over time from within; transformation of this kind goes beyond performing tasks to changing mindsets and attitudes.

Building the digital competence of educational administrators and support them in developing their roles as both digital coordinators and digital instructional leaders is crucial in this new and emerging digital era. Capacity building programs can promote the active participation of education administrators, in digital literacy and digital transformation of education. Through the expansion of training courses, seminars, professional development, and digital support for school leaders, digital transformation in the education sector can be successful.

The integration of digital technologies has transformed education by revolutionizing data and knowledge exchange, enabling schools to streamline operations, optimize resource allocation, and enhance service delivery. Research has underscored the transformative potential of digital platforms in improving educational administration and instructional delivery (Hanelt et al., 2021; Verhoef et al., 2021; Vial, 2021). However, these advancements pose significant challenges for school leaders, who must navigate complex digital systems, address cybersecurity concerns, and align technology integration with institutional goals. Traditional governance mechanisms, such as manual monitoring and face-to-face coordination, often prove inadequate in managing the dynamic nature of digital platforms. Existing literature underscores the critical role of school leadership in digital transformation. Pettersson et al. (2024) emphasize that school leaders' perceptions of digital governance are instrumental in driving post pandemic recovery and development in educational organizations. Similarly, Acebuche (2023) notes that comprehensive training and sufficient resource allocation

are essential for successful digital governance. Studies by Tømte and Smedsrud (2023) and Krein (2023) further illustrate the varied perspectives of school leaders on digital transformation and the need for national guidelines and capacity-building initiatives to promote effective integration of technology in education. This study focuses on the role of capacity building programs on empowering school administrators in Umzingwane District schools, Matebeleland South Province, Zimbabwe, regarding the implementation of digital transformation. It aims to identify key challenges that limit capacity building initiatives while proposing strategies for improvement. By understanding the gaps in knowledge and preparedness, the study seeks to inform policymakers and educational stakeholders about the necessary steps to empower school administrators. Ultimately, this research aims to contribute to the broader discourse on educational leadership in the digital era, offering actionable insights for enhancing digital transformation in schools.

The purpose of this study is to identify the role of capacity building for digital transformation, various challenges faced by schools in implementing digital-based administration, discuss the strategies implemented by schools in overcoming these challenges and provide practical recommendations that can be used as a reference for the development of educational administration in realizing effective, efficient and sustainable digital-based schools. Previous research has focused more on digitalization in the learning process, classroom management and the use of e-learning applications, while studies on capacity building for educational administration, as a managerial and operational aspect that significantly determines the success of digital-based schools, remain limited. This lack of research creates a significant gap, the lack of a comprehensive mapping of truly effective strategies for overcoming barriers to digital transformation in schools. This empirical gap is even more pronounced in the Zimbabwean context, where infrastructure conditions, human resource competencies and policy support vary, necessitating more in-depth research to find solutions that meet real world needs.

The novelty of this research lies in its primary focus on educational administration in the context of digital transformation. This research simultaneously examines the role of capacity building for digital transformation, challenges and strategies of digital administration. Thus, this research makes a significant contribution to the educational management literature, particularly by emphasizing the importance of capacity building for digital transformation by education administrators as a primary foundation in transforming schools into modern, effective, efficient and sustainable educational ecosystems.

Aim of the study

This study aimed to examine the role of capacity building to empower education administrators in Umzingwane District schools regarding digital transformation in schools. The study also aims to evaluate the challenges that limit capacity building regarding digital transformation and the best strategies and practices that can promote and facilitate successful capacity building for effective digital transformation educational institutions. By understanding the gaps in knowledge and preparedness, the study seeks to inform policymakers and educational stakeholders about the necessary steps to empower education administrators through capacity building for digital transformation. Ultimately, this research aims to contribute to the broader discourse on educational leadership in the digital era, offering actionable insights for enhancing digital transformation in schools.

Objectives of the study

1. To analyze the role of capacity building programs on empowering education administrators for digital transformation.
2. To evaluate the impact of Capacity building for education administrators
3. To examine challenges that limit capacity building for education administrators.
4. To explore effective strategies and practices that promote successful capacity building on empowering education administrators for digital transformation.

LITERATURE

Theoretical framework

According to Lederman & Lederman (2015), a theoretical framework is a collection of connected ideas, definitions, and claims that explain or forecast a phenomenon or group of events. Grix, (2004) provides a condensed description of the theoretical framework in research, which is the plan or direction of a study. According to Adom and Hussein (2018), the theoretical framework of a study serves as a guide that the researcher frequently uses to construct his or her own research question. The study adopted the Organisational Change Theory (Kotter, 1996) which outlines the process of organizational change and the role of leadership in driving that change. The Diffusion and Innovations theory (Rogers, 2003) which explains how innovations are adopted and diffused within organisations. These two theories were applied to understand the role of capacity building programs on empowering education administrators for digital transformation.

The role of capacity building for successful digital transformation

Capacity building programs are vital for education administrators as they develop critical skills for quality administration. In the education system, the role of school administrators in technology integration and digital transformation is more crucial. Developing leaders' skills is a form of support and a transformative impact that shapes the school as an institution. These capacity-building programs to empower education administrators help complement the administrative functions and educational processes by focusing on the successful digital transformation in schools. As noted by Khatoon & Zahoor (2025) capacity building programs offer essential skills that empower the school leaders, enabling them to tackle challenges and hold them accountable for the schools. Enhancing the quality of education is largely dependent on school administrators' abilities. Proficient and productive administrative personnel in digital transformation can bolster educational institutions' organizational and financial success (Suryana et al., 2018).

Khatoon and Zahoor (2025) in their study state that, capacity building is crucial for digital transformation by equipping individuals and organizations with essential skills (digital literacy, data security, collaboration), fostering an adaptive culture, developing strong leadership, and establishing robust strategies, ensuring technology adoption is effective, sustainable, and drives real innovation rather than just operational changes, preventing failures from resistance or lack of know-how. Therefore, capacity building for digital transformation bridges the gap between new tools and meaningful impact by focusing on education administrators, other school stakeholders and processes alongside technology.

Research in the industry sector shows that leaders in the digital age could inspire employees to embrace the change, which is often perceived as a threat to the status quo (Kirkland, 2014). Leadership in the digital age goes beyond the provision of hardware and software, and involves defining and aligning objectives with organisational structures, digital devices and workforce capacity building, so that change is seen as meaningful (Cortellazzo, Bruni & Zampieri, 2019). It also includes managing ethical issues (Cortellazzo, Bruni & Zampieri, 2019), which is even more important with the advent of AI in education. Therefore, education administrators should take on the role of digital change agents and digital enablers, which means recognising the opportunities offered by technologies and driving their implementation in schools.

Furthermore, capacity building develops leaders' ability to define clear goals, align technology with educational objectives and plan for systemic change. As noted by Khatoon and Zahoor (2025) capacity building help school administrators to define clear goals, understand digital trends, align technology with educational objectives and create strategic roadmaps for change. Thus, the awareness and readiness of school leaders to adopt and implement digital transformation practices are pivotal to the success of digital initiatives. On the same note Nair (2024) argues that, school administrators act as key agents of change, fostering a culture of innovation and ensuring the effective integration of technology into academic and administrative processes and hence the need for capacity building to empower them to promote digital transformation in schools. Through capacity building education administrators are able create strategic vision and plan effectively for successful digital transformation in schools. Education administrators' perceptions, attitudes, and digital literacy levels significantly influence their ability to navigate digital governance challenges (Pettersson et al., 2024; Acebuche, 2023).

Additionally, the role of capacity building programs is to empower administrative staff to improve digital transformation, enhance teaching and learning processes. Capacity-building programs should offer comprehensive training that equips administrative staff with the necessary technological skills and knowledge to provide invaluable support to school teachers. As noted by Khatoon and Zahoor (2025) an investment in capacity-building programs empowers administrative staff, such as through technology integration skills, organizational skills, effective communication techniques, and innovative problem-solving strategies. Therefore, these programs enhance the confidence and competence of education administrators in successful digital transformation which ultimately supports teaching quality. Thus, capacity building for digital transformation helps sustain excellence in technology integration and transformative educational experiences in the educational institution.

The critical role of capacity building programs is to train administrative staff on use of digital tools and various digital platforms. Khatoon & Zahoor (2025) argue that, in today's rapidly evolving digital landscape, educational institutions also ensure education administrators are equipped with the necessary skills to leverage modern technology effectively. Capacity-building programs therefore essentially focus on education administrators with the knowledge and proficiency needed in digital tools and platforms for successful digital transformation in schools. These programs support efficiency in streamlining the data management process and effective technology integration in schools. Hence, capacity-building programs for digital transformation are vital because they lead to enhanced technology use by education administrators, productivity, future success and sustainability in this digital world.

Additionally, the awareness and readiness of school leaders to embrace digital transformation practices are vital for managing digital platforms across operations, instructional delivery and administrative tasks (Reis-Andersson, 2024). However, many school leaders face challenges, including insufficient familiarity with digital tools, limited infrastructure, and gaps in professional and digital development (Krein, 2023; Tømte & Smedsrud, 2023). These barriers therefore, highlight the need for capacity-building programs, systematic resource allocation and strategic policy interventions. Existing literature underscores the critical role of school leadership in digital transformation. However, there is a gap existing on empowering education administrators through capacity building for digital transformation.

Pettersson et al. (2024) emphasize that school leaders' perceptions of digital transformation are instrumental in driving post pandemic recovery and development in educational organizations. Similarly, Acebuche (2023) notes that comprehensive training and sufficient resource allocation are essential for successful digital transformation. Studies by Tømte and Smedsrud (2023) and Krein (2023) further illustrate the varied perspectives of school leaders on digital transformation and the need for national guidelines and capacity-building initiatives to promote effective integration of technology in education. Thus, capacity building for successful digital transformation is integral to transforming educational institutions. A comprehensive framework for navigating this transformation emphasizes the role of digital literacy among school leaders, collaboration, data utilization, and addressing equity and access challenges (Fullan & Hargreaves, 2021). Education administrators play a pivotal role in driving digital transformation in schools. Their ability to implement digital transformation strategies determines the extent to which digital technologies can be integrated effectively into school systems (Dolores, et al., 2025). Educational administration plays a very important role in supporting the effectiveness of implementing digital-based schools, because it covers various aspects of management that are the foundation for the sustainability of the educational process (Hidayatullah, 2025). The role of capacity building for school administration on digital transformation also facilitates faster and more effective communication between schools, teachers, students and parents through various online platforms. Thus, capacity building on digital transformation for educational administration is not only a technical support tool but also a managerial strategy that can improve the quality of educational services and ensure the optimal achievement of learning objectives through technology integration (Hashim et al., 2022).

The impact of capacity building programs on Digital Transformation

Capacity building for education administrators helps leaders to become drivers of change, not just implementers, building confidence and inspiring their school communities. This also supports teachers in adopting new digital skills, reducing resistance and ensuring successful integration. As noted by Khatoon and

Zahoor, (2025) capacity building for education administrators creates networked learning environments where schools share best practices, strengthening the entire system where these programs develop internal capacity for long-term adaptation and management of digital initiatives. Leaders therefore, feel more confident in implementing new strategies and inspiring their communities through digital transformation. Hence, capacity building for education administrators moves schools from basic technology adoption to becoming innovative learning ecosystems (Krein, 2023). This leads to better student outcomes, enabled by personalized learning, adaptive environments, enhances future-ready technological skills, encourages staff participation and creates a culture where digital transformation is driven from within schools.

Moreover, the impact of capacity building programs on digital transformation in education is critical. Similarly, Kraft and Bolves, (2022) argue that, education administrators who participate in capacity building programs are better equipped to lead the integration of technology, ensuring that digital tools are used effectively to enhance teaching and learning processes. By empowering administrators with the skills to implement and manage digital initiatives, these programs contribute to improved student engagement, personalized learning experiences and overall education quality in this digital world. As noted by Khatoon and Zahoor, (2025) capacity building fosters a culture of continuous improvement adaptability and sustainability which is crucial for long-term success in digital transformation efforts by education administrators. Capacity building for digital transformation therefore, develops administrators' mindsets and attitudes to embrace and sustain change thereby overcoming resistance in this digital shift. However, some educators and administrative staff are still accustomed to manual systems and are therefore reluctant to switch to digital systems because of lack of capacity building for digital transformation. Long-standing habits make them more comfortable with traditional methods, such as manual record-keeping, paper-based filing, or direct face-to-face communication (Ropik & Rosadi, 2025). This reluctance is often triggered by concerns about the complexity of using digital applications, fear of making technical errors, and the perception that digital systems increase the workload rather than lighten it.

Furthermore, inadequate capacity building for digital transformation promotes psychological factors such as anxiety about change and lack of confidence in operating new technological devices. In support, Krein, (2023) asserts that, this resistance is exacerbated by a lack of intrinsic motivation and external support, such as insufficient training or inconsistent supervision. As a result, the digital administrative transformation process is not optimal because some groups choose to stick with the old system. If this resistance is not addressed with appropriate change management through capacity building strategies, the technology adoption gap in schools will widen (Sebastian et al., 2020). Moreso, the cost of implementing digital systems is still considered high, especially for schools in areas with limited financial resources in Umzingwane district. Procuring hardware such as computers, laptops, tablets, internet access, and other supporting devices requires significant funding (Nair, 2024). Hence, limited capacity building programs for education administrators hinder the successful technology integration and digital transformation in educational institutions. As a result, the gap in technology access between urban and rural schools is widening.

Furthermore, the lack of support from local governments and the private sector also exacerbates the situation, as schools struggle to manage limited funds to meet the demands of digitalization. This situation demonstrates that budget constraints are a structural barrier hindering the acceleration of the equitable implementation of digital-based education administration (Nashrullah et al., 2025). In their study Lutrianto and Riswald (2025) argue that, the negative impact of limited digital literacy among administrative staff often leads to unsafe practices, such as the use of simple passwords, sharing accounts between users, or storing important data on unprotected devices. These risks are usually exacerbated by low awareness of personal data protection regulations, which are already regulated by the government. As a result, potential privacy breaches can lead to a decline in trust among parents, students and the public in school digitalization. In support is Krein (2023) who asserts that, data security issues in schools are not addressed with appropriate strategies, such as improving digital literacy, using standard security systems, and ensuring strict regulatory support. Digitizing school administration through capacity building offers significant benefits in increasing the efficiency of data management, both related to student information and finances (Khatoon and Zahoor, 2025). With a digital system, recording student data such as biographical data, attendance, grades, and academic history can be done in an integrated manner and easily accessed at any time (Walker et al., 2023). This therefore, reduces the potential for manual errors, simplifies the reporting process, and accelerates decision-making by schools.

Furthermore, when education administrators are capacitated on digital transformation, schools not only save time and effort but also increase accuracy, transparency, and build trust in school governance from parents and the community (Nugraha et al., 2025). Empowering education administrators on digital transformation therefore, allow schools to increase transparency, particularly in the presentation of academic and financial reports. Hence, through the digital platform, parents can directly monitor their children's academic progress, from attendance to grades to behavioral records. This not only strengthens communication between schools and parents but also encourages their involvement in supporting the educational process. On the financial side, the digital system allows for more open and accountable reporting, for example, regarding tuition payments, budget allocations, and the realization of school funds (Nair, 2024). Hence, with easier and more structured access, the potential for data manipulation or misuse of funds can be minimized. This transparency ultimately builds public trust in schools, increases accountability in educational institution management, and supports the creation of good governance within the educational environment (Hidayah et al., 2025). The use of digital communication applications by education administrators therefore, can significantly improve the quality of school services for both students and parents.

Moreover, through digital platforms, schools can convey important information quickly, accurately, and transparently, from activity schedules and academic announcements to administrative notifications (Kraft & Bolves, 2022). Empowering education administrators on digital transformation will assist leaders to promote digital services, facilitate access to learning materials, exam schedules and evaluation of results, allowing students to better focus their learning (Krein, 2023). Meanwhile, digital transformation can facilitate real-time monitoring of children's academic progress and direct interaction with teachers and parents without requiring physical attendance. This not only accelerates the flow of information but also increases parental involvement in supporting their children's education. This, in turn, makes school services more responsive, efficient, and adaptive to the needs of society in the digital age (Purwani et al., 2024).

Furthermore, capacity building for digital transformation of educational administration plays a crucial role in strengthening school management accountability, especially amidst the demands of an era of open information (Khatoon and Zahoor, 2025). With digital systems, recording, reporting, and archiving processes become more structured, documented, and easily audited (Rusmiyati et al., 2025). Almost every administrative activity, both academic and financial, can be tracked transparently, minimizing the potential for data irregularities and manipulation. Moreover, the transparency of information presented through digital platforms allow external parties, such as parents, school committees, and even local governments, to access relevant reports according to their needs and authority (Kanwar, 2024). This transparency directly strengthens public trust and encourages a culture of good governance in the educational environment. Thus, through capacity building for digital transformation, schools are not only able to improve the quality of their services but also demonstrate moral and professional responsibility in managing educational institutions in the digital age.

Challenges that limit capacity building programs for education administrators

Challenges are structural, institutional, or contextual factors that obstruct the adoption or effective implementation of digital initiatives. These may include outdated regulations, inadequate infrastructure, low digital literacy, limited funding, organisational resistance to change, and fragmented governance structures (Mhlanga et al., 2023; Munyede & Mapuva, 2019). Local governments across Zimbabwe operate within an ecosystem marked by serious infrastructural deficits. Basic prerequisites for digital governance—such as reliable electricity, broadband internet, and secure data storage infrastructure—are largely inadequate which limit successful capacity building programs for digital transformation. Rural schools are particularly disadvantaged, facing frequent power outages, weak mobile network coverage, and unaffordable or unavailable internet services (USAID, 2023). Additionally, the absence of government-owned digital infrastructure poses major sustainability challenges.

Additionally, Umzingwane district rural schools face acute budgetary constraints that limit their ability to invest in ICT infrastructure, technical support, or personnel training. Moreover, the high cost of internet access and digital devices exacerbates inequality in service access and unsuccessful digital transformation in rural schools. Rural households with low-income often cannot afford funding education administrators for capacity building programs to transform the schools in this digital age. This reality impedes the inclusivity and deepens

the digital divide (Mapfumo & Mutereko, 2020). Digital transformation efforts are also undermined by entrenched bureaucratic cultures within the system. Despite the proliferation of ICT in other sectors, many education administrators lack the necessary technical competencies to operate and manage digital systems because of lack of training for digital transformation. Capacity building programs for digital transformation, where they exist, are sporadic and poorly institutionalised.

The awareness and readiness of school leaders to embrace digital governance practices are vital for managing digital platforms across operations, instructional delivery, and administrative tasks (Reis-Andersson, 2024). However, many school leaders face challenges, including insufficient familiarity with digital tools, limited infrastructure, and gaps in professional development (Krein, 2023; Tømte & Smedsrud, 2023). These barricades highlight the need for capacity-building programs, systematic resource allocation and strategic policy interventions. Many schools in Matebeleland South still face various challenges in the digitalization of their administration, ranging from limited and unequal access to technological infrastructure, both in terms of internet networks and supporting devices, to low human resource competency in optimally operating digital systems. Furthermore, resistance to change often arises, from administrative staff who are still accustomed to manual systems, requiring longer adaptation time and effort through capacity building programs. As noted by Mhlanga et al, (2023) another equally significant challenge is budget constraints, which often hinder the procurement of equipment, training and maintenance of digital systems. This situation indicates that the successful implementation of digital-based educational administration requires a comprehensive strategy that includes infrastructure improvements, strengthening human resource capacity, changing work culture and adequate policy and funding support (Kalupe et al., 2025).

Additionally, educational leaders have difficulties in translating and operationalizing the introduction of digital technologies in educational institutions and, Ruloff and Petko's (2022) research show they tend to set up uncoordinated actions. One of the reasons is that educational leaders' training programs are often insufficient to prepare them for the demands of the job (Alvoid & Black, 2014). This is especially the case where digital education is concerned. The period of distance learning during COVID showed us the level of unpreparedness of many educational leaders in relation to the use of technology in educational institutions (Caneva & Pulfrey, 2023). According to Hakansson Linkvist (2019), it is a challenge for educational leaders to find time to prioritize leadership for the use of digital technologies. Kampylis and Punie (2013) also raise concerns regarding educational leaders' low levels of training and competence for promoting and advancing the innovative use of digital technologies initiatives. Educational leaders mostly seem to have little knowledge about the skills a leader needs in the digital age (Cortellazzo, Bruni & Zampieri, 2019). Furthermore, they mostly work alone and feel isolated in the job (Spillane & Lee, 2014), when the research shows the importance of building a network of schools to promote digital education and to facilitate collaborative networks for school administrators (Jariego et al., 2023).

Strategies and practices that promote successful digital transformation

To overcome challenges in implementing digital transformation, strategic practices have to emerge. Targeted professional development programs must equip school leaders with the technical and managerial skills necessary for overseeing digital systems effectively (Pettersson et al., 2024; Acebuche, 2023). Schools require adequate funding and technical support to sustain digital initiatives (Krein, 2023). Strategic vision, clear goals, and a supportive environment are essential for guiding digital transformation (Reis-Andersson, 2024). Additionally, cultivating a culture of innovation and empowering education administrators through training and resources is critical (Sinanis & Fullan, 2022). Active engagement of school leaders in digital initiatives ensures the creation of a digitally competent and supportive educational environment (Raptis et al., 2024). As noted by Khatoon and Zahoor (2025) administrative staff must receive training and development to become more technically and professionally competent in technology integration and successful digital transformation. This covers the development of managerial and administrative abilities and instruction in the use of information and communications technology (Nuraini et al., 2022).

Furthermore, to promote digital transformation and the standard of education, the administration must have frequent capacity building programs for successful digital transformation in schools. This according to Putri et al., (2024) entails establishing a positive work environment, as well as planning seminars and collaborative

training. To ensure that there is successful digital transformation in schools, school administrators must also receive thorough technology training. This training ought to be hands-on and relate technology to school administrators' professional lives (Khatoon and Zahoor, 2025). Hence, to properly perform administrative duties, education administrators need strong technological knowledge and abilities because they oversee and assist school personnel in the successful running of the schools. In support Abrori & Muali, (2020) argue that, principals can enhance their technical and professional competence through capacity building for digital transformation by actively communicating and working with administrative staff. For digital transformation to be leveraged to its full potential and to bring about change, education administrators therefore need thorough training for successful technology integration in schools.

Furthermore, a study by Dolores (2025) argues that empowering school leaders with the knowledge, skills and tools necessary for effective digital transformation, schools can achieve greater administrative efficiency, enhance educational outcomes, and foster a secure, transparent, and innovative learning environment for all stakeholders. Thus, if education administrators are well-trained, they can drive digital innovation in education successfully. Capacity building for digital transformation in schools highlights its potential to enhance the teaching and learning processes, though its adoption remains limited in Mateleland South schools. Strengthening capacity building programs for digital transformation through further research and government interventions is necessary for broader implementation. In educational institutions, where the integration of digital tools into administrative, instructional, and operational domains is rapidly accelerating, digital governance is critical (Acebuche, 2023). Introducing adequate capacity building programs for education administrators can therefore promote successful digital transformation in educational institutions.

Schools through school development committees need to provide regular workshops and training to improve education administrators' skills in using digital applications. In support is a study by Alnafrah & Mouselli, (2021) who argue that, training isn't enough just to be done once, it must be ongoing so that educators can keep up with ever-changing technological developments. Capacity building programs for digital transformation must cover mastery of the basics of digital literacy, the use of school administration applications, data management, and the use of online learning platforms. In addition to technical aspects, training should also be accompanied by the development of a positive mindset so that teachers administrators are more confident and motivated in adopting digital systems. With adequate capacity building programs for digital transformation, obstacles such as competency gaps, resistance to change and technical errors can be minimized in rural marginalized schools in Umzingwane district in Matebeland South.

Furthermore, structured training will create a standard of digital competency that is evenly distributed across schools, so that technology-based educational administration transformation can be more effective and efficient (Yahya, 2025). Schools therefore, can collaborate with various external parties, such as the government, the private sector, and digital platform providers, to accelerate successful digital transformation in rural schools. Education administrators need strategic planning for capacity building because it helps them to develop and implement effective policies and strategies to achieve the desired outcomes and improve the quality and equity of education (Carvalho et al., 2021), to allocate resources efficiently and to monitor and evaluate the progress and impact of the plan and make necessary adjustments based on the feedback and evidence (Carvalho et al., 2021; Caneva & Brabant, 2023) and to foster a culture of collaboration, innovation, and learning among school administrators (Davies & Davies, 2010).

According to Balaban et al. (2018), Jeladze & Pata (2018) training strategies should be developed to enhance digital capacity, ensure scale and sustainability. The concept of strategy underpins strategic planning (Bell, 2002). It has been argued that the development of training strategy in schools is a key management process that brings together institutional values and goals and provides a framework for the quality of provision and the use of resources (Preedy et al., 1997). Likewise, Bell (2022) argues that schools, like other organizations, cannot navigate change without capacity building for leadership and direction in this digital era.

METHODOLOGY

A qualitative research methodology (Cresswell, 2007) was conducted to determine the role of capacity building on empowering education administrators in schools. This approach was chosen because it allows the

researcher to explore the complex roles, experiences, perceptions, and practices of educational leaders, as well as the challenges in the process of technology adaptation (Creswell, 2013; Yin, 2018). By using a case study, this research provided an in-depth understanding of the local context and the dynamics occurring within the educational environment (Miles, 2014). The participants in this study consisted of school leaders and deputy heads involved in technology related decision-making.

Demographic Data

	Females	Males	Total
School heads	6	4	10
Deputy heads	5	5	10
Grand totals	10	10	20

Age (Years)

Age range	Number
20-29	2
30-39	2
40-49	4
50-59	4
60-65	8

Educational qualifications

PhD	0
Master	6
Bachelor	10
Diploma	4

Work experience

Under 5 years	2
6-10 years	4
11-15 years	4
16-20 years	4
21 and above	6

This study employed a case study design and enabled a thorough examination of participants' viewpoints, experiences and views of the phenomena being studied. Semi-structured interviews were used in this study to collect data and it allowed the researcher to get rich, in-depth information from participants. School leaders and deputy heads from 10 different schools in Mzingwane district primary schools were involved in this study. Purposive sampling was used to pick 20 participants in total, guaranteeing representation from a range of educational backgrounds and experiences. The inclusion criteria for participants were their active involvement in digital transformation and expertise in leadership roles in education. To enhance the validity of the data, this research implemented several strategies. One of them was data triangulation, where the researcher used various data sources, including interviews, observations and documentation, to verify the findings (Glesne, 2016). Flexible questioning was made possible via semi structured interviews, which allowed the researcher to delve deeper into participants' responses and collect thorough data. Ethical factors such as informed consent and confidentiality were made sure of before any interviews were conducted.

Thematic data analysis was used, which makes it possible to find and understand themes, patterns and meanings in the interview data. To promote transparency, the researcher also kept thorough records of the data collecting and analysis procedures. Qualitative research has limits even though it provides insightful information about complicated topics. The outcomes of this study could be impacted by participants' and researchers' subjective interpretations, and their generalizability could be constrained by the unique

circumstances of Zimbabwean educational institutions. Notwithstanding, concerted attempts were undertaken to augment the validity and reliability of the research outcomes by meticulous data collection and analysis protocols.

RESULTS AND DISCUSSION

Several major themes have emerged, underscoring the complex role of capacity building on empowering education administrators for digital transformation and in promoting technology integration in schools.

The role of capacity building programs for developing crucial digital transformation skills.

The study findings revealed that, in the education system, the role of school administrators for successful digital transformation is more critical. The study findings further revealed that, developing skills for education administrators is a form of support and a transformative impact that shapes and promote digital transformation in schools. In support of the findings Khatoon and Zahoor (2025) assert that, capacity-building programs help complement the administrative functions and educational processes by focusing on the school's day-to-day operations. The study found out that, these day-to-day essential skills empower the school leaders for successful digital transformation, enabling them to tackle challenges of technology integration and hold them accountable for the school organisation. The study further found out that, capacity building for empowering education administrative staff to improve teaching learning process is quite essential for successful digital transformation. To concur with the findings Suryana et al., (2018) states that, a well-structured capacity-building program offers comprehensive training that equips administrative staff with the necessary skills and knowledge to provide invaluable support to school teachers as well as students.

Furthermore, the findings revealed that investment in capacity-building programs empowers administrative staff with technological skills and innovative technology problem-solving strategies that promote digital transformation in educational institutions. These programs according to the findings enhance the confidence and competence of educational administrators, which ultimately supports teaching staff and teaching quality which helps sustain excellence and transformative educational experiences in this digital world. In line with the findings a study by Khatoon and Zahoor (2025) revealed that, training administrative staff on use of digital tools and various platforms in today's rapidly evolving digital landscape, educational organisations or schools also ensure that team members in administration are equipped with the necessary skills to leverage modern technology effectively. Thus, the findings show that, capacity-building programs are an essential focus on education administrators with the knowledge and proficiency needed in digital tools and platforms. One participant stated that, these programs support successful digital transformation for efficiency in streamlining the data management process and effective technology integration in schools. In support of the findings, Nuraini et al., (2022) argue that capacity-building programs lead to enhanced productivity, future success for technology integration and sustainability in the digital world.

Additionally, the study findings revealed that, capacity-building programs play an essential role in developing interpersonal and communication skills, leading to improved technology integration and successful digital transformation. The study findings found that, capacity-building initiatives provide training that focuses on enhancing technology integration and successful digital transformation. In support of the findings is a study by Khatoon and Zahoor, (2025) who argue that capacity building programs are structured educational initiatives to enhance the skills, knowledge and various kinds of competencies. These programs according to the findings, are not only focused on providing information but also aim at a deep understanding and practical application of complex concepts for successful digital transformation in schools. The findings further revealed that, by participating in these capacity building programs for digital transformation, administrative staff can learn comprehensive policies and govern the institutions in this digital world.

Furthermore, the study findings revealed that capacity-building programs for digital transformation catalyse professional growth to support and encourage networking among administrative staff members. These programs offer opportunities to exchange strategies and ideas that have proven successful in schools to promote technology integration. In line with the findings is a study by Khatoon and Zahoor, (2025) who assert that, capacity building programs for digital transformation can assist school administrators to connect and

collaborate, drive innovation and excellence within the institutions to gain support, mentorship, and collective wisdom in their field. Thus, the findings show that, these programs promote the power of networking in administrative professionals to reach new heights of achievement through digital transformation.

Furthermore, the study findings revealed that, capacity-building programs for digital transformation play a crucial role in establishing an effective process for education administrators to gather feedback from school teachers, students as well as parents. These programs according to the study findings, provide continuous feedback to improve the administrative support services in the school administration. In support of the study findings is a study by (Suryana et al., 2018) which revealed that, capacity building programs serve as a pivotal mechanism for fostering a culture of constant improvement in schools because they equip administrative staff with the basic and necessary skills and knowledge to implement a systematic feedback process. Some participants highlighted that, these capacity building programs for digital transformation enhance educational institutions to efficiently ensure their administrative support services are aligned with the evolving needs of their community, to create a dynamic, responsive and student-centred academic environment.

The study findings further revealed that, capacity-building programs for digital transformation have become central instruments to strengthen administrative support, impacting teaching quality and institutional performance. According to study findings, these capacity building programs for digital transformation promote a strong administrative foundation, significantly improve teaching quality and the resultant enhanced learning environments for learners. In line with the findings Suryana et al., (2018) emphasize the indispensable role of empowered capacity building programs for digital transformation for delivering excellence and exceeding contemporary education challenges. Thus, enhancing the quality of education is largely dependent on school administrators' abilities in technology integration and digital transformation. In support of the findings Khatoon and Zahoor (2025) state that, proficient and productive administrative personnel can bolster educational institutions' organizational and financial success.

Challenges of capacity building programs in relation to school administration.

The study findings revealed that, educational leaders especially those above 50 years old have difficulties in translating the introduction of digital technologies in educational institutions. In support of the findings is Alvoid & Black, (2014) who argue that, educational leaders' training programs are often insufficient to prepare them for the demands of the job in the digital age. This is especially the case where digital transformation is concerned. In line with these findings Caneva & Pulfrey, (2023) assert that, the period of distance learning during COVID showed us the level of unpreparedness of many educational leaders in relation to the use of technology and digital transformation in educational institutions. One of the participants revealed that, it is still a challenge for education administrators to find time to prioritize leadership for the use of digital technologies for successful digital transformation because of insufficient capacity building in rural schools. Thus, the findings show that some school administrators are not even keen to promote digital transformation in schools. In line with the findings, Kampylis and Punie (2013) also raise concerns regarding educational leaders' low levels of training and competence for promoting and advancing the innovative use of digital technology initiatives. Some participants further revealed that, most education administrators seem to have very little knowledge about the technological skills a leader needs in the digital age because of insufficient capacity building programs for successful digital transformation. The study findings revealed that education administrators in the ages of 50 and above mostly work alone and feel isolated when it comes to digital transformation while research shows the importance of building a network of schools to promote digital education and to facilitate collaborative networks between school leaders and teachers (Jariego et al., 2023).

Furthermore, the findings underscore that, lack of capacity building programs for education administrators and knowledge about digital education and how to implement it in schools is still a challenge. The results show that education administrators in the age range 50 to 65 do not have enough information or skills about the use of technology in education and how to effectively integrate it into their schools' curriculum and operations, as also reported by Ruloff & Petko (2022). This lack of capacity building programs for digital transformation remains a challenge although technology is becoming increasingly important in educational institutions. The results show that lack of knowledge may hinder schools from fully utilizing their potential benefits for digital transformation. For instance, one of the participants highlighted that, some school administrators may not be

able to select and evaluate the appropriate digital tools and resources and to monitor technology integration in their schools because of inadequate training programs for digital transformation. The findings further revealed that, most school administrators delegate all tasks to IT teachers and some of them cannot even access their emails without being assisted. This is a major problem form the implementation and perennity of the reform, as suggested by Caneva et al. (2023). The disadvantage of this delegation is that some school administrators do not know exactly their positions when it comes to digital transformation in schools and hence the critical need for capacity building for successful technology integration.

Furthermore, the participants seemed to have little support from the government and insufficient information to guide them towards a clear vision and objectives for successful digital transformation. This is also confirmed in the study by Kampylis & Sala (2023) when they argue that, the fact that the principals feel isolated and unsupported by the system may affect their morale and commitment to promote technology integration for successful digital transformation. Moreover, the findings revealed that, lack of capacity building programs and support may prevent school administrators from accessing and benefiting from the latest research, innovations and policies in digital education.

One of the primary challenges highlighted by participants was the resistance to adopting new technologies and the need for capacity building programs to alleviate the problem. As one administrator noted, “Administrators were hesitant to embrace new tools at first,” showing that educators may be reluctant to shift from traditional methods to digital tools. This challenge underscores the need for change management strategies to ease the transition through capacity building programs for successful digital transformation. As one participant stated, “Administrators were hesitant to embrace digital technologies,” a sentiment which was echoed by other participants. This resistance is consistent with prior studies that emphasize the difficulties organizations face when introducing new technologies (Aguinis, 2013). To align the study findings Becker & Riel, (2001) argue that resistance to change often stems from fear of the unknown, lack of familiarity with the new tools, and concern about how these changes will impact their roles. However, the findings revealed that education administrators bellow the age of 40 had no challenges with digital systems as they indicated that when they trained at colleges, ICTs were already part of their courses. Hence, these age groups had no challenges at all regardless of insufficient capacity building programs for digital transformation.

Moreover, technological barriers, such as the digital divide, were another key challenge that hindered successful digital transformation in schools. As one respondent remarked, “Some school administrators didn’t have the skills to use the software,” illustrating a gap in digital literacy among administrative staff. This aligns with the findings by Livkovic and Rojko (2022) who emphasize the critical need for digital skills development to bridge the technology gap within educational institutions.

Strategies for successful capacity building programs in relation to school administration.

Despite the challenges, the study also revealed several opportunities for improvement to achieve successful technology integration. A significant portion of participants noted that there was need for capacity building for digital transformation because new systems have increased efficiency, with one participant stating, “The new system allows us to process applications faster.” This finding is consistent with research by Menon (2019), which highlights the role of digital tools in streamlining administrative processes and improving organizational efficiency. Similarly, the study found that, digital transformation contributes to strategic value in school management hence there was need for capacity building programs to empower administrators. One participant remarked, “Digital transformation helps in making data-driven administrators’ decisions,” reflecting the potential of digital systems to enhance decision-making processes. This finding supports previous research by Ajuwon et al. (2024), who argue that, strategic advantages of using digital tools optimize administrative functions. These findings underscore the transformative potential of digital transformation in administrative management but also highlight the significant challenges that must be addressed to ensure successful implementation. As noted by Dennis and Aizenberg (2022), overcoming these challenges requires a well-planned strategy, adequate training, and strong leadership to manage the transition effectively. Educational institutions must focus on developing a clear strategy that aligns digital initiatives with organizational goals while addressing concerns related to skills gaps, digital equity, and data security through capacity building programs.

Furthermore, the findings revealed that, training and support for education administrators through Professional Development was the key to successful digital transformation as most participants stressed the importance of ongoing professional development. One respondent emphasized, “Ongoing training is crucial for smooth integration,” highlighting that without capacity building, continuous support and skill-building, the adoption of digital tools would not be sustainable. Some participants highlighted the need for continuous training and support from the government and the local community. One participant noted, “Ongoing training is crucial for smooth integration,” which underscores the importance of professional development in ensuring the effective adoption of new technologies. Previous research supports this, indicating that continuous training is essential for overcoming resistance and facilitating the successful implementation of digital tools in schools (Bondarouk & Ruël, 2013). The results also emphasize the importance of data security and privacy, with several participants expressing concern about compliance with data protection regulations, which can only be successful through capacity building programs for digital transformation. As one participant stated, “We have to make sure all data is secure.” These concerns are reflected in the literature, which highlights data security as a major challenge in digital school management (Lengnick-Hall & Moritz, 2003; Durgadevi, 2022).

Furthermore, the study findings revealed that, education administrative staff must receive training and development to become more technically and professionally competent for successful digital transformation. This covers the development of managerial and administrative abilities and instruction in the use of information and communications technology (Nuraini et al., 2022). The findings further underscored that, raising the standard of education in the rural communities promote technology integration and therefore, education administrators must engage capacity building programs for successful digital transformation. In support of the findings is Putri et al., (2024) who argue that, capacity building programs for digital transformation ensure that technology is used and integrated successfully in schools. The study findings further revealed that, this training ought to be hands-on and relate technology to school administrators' professional lives. Thus, to properly perform administrative duties, education administrators need strong technological knowledge and abilities. In line with the findings Abrori & Muali (2020) assert that, education administrators can enhance their technical and professional competence by being actively involved in capacity building programs for technology integration.

CONCLUSIONS

Capacity building programs for digital transformation and in relation to education administrators play an important role in improving the education system in rural schools. These capacity building programs for education administrators enhance the efficiency and effectiveness in the school administration. The focused areas discussed the role of capacity building programs for successful digital transformation, challenges that limit capacity building programs for education administrators, strategies and practices that promote successful digital transformation and the impact of these programs. As schools face ever-more of technology advancements, continued investment in capacity building programs for digital transformation can only be seen as a support mechanism and a strategic imperative for reforming of education administrators and successful technology integration. Additionally, research will have to continue examining the long-term effects of such capacity building programs for digital transformation and their transferability to a wide range of educational contexts for successful technology integration in schools. Overall, successful capacity building programs for administrators is necessary to promote long-lasting progress in technology integration and digital transformation.

RECOMMENDATIONS

- Policymakers should provide training and development through capacity building programs for school administrators.
- Policymakers to provide technological resources for successful digital transformation in schools.
- Policymakers to address the issue of technology advancements in schools to fully realize the benefits of digital transformation.
- Stakeholders to facilitate capacity building programs for education administrators for successful technology integration.

- Curriculum planners to monitor capacity building programs for effective digital transformation and successful technology in schools.

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