Utilisation of ICT Tools for School Governance amid COVID-19 Crisis in South Africa

Ntombozuko Duku
University of Fort Hare, East London, South Africa

Kazeem Ajasa Badaru[*]
University of South Africa, Pretoria, South Africa

Kemi Olajumoke Adu, **Moses Sipho Mkhomi**,
Emmanuel Olusola Adu and **Mzuyanda Percival Mavuso**
University of Fort Hare, East London, South Africa

Abstract. Teaching and learning activities in South African schools are a focus of several research on the use of Information and Communications Technology (ICT) resources during the COVID-19 crisis. However, more studies are required to examine how the school principals and the parent-members of the School Governing Bodies (SGBs) used the ICT tools to undertake communication on school governance activities during the COVID-19 lockdown. In the wake of the COVID-19 crisis in South African schools, this study examined the use of ICT technologies for decision-making communications relating to issues of school governance between the principals and the SGBs. Utilising a quantitative research methodology, information was gathered from 126 school principals who were chosen at random from the Buffalo City Municipality (BCM) in East London, South Africa. The data analysis method employed was descriptive statistics. The findings showed that the majority of SGB parent members had basic ICT skills, could read and write, used ICT tools like smartphones, voice calls, and SMS messaging, which enabled them to interact with school principals and take part in decision-making related to school governance activities during the COVID-19 crisis. The participants described some of the difficulties associated with their choice of ICT tools, including broken smart phones, a lack of expertise with WhatsApp and Telegram, and slow message answers. The study concludes that the SGBs need to align their school policies with the Fourth Industrial Revolution (4IR) and adopt more ICT platforms for effective communications, governance, teaching, and learning activities in the new normal. It also recommends that, school principals and other SGB members still need to be trained and retrained for the use of ICT tools for efficient virtual or online participation in meetings; and there is also a

[*]Corresponding author: *Kazeem Ajasa Badaru, badruajasa97@gmail.com*

need to equip SGB members with digital devices such as tablets, laptops, smartphones, and internet data subscriptions to encourage their participation in meetings from homes, offices or any other locations outside of school premises.

1. Introduction

Due to a general lack of skills, such as those relating to efficient communication and technology use, previous studies have claimed that parent-members of the SGBs do not completely carry out their given obligations (Nwosu & Chukwuere, 2017; Lekalakala, 2006). As a result, the current study investigated the ICT proficiency of the parent members of the SGB and their involvement in decision-making for school governance, particularly during the COVID-19 lockdown that was experienced in South Africa and other parts of the world. Some of the SGBs' flaws, like low literacy rates, weak communication abilities, and low meeting attendance, have been exposed by literature. In a study of teachers and principals at township schools in South Africa, conducted as part of Van Wyk's (2004) research, 47% of respondents claimed that SGB members, particularly parent-governors, lacked the requisite skills, which made SGBs less successful. Mncube (2009) also emphasized these flaws, stating that parent-governors were unable to fully participate in SGB activities because of skill deficits, the most significant of which was a lack of communication abilities. Recognizing the shortcomings, Basson and Mestry (2019) recommend collaboration and capacity building for the parent-governors to lessen the possibility of marginalization. Despite these shortcomings and the disastrous effects of the COVID-19 prevalence on school governance, Akinnubi et al. (2012) contend that any organization, formal or informal, is heavily dependent on effective communications for managing an effective operation geared toward achieving organizational goals.

School governance is defined as the development, adoption, supervision, [enforcement], and evaluation of school policies and regulations (Duku et al., 2021). The South African Schools Act (SASA) required the establishment of democratic school governance in all schools to ensure active involvement of stakeholders as well as bring about a culture of teaching and learning in schools, which is one of the most exciting developments in the new educational dispensation; characterized by inclusivity and collective decision-making (RSA, 1996). According to Section 16(1) of the Act, the governing bodies of schools are responsible for overseeing operations. As a result, the Act is the primary piece of legislation that governs SGBs in South African independent, private, and public schools. According to some scholars, the SGB is "the legitimate 'government' of the school" (Bray, 2005, p. 133). This is not far from the truth because SGBs are constitutionally empowered to work for the advancement of schools by attempting to ensure the development of schools and the provision of quality education. Their role is also to provide a support system for school principals, teaching, and non-teaching staff of schools, for them to be able to effectively

provide their professional services for schools throughout South Africa. According to Section 16(1) of the Act, the governing boards of schools are responsible for overseeing operations.

The leaders of the SGB's professional management component are the school principals, who also represent the government by acting as the HoD's direct representative at the provincial level. In this role, the school principal in South Africa exercises control over the administration of public schools; uses their professional management knowledge in the governing process of schools on behalf of the HoD; and communicates any difficulties with school governance directly to the HoD (Bray, 2005). Along with the school administration, the SGB is made up of other elected members, such as teachers, parents of students, non-teaching employees, and representatives of students from grades 8 through 12 who attend high schools or integrated schools (Nwosu & Chukwuere, 2017). Regardless of the size of a school, the parents make up the majority of the SGB membership (50 percent plus one member representative) (Nwosu & Chukwuere, 2017). The SGB oversees the creation of school's rules and regulations and making sure that they are followed in a way that represents the school's students, teachers, parents, and non-academic personnel. As a result, decisions made within the school are directly influenced by the opinions of people who are most impacted by the teaching and learning environment. However, the SGBs' roles might be challenging at times because they are unable to participate in school activities while also doing their duties (Mncube & Mafora, 2013). Other duties of SGB include increasing its involvement in fund-raising for the school, overseeing and managing its finances, and formulating school policies.

Information and communications technology (ICT) is viewed by Adu (2015) as a tool to enhance school growth and good governance. Thus, it became essential for school governance that SGB members communicate with one another through ICTs, especially during the COVID-19 lockdown and school closures. The SGB executive members have used ICTs as a real-time tool to improve the efficient operation of schools in industrialized nations. ICT enhances the institution's operational efficiency. Computers that facilitate effective teaching and learning are present in the classrooms of both public and private institutions in advanced nations. Technology "used to transmit, save, produce, display, share, or exchange by electronic means" is implied by the term "ICT" (UNESCO, 2004, p. 12). The notion encompasses a variety of media, including radio, television, film, interactive whiteboards, DVDs, telephones (both landline and mobile), satellite systems, computer and network hardware and software, as well as the facilities and tools needed for technologies like video conferencing. The SGB has specific functions and obligations to fulfil at the school, including the use of ICT for communication, particularly during the COVID-19 crisis, to ensure the efficient functioning of the teaching and learning process by helping the school in every manner necessary. Computer systems, interactive whiteboards, tablets, Android phones, and other devices make up ICT tools. They are all used to gather and disseminate information, improve learning standards, and establish connections with educators, students, and parents.

Amid the COVID-19 crisis in particular, when schools were closed to deter the transmission of the coronavirus, ICT resources provided means of communication and virtual interaction. ICT tools enable and support "global communication and information access, flexibility, interactivity, and online discussion (presence)" (Ahmad et al., 2022, p. 381-382). ICT tools are an effective method used to help SGB communicate with learners and other stakeholders in South Africa (Adu et al., 2014). Moreover, there is evidence through research that in the past ICT resources have helped principals communicate with SGB executive members concerning running the affairs of the school (Achimugu et al., 2010). In many South African schools, particularly those serving the poor, few principals have taken up the challenge of using technology in general, and ICT in particular, to improve effective communication with staff and SGB members. School leadership in South Africa, as in other parts of the world, is a complex process marked by increasing responsibilities and accountability, especially for the principal (Grobler et al., 2012, p. 40). In addition, all schools in South Africa are regulated by the legal structure established in Chapter 10 of the South African Constitution (RSA, 1996, p. 107). The Personnel Administrative Measure (PAM) defines the principal's role as guiding, supervising, and offering professional advice to all staff members' work, confirming teaching reports, and assisting teachers, especially novices, in developing and achieving educational goals (Brunton & Associates, 2003; Hindle, 2007, p. 4).

As the COVID-19 crisis hit harder, principals were forced to use ICT tools more than ever to communicate with other SGB executives and also used them steer the affairs of the schools, especially in connection with decision-making, teaching, and learning activities. The invention of ICT tools entails the usage of information, resource materials, equipment, and expertise in product design, manufacturing, and use, as well as the extension of the human capacity to monitor and alter natural and human environments (Adu & Olatundun, 2013). In other words, technology introduces new capabilities that contribute to essential operational improvements. It reflects the modern manner in which information is transmitted through the enterprise. In a debate on the future role of technology in education, Ajisafe (2014) claimed that as we reach the new millennium, instructional technology is perceived to be a gateway to educational excellence. The knowledge of the ICT tools usage is very important as well as, the type of tools mostly used by the school principals to communicate with SGB members is also very important at this stage. Similarly, the SGB members also should be able to understand how to use ICT tools to facilitate effective communication. ICT use thereby offers an engaging cooperative experience and provides the versatility that is currently lacking in the conventional mode of communication (Adu et al., 2014). The knowledge and utilisation of ICT tools by the school principals in this dispensation will promote professional practice and good leadership roles. Thereby, leading to an improvement in the school administration.

Since the implementation of COVID-19 lockdown protocols has changed how schools are run, all stakeholders must be aware of the ICT resources available to them to effectively carry out their duties. According to experts, a wide range of factors can affect technical integration in the classroom. The principal's role as a

leader is by far the most important factor influencing how well technology is integrated. Incorporating technology, according to Ali et al. (2013), is not about teaching people how to use computers but rather about encouraging not only instructors but even SGB to use ICT tools. Given the numerous studies on school performance, school improvement, and transformation that show principals are crucial in bringing about significant school change, this research gap is highly remarkable (Adu et al., 2014). The use of ICTs by school principals and SGBs for communication and their perceptions of their ICT skills in the context of South Africa, more specifically during the COVID-19 lockdown, are, nevertheless, poorly understood. Therefore, this study investigated how ICTs were used for decision-making on governance issues and communications with SGB members during the COVID-19 crisis in East London Schools, in South Africa.

Research Questions
1.   What ICT abilities do the members of the SGB executive at the South African East London schools possess?
2.   During the COVID-19 shutdown in East London, South Africa, what ICT technologies did school administrators use to communicate with the SGB executive members?
3.   What difficulties did using ICT for communication between school principals and other SGB members during the COVID-19 crisis in South Africa present?

2. Literature Review
2.1 ICT skills of the SGB members
Mncube's study (as cited in Nwosu & Chukwuere, 2017) found that elected parents were not fully participating in the SGB's activities owing to their lack of skills for the performance of duties and responsibilities assigned to them. Among the skills lacking by the SGB members are communication skills (Lekalakala, 2006) and technological skills (Nwosu & Chukwuere, 2017). Whereas Stiglitz et al. (as cited in Nwosu & Chukwuere, 2017) opined, some 20 years before the outbreak of the COVID pandemic, that SGBs would require technological aid to bolster their capacity for effective governance in any organization. This shows that schools, as formal organizations, need effective communication for effective governance and management which can aid the achievement of organizational goals, building relationships; planning, problem-solving, and decision-making (Akinnubi et al., 2012). In response to the COVID-19 pandemic, UNICEF recommended that schools develop a comprehensive plan to communicate with stakeholders. The recommended plan is aimed at sustaining a trusted relationship with the stakeholders. Furthermore, the plans put in place must be credible and consistent in two-way communication that ensures a clear understanding of messages; facilitates ongoing dialogue, and enables collective decision-making with the stakeholders. Communication is essentially based on maximum participation, inclusivity, and timelines (UNICEF, 2021). As such, ICT inevitably became a central and indispensable medium of communication in the governance and management of schools globally during the COVID-19 pandemic and South Africa is no exception. The appointment of parents in school governance is one of

the efforts to democratize education and increase community participation in school governance.

Parental involvement in schools is participatory democracy to contribute in a meaningful way to the decisions which affect them, their children, and the schools in their communities (Mansfield-Barry & Stwayi, 2017). It is noted in the literature that there is increased community involvement in the management, decision-making, and tasks such as budgetary management, teacher recruitment, and school policy development in schools and this has in the process increased accountability (Hunt, 2007). In terms of SASA, for those parents who have children registered in the school, there is a provision that a person can be co-opted into the SGB on the grounds of having a particular skill necessary and needed by the SGB. Whilst community participation in education is legislated, however, parents' possession of particular skills is necessary to make a meaningful contribution to the governance of schools. However, school governors have to add value to the schools by possessing certain critical skills. Among the skills necessary to make a meaningful contribution are communication, and financial management, just to mention a few. In the digital age, familiarity and competence in technology cannot be overemphasized. The emergence of the global pandemic, COVID-19, has not only exposed the inequality in quality education but also the critical importance of appointing skilled SGB members who can be flexible, adaptable, and stand the test of time. The pandemic did not only place restrictions on human interactions but forced organisations to adjust and adapt or risk annihilation.

To lessen the pandemic's influence on meetings, organizations around the world have adopted new strategies and acquired new competencies (Churchman & Greany, 2020). For instance, school governors in the UK adopted new meeting techniques and used technology to hold virtual meetings. Whereas, the British governors must possess ICT skills or acquire new ones to fulfil their duty. According to the Gauteng Department of Education's (GDE) (2011) ICT Guidelines, having basic computer abilities, such as using the internet and email, means you can use computers. Furthermore, according to these recommendations, these abilities can be developed through computer literacy, which is a level of comfort with utilizing computer programs (GDE, 2011). However, parental participation in school administration does not require computer literacy; rather, it requires a willingness to help others. A skill is an individual's capacity to respond effectively in a specific circumstance through the application of information, the use of tools, and cognitive and practical techniques, according to Organisation for Economic Co-operation and Development (OECD) (2017). The ability to do and finish a task is acquired knowledge, which is important to this concept. Even if the learning process creates inequality and can be influenced by power relations, Rigby and Sanchis (2006) believe that social contact and learning are factors in developing the necessary abilities.

From an economic standpoint, skills are regarded as essential enablers of national economic growth and improved quality of life for people in the twenty-first

century (Siekmann & Fowler, 2017). Similarly, the Productivity Commission (2017) believed that skills contributed to economic growth by boosting productivity and enabling people to use new technologies to complete tasks. Thus, even with the SGBs, they will be equipped with the necessary skills to fulfil their legal obligation to govern in the best interests of the school and surrounding community. According to these criteria, skills are acquired through training, however the majority of SGBs receive no instruction in the use of ICT tools despite being expected to do so. It is also thought that they are more conversant with applications like WhatsApp and emails.

2.2 School principals' use of ICT tools for Communication with the SGB executive

Prior to the COVID-19 period, school principals used to communicate with SGBs by sending letters inviting them to in-person meetings. Principals had to continue working with the SGBs despite the COVID-19 guidelines' restrictions on gatherings. They also had to make and communicate decisions despite the limitations utilizing a variety of communication channels. For connecting offices, schools, and households, a total reliance on ICT tools was present (Badaru et al 2022). To forge solid connections with the stakeholders, UNICEF (2021) advises schools to combine a variety of reliable communication channels to make sure that everyone has access to messages via social media, emails, and SMS. To discuss governance concerns and make decisions, school governors in the United Kingdom (UK) choose to meet virtually (McCrone et al., 2021). ICT is now necessary for everyday life in the twenty-first century and, more critically, in the face of the global COVID-19 epidemic. Hunt (2007) contends that ICT may be used to enhance teaching and learning, promote interactivity and the sharing of ideas and viewpoints among individuals.

The Western Cape Education Department (WCED, 2020) gave schools instructions on the obligations of the SGBs during the COVID-19 epidemic. The primary instruction of the guidelines was that the SGB must ensure that it fulfils its role as described in Section 20(1)(e) of SASA, which is to assist the principals, teachers, and other school employees in the discharge of their professional responsibilities. Supporting the school administration in adhering to the requirements for the health and safety of the school community is one of the required duties of the SGBs during the pandemic (WCED, 2020). The results of a study by Duku et al. (2021) in South Africa showed that during the COVID-19 crisis, school principals frequently used specific ICT tools, such as cell phone voice calls, SMS, WhatsApp messages, and emails in some cases, for decision-making on matters of school governance and communication with their respective members of the SGBs. These authors also claimed that school administrators may interact with SGB members without smartphones by using standard mobile phones that were not compatible with WhatsApp messaging systems; these phones were dubbed locally in South Africa as "Tilili mobile phones" (p. 417).

2.3 The challenges posed by communication tools

Even though South Africa now has greater access to ICTs than ever before, the country nevertheless lags behind the other BRICS economies, which are also developing countries (Brazil, Russia, India, China, and South Africa)

(Moonasamy & Naidoo, 2022). For instance, Only 9.5 percent of South Africans, according to a reliable report (StatsSA, 2016), have access to the internet at home. This is in addition to the country's usual difficulties with expensive data and subpar internet connectivity, particularly in underdeveloped and rural areas (Moonasamy & Naidoo, 2022). To speak with one another, however, is a common practice.

Face-to-face encounters, email, chats, Facebook, Myspace, instant messaging, text messaging, and phone calls are a few examples of communication methods. It is interesting to notice that the characteristics of phone calls that seem to generate phone aversion are typically influenced by social variables rather than technological ones (Rettie, 2007). Since visual clues and silence are not permitted during phone talks, it can be extremely challenging to present oneself. Self-presentation encompasses self-projection, self-interpretation by the other interactant, and recursive reciprocal monitoring in which each interactant assesses the impression he presents (Rettie, 2007). These elements might all play a role in texters feeling uncomfortable during phone calls (Rettie, 2007).

SMS messaging has grown to be a significant communication trend. To schedule meetings, convey love or goodbye, avoid oral conversation, and maintain contact with friends, people have used text messaging (Hemmer, 2009). The phrase "Texting or text messaging" was originally used to describe communications sent over the Short Message service (SMS). In addition to alphanumeric text, it has expanded to incorporate multimedia messages sent via the Multimedia Messaging Service (MMS) that contain digital photographs, videos, and audio information as well as emoji (happy faces, sad faces, and other icons) and instant messaging software. Text messaging is utlised for social, professional, family, and personal reasons. It is also used both by governmental and non-governmental organisations to communicate among staff members. Like how emailing did before, sending brief informal messages became customary in many cultures in the 2010s (Pinchot et al., 2011). Many of us believed that social networks will quickly overtake other ways of communicating just some few years ago (Shin, n.d.). Traditional telecom services such as SMS and voice calls being replaced by messaging apps, include WhatsApp. Prior to a few years ago, making an international call cost astronomical amounts of money to communicate with anyone abroad (Shin, n.d.). Today, utilizing apps like WhatsApp, Skype, Zoom, and a lot more, consumers can make international calls nearly for free (Shin, n.d.). Users of messaging apps sent 94.2 trillion messages in 2014, according to Juniper Research, and a few apps are on the verge of surpassing one billion users, maybe in the coming year.

Brian Acton and Jan Koum founded WhatsApp in 2009 as a free-to-download messaging program compatible with cell phones and personal computers (Ahmad, 2018; Ceci, 2022). More than 2 billion people actively use WhatsApp messaging, according to statistics (Ceci, 2022). According to Gon and Rawekar (2017), multimedia messages like photos, videos, audio files, and images can be sent and received instantly in real time. There are a few issues with WhatsApp messenger, including message flooding, eyestrain (asthenopia), time

consumption, and technical difficulties brought on by a bad internet connection (Gon & Rawekar, 2017). Another difficulty is a mobile chat ecosystem that is largely segmented or fragmented. Users of WeChat and WhatsApp, for example, are unable to connect with one another. In contrast to making a phone call, when you can just dial the number if you know it, you must first identify the app they are using, install it, learn more about them within it, invite them to chat, then wait for them to accept your invitation before you can speak to them. Email works the same way; all you need to send it is the recipient's email address. The recipient's address is sufficient to create a connection by phone, SMS, and email (Shin, n.d.).

As e-mail usage has increased, millions of people all over the world now rely on it as a primary form of communication (Friedman & Currall, 2003). Email is used to manage virtual teams, schedule meetings, debate ideas for new projects, share information, and resolve issues (Friedman & Currall, 2003). Electronic mail, commonly referred to as email or e-mail, is a method of communication between people that involves using technology. In many realms of commerce, education, trade, government, and other aspects of daily life in most nations, an email account is now usually seen as a vital and necessary component. Later, email developed into a ubiquitous (very popular) communication method. The issue of email bombing exists. The deliberate delivery of numerous messages in bulk to a target address is known as email bombing. It can be difficult for the user when a target email address is overloaded since it might stop working and might even bring down the email server. Friedman and Currall (2003) argued that email communications can easily get out of sync. When communicating by email, it is difficult to drive the dialogue in the desired directions and mistakes frequently occur. The sender will have moved on to later arguments, unable to correct them considering feedback about an earlier mistake. The latter portions of a long message may be read in the context of the misunderstanding, anger, or loss of face created by a mistake committed during the early part of the message. In emails with multiple statements attached, this especially true. The parties' ability to create or strengthen social bonds is also restricted by the absence of prompt feedback (Friedman & Currall, 2003).

The next section explains the methodology adopted in this study.

3. Methodology
Research Approach
This study adopted a quantitative research approach. The reason for employing this approach for this study was that it could help to predict human behaviour or likely results, such as finding relationships among variables; exactly what this research was about: to show how the ICT tools were used by school principals for communication with the SGB executives during the COVID-19 crisis in South Africa (Olubela, 2015). This approach allows for data capture and analysis using numerical and graphical representations aided by statistical tools for research (Badaru & Adu, 2018).

Research Design

A research design is described as 'a blueprint for action' or a plan specifically designed by the researcher for the conduct of a study (Badaru & Adu, 2018). A descriptive research design was used to carry out this study. A descriptive research design is a non-experimental type of quantitative research methodology. Due to the high degrees of uncertainty and ignorance about the subject, as well as, the paucity of current research and literature on the research topic, the descriptive design was the most relevant and acceptable research design for this study. The choice of this design was informed by the necessity for the study's data to be collected and analysed quantitatively.

Population and Sampling

The population for this study consists of all the public-school principals in East London, South Africa. Education Statistics SA (2016) reports that there are two hundred and eighty-five (285) public schools in East London. Sampling is the procedure that results in the selection of a sample from a target population (Badaru & Adu, 2018). A sample is therefore a subset of a certain population group. Using a straightforward random sampling method, a sample size of one hundred and twenty-six participants (n = 126) was chosen for this investigation. Figure 1 and Table 1, respectively, show the sociodemographic characteristics of each participant as well as the SGB members of their respective schools.
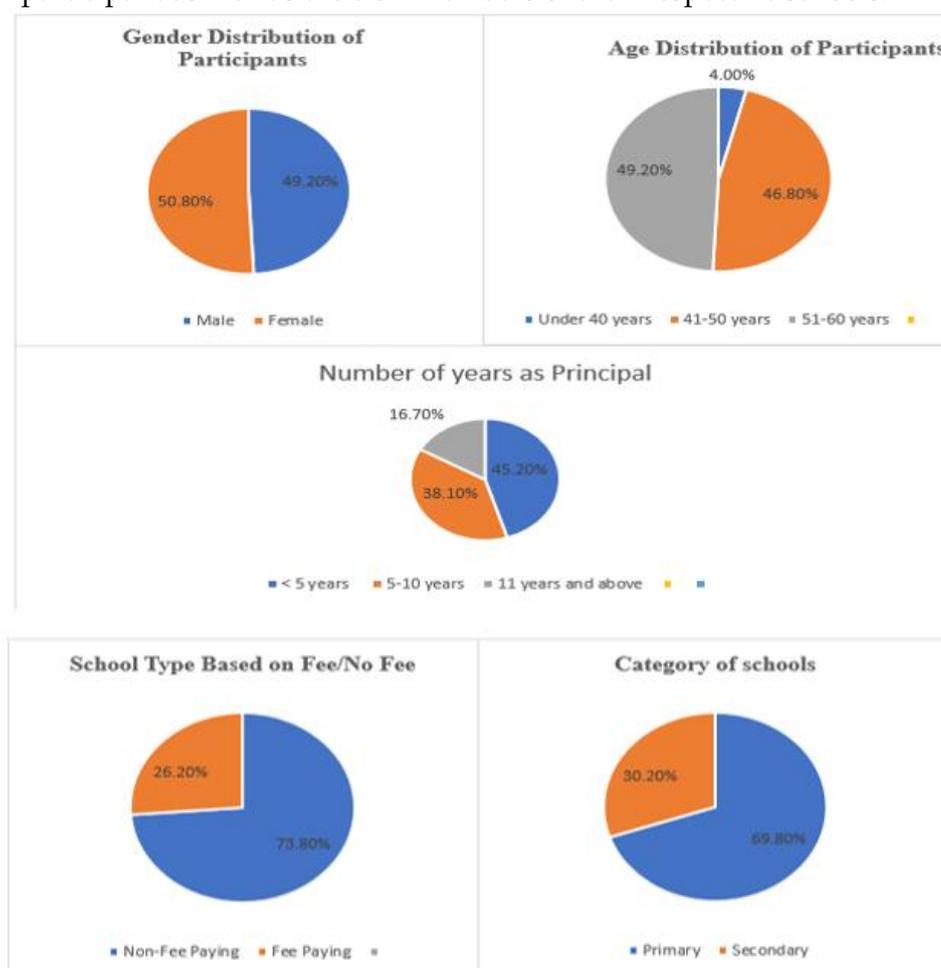
Figure 1: Socio-demographic variables of participants

Figure 1 above shows the socio-demographic variables of the participants. Out of the 126 school principals who participated in this study, 50.8% were females while, the remaining 49.2% were males. The significance of this was that the study was gender balanced as the numbers of both male and female participants were almost equal. The participants' age distribution reveals that most of them were above 40 years (96%). This is a pointer to the fact that most of these participants could be adjudged to be the most senior and highly experienced principals in the job of school management and leadership. Figure 1 also clearly presents that more than half of the participants (54.8%) have been in the saddle of school management for a period longer than 5 years. A majority of the participants (73.8%) were principals of non-fee-paying schools; the implication of this might be that they could be facing a serious shortage of funding and ICT infrastructure while, most of them (69.8%) were also working as principals in the primary schools.

Table 1: SGB Executive Socio-Demographic Variables

Variables	Frequency			Percentage (%)		
Sex	Chairperson	Secretary	Treasurer	Chairperson	Secretary	Treasurer
Male	63	33	47	50.0	26.2	37.3
Female	63	93	79	50.0	73.8	62.7
Age Group						
19-29 years	--	06	02	--	4.8	1.6
30-40 years	38	57	52	30.2	45.2	41.3
41-50 years	57	52	61	45.2	41.3	48.4
51 years+	31	11	11	24.6	8.7	8.7
Highest Qualification						
PhD	03	--	--	2.4	--	
Masters	08	--	--	6.3	--	
Bachelors	30	55	35	23.8	43.7	27.8
Diploma	18	20	11	14.3	15.9	8.7
Senior Sec. Edu	55	42	65	43.7	33.3	51.6
Junior Sec. Edu	04	07	13	3.2	5.6	10.3
Primary Edu	08	02	02	6.3	1.5	1.6
Employment Status						
Employed	74	80	49	58.7	63.5	38.9
Unemployed	52	46	77	41.3	36.5	61.1

The analysis data given by the participants about members of the SGBs in their respective schools were analysed and succinctly presented in Table 1 above. The emerging results show that more women are now trusted to lead and participate in decision-making processes, with an equal number of male and female chairpersons in each of the 126 schools. This shows that female leadership has gained momentum over the years; 26.2% were male secretaries and 73.8% female secretaries; 37.3% were male treasurers and 62.7% female treasurers. A majority of the chairpersons (69.8%) were above 40 years of age; most of the secretaries (86.5%) were between ages 30 and 50 years; while a majority of the treasurers (89.7%) were also aged between 30 and 50 years. In terms of educational qualifications, a majority of the chairpersons (89.0%); secretaries (92.9%); and treasurers (88.1%) respectively, did not have qualifications less than secondary

education. The employment status analysis of the SGB members in the 126 schools, as represented in Table 1, shows that most of the chairpersons (58.7%) and secretaries (63.5%) were employed while, a significant proportion of the treasurers (61.1%) were unemployed.

Data Collection and Instrument

In this study, the instrument utilized to collect data was a structured questionnaire. The "Public-School Principals' Use of ICT Tools for Engaging SGB Executive Questionnaire (PSPUITESEQ)" was the name of this tool. A and B are the two sections of the questionnaire. The purpose of Section A was to gather biographical and demographic data about the participants (school administrators) and SGB members in their respective schools. Section B was created to collect information on the ICT proficiency of SGB members, the types of ICT tools used for communication between principals and SGB members in individual schools, the ranking of the preferred ICT tools and the justifications for those choices, the difficulties with each of the chosen ICT tools, and an open-ended question on the ICT requirements of principals for involving the SGB-parent component in the context of school governance. The chairs, secretaries, and treasurers were the only SGB executive members included in this study. Additionally, the data analysed and provided in this study only related to the ICT proficiency of the SGB members, the types of ICT tools utilized to facilitate communication between the principals and their respective SGB members, and difficulties related to the chosen communication tools.

Validity and Reliability

The researchers validated the instrument using a face and content validation strategy. In order to validate the tool for data collection, it was also presented to professionals in the field of school leadership and management. For reliability, pilot testing was conducted using the samples outside the participants' zone. A Cronbach alpha statistical instrument was used to measure the internal consistency and reliability of the instrument. It is assumed that items in the instrument are homogeneous and so possess inter-item consistency. An instrument is reliable when it can produce consistently numerical results each time it is applied; not subject to variations except when there are changes in the variables being measured (Babbie, 2012; Sanni, 2011). The co-efficient value of 0.78 was obtained for the reliability test.

Data Analysis Method

Data were analysed with the aid of descriptive statistics such as simple percentages and frequency distributions. The results from the statistical analysis were used to address the research questions raised in the study.

Ethical Considerations

In tandem with the acceptable ethics of research, the names and schools of the participants were undisclosed to ensure confidentiality and anonymity. As Sotuku and Duku (2015) thoughtfully put it, researchers are required to carefully treat data in confidence for the protection of participants. The researchers sent emails to participants to explain the significance of the study; their consent for voluntary participation in the study was requested through the signing of the

informed consent forms which the researchers provided. The researchers also assured the participants ab initio that their participation was voluntary and they had the liberty to withdraw at any point in time when they so wished. Of course, the participants were equally given the assurance that their participation in the study would be no harm to them or their jobs. The researchers also obtained ethical clearance for data collection from the appropriate authority responsible for its issuance at their institution.

4. Results and Discussion
In this section, results for addressing the research questions raised in this study and their discussion are presented and articulated as follows:

Research Question 1: What ICT abilities do the members of the SGB executive at the South African East London schools possess?

The first research question was asked to identify the communication and ICT skills possessed by the SGB executive such as the chairpersons, secretaries, and treasurers represented by the parent-members of the governing boards. The results are succinctly presented in Table 2 below.

Table 2: The ICT Skills of the SGB Members

	SGB Chairperson		SGB Secretary		SGB Treasurer	
	Yes	No	Yes	No	Yes	No
The ability to read and write	126 (100%)	0 (0%)	126 (100%)	0 (0%)	123 (97.6%)	3 (2.4%)
The ability to use WhatsApp to write messages	115 (91.3%)	11 (8.7%)	126 (100%)	0 (0%)	116 (92.1%)	10 (7.9%)
The ability to write the SMS	119 (94.4%)	7 (5.6%)	126 (100%)	0 (0%)	126 (100%)	0 (0%)
The ability to write the email	77 (61.1%)	49 (38.9%)	88 (69.8%)	38 (30.2)	75 (59.5%)	51 (40.5%)
The ability to do the Cell phone voice calls	112 (88.9%)	14 (11.1%)	123 (97.6%)	3 (2.4%)	125 (99.2%)	1 (0.8%)
Use the WhatsApp Voice Note	118 (93.7%)	8 (6.3%)	126 (100%)	0 (0%)	122 (96.8%)	4 (3.2%)
The ability to use the Telegram Messaging	50 (39.7%)	76 (60.3%)	52 (41.3%)	74 (58.7%)	47 (37.3%)	79 (62.7%)

The analysis in Table 2 shows that nearly all the SGB executive members were said to have the ability to read and write; except for a few of them who were treasurers (2.4%) who could not read and write at all. More so, nearly all of them could use WhatsApp, SMS, email, and cell phone voice call, for communication either in writing or verbally. However, it was revealed that a majority of these SGB executive members could not use Telegram messaging App. The general observation of these researchers about the Telegram App is that some people do not use it for communication not because it is difficult to use but because it is not as popular as others. These results are sufficient to conclude that the SGB executive members from the 126 schools under study had some basic ICT skills to

be able to use some social media Apps for communication purposes during the COVID-19 crisis in South Africa.

However, these results run counter to another study's findings, which suggested that SGB parent-executive members often lacked the skills necessary for them to properly carry out their school governing duties (Nwosu & Chukwuere, 2017). More precisely, a study by Lekalakala (2006) found that SGB members lacked communication skills, and a study by Nwosu and Chukwuere (2017) discovered that parent-members of the SGB lacked technology skills. To reconcile the differences in the outcomes of these past studies with the present one, we acknowledge the fact that our study was conducted among schools located in the heart of the city where most parents are presumably well educated and exposed to the use of technology-enabled devices such as smart mobile phones. The situation might be completely different for other schools located within the rural areas in South Africa where the level of digital literacy and technological skills can be abysmally low or absent. These findings imply that school governance during the COVID-19 crisis would not have presumably suffered any serious setback as a result of movement restrictions imposed on the people while teaching and learning activities had to be conducted online via various digital platforms in the participating schools. This is true because once SGB members could still conduct their meetings virtually, the decision-making process would continue unhindered using the ICT platforms available to the SGB executive members.

Research Question 2: During the COVID-19 shutdown in East London, South Africa, what ICT technologies did school administrators use to communicate with the SGB executive members?

The above research question was asked to ascertain and unravel the particular ICT tools which were used for communication and decision-making on governance issues in the school between the principals and their respective SGB executive members represented by the chairpersons, secretaries, and treasurers. The answers to this question are presented in Table 3 below.

Table 3: School Principals' Communication Tools with the SGB Members

	SGB Chairperson		SGB Secretary		SGB Treasurer	
	Yes	No	Yes	No	Yes	No
Cell phone voice calls	117 (92.9%)	9 (7.1%)	103 (81.7%)	23 (18.3%)	123 (97.6%)	3 (2.4%)
WhatsApp Messages	93 (73.8%)	33 (26.2%)	107 (84.9%)	19 (15.1%)	106 (84.1%)	20 (15.9%)
SMS	100 (79.4%)	26 (20.6%)	123 (97.6%)	3 (2.4%)	102 (81.0%)	24 (19.0%)
Letter Writing (Non-ICT)	91 (72.2%)	35 (27.8%)	82 (65.1%)	44 (34.9%)	96 (76.2%)	30 (23.8%)
Face-to-Face (Non-ICT)	119 (94.4%)	7 (5.6%)	121 (96.0%)	5 (4.0%)	126 (100%)	0 (0%)
Telegram Messaging	9 (7.1%)	117 (92.9%)	3 (2.4%)	123 (97.6%)	3 (2.4%)	123 (97.6%)
Email	31 (24.6%)	95 (75.4%)	39 (31.0%)	87 (69.0%)	43 (34.1%)	83 (65.9%)

Cell phone (not smartphone)	126 (100%)	0 (0%)	126 (100%)	0 (0%)	126 (100%)	0 (0%)
Smart phone	94 (74.6%)	32 (25.4%)	119 (94.4%)	7 (5.6%)	118 93.7%)	8 (6.3%)
Personal computer system	72 (57.1%)	54 (42.9%)	62 (49.2%)	64 (50.8%)	51 (40.5%)	75 (59.5%)

The analysis as shown in Table 3 indicates that a majority of the SGB executive members: chairpersons (92.9%), secretaries (81.7%), and treasurers (97.6%) were reportedly utilising cell phone voice calls for communication. It was also reported by the participants that most of the SGB executive members: chairpersons (73.8%), secretaries (84.9%), and treasurers (84.1%) were able to use WhatsApp messages for communication. The participants further submitted that a preponderance of the SGB executive members was also able to write and send SMS messages for communication with the school principals. Letter writing was another communication tool reported by the participants that most of the SGB executive members: chairpersons (72.2%), secretaries (65.1%), and treasurers (76.2%) were able to use. Although, letter writing was not an ICT tool it could be written using other ICT tools such as email, WhatsApp text messages, and Telegram texting. It is important to note that letters in the form of documents could be sent as attachments via the aforementioned ICT tools. Meanwhile, it was not surprising that nearly all, the participants utilised the face-to-face (F2F) means of communication with the SGB members.

However, it was not only impossible for F2F communication to take place in schools during the COVID-19 crisis but it was also a dangerous means of communication and/or meeting as having contact with persons infected with the COVID-19 could lead to severe illness and eventual death. In addition, most of the SGB executive members were reportedly not using both the Telegram App and Email system for communication with the participants in this study. Our results also show that all the SGB chairpersons, secretaries, and treasurers own mobile phones; while a majority of these SGB members: chairpersons (74.6%), secretaries (94.4%), and treasurers (93.7%) own smartphones which are internet-enabled and social media compatible. Regarding ownership of personal computer system (PCS), the analysis revealed that more than half of the chairpersons (57.1%) own PCS; 50.8% of the secretaries do not have own PCS, and a majority of the treasurers (59.5%) have no PCS. This implies that most of the SGB executives only relied on their smartphones for them to communicate digitally with the school principals during the COVID-19 crisis. From the aforementioned findings, it may be concluded that school principals in East London used the ICT tools such as mobile phone voice calls, SMS messaging, WhatsApp messaging, WhatsApp voice calls, emails, and Telegram channels. These findings are corroborated by Duku et al. (2021) who also reported that school principals, during the COVID-19 crisis, conducted communication and governance activities with other parent-members of the SGB via digital platforms such as mobile phone calls, SMS, and WhatsApp messaging; to mention a few. It is also noteworthy to state that while the study conducted by Duku et al. (2021) was qualitative, the present study has made contributions to the body of knowledge from the quantitative perspective. Similarly, a study in the UK by McCrone et al. (2021) confirmed that school

governors had to opt for use of the digital platforms enabled by the ICT for governance and decision-making purposes.

Research Question 3: What difficulties did using ICT for communication between school principals and other SGB members during the COVID-19 crisis in South Africa present?

To understand the challenges associated with any of the communication tools used in the process of governing schools from the perspectives of the participants (school principals) surveyed in this study, an open-ended question/statement was added to the choice of the ICT tools used for communication during the COVID-19 crisis in South Africa. The participants were granted freedom to state their perceived challenges of each of the identified communication tools which included cell phone calls, WhatsApp messaging, SMS, and Telegram messaging/voice calls. Most of their responses were presented in Table 4 below.

Table 4: ICT Tools and their Challenges

ICT Tool	Associated Challenges
Cell phone voice calls	Failures or issues with the network; a bad network connection; a lack of airtime; defective smart phones.
WhatsApp messaging	Not all the parent-members are comfortable using WhatsApp, and there is a lack of data access for WhatsApp calls as well as bad internet connectivity.
SMS	Poor networks, delayed text delivery, delayed text response, no text response, network fluctuations, and lack of network coverage.
Telegram messaging	Absence of mobile data access; unfamiliarity with the Telegram social networking site.
Email	Lack of data for internet and email access; inability to access email; slow or delayed email responses; bad networks or internet connections.

The majority of participants (68%) acknowledged one or more difficulties, with only a tiny minority (32%) failing to name any challenges at all. Table 4 above contains a list of the ensuing difficulties. An open-ended question or statement was added to the list of ICT tools used for communication during the COVID-19 crisis in South Africa in order to better understand the challenges associated with any of the communication tools used in the process of governing schools from the perspectives of the participants (school principals) surveyed in this study. The participants were free to discuss any issues they had with any of the communication tools indicated, including voice and text discussions on Telegram, WhatsApp, SMS, and cell phone calls. Most of their responses are presented in Table 4 . When some of the participants' answers were unanimous, an attempt was made to capture every response. The replies of the participants were symptomatic of more significant issues that the South African educational system ran into during the COVID-19 outage. Moonasamy and Naidoo (2022) noted that South Africans had poor internet connections, expensive data plans, and limited internet access, especially in rural and underdeveloped areas. The efficiency of cell phone calls, WhatsApp calls or texts, SMS, Telegram calls or texts, as well as email, may be affected by network issues and/or termination of internet connection. Every single one of these communication methods is utterly dependent on internet connectivity.

5. Limitations of Current Study

Because the study only included schools in the Buffalo City Municipality in East London, the findings are not generalizable to all South African schools. Additionally, the current study has not yet provided answers to all the open-ended questions. The current study has, nevertheless, added some empirical insights to the body of knowledge on the value of ICTs for productive collaboration regarding school leadership and governance challenges in South Africa.

6. Conclusion

This study adds empirical knowledge about the use of ICT for school leadership and administration, particularly considering the COVID-19 situation in South Africa. The COVID-19 pandemic served as an impetus for the remote working revolution, highlighting the importance of ICTs for conducting decision-making and/or governance meetings and communications in the event of school closures and disasters that could have serious consequences for human health and existence. The present study has made some interesting discoveries that members of the SGBs in South Africa's East London schools are literate, educated, and even possess basic communication and technological skills that they leveraged for carrying out their duties and responsibilities in their rudimentary governance roles. This contrasts with the general belief, as published in the literature, that SGB parent-members are illiterate and lack important skills for their participation in the business of school governance. The governance of schools could be affected by this study in certain practical ways. Even though the pandemic-induced instability and crises in the countries seem to have subsided, it is a motivational boost to maintain the SGBs' enthusiasm and confidence in using ICTs for school governance operations. The study also sheds light on the necessity for SGBs to use more ICT platforms for efficient communication, governance, teaching, and learning activities in the new normal and why they should do so. These are insights that are crucial for SGBs. The days of providing justifications for missing important meetings will end with the use of ICT platforms for school governance activities, since SGB members will be able to join and participate electronically even if attending in person is practically impossible. The practical result of attending SGB meetings virtually or in person is that school leadership can become more functional, inclusive, and effective, and that in the post-COVID-19 era, decision-making, policy formulation and implementation processes, as well as school governance practice, can become hybrid and technologically enhanced.

7. Recommendations

Based on the study's findings, it is appropriate to advise that school principals and SGB parent-members should continue to acquire on-going training and retraining for ICT use and remote or online participation in meetings using readily available digital platforms like the Zoom App, Teams App, Google Meeting App, handling email, and Telegram messaging channels. Additionally, it is necessary to provide SGB members with digital tools like tablets, laptops, cell phones, and internet data plans to promote their attendance at school meetings from their homes, offices, or other locations. Where a lack of funding is an issue, we firmly advise that the chairpersons, secretaries, and treasurers be given the

necessary ICT devices and internet access because their attendance at the meetings where decisions are made is crucial for the overall interest of students and the day-to-day running of the school. The job of school administrators and SMTs may likewise be significantly facilitated by such group decision-making. More funding must be provided by the government, through the Department of Science and Technology, for technological advancements that would lessen the difficulties caused by network outages and poor internet access. The telecommunications industry should be enhanced with the involvement of more investors engaged in public-private partnerships oriented toward bringing the sector forward to improve service delivery across all economic sectors. Additional research is required, involving universities in other cities, rural populations inside and outside of South Africa's Eastern Cape Province, and rural schools. Future research in this area will help to better understand the capabilities of ICT of parent members of the SGB, the communication channels they used to undertake school governance activities during the COVID-19 lockdown, and the challenges they encountered.

Acknowledgement

8. References

Achimugu, P., Oluwagbemi, O., & Oluwaranti, A. (2010). An Evaluation of the Impact of ICT Diffusion in Nigeria's Higher Educational Institutions. *Journal of Information Technology Impact*, *10*(1), 25-34.

Adu, E. O. (2015). Information Communication and Technologies Education: A Veritable Tool for Sustainable future and integration into Nigeria's Development Agenda. *Journal of Communications* (JC)*, 6*(2), 236-241.

Adu, E. O., Emunemu, B. O., & Oshati, T. **(**2014). The role of ICT and higher education in sustainable development. *Journal of Communication (JC), 5*(2), 181-190.

Adu E. O**.,** & Olatundun, S. A. (2013). The Use and Management of ICT in Schools: Strategies for School Leaders**.** *Education Journal of Computer Science and Information Technology, (EJCSIT), 1*(2), pp 10-16.

Ahmad, A. (2018). Leadership communication through WhatsApp application in a primary school. *Selangor Humaniora Review*, *2*(2), 95-106. https://media.neliti.com/media/publications/353691-leadership-communication-through-whatsap-8027fa18.pdf

Ahmad, R., Nagasundram, U., Sharif, M. N. M., Yaacob, Y., Mahmud, M. M., Ishak, N. S., ... & Ibrahim, I. (2022). Information and Communications Technology (ICT) as a Teaching and Learning Tool: A Study of Students' Readiness and Satisfaction. *International Journal of Learning, Teaching and Educational Research*, *21*(10), 381-394. https://doi.org/10.26803/ijlter.21.10.21

Ajisafe, O. E. (2014). Fostering utilization of information and communication technology skills among students of Business Educators of Nigeria. *International Journal of Education and Evaluation*, *4*(2), 171-174.

Akinnubi, O. P., Gbadeyan, C. O., Fashiku, C. O., & Kayode, D. J. (2012). Effective Communication: A Tool for Improvement of Secondary School Management.

Journal of Education and Practice, 3(7), 105-110. https://www.iiste.org/Journals/index.php/JEP/article/view/1855/1810

Ali, G., Haolader, F A., & Muhammad, K. (2013). The Role of ICT to Make Teaching-Learning Effective in Higher Institutions of Learning in Uganda. *International Journal of Innovative Research in Science, Engineering and Technology*, 2(8), 4061-4073.

Babbie, L. (2012). Do ten-year-old children in Sweden know how they learn? A study of how students believe they learn compared to their learning style preferences. *International Education Studies*, 5(6), 11–23.

Badaru, K.A., & Adu, E.O. (2018). Pre-service teachers' perception of the usability of telephone conferencing as a mode of instructional delivery in social studies. *UNESWA Journal of Education (UJOE),* 1(2), 168-180. https://www.researchgate.net/publication/342083706_Pre-service_teachers'_perception_of_the_usability_of_telephone_conferencing_as_a_mode_of_instructional_delivery_in_social_studies

Badaru, K. A., Adu, K. O., Adu, E. O., & Duku, N. (2022). Teaching in a Pandemic: An Exploratory Study into University Instructors' Perceptions of Work-from-Home Opportunities and Challenges during the COVID-19 Lockdown in South Africa. *International Journal of Learning, Teaching and Educational Research*, *21*(7), 286-304. https://doi.org/10.26803/ijlter.21.7.15

Basson, P., & Mestry, R. (2019). Collaboration between school management teams and governing bodies in effectively managing public primary school finances. *South African Journal of Education*, *39*(2), 1-11. https://doi.org/10.15700/saje.v39n2a1688

Bray, E. (2005). Codes of conduct in public schools: a legal perspective. *South African Journal of Education*, 25(3), 133-138.

Ceci, L. (2022, August 4). WhatsApp- Statistics & Facts. https://www.statista.com/topics/2018/whatsapp/#topicOverview

Churchman, A., & Greany, T. (2020). A Covid-19 Reality: The Impact of the Pandemic on the Governance of Schools in England. *Oxford Review of Education, 46*(4), 533-549.

Duku, N., Mavuso, M. P., & Mkhomi, M. S. (2021). The Experiences of Members of the School Governing Bodies in Executing their Duties during the COVID-19 Pandemic Lockdown. *Alternation*, *28*(1), 405-428.

Education Statistic SA. (2016). Education Statistics in South Africa 2016. https://www.education.gov.za/Portals/0/Documents/Publications/Education%20Statistic%20SA%202016.pdf?ver=2018-11-01-095102-947

Friedman, R. A., & Currall, S. C. (2003). Conflict escalation: Dispute exacerbating elements of e-mail communication. *Human relations*, *56*(11), 1325-1347. https://www.proquest.com/docview/231516886?pq-origsite=gscholar&fromopenview=true

GDE. (2011). Guidelines on the Management and usage of ICTs in Public Schools in Gauteng. https://www.schoolnet.org.za/GDE/docs/guidelines.pdf.

Gon, S., & Rawekar, A. (2017). Effectivity of e-learning through WhatsApp as a teaching learning tool. *MVP Journal of Medical Sciences*, 19-25. https://www.mvpjms.org/index.php/mvpjms/article/download/158/12

Hemmer, H. (2009). "Impact of Text Messaging on Communication." *Journal of Undergraduate Research at Minnesota State University*, Mankato, https://cornerstone.lib.mnsu.edu/jur/vol9/iss1/5

Hunt, F. (2007). Communications in Education. *Frances Hunt, Centre for International Education*, University of Sussex. https://files.eric.ed.gov/fulltext/ED501789.pdf

Lekalakala, M.T. (2006). Problems experienced by school governing bodies in the execution of their financial management task: A case study. A Master of Education

thesis, University of South Africa. https://uir.unisa.ac.za/bitstream/handle/10500/1751/dissertation.pdf?sequence=1&isAllowed=y

Mansfield-Barry, S., & Stwayi, L. (2017). School Governance. Centre for Child Law. https://eelawcentre.org.za/school-governance

Mc Crone, T., Lucas, M., & Sims, D. (2021). School and Trust Governance during the Coronavirus (COVID19) pandemic: Findings from investigative research. National Foundation for Educational Research. https://mellersprimary.co.uk/carol-mccrone-vice-chair-of-governors-6-12-21/

Mncube, V.S. (2009). The perceptions of parents of their role in the democratic governance of schools in South Africa: Are they on board? *South African Journal of Education*, *29(1)*, 83-103.

Mncube, V., & Mafora, P. (2013). School governing bodies in strengthening democracy and social justice: Parents as partners. *Anthropologist*, *15*(1), 13-23.

Nwosu, L. I., & Chukwuere, J. E. (2017). The roles and challenges confronting the school governing body in representing schools in the digital age. *Journal of Economics and Economic Education Research*, *18*(2), 1-24.

OECD (2017). *The Survey of Adult Skills: reader's companion*. 2nd Edition, OECD Publishing, Paris.

Olubela R.A. (2015). *Effect of Appreciative and Reflective Discourse Instructional Strategies on University Students Learning Outcomes in Citizenship Education Concepts in Social Studies in South-West Nigeria, Ibadan,* Unpublished Ph.D. Thesis, University of Ibadan.

Pinchot, J., Paullet, K., & Rota, D. (2011). How mobile technology is changing our culture. *Journal of Information Systems Applied Research*, 4(1), 39-48. http://jisar.org/2011-4/N1/JISARv4n1p39.pdf

Productivity Commission. (2017). Shifting the Dial: 5-year productivity review – Chapter 3: Future skills and work, viewed 28 October 2017.

Moonasamy, A.R., & Naidoo, G. M. (2022). Digital Learning: Challenges experienced by South African university students' during the COVID-19 pandemic. *The Independent Journal of Teaching and Learning*, *17*(2), 76-90. http://www.scielo.org.za/pdf/ijtl/v17n2/05.pdf

Republic of South Africa (RSA). (1996). South African Schools Act No. 84, 1996. Cape Town: Government Gazette, 15 November 1996.

Rettie, R. (2007). Texters not talkers: phone aversion among mobile phone users. *PsychNology Journal*, *5*(1), 33-57. https://eprints.kingston.ac.uk/id/eprint/2076/1/RRettie2076.pdf

Rigby, M., & Sanchis, E. (2006). The concept of skill and its social construction, pp. 22-33. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.477.1498&rep=rep1&type=pdf

Sanni, S. (2011). Learning styles of prospective teachers: Kocaeli University case. *Journal of Educational and Instructional Studies in the world*, 3(2), 1-12.

Shin, J. (n.d.). 4 Challenges facing the messaging industry. https://www.tyntec.com/blog/4-challenges-facing-messaging-industry

Siekmann, G., & Fowler, C. (2017). Identifying work skills: international approaches National Centre for Vocational Education Research. https://files.eric.ed.gov/fulltext/ED579874.pdf

Sotuku, N., & Duku, S. (2015). Ethics in Human Sciences Research. In: Okeke, C. & Van Wyk, M. (Eds). *Educational Research: African Approach*. Cape Town: Oxford University Press Southern Africa.

StatsSA. (2016). General Household Survey. Pretoria: Statistics South Africa. http://www.statssa.gov.za/publications/P0318/P03182016.pdf

UNESCO (2004). A need to reform science and technology education. portal.unesco.org/science/en/ev.php.

UNICEF (2021). Annual Report 2021 Information and Communication Technology Division. https://www.unicef.org/reports/annual-report-2021-0

UNICEF. (2021). COVID-19 situation reports - 2021 | UNICEF South Africa. https://www.unicef.org/southafrica/reports/covid-19-situation-reports-2021

Van Wyk, N. (2004). School governing bodies: the experiences of South African educators. *South African Journal of Education*, 24(1), 49-54. https://www.ajol.info/index.php/saje/article/view/24966/20650

Western Cape Education Department. (2020). M-WCED Guideline: Roles and responsibilities of School Governing Bodies. https://wcedonline.westerncape.gov.za/documents/BackToSchool/M%20-%20WCED%20Guideline%20Roles%20and%20Responsibilities%20of%20School%20Governing%20Bodies.pdf