International Journal of Scientific Research and Management (IJSRM)
||Volume||10||Issue||05||Pages||EL-2022-2347-2356||2022||
Website: www.ijsrm.in ISSN (e): 2321-3418
DOI: 10.18535/ijsrm/v10i5.el05

Integrating Instructional Technologies in Teaching: The Case of Malkerns Primary Schools, Eswatini

Nkambule Portia L. [B. Ed], Nsibande Njabuliso H. [PHD], Bhebhe Sithulisiwe [PHD]

Educational Foundations and Management
University of Eswatini
Educational Foundations and Management
University of Eswatini
Faculty of Education
University of Eswatini

Abstract:
The purpose of the study was to establish how educators integrate instructional technologies during teaching in Malkerns primary schools, located in the Manzini region of the Kingdom of Eswatini. The main focus of this study was on the training and support that educators receive towards the integration of instructional technologies in teaching as well as strategies to be put in place in order to curb the challenges faced. The study employed a qualitative approach and a descriptive research design in which face-to-face interviews and focus group discussion were used to collect data. Purposive sampling was used to select the five head teachers, ten educators as change leaders and two computer educators from five selected schools in the Malkerns cluster. The data was analysed using thematic analysis. The main conclusions of the study were that the availability of instructional technologies in schools does not mean that they are integrated during the teaching process. The study also concluded that educators have inadequate technological training and inadequate support which hinder effective instructional technologies integration in teaching. It is recommended that appropriate training programmes for educators, establishment of fully-fledged computer laboratories and an Information and Communication Technology (ICT) policy to support instructional technologies should be put in place to ensure successful integration of instructional technologies in teaching.

Keywords: Educators, change leaders, technological integration, instructional technologies, teaching.

I. Introduction

Educators are at the heart of improving learning outcomes as they lead the turnaround of the ever-changing demands of the education system (Drucker, 2014). In this digital era, the education system solely depends on the competency of the educators as change leaders in managing change in the dynamic environment. Hatcher (2005) claims that a change leader is an individual who has the ability to energise groups towards the implementation of change projects. Change leaders who motivate and energise their people do a few things routinely, consistently and intentionally. Sardar (2018) observes that an effective change leader sees change as an opportunity for helping people to see things differently and react differently in the future. A change leader looks for change, knows how to find the right changes, and knows how to make them effective both outside the organisation and inside it.

This study sought to examine how educators as change leaders integrate instructional technologies (ITs) during teaching in Malkerns primary schools.SThe digital era involves rapid structural and transformational change and teachers are the only people who can survive the ever-changing demands of the education system (Adams & Zabidi 2018). Teachers are change champions who are better at understanding the complexity and unpredictability of change that is expected. In the modern society, it is a necessity to integrate instructional technologies in the teaching and learning process. Instructional technologies play a

pivotal role in the teaching and learning process for success in student achievement. Instructional technologies should be integrated in teaching because they play a vital role in the teaching and learning process and have proved to have several essential advantages when well applied (Dinwoodie, Masmore, Quin & Rabin, 2015).

Williams (2009) declare that there is no universal explanation of technology integration because technology integration is complex and considered in different ways that require diverse definitions. Technology integration is an effective educational technology implementation and practices to improve teaching methodologies, achieve learning outcomes, and increase students' motivation towards learning (Allinger, 2017). An enormous amount of research in the area of technology integration in education has been conducted in technologically advanced countries, while it has been limited in the developing countries (Tamim, Bernard, Borokhovski & Abrami, 2011). This means that developed countries possess a wealth of knowledge, skills, expertise, and the competitive edge that most developing countries do not possess. Mdletshe (2013) posits that developing countries can gain a lot by learning and adapting the "ready-made" skills and expertise of their advanced counterparts, and they can do so at a relatively lower cost. Consequently, developing countries and poor nations would have to invest in technology integration as much as their more developed counterparts have done. Like any development project, technology integration in education would still require considerable investments and it would have to be systematic and well planned.

II. Statement of The Problem

Educators as change leaders have challenges in integrating instructional technologies in primary schools in the Kingdom of Eswatini (Bhebhe & Maphosa, 2018; Mndzebele, 2013). If educators are expected to prepare learners to be technologically capable, they need to have the basic technology skills and know-how on how to use instructional technologies. Bhebhe and Maphosa (2018) evidently attested that some educators had limited knowledge of digital tools and hence integrating information and communication technologies was lacking. In the Eswatini context like in most developing countries, a substantial number of primary schools lack basic gadgets like computers.

III. Objectives of The Study

The study was guided by the following objectives:

i. establish how educators as change leaders are trained on integrating instructional technologies;
ii. determine how educators as change leaders are supported in driving change in the use of instructional technologies; and
iii. determine strategies for overcoming challenges faced by educators as change leaders in the integration of instructional technologies in teaching and learning.

IV. Review of Related Literature

First World Countries (FWCs) such as the United States of America, England, Japan, Singapore and Australia are countries that have the most advanced economies, the greatest influence, the highest standards of living, and have the latest technology (Affouneh, Salha & Khlaif, 2020; Hartman, Townsend & Jackson, 2019). In terms of resources, the FWC's schools are more well-funded by their governments than those in developing countries. Tinio (2003) argues that FWCs have well-equipped classrooms and school facilities ready for any technology application. It is globally acknowledged that learners and educators in FWCs have all the opportunities to implement the best instructional technologies in the classroom.

Taiwan was one of the first countries in the world to provide free Wi-Fi access for its entire schools, allowing unlimited access to digital resources (Williams, 2009). Allinger (2017) reveals that this has led to rapid advancement of educational technology inside and outside the classroom. Biancarosa and Griffiths (2012) observe that although there are few school bans on mobile devices in some schools, students are actively encouraged to use their smart phones and any applications they think might help their studies. In addition, middle school and high school students even work on developing their own applications to solve mathematical, scientific and day-to-day problems with the assistance from their educators. In Taiwan, there

has also been a surge in the popularity of online courses and live online tutoring, supplementing learning beyond the school day (Kafyulilo, 2015; Koc, 2013).

Hong Kong, Mauritus, Singapore and Australia are other developed countries that took the following initiatives: offering technical support on a contractual basis to schools; opening school laboratories after school hours for students to increase access; implementing a pilot scheme of demonstration schools with a view to establishing best practices in Information Communication Technology (ICT) education (Dennis, 2003). Hong Kong laid much emphasis on issues of access and connectivity, teacher empowerment, curriculum and resource support, and community-wide culture that fosters more involvement and ensured collaboration among school management, educators, students, parents, the business sector and other community bodies (Affouneh, et al., 2020). Whilst in Malaysia, the Malaysian Smart School Project plan stipulated the setting up of a Teacher's Room resourced with internet access, access to educational databases and professional networking (The Ministry of Education of Malaysia, 2015).

An enormous amount of research in the area of technology integration in education has been conducted in technologically advanced countries, while it has been limited in the developing countries (Tamim, Bernard, Borokhovski & Abrami, 2011). This means that developed countries possess a wealth of knowledge, skills, expertise, and the competitive edge that most developing countries do not possess. Mdletshe (2013) posits that developing countries can gain a lot by learning and adapting the "ready-made" skills and expertise of their advanced counterparts, and they can do so at a relatively lower cost. Consequently, developing countries and poorer nations would have to invest in technology integration as much as their more developed counterparts have done. Like any development project, the technology integration in education would still require considerable investments and it would have to be systematic and well planned.

In South Africa, Haddad and Jurich (2002) proposed a two-pronged strategy for implementing technology-enhanced educational reform at the national level and at the global level. They further maintained that an economically developing country like South Africa faced two types of challenges, national and international. Meyer and Gent (2016) declared that the international level faces the same global market competition as economically advanced countries. This is a market that is increasingly being driven by information and knowledge instead of industries. Many schools in developing countries are still using the teacher-centered model in classroom instruction as opposed to a collaborative and constructivist one that current education reforms recommend (Williams, 2009). Students in such schools are thus not being educated to enter the knowledge based economy of the near future. Botha (2013) maintained that the same situation applies also to developing countries. At the national level, South Africa faced a huge task, beginning with changing public and professional perceptions and ending with changing educational practice at grass-root levels.

Meyer and Gent (2016) recommended the use of the best combination of educational technologies to meet the national and international challenges. This combination would consist of low-cost, high impact, mass-delivery approaches through radio, television, and printed text in order to meet the national challenge, and computers and the Internet to meet the international challenge. However, Haddad and Jurich (2002) warned against the danger of promising too much or ignoring real limitations. Educational reform is a positive process but recommendations that are made should be realistic, feasible and dependent on the economic, social, and political situations of a country. A majority of developing countries such as Rwanda, Angola, Ethiopia, and Kenya amongst others, face the same challenges and many of Meyer and Gent's recommendations apply to other developing countries as well (Mathevula & Uwizeyimana, 2014).

The educators' positive attitudes play an important role in the teaching-learning process that utilises computers and Internet connections (Mikre, 2011). Unfortunately, Whitworth and Smith (2012) argue that whilst some have passionately integrated technology (such as the use of computers), others have guardedly welcomed it whilst others have out rightly rejected it. The resistance in the acceptance of ICT in the classroom is often said to be primarily based on the "risk of educators losing influence over the values and directions of classroom activity" (Tinio, 2003). However, it is very important to note that to change is not necessarily a barrier in itself but could also be an indication of the presence of a much deeper problem (Williams, 2009). Fullan (2016), therefore suggests that as leaders orchestrate lasting change, they should

probably think of that change as a process happening in three phases: initiation, implementation, and institutionalization.

The motivation and confidence to integrate technology in teaching and learning could only come from having access to instructional technologies equipment and possessing the required technology skills (Sardar, 2018). Katzenmeyer and Moller (2001) posit that when administrators in schools support educators through quality professional development, adequate collaboration time, and respect for their professional judgment, participants embrace school reforms and effectively change their classroom practices. Without the buy-in by educators, technology integration vision can fall flat on its face. Therefore, school leaders should remember that motivating educators is a process that involves planning, training, implementing, assessing, adjusting and repeating in order to have schools with full support for tech-savvy change leaders as well as implementers (Fullan, 2016).

The leadership role of individual schools also plays an equally important part in shaping the responses to technology innovation (Miller, Naidoo, & van Belle, 2006). This is because leaders play an important role in the management of change in every establishment. The 21st century leadership should be cultural change principal (Fullan, 2016). This kind of principal must be attuned to the big picture, a sophisticated conceptual thinker who transforms the organization through people and teams. Elmore, (2000); Fink, & Resnick, (2001); Goleman, Boyatzis, & McKee, (2002) argue that cultural change principals display palpable energy, enthusiasm, and hope. In addition, five essential components characterize leaders in the knowledge society: moral purpose, an understanding of the change process, the ability to improve relationships, knowledge creation and sharing, and coherence making. Thus, this study sought to explore how educators as change leaders integrate instructional technologies during teaching in Malkerns primary schools.

Eswatini is a small, developing country with a weak Information Communication Technology (ICT) infrastructure (Bhebhe & Maphosa, 2018). The Eswatini government introduced a draft national ICT policy in 2006 and the country has a very small number of technologies for education programmes under way of which the Computer Education Trust and various programmes at the University of Eswatini are the most known (Shafika, Farrel & Trucano, (2007). The initial ICT initiatives in Eswatini began with the establishment of the Eswatini Computer Education Trust (CET), a non-profit education funded from private sources within Eswatini. The main aim of the CET was to address the challenges of technical education in the country's public school system. One of the objectives of the trust was to provide computer literacy and ICT training to every child attending secondary education in Eswatini. The intention was to introduce computer use across the secondary school curriculum and to integrate it within the education system. The bigger goal was to provide twenty computers to each of the secondary schools in the country (National Information and Communication Infrastructure Policy, 2012).

Currently, all higher institutions including the University of Eswatini offer an introductory course in ICT (Mndzebele, 2013). In terms of policy framework and implementation, Eswatini has a draft national ICT policy of 2006 that incorporates the education sector. There is still a need to finalise the policy so that it can be implemented. The public is generally positive about promoting ICT access in the country and in particular in using technologies to support education. The Ministry of Education and Training (2020), revealed that there were only thirty-seven high schools that have established computer laboratories whilst there were only twelve primary schools with computer laboratories. Schools especially in the Lubombo and Shiselweni regions, have a few proper laboratories that could house the computers (The MoET, 2020).

The challenges facing education in Eswatini are increasing and the struggle between needs and resources are deepening (Dlamini, Bhebhe & Dlamini, 2018). The quest for radical solutions is escalating and the pressure on decision makers to do something is growing. However, in deciding the introduction of ICTs in education, especially the primary level, decision makers need to be bold but not reckless, cautious but not low, and calculative but not procrastinating. In 2018, Bhebhe and Maphosa studied the integration of ICT instructional delivery in Eswatini schools and revealed that there are benefits in technology integration literacy, yet educators in most Eswatini schools revealed challenges such as limited technology integration

literacy, or unavailability of technology devices in the schools. Furthermore, Mndzebele (2013) revealed that most educators were not equipped with technology integration skills, hence, most educators in Eswatini schools are not in a position to use technology, and they struggle to pre-record lessons for learners.

V. Theoretical Framework

This study was guided by the Technological Pedagogical Content Knowledge (TPACK) framework. The TPACK framework was developed by Mishra and Koehler (2006) which focuses on technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK). TPACK offers a productive approach to many of the dilemmas that educators face in implementing and reinforcing educational technologies in their classrooms (Kurt, 2018; Mishra & Kohler, 2006). The three types of knowledge are TK, PK, and CK; thus combined and recombined in various ways within the TPACK framework. Technological pedagogical knowledge (TPK) describes relationships and interactions between technological tools and specific learning objectives; finally, technological content knowledge (TCK) describes relationships and interactions among technologies and learning objectives. These triangulated areas then constitute TPACK, which considers the relationships among all three areas and acknowledges that educators are acting within this complex space.

Educators as change leaders make use of a variety of knowledge in order to effectively do their work and to incorporate technologies into their teaching and learning. The range of knowledge involves a knowledge base for educators that is new and therefore needs to be developed through appropriate professional development (Harris, & Hofer, 2009; Mishra & Koelhar, 2006). Mishra and Koelhar (2006) explain the concept of TPACK as the qualities of teacher knowledge required in order to integrate technology within pedagogy. For instructional technologies to support teaching and learning, pedagogy and what educators need to know to successfully incorporate the technologies must be considered (Ghamrawi, 2013). This adaptability can be seen in the various intersections and relationships already embodied in the TPACK acronym.

VI. Research Methodology

Researchers are guided by a certain paradigm and this research was guided by the interpretivist paradigm also known as anti-positivism paradigm. Creswell (2009) reveals that a research paradigm is a belief about the way in which data about phenomenon should be gathered, analysed and used The use of an interpretivist paradigm in this study was based on the belief that the participants become actively involved in all the phases of the processes (Gage, 2011). Creswell and Plano Clark (2011) argue that participants pursue understanding of the world that they live in. The interpretivist paradigm allowed the researcher in this study to view the world through the perceptions and experiences of the participants as change leaders on teaching using instructional technologies in Malkerns primary schools.

This study followed a qualitative approach and a descriptive research design. Creswell (2009) state that qualitative research is a systematic process of inquiry into the meanings which people employ to make a sense of their experiences. Qualitative research approach enables researchers to collect data in its natural setting so that the phenomenon is understood better in its field of study (Cohen & Manion, 2012; Willis, 2010). The idea about the descriptive research design enabled the researcher to obtain in-depth information, which could be used to facilitate the generalisation of one's findings to larger population that attempts to discover meaning, to investigate processes, and to gain insight into an in-depth understanding of an individual, group, or situation (Tichapondwa, 2010).

A. Population

The overall population of the study considered of five head teachers from seventeen participants from the five primary schools within the Malkerns Cluster, Manzini region. The targeted participants were considered appropriate for this study because they have been in the leadership of implementing the integration of instructional technologies during teaching in Malkerns primary schools. Educators as change leaders' views were sought by the study in order to examine how they integrate instructional technologies during the teaching process. School head teachers of the selected schools also took part in this study in order to provide information about the integration of instructional technologies in teaching from an administrative point of view.

B. Sampling

Sampling is a systemic process of identifying a small portion of the total set of persons which together comprises of the subject of a research study (Strydom, 2013). In this study, a purposive sampling which is a non-probability sampling was conducted in order to identify a sub-set of the entire population which could be conveniently studied and have conclusions drawn about this study. It was not possible for all educators as change leaders in Malkerns primary schools to participate in the study, therefore a total of seventeen participants were selected. This meant that five head teachers, two computer educators and 20% of educators from each school automatically qualified to participate in the study.

C. Research Instruments

The purpose of using the face-to-face interview was to gain information from the participants' natural settings. Face–to-face interviews also assisted the researcher to make the respondents comfortable and give the information desired. A non-structured interview schedule was used in this study. It contained open ended questions. The interview targeted the educators as change leaders since they seem to have enough time to explain related issues in depth on a face to face basis. The interview was appropriate in order to gather in depth information and also allow the researcher to fully explain the purpose of the study and further clarify questions if the respondents fail to grasp the demands of the question clearly.

VII. Data Presentation

Data collected from interviews with educators as change leaders was presented under themes: training received on integrating ITs in teaching, support received during the integration of ITs in teaching and strategies for overcoming challenges faced during teaching using ITs.

A. Training received on the integration of ITs

Participants reported that they had very little training except what was learnt in colleges and universities, there is need for revisiting as technology is not static but develops. Most of the schools are waiting for promises from responsible authorities, the school committees must organise their own staff development, other options are explained in the narratives below. One Head teacher leading a Catholic mission school had this to say:

Ehhh! I did computer in my tertiary level. Then here at school we have a programme called Profuturo (preparing for the future) whereby teachers are trained to change the school environment using what we have into a super school. It is organized by the Catholic office (Female Head Teacher E, 12 years in leadership role, B.Com, 28 May 2021).

Another Head Teacher put forth her own sentiment in terms of training that her staff had received with regard to ITs integration in teaching. She shared the following sentiment:

"I got ICT knowledge at college as well and also ehhh during the lockdown. There was someone organised by the administration to assist the general staff in the use of computers for teaching. We have been trained on how to teach using Zoom and Google classes. We also had a bit of training on Microsoft part…. the basics though" (Female Head Teacher B, 5 years in leadership role, B.ED, 18 May 2021).

In a similar vein, Head teacher A mentioned this concerning the training educator received on integrating ITs in teaching. She had this to say: *"I think they have trained themselves because most of the teachers have*

diplomas so they got the knowledge through their studies. Otherwise there is nothing from the government or the school" (Female Head Teacher A, 15 years in leadership role, B.ED, 17 May 2021).

Another Head teacher interviewed had to put it this way:
Whatever knowledge or training our staff have, they have received it on their own, not from the school or the ministry. For example, they get knowledge from the institution when they academically upgrade themselves. Otherwise there is no training provided to the staff (Female Head Teacher C, 8 years in leadership role, B.ED, 19 May 2021).

B. Support received on the integration of ITS

The sentiment of the integration of ITs' support provided by the MoET was also shared by Head Teacher E. She stated:
Oh no, we have not received any form of training from the MoET yet. Teachers have their own knowledge, maybe from upgrading themselves. We have also invited MTN to equip us about their services like online learning whereby they started with the staff, hoping we will find time to share the same information with the parents on how to learn online especially we are about to be hit by the third wave (Female Head Teacher E, 12 years in leadership role, B.Com, 28 May 2021).
During interviews and focus group discussion, sentiments from head teachers and educators were that the MoET did not provide adequate resources to enable educators to use instructional technologies in teaching. Evidence is captured in the following excerpts:
"The MoET has provided textbooks to introduce ICT in grade 3 for Competency Based Education (CBE)… For now, the MoET has provided textbooks for CBE grade 3. But the MoET has brought books without considering the availability of the computer laboratory, computers, computer teacher and the know-how to use the gadgets practically, there is nothing" (Male Educator D, M.Ed, 10 years teaching experience, FGD, 21 May 2021).

"Only the fortunate schools that have the ICT laboratories will be able effectively implement and make use of these ICT books" (Female Educator F, 4 years teaching experience, PTD, FGD, 21 May 2021).

C. Strategies for overcoming challenges faced in integrating ITs

The views given by the interview participants in particular head teachers were that schools ensure that educators integrate instructional technologies in their teaching through assessment of lessons, a general awareness of classroom practice and permission to use whatever ICT gadgets, like laptops, smartphones available. One interviewed the head teacher leading a school with a proper computer laboratory exhibited a positive attitude. She had this to say:
It is a matter of negotiating with the school committee, like I negotiated last year for laptops and we got disturbed by the COVID pandemic. … asking the school to purchase what we need. Yes, yah! Teachers bring their own gadgets to enhance their teaching like using phones to send work to learners. …..school provides them with airtime for data bundles for use at home, then when in school they have access to WI-FI. E50 per month and of course even the parents who felt so motivated they would give those particular….. Like myself I don't feel guilty to help those particular teachers for giving the airtime because it was for academic performance and I recorded everything down. Even on Saturdays some teachers drive to work and I would also provide them with that E50 for adding fuel. Half a loaf is better than nothing (Female Head Teacher D, BEd, 11years leadership role, 25 May 2021).

Another Head teacher sharing her grievance on being left behind on effectively integrating ITs in teaching put forth the following view:
"*I would say teachers here at school still use chalkboards because of the lack of gadgets. But those few teachers who use their phones I allow and encourage them to use their phones for sending work to learners at home", (*Female Head Teacher E, 12 years in leadership role, B.Com, 28 May 2021).

Another Head teacher freely expressed her effort in the interview with regard to sustaining the integration of ITs with her educators in teaching. She put forth the following sight:

"I try to assist wherever I can with the skills I have. With the shortage of gadgets, we ask our learners to bring their gadgets from home. Team work also helps us here; teachers help each other" (Female Head Teacher B, 18 May 2021).

From the interview responses on how the participants deal with challenges, some school head teachers fund airtime and fuel when an educator goes out of their way to travel over the weekend to integrate instructional technology with their teaching. Through examination of the transcripts, the following excerpts support the above statement:

I usually support teachers with E50 per month for airtime and of course even the parents who felt so motivated they would give those particular teachers just for appreciation of the hard work teachers do during their free time. Our main aim is to see progress. Like myself I don't feel guilty to help those particular teachers for giving the airtime because it was for academic performance and I recorded everything down. Even on Saturdays some teachers drive to work and I would also provide them with that E50 for adding fuel. Half a loaf is better than nothing (Female Head Teacher D, BED, 11years leadership experience, 25 May 2021).

Participants were presented with a question where they had to describe incentives provided by the school. From the interview responses, educators receive different incentives in their schools. Some are financial, tokens, retreat outings, special lunches. Below are some elaborations on how educators got motivated to lead any innovations introduced in their school. In a FGD one educator expressed his concern. He put forth this view:

Ehhh! The school does not give any form of incentive. They always say God will bless and see you. Okay they used to take us for retreat but since the COVID pandemic they have stopped……but since COVID it has stopped. We used to get incentives in the form of cash sometimes. ……And this pandemic might have come to stop these incentives and retreat things in schools I am telling you sister (Female Educator F, 4 years teaching experience, PTD, FGD, 21 May 2021).

One Head teacher differently had this to say:

I sometimes express my earnest gratitude, sometimes we have high tea accompanied by a little present together with those individuals. Also we have to retreat with the whole staff because best results are from all teachers from Grade 1. For example, if Science teachers performed exceptionally well in the school, we will have a high with that group and so on (Female Head Teacher A, 15 years in leadership role, BED, 17 May 2021).

VIII. Discussion of Findings

The findings of the study revealed that educators had very little training except what was learnt in colleges and universities. There is a need for revisiting as technology is not static but develops. Regarding this aspect, Al-Madani and Allaafiajiy (2014) suggest that governments may have to provide enough and confident trainers to train teachers. Through focus group discussion and interviews, it was established that educators lack programmes to develop them on integrating ITs especially from the school or government. However, educators get information on their own surfing the internet to support effective teaching. It appeared in the analysis that there was a lack of resources as well as the skills and training of using the gadgets needed in this era. As a form of motivation, some school head teachers fund airtime and fuel when an educator goes out of their way to travel over the weekend to integrate instructional technology with their teaching.

IX. Conclusion

The study concluded that the availability of instructional technologies in schools does not mean that they are integrated during the teaching process. Furthermore, the inadequate technological training and inadequate support of educators as change leaders hinder the effective integration of instructional technologies in teaching. It is also a conclusion that strategies seem to be favored by educators as change leaders for overcoming challenges faced when integrating ITs in teaching include formal training on integrating ITs in teaching, assistance on purchasing ITs, construction of computer laboratories and employ computer competent educators. Existing literature supports the above mentioned strategies. Makruf, Muharom, Buchori, Aryani, and Suhendri (2020) contend that teachers need motivation and proper training in order to effectively integrate instructional technologies during teaching. It was also found that schools should follow

up applications for ICT personnel and resources from the MoET which is in line with Swaziland Government (2018).

X. Recommendations

The MoET should organise appropriate seminars, workshops and any other in-service courses for educators frequently to familiarise and sensitise with a wide range of ITs and educational change management. There should be collaboration between schools, parents, sponsors and other stakeholders in education to prioritise the provision of adequate ITs, to ease the problems of inadequacy of ITs in primary schools, and to motivate educators in teaching using ITs. Primary schools should establish proper computer laboratories and equip them accordingly. As the integration of ITs seem to be here to stay, school administration should not be left behind in the empowerment and sensitisation on the importance of ITs in order for them to provide them in their school budget and provide storage facilities. The administration should involve educators in acquisition of the ITs and encourage them to use technologies in teaching. There is a need for the development of an ICT policy that will ensure successful integration of ITs during teaching and learning in Eswatini primary schools.

References

1. Adams, D., & Zabidi, Z. (2018). Educational leadership for the 21st Century. *International Online Journal of Educational Leadership, 1(1), 1-14.*
2. Allinger, P. (2017). Revealing a hidden literature: Systematic research on educational leadership and management in Africa.*Educational Management Administration & Leadership*.doi:10.1177/1741143217694895. Retrieved 10 October, 2021.
3. Al-Madani, F. M., & Allaafiajiy, I. A. (2014). Teachers' Professional Development on ICT Use: A Saudi Sustainable Development Model. *Proceeding of the 2nd International Conference on Social Sciences Research ICSSR 2014,* Kota Kinabalu, Sabah.
4. Almeida, F., Faria, D., & Queirós, A. (2017). *Strengths and Limitations of Qualitative and Quantitative Research Methods.* https://www.researchgate.net/scientificcontributions/2132915507_Andre_Queiros. Retrieved 22 January, 2021.
5. Bhebhe, S., & Maphosa, C. (2018).Integrating information and communication technologies in instructional delivery in Eswatini schools.*International Journal of Informatics, Technology & Computers, 1(1), 139-149.*
6. Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education (7th ed.).* London: Routledge.
7. Creswell, J. W. (2008). *Educational research, (3rd edition)*. New Jersey: Pearson
8. Creswell, J. W. (2009). *Research design.* London: Sage.
9. Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd Ed.). Thousand Oaks, CA: Sage Publications.
10. Dinwoodie, D., Masmore, W., Quinn, L., & Rabin, R. (2015). Navigating change: A leader's role. *European Journal of Integrative Medicine, 7(5),460-466.*
11. Dlamini, B. S., Bhebhe, S. & Dlamini, P. A. (2018). The unfolding competency-based education in Swaziland 2010-2017.*Journal of Humanities and Social Science, 23(2), 27-41.*
12. Drucker, F. (2014). Management challenges for the 21st century managing in the next society. *The Daily Drucker Post, pp, A1, A4.*
13. Gage, N. (2011). *The paradigm wars and their aftermath: A historical sketch of research on teaching since 1989. In M. Hammersley (Ed.), Educational Research and Evidence based Practice*. London, England: Sage. New York, NY: Educators College Press.
14. Haddad, W. D., & Jurich, S. (2002). *ICT for education: prerequisites and constraints.* In W. D. Haddad and A. Draxler (Eds.), Technologies for Education: Potential, Parameters and Prospects. For UNESCO by Knowledge Enterprise.
15. Harris, J., & Hofer, M. (2009). Instructional planning activity types as vehicles for curriculum-based TPACK development. *Association for the Advancement of Computing in Education, 49(1), 4087–4095.*

16. Hatcher, R. (2005). The distribution of leadership and power in schools. *British Journal of Sociology of Education, 26(2),* 253-267.
17. Kurt, S. (2018). TPACK: Technological pedagogical content knowledge framework. *Educational technology, 7, 78-97.*
18. Makruf, I., Muharom, F., Buchori, A., Aryani, R., & Suhendri, S. (2020). Providing Incentives to Improve and Develop the Performance of Teachers. *Teaching and Teacher Education, 29,675-680.*
19. Mathevula, D., & Uwizeyimana, D. E. (2014). The challenges facing the integration of ICT in teaching and learning activities in South African rural secondary schools. *Mediterranean Journal of Social Sciences, 5(20).*
20. Mdletshe, C. (2013). *School overcrowding a 'alarming' levels, http://www.timeslive.co.za/thetimes/2013/02/12/school-overcrowding-at alarminglevels.* Retrieved11 March, 2020.
21. Ministry of Education and Training, (2020). *National education ICT Report*. Mbabane, Eswatini.
22. Mishra, P. & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers college Record, 108(6), 1017- 1054*.
23. Mndzebele, N. (2013). Educators' readiness in using ICT in the classroom: The case of a developing country. *International Journal of Information and Education Technology,3(4), 79-99.*
24. Sardar I.T. (2018). *Changing role of educators in the 21st century! https://medium.com/@itsardar/changing-role-of-educators-in-the-21st* century5acb47a23a33.Retrieved 20 November, 2020.
25. Shafika, I., Farrell, G., & Trucano, M. (2007). *Survey of ICT and education in Africa: A summary report based on 53 country surveys.* The University of Johannesburg.
26. Strydom, H. (2013) "Sampling and Sampling Methods," In: A. S. De Vos, Ed., Research at Grass Roots: For the Social Sciences and Human Service Professions. https://www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/ReferencesPapers.aspx?ReferenceID=759093. Retrieved 22 January, 2021.
27. Swaziland Government. (2018). *The Swaziland Education Sector Policy*. Mbabane: Eswatini.
28. Tamim, R. M., Bernard, E., Borokhovski, P. S., & Abrami, R. F. (2011). What forty years of research says about the impact of technology on learning: a second-order meta-analysis and validation study. *Review of Education Research, 8*(1), *4-28.*
29. Tichapondwa, S. M. (2010). Trends in distance education research in Southern Africa. *International Journal of Open Distance Learning, 3,33-35.*
30. Williams, M. D. (2009*). Introduction: What is technology integration? M D Williams (Ed.) Integrating technology into teaching and learning: Concepts and applications.* Singapore: Prentice Hall.
31. Willis, G. (2010). *Interpretive research.*IS- Oslo University.