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The Role of Principals as Instructional Leaders in the Implementation of ICT Curriculum in South African Public Schools

Abstract

Education systems, including South Africa's, were forced to embrace remote schooling and online learning due to the COVID-19 pandemic. In the context of this dramatic change, the principal's role as an instructional leader has also changed. The hard lockdowns in South Africa forced schools to be creative in ensuring education continuity through digital technologies in online teaching. This became impossible in many schools due to a lack of resources and skills and the digital divide. South Africa is in the process of implementing the ICT curriculum in schools. Instructional leadership becomes crucial in such initiatives as it determines how the ICT curriculum is implemented and its subsequent impact on teaching and learning. However, many challenges hinder the effective implementation of the ICT curriculum, incorporating the lack of understanding of the pivotal role principals can play in ensuring its effectiveness. This study analysed publications on ICT curriculum implementation and instructional leadership to provide an overview of principals' roles as instructional leaders. Instructional leadership referred to in this study builds on experiences and learning acquired during COVID-19. Implementation of ICT is becoming more important to schools, and the success of such implementation is often due to effective instructional leadership.

Keywords: instructional leadership, principals as instructional leaders, ICT curriculum, roles of instructional leaders

Introduction

During COVID-19, most schools in South Africa adopted some level of remote schooling and online instruction, especially during strict lockdowns where schools were closed and face-to-face instruction was impossible. Learners were required to study at home to reduce the risk of being exposed to COVID-19. Amidst the pandemic, distance instruction was implemented as digital technologies mediated teaching. Teachers had to embark on online instruction, and principals as instructional leaders were forced to lead schools virtually and manage online teaching and learning. In 2020, during the pandemic, many, if not most, schools in developed countries battled to engage in virtual and online learning due to, among others, a lack of infrastructure and connectivity and, to a greater extent, limited knowledge on how to use ICT. It was clear that increasing ICT usage in the teaching and learning process post-COVID-19 would improve learning processes.

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Thus, starting from the time of COVID-19, a certain level of technology has been introduced in South African schools, including the launching of the ICT curriculum recently by the Department of Basic Education (DBE), which includes coding and robotics. This is coupled with the training of teachers to empower them to advance their technological skills. Although there is an acknowledgment that the basic education system is not ready to fully implement the ICT curriculum because of considerable challenges that need to be addressed before this can be undertaken, the Global Innovation Index (GII) 2019 report (Cornell University, INSEAD & WIPO, 2019) ranks South Africa as number one in the top three innovation economies in Sub-Saharan Africa. Moreover, a comparative analysis of basic e-readiness in schools reporting on ICT implementation in education in the African continent mentions South Africa as one of the countries in the African continent with ICT policies and plans in place to implement ICT in education (Pitan & Muller, 2019). This could mean that South African schools have better prospects of succeeding in implementing the ICT curriculum in schools, compared to other countries in the same region. There is a need to explore the opportunities and challenges of digital instructional leadership as schools implement the ICT curriculum.

In South Africa, policies on e-education view the ICT curriculum as an important part of the Government's strategy to improve the quality of learning and teaching across the education and training system. Its objective is to build digital and information literacy, so that all learners become confident and competent in using technology to contribute to an innovative and developing South African society (Department of Education, 2003). There is a need for principals to consider such changes and initiatives in education, as they demand an evolution of leadership practices to create schools that are effective. Principals can build on such initiatives when embarking on digital instructional leadership. Researchers agree that leadership is critical in promoting the use of technology, and the basic tenets of leadership are still valuable and needed for schools to succeed. The provision of leadership in implementing ICT in learning and teaching will accelerate its entrenchment in the leadership and vision of schools (Van Greunen et al., 2021). The four key strategies to improve ICT integration in education according to the action plan of the Department of Education involve: (a) establishing a link between the usage of ICT in the classroom and learning goals; (b) understanding the various types of technologies available; (c) establishing collaborations with stakeholders to drive e-education; and (d) analysing the status quo of e-education initiatives and their envisioned results (Department of Basic Education, 2015). It is evident that the Department of Education is calling for principals as instructional leaders to improve the instruction and thereby, the learning of students.

There are several challenges that schools in South Africa encounter when implementing an ICT curriculum. For instance, a pilot study conducted in nine provinces in South Africa by Veldsman et al. (2020), revealed that more than 75% of the 5199 schools that participated in the study were at a maturity level of awareness of the role of digital technologies, with some level of digital competency. Being digitally competent means that staff members develop their digital competencies and digital content and begin introducing innovative teaching styles (Van Greunen et al., 2021). These results indicate that most schools are far from reaching maturity where digital technologies are entrenched in their schools and the learning and teaching processes due to underdeveloped ICT infrastructure, lack of access to the internet, and limited

leadership and management. Although factors influencing the use of ICT in schools are complex and need a multi-pronged approach to address them, the principal's attitude and the understanding of the important role they play can be one of the drivers of the effective implementation of ICT in schools. Effective leadership improves academic performance. This necessitated examining the roles of principals as digital instructional leaders, in leading and managing the implementation of the ICT curriculum. This paper focused on the following research questions associated with implementing digital instructional leadership in schools by asking the following questions: (a) how do principals as digital instructional leaders influence the implementation of ICT in public secondary schools in South Africa? and (b) in what way does the school principal, as a digital leader, supports and motivates teachers to implement ICT curriculum, and enhance student learning? This study was prompted by several studies that have underemphasized the role of school leaders in ICT integration in South Africa.

Instructional leadership and technological leadership

According to Bush et al. (2010), instructional leaders focus strongly on overseeing curriculum implementation across the school. Instructional leadership is centred around curriculum and instruction. In general, the instructional leadership practices of school principals are the fundamental basis of influencing learners' academic achievement. The instructional leadership model refers to the role and the functions of school leadership in order to employ different management tasks concerning teaching and learning.

It is becoming apparent that instructional leadership is evolving to include technological leadership. Strong leadership is key if schools are to succeed in implementing the technology-based school curriculum. Technological leadership differs from traditional leadership theory, in that it does not focus on the characteristics or actions of leaders, but instead emphasizes that leaders should develop, guide, manage, and apply technology to different organizational operations, in order to improve operational performance (Chang, 2012). It can be argued that the advent of digital technologies has changed the instructional leadership roles of principals. Technological leadership has many dimensions, including vision planning and management, staff development, technological and infrastructure support, monitoring and evaluation, and communication and interpersonal skills. These dimensions of technological leadership are discussed below.

The role of principals in the implementation of ICT curriculum

Instructional leaders have a clear mandate in ICT implementation involving first having a clear vision, strategic guidelines, and objectives for ICT integration in their schools. This includes developing a shared ICT vision that is inclusive of all stakeholders. A shared vision is stimulated by communication and shared decision-making. Instructional leadership helps principals identify a school vision. The ICT vision would intend to answer the question: how does ICT fit into the vision of the kind of school we want to have? Realising the vision means integrating the vision into the school improvement and plan and considering how the needed investment will be secured (Schreurs, 2007). Thus, such a vision would enable a principal to harness school resources to promote ICT integration in the school. Furthermore, a clear vision and strategies would curb poor coordination of activities. Mingaine (2013) argues that

school leadership vision and strategic ICT plans should be driven by pedagogical and not technological considerations. In that case, instructional leaders would enable ICT to be part of learning activities with the potential to improve teaching, learning, and academic achievement.

Second, they must plan the programme of school development from the perspective of ICT. Planning as a managerial task is important in all the activities of the school, including the integration of digital technologies into classroom learning programs. Planning for ICT curriculum implementation includes the development of an ICT vision as indicated above, taking stock of the current infrastructure and areas for improvement, and identifying current ICT and target practices, aligned with learning and teaching goals. A strategic plan therefore, will address the learning and teaching goals of the ICT curriculum while adhering to a team approach that is inclusive of all stakeholders to allow the school community to consider how technology can change over time, for more effective usage of digital technologies. Planning also includes organising and securing resources to support technology use and integration in their schools, thereby, providing teachers with access to technology resources. This research regards resource allocation practice as central to the instructional improvement of the ICT curriculum.

Third, they must manage the integration of ICT in learning and teaching. Gauteng Department of Education (2011) guidelines for ICT refers to managing resources and infrastructure, acquiring hardware and software, timetabling for laboratories, and data management as important aspects in determining the e-readiness and e-maturity of the school. Poor management can lead to a failure of an ICT project in a school. This is prevented by embarking on managing the educational production function. The literature surveyed emphasises the importance of competence in technology use as the opposite would limit the ability to offer meaningful instructional leadership in teaching the use of ICT. This could mean that principals can improve instruction by staffing their schools with high-quality teachers and providing them with the appropriate support and resources to be successful in the classroom. In that case, the focus is not only on classroom instruction but mainly on organisational management. The major role of principals would be to develop the organizational structures in order to improve the instruction of the ICT curriculum. This paper's author believes instructional leadership should be combined with organisational management to promote school improvement and learning.

Fourth, promoting an academic learning climate. The principal, as the instructional leader, is required to set the instructional tone that must be followed by teachers and learners in pursuit of the attainment of expected digital maturity. The principal is expected to create a culture of ongoing improvement, high standards, and expectations for students and teachers. It is believed that principals who practice instructional leadership can influence the behaviour of teachers. One way of doing this is to model this behaviour. Effective role modelling allows teachers to learn from principals by observing how they conduct their professional duties and also be freely available for consultation, in case a teacher is experiencing difficulties in the classroom. A finding in a study conducted by Kozloski (2006) revealed that principals advocate that modelling is one of the best ways to show teachers to follow their lead in technology. In modelling the behaviour, principals must embrace technology and use it as part of their school's investment in technology, thereby modelling the use of technology for teachers and students. To that end, a technology leader must foster and develop a

unique set of skills and competencies that move beyond the traditional school leader's role.

Fifth, developing a supportive work environment. Among the issues that negate the integration of ICT curriculum into classroom activities in South African schools is a lack of clarity regarding the e-Education policy. This role includes being an active information driver and policy translator, as the new rules and regulations may not be clear to teachers and parents. The ICT curriculum implementation must be informed directly by the policy document. As an instructional leader, the principal and all staff members have to develop school-based strategies to guide and ensure that teachers align their daily activities and key activities, to the intentions of the government strategy on e-education. The implementation of ICT curriculum can thrive in a healthy, supportive environment, where teachers in a school have a similar understanding of the processes of ICT curriculum in line with e-education policy.

As a starting point, teachers need to be given time to participate in training activities, either by being allowed to and supported in attending workshops that are organised by the Department of Education, or by the school. Teachers need to possess the right skills and a positive attitude to integrate ICT into their teaching effectively. Lack of skills (Msila, 2015) and a lack of self-efficacy of teachers (Nkula & Krauss, 2014) have a negative impact on the use of ICT in classrooms. ICT self-efficacy describes self-confidence and beliefs about the effective use of ICT with respect to one's capability to perform a specific task (Hong et al., 2014). Muda et al. (2017) found that teachers' efficacy can also be increased with instructional leadership practice, to manage education changes. A high efficacy may translate to acceptance of change and commitment to implementing ICT. Acquiring skills and gaining more knowledge and understanding in ICT implementation will enable teachers to believe in their capabilities, exercise control over their own functioning, and improve motivation as they strive to master their craft. For principals, it would translate into ICT competence and frequency of use, thereby fostering their supportive behaviours. The onus is on principals to ensure that teacher development is managed, so that it focuses on the needs and interests of teachers for their professional growth.

Principals champion the implementation of the ICT curriculum and become advocates for technology use, that supports student learning. Furthermore, the development of communities of practice is crucial in enabling teachers to learn from each other's experiences and expertise, as a means to enhance their digital literacy and the development of best practices in integrating ICT in the classroom.

Conclusion

Research conducted during COVID-19 in South African schools indicated that the skills deficit was an impediment to ensuring that ICT transformed education in schools. The ICT curriculum implementation intends to address ICT skills deficits. The belief in this research is that principals, as instructional leaders, are at the forefront in ensuring that teachers are motivated and equipped with skills, to pedagogically integrate ICT into the teaching and learning process. It leans towards a broader view of instructional leadership that includes two dimensions. The first includes organisational management, school climate, supportive learning environment, and defining and communicating the school's vision. The second dimension assumes the principal's engagement in supervising, monitoring, and evaluating instruction-and-curriculum-based activities in

the school. This study does not focus on school technology leadership from a technology perspective, but rather from a school leadership perspective.

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