Investigating the Challenges Faced by Teachers in the Implementation of Digital Technology in Secondary Schools in Rundu Circuit, Kavango East Region Namibia

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Abstract

This study investigated the challenges faced by teachers in the implementation of digital technology in Secondary Schools in Rundu circuit, Kavango east region Namibia. An approach to qualitative research was used in the study. All secondary school principals and teachers in Namibia's Rundu Circuit, Kavango East region, made up the study's population. Three principals and seven teachers from the three secondary schools in the Rundu Circuit in the Kavango East region made up the sample for this study. Semi-structured open ended questionnaires were used to gather the qualitative data. Then, using thematic analysis, the information gathered from the interviews was then transcribed, analyzed and then presented. The results of this study showed that one of the barriers to implementing the digital technology strategy in the teaching and learning process was a lack of pedagogical training. The study's findings also showed that more teachers had limited or no access to the digital technology resources available to them in their organizations. The results of this study showed that the Kavango East region was experiencing an increase in burglaries, with computers and air conditioners being the main targets. Most of the schools had their laboratories broken into, with computers and other supporting equipment being taken, rendering the entire implementation of the digital technology policy null and void. The study's findings also revealed that some schools in the Kavango East Region lacked electricity and had a large number of malfunctioning computers that had accumulated over time because teachers lacked the necessary technical expertise to have them fixed so that both teachers and students could use them. The results of this study allowed the researchers to draw the conclusion that one of the ob-

stacles to the adoption of the digital technology policy in the teaching and learning process at some secondary schools in Rundu Circuit, Kavango East area Namibia, was a lack of pedagogical training. It may also be inferred that another significant barrier to teachers implementing the digital technology strategy in the classrooms was a lack of digital technology resources. According to the study's findings, the Kavango East region saw a rise in burglaries. The study suggested that the Ministry of Education needs to significantly increase its involvement in the process of implementing digital technology policies by offering both material and human support, providing oversight, and conducting regular reviews or assessments. Teachers must receive ongoing training in digital technology skills in order for them to be fully prepared and knowledgeable of how to use these tools for the benefit of Namibian children.

Keywords

ICT, Strategies, Implementation, Digital Technology, Teaching And Learning, Challenges, Teachers

1. Introduction

In Namibia, a National ICT Policy for Education was first introduced in 1999. A review of this policy took place in 2005 resulting in a new National ICT Policy for Education and the National ICT Policy Implementation Plan (MoESC), 2010). The new policy stipulates that pre-service and in-service teacher education institutions would be priority areas for ICT deployment, followed by schools with secondary grades (Ministry of Education Sports and Culture (MoESC), 2010). The Namibian Ministry of Education reserved funds for ICT in education in the National Budget from 2006/2007 onwards. In addition, stakeholders such as the Global e-School Initiative (GeSCI), School Net Namibia, Namibia Education Training Academy (NETA) and Computer Education Community Service (CECS) have been supporting ICT development by donating ICT resources to schools mostly located in the rural areas. These non-governmental organizations (NGOs) also provide teacher training to rural schools.

However, the effects of the policy on ICT implementation in the Namibian education system are unknown, since no evaluation has taken place. A few studies conducted in Namibia have focused on ICT deployment and technical maintenance and teacher training (Nicanor, 2015). However, ICT deployment does not guarantee use and integration in the school curriculum. The researcher realized that there is a need to evaluate the implementation of ICT Policy at national, school and classroom level for purposes of enhancing teaching and learning, as poor implementation may result in difficulties of reaching sound and reliable conclusions about effectiveness of the policy on ICT in (Mingaine, 2013). Currently in Namibia, there is insufficient data-based evidence about how the ICT Policy is being implemented in classrooms, especially at junior secondary schools in rural areas whilst these schools are a priority in the national policy.

Teachers play a significant role in developing knowledge and skills, which are crucial in the social and economic development of the country. In a rapidly changing technological world, skills in retrieving and using information accessed through technologies have become a demand in daily lives of teachers and students. Ministry of Education Sports and Culture (MoESC) (2010) argue that although teachers appear to acknowledge the value of digital technology in schools, they continue encountering obstacles during the processes of adopting these technologies into their teaching and learning. Therefore, the preparation of teachers in using and infusing technology has become a crucial aspect of the teacher education curricula (pre and in-service teacher education). Upon completion of their studies, teachers should be able to demonstrate the ability to operate a computer system to utilize software to teach the curriculum; to apply current instructional principles; and to employ appropriate assessment practices to the use of digital technology.

2. Statement of the Problem

The digital challenges are real and prove to be impediments within the course of attainment of knowledge and information (Albert, 2010). Digital Technologies available for students' learning vary widely across the schools in Namibia and in Kavango in particular, that it is nearly impossible for any past and present researchers to present a complete record of the current state of digital technology use in schools.

Many studies have been conducted to investigate the challenges to technology integration in education (Nicanor, 2015). Teachers in Kavango East and Rundu circuit in particular are having challenges in the deployment of technology in teaching in every subject. This has negatively affected the output of our learners in making learning easy and enjoyable. Our learners in Rundu circuit here in Kavango East lag behind in the application of digital technology. Therefore, the quality of education in Rundu Circuit has been adversely affected and this was further exposed by the outbreak of COVID-19. The challenges could be as a result of many factors which this research is aimed at finding out what exactly these challenges are and suggest possible solutions for these challenges.

This study sought to answer the following research question:

1) What are the challenges faced by teachers in the implementation of digital technologies in our secondary schools in Rundu circuit?

3. Theoretical Framework and Literature Review

Technology Acceptance Model (TAM) was pioneered by Davis in 1989 and is a well-validated model designed to predict individual technology adoption (Davis, 2011). In it, are two main components, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), are considered to be the major factors influencing the decision. Therefore, TAM was used as the theoretical framework for this study. TAM has been introduced as a framework for the knowledge base for teachers need to

effectively teach with technology and therefore, it has been used to guide the study. The reason for selecting this theoretical framework is that it focused on technology, pedagogy and content on the integration of digital technology in teaching and learning in classroom settings (Bingimlas, 2010). The TAM model could benefit the study as it has taken the academic world by storm by proposing a pragmatic and systematic theoretical grounding to assist teachers integrating content knowledge, pedagogy and technology. The model also forms the basis of good teaching with technology and requires an understanding of the representation of concepts using technologies. The key feature of this model is its emphasis on the perceptions of the potential user

4. Literature Review

A study carried out in Kenya by Badugela (2012) claims that some of the challenges that schools and other institutions face for the successful implementation of the ICT policy are infrastructure, finance, poor data systems and lack of compatibility, lack of skilled personnel, unfriendly leadership styles, culture and bureaucracy, old computers, burglary, limited accessibility, lack of technical support, lack of knowledge on the part of the students and negative attitude on the part of classroom practitioners and administrators in the various institutions and sectors of the economy. In another study conducted by Burns & Burns (2010) found out that the key challenges facing educators in the digital technology policy implementation are lack of time, erratic supply of power, lack of technical expertise, insufficient resources, negative attitude by old teachers, school principals and parents, theft, old computers and high cost for buying the computer hardware.

Lack of relevant training

Another stinging challenge in the successful implementation of the digital technology from a study carried out in Japan by Delhi, Bochner, & Duchesne (2003) shows that teachers' lack of the hands-on approach to digital technology tools makes the whole teaching and learning process a complete failure. They reiterated that insufficient in-service training for teachers in the use of digital technology tools in schools is hampering the successful implementation of the digital technology in schools. Pedagogical training for teachers, rather than simply training them to use digital technology tools, is an important issue (Tshabalala & Ncube, 2014).

Lack of teaching resources

In another study conducted by Quest (2014) in Malaysia said that schools might have a laboratory full of modern computer hard ware and of course a lot of syllabi in the school but without the availability of text books and other material to support the ICT tools, the teaching and learning process becomes null and void. He gave the list of the teaching materials as projectors, digital cameras, printers, photocopiers, tablets, pen drive, interactive white board, DVDs and DVDs and many others. Limited availability of resources in the classrooms re-

sults in the lack of digital competence of pupils (Ajowi, 2012).

Burglary

The fact that computers are still very expensive makes them a target for thieves who usually have ready markets to another party at a much less figure (Schlechter, Syce, & Bussin, 2016). This has made schools incur extra expense trying to burglar proof their computer rooms. This extra expense makes some schools shy away from purchasing computers for their students. Leithwood, Aitken and Jantzi (2000) agree with Hills (1992) when they say that computer components and hardware have also been removed by unfaithful laboratory attendants who sell them in the black market. Creswell (2014) concluded that burglary either causes insufficiency in the number of computers in the school or leaves a gap when it comes to sharing of the hardware during teaching and learning in the classroom.

Obsolete computers

Obsolete refers to outdated computer hardware, technology, services or practices that are no longer used, even if they are in good working condition (Dzimiri & Marimo, 2015). At other times, a file format is no longer readable by software and that is called logical obsolescence. According to a study carried out in Uganda by Amushigamo (2017) obsolete computers lower teacher and student morale; it is very common to find some schools using very old computers running on windows98 or 2000.It is good to be aware of the fact that technology keeps on evolving and advancing at a very alarming rate; new programs are being generated every time.

Lack of electricity

Many schools are still not yet connected to electricity; Uganda being a developing country, the government has not been able to connect all its schools on the national grid (Bingimlas, 2010). Consequently, those schools that fall such areas are left handicapped and may not be able to offer computer studies. A very recent study conducted in Afghanistan found out that schools without electricity do not have access to internet and valuable online resources which they so much need in a teaching and learning situation (Becta & Abbott, 2005). Teachers also lack the ability to create presentations, printouts, and use multimedia teaching methods. This limits the quality of education they can provide and deters well-trained teachers from working in schools that do not have electricity (Gray, 2014).

Computers with technical faults

Recent researches found out that while a good number of schools benefited from donated computers, they have not been adequately equipped with the same on maintenance and repair, hence it is very common to see a school's computer laboratory full of broken down computers, some repairable and others not (Leithwood, Aitken, & Jantzi, 2000). It therefore means that the whole system will not be able to be driven forward owing to computers having technical faults that perhaps would have accumulated over the time due to lack of the technical skills to repair them (Holloway, 2015).

Limited accessibility and network connection

Gupta & Gupta (2011) cite lack of access to resources, including home access, as another complex challenge that prevents teachers from effectively integrate new technology during teaching and learning in the classroom. He continued to say that in some instances, teachers had to book computers in advance for use in the classroom but would sometimes forget to do so due to a long sharing chain caused by shortage of computers in the school. Robson et al. (2001) also say that the inaccessibility of ICT resources is not always merely due to the non-availability of the hardware and software or other ICT materials within the school; it may be as a result of a number of factors such as poor resource organization, poor quality hardware, inappropriate software, or lack of personal access for teachers.

The price for the computers and high cost of maintenance

In another study carried out in Gabon by Holloway (2015), says that computers are said to be very expensive such that most individuals and schools cannot afford them for they are considered as luxuries, costing more than a television. Quest (2014) also said that poor schools could not have any taste of the ICT programs and besides the high cost of computers, it is also very costly to repair some computers which would have broken down during the teaching and learning process.

Teachers' attitudes and beliefs/resistance to change

Teachers' attitude and beliefs play a very significant role in bringing about didactic change related to the use of ICT for teaching and learning. The results of the study of (Grove, Burns, & Gray, 2013), indicated that teachers believed that they were not being adequately rewarded, supported or guided by the use of technology in their teaching practice. A study carried out in Kenya by Hills (1992) established that only few teachers were opposed of using technologies.

Cyberbullying

Cyberbullying according to Shifonono (2013) is the use of information and communications technology between minors to humiliate, taunt, and disparage one another. Nicanor (2015) further added that it is intended to tease, embarrass, deprecate and defame a targeted minor. Bullying is not a new problem, but it has a profound impact on the learning aptitude of many students today. Technology has given bullies even more avenues to torment their victims-through social networking, texting and other virtual interactions. Another research by Bingimlas (2010) claims that cyberbullying has become a major issue for schools as evidenced by the number of suicides that can be directly traced to bullying events.

5. Methodology

This study made use of a qualitative research design in order to provide answers to the research question and, thus, attain the goals and objectives of the entire study. The qualitative methodology sought to elicit subjective diverse opinions of the participants in the study as it is used to gain an understanding of the main reasons and subjective opinions of the participant (Creswell, 2014). A qualitative

approach helped the researchers to gain information from the teachers about the challenges that they face in the implementation of Digital technology in secondary schools in Rundu circuit in Kavango East region, Namibia.

The population for this study consisted of all secondary school teachers and principals in Rundu circuit, Kavango east region Namibia. A sample comprising of three principals and seven teachers was then chosen purposively from the 3 secondary schools in the Rundu Circuit in Kavango East region. One research instrument was used to collect data for this study and this was a semi structured open ended questionnaires which was administered to the seven teachers and three principals in the 3 selected secondary schools in Rundu circuit. To achieve the objectives of this study and also to ensure reliability and credibility of the data of this study, the researcher used a semi structured open ended questionnaires, which was administered to the seven teachers and three principals in the selected secondary schools in Rundu circuit.

Upon approval of the research proposal, the researchers first obtained a research permit from the International University of Management. After being granted permission to conduct the research study, another permission to conduct this study was kindly sought from the Directorate of Education, Kavango East Region. The selected secondary schools were each served with a letter of introduction explaining the purpose of the study. A research permit was also issued to the respective schools in the process.

The study adopted the thematic approach as described by Deaukee (2010) as a way of analyzing qualitative data. According to Dzimiri & Marimo (2015) there are five steps of analyzing data using thematic approach which are: familiarization of the data, data transcription, data organization, coding (categorizing the data), and data interpretation.

All the participants in the study completed informed consent forms prior to taking part in the research study. Participants were assured that their information were to be treated with the utmost confidentiality by using study codes on the data collection instrument to protect participants' responses Furthermore, participants were assured that they were to remain anonymous throughout the study because the researchers did not write down the names of the lecturers that were interviewed but rather assigned them pseudonyms in order to protect their identities.

6. Results

6.1. Presentation of the Results

Due to the qualitative methodology used in this study, data were analyzed conceptually and presented in a theme and sub-themes. Individual responses to semi-structured open-ended questionnaires were recorded, and information was then analyzed in accordance with the guidelines for data analysis for qualitative research.

Furthermore, thematic analysis is performed through the process of coding in

phases to create established and meaningful patterns (Johnson & Christensen, 2008). The researcher's interpretations and analysis have been integrated with the literature, which serve as evidence of the themes and sub-themes (Johnson & Christensen, 2008). The main theme and the sub-themes were identified through sequential phases which are data familiarization, data coding, searching for themes and theme development, reviewing themes, defining and naming themes and finally writing up the themes. The data was then presented in one main theme with sub-themes with transcribed quotations of the respondents being included to support the findings. The main theme and sub-themes that emerged from the collected data are tabulated in Table 1.

6.1.1. Theme 1: Challenges Faced by Secondary School Teachers in the Implementation of the Digital Technology Policy in Schools

Teachers faced quite a number of challenges in the implementation of the digital technology during teaching and learning in Rundu Circuit-Kavango East Educational Region. These challenges emanated from lack of resources, obsolete computers, absence of technical skills and environmental. The participants in the study exposed a wide range of challenges being experienced in their schools as they labor to implement the digital technology during the teaching and learning process. It is only when these challenges are addressed that the implementation of the digital technology in education gains meaning. The following claims from the study participants back this claim:

"*We lost a lot of computers owing to theft and we have an insignificant number left in our laboratory.*" (*Participant* 2). However, Participant 4 said that "*We have a challenge of internet which makes us unable to access digital platforms and websites for research and learning purposes.*" Participant 6 highlighted that, "*Most of the computers we have in the laboratory went obsolete; they can only be used for basic concepts in digital technology.*"

The above findings concur with those Schlechter et al. (2016) who claimed that computers are still very dear and are easy targets for thieves. Ader (2016) also talks of the age of computers and unavailability of upgraded software as other challenges humpering successful implementation of the didgital technology in schools. These challenges negatively affect the entire digital technology implementation process in so many ways if left unaddressed.

Table 1. Challenges that face teachers in implementing the digital technology in schools.

THEME	CONCEPTS
Theme 1: Challenges that face teachers in implementing the Digital Technology in schools	1.1. Lack of relevant training
	1.2. Lack of resources
	1.3. Burglary
	1.4. Obsolete computers
	1.5. Lack of electricity.
	1.6. Broken down computers.

6.1.2. Lack of Relevant Training

The digital technology implementation process in education does not only require basic digital technology skills but a depth study on the part of the teacher so that he or she works in harmony with the digital technology tools or hardware. For the teacher to have these skills they need to be well taught on how to interact with the technology (Zimba & Beau, 2005). Technology is ever changing and hence the new equipment being introduced into the system requires them to get in-serviced for them to be able to impart knowledge to the students they are teaching and to professionally advance themselves as well. Therefore, schools need to continue developing their teachers on how to interact with the modern equipment for them to remain functional in the implementation of the digital technology in teaching and learning (Davis, 2011). A greater number of the participants in the study indicated that they do not have the skills to integrate digital technology in their teaching even if they have computers in their various schools. The following claims from the participants substantiate this claim:

"*We are hardly in possession of the required skills to operate the digital technology tools although we have a lot of resources in the school laboratory*" (*Participant* 5). This was further supported by Participant 3 who also said that, "*It is very difficult for me to teach using digital technology tools because I only have basics obtained during my training way back and these have left a lot of gaps in the current technological set-up*".

Participant 7 agrees with the other two participants when he said, "*We do not have the digital technology facilitator although the computers are fully available in the school laboratory*". The three participants are in complete agreement that there was lack of pedagogical training of teachers in the various schools that took part in this study.

These findings do unquestionably agree with Abramo et al. (2012) when they said that what the training teachers receive is mainly centred on digital technology basic skills leaving out the pedagogical aspect unattended. This gap is what makes the implementation process of the digital technology policy in schools difficult. Becta & Abbott (2005) also concur with Badugela (2012) when he echoed that the availability of computers does not automatically melt into computer usage, teachers need to be taught on how to embrace technology in their teaching and this requires unwavering commitement from the Ministry of Education to professionally develop teachers on the use of digital technology tools in education.

6.1.3. Lack of Teaching Resources

The digital technology policy implementation process requires the use of computers, relevant and current software and supporting hardware. Computers need teachers who are skilful in their usage and who have the ability to understand the dynamics of using them as teaching gadgets (Dzimiri & Marimo, 2015). Schools need to have computer technicians who will be solely responsible for ensuring

that the teaching process goes on uninterrupted by way of having the hardware in place and solving connectivity issues. The participants in the study indicated that they do not have the relevant resources to use if they want to implement the digital technology policy in their teaching and learning process (Ader, 2016). The following citations support these claims from the teachers:

To the question of lack of teaching resources, participants had the following to say:

"*We don't have the current and updated software that is needed for us to be able to use computers in our teaching*" (Participant 5). Another participant had the following to say: "*Our human resources are disappointingly underqualified to use this technology and as a result they remain glued to their traditional methods of instruction*" (Participant 6).

"*The laboratory we have is so in capacious that it is incapable of accommodating even one of our classes for teaching and learning purposes; hence we take them in phases and its quite involving and rigorous*" (Participant 4).

The results above are consistent with earlier research by Ajowi (2012), who found that one of the biggest obstacles to teachers in Namibian schools integrating digital technology into teaching and learning was a lack of relevant resources. In his earlier research, Badugela (2012) asserts once more that infrastructure is one of the main obstacles to schools and other institutions successfully implementing their digital technology policies. This is also true of the secondary schools in Rundu Circuit, Kavango East Region of Namibia.

6.1.4. Burglary

Security of laboratory equipment is needed at all times to try and repel thieves who can at any point find their way in and steal the digital technology gadgets (Zimba & Beau, 2005). Bingimlas (2010) alludes that air conditioners also have a place in the computer room so that the machines enjoy cool air and function well. However, once computers and air conditioners are installed in ordinary rooms or laboratories, thieves get attracted. The participants in the study highlighted that thieves found their way into the computer laboratory and stole their computers. The following citations support this claim:

"*A significant number of our computers and air conditioners were stolen from the computer laboratory and only few are left*" (Participant 4). In agreement with Participant 4, Participant 6 argued that, "*Our school lost a good number of computers, air conditioners and solar panels to thieves.*"

The above findings agree with earlier sentiments by Schlechter et al. (2016) when they said that computers are still very expensive and this makes them a target for thieves who usually have ready markets to another party at a much less figure. These thieves steal not only the computers but also the solar panels that may be used to power them as well as other gadgets that aid the teaching and learning process. On this note Nicanor (2015) indicated that security threat to all the digital technology equipment makes it hard for some schools to purchase computers since they do not have safe places to keep them.

6.1.5. Obsolete Computers

When referring to technology, the phrase "outdated" designates a computer that is no longer in use, considered obsolete, or produced. Implementing digital technology in schools is extremely difficult due to some schools still employing relatively outdated computer models (Holloway, 2015). He continued by saying that those schools still use computers with Windows 98 or Win 95 operating systems. To substantiate this allegation, the study's participants made the following assertions:

"*The computers we have are now exceedingly aged and can longer be used to deal with the current educational demands*" (Participant 3). This was further supported by Participant 6 when he said, "*We have a good number of donated computers which have soft wares that are can longer work harmoniously with the current technological set-up*". All the three Participants do agree to the issue of the oldness of computers and their inability to solve current educational issues. Participant 2 had this to say: "*Although our computer laboratory is full of computers, they are no longer usable owing to their age*".

The above findings are a true replica of the findings by Gray (2014) from a research that he carried out in Ugandan schools and concluded that some schools were still using Microsoft Office 2003 suite, yet the rest of the world at a time this research was conducted, the current version of the program was 2013 meaning that they were 10 years behind the rest of the world a scenario that made the entire digital technology policy implementation process face challenges.

6.1.6. Lack of Electricity

Digital technology tools require power in order to perform. The power can either take the form of solar powered batteries that are partnered with an inverter, the hydro electrical power source or diesel- or petrol-powered generators (Babbie & Mouton, 2013). Some schools had never had the opportunity to benefit from the rural electrification program which makes them rely mainly on some or one of the previously mentioned power sources, some of which can be stolen by some unscrupulous elements in the community if left unguarded. The participants in the study hinted the researcher that the unreliability of their power sources due to other factors sometimes renders the ICT tools unusable during the teaching and learning processes. The following sentiments wholly support these claims:

"*Our school is not connected to the national grid although we have a lot of computers in the school*" (Participant 8). Similarly, on the same issue, Participant 9 had this to say," *The only three solar panels we had were stolen soon after installation by suspected thieves.*"

The aforementioned findings are fully in line with those of a research conducted in Uganda by Bingimlas (2010), who noted that because Uganda is a developing nation, the government has not been able to link all of its schools to the national grid. According to a recent study conducted in Afghanistan, schools

without electricity lack access to the internet and other crucial online resources that are essential for teaching and learning (Becta & Abbott, 2005). The results clearly demonstrate the importance of energy in supplying power to digital learning and teaching instruments.

6.1.7. Computers with Technical Faults

Although some schools had good numbers of computers donated to them either by NGOs, government, well-wishers or bought from the school coffers, they had long since developed technical faults cumulatively (Leithwood, Aitken, & Jantzi, 2000). They are housed in the computer laboratories where they remain idle and unusable owing to lack of the technical expertise on the part of the teaching staff. The following citations substantiate this claim:

"*Our computers developed minor to major technical faults which went unfixed for quite some time now*" (Participant 10). In a relatively similar manner, Participant 8 responded in agreement with Participant 10: "*We do not have at our school a technician who can help us restore the functionality of our digital technology gadgets.*"

The above findings reside within the earlier findings by Leithwood et al. (2000) when they arrived at the conclusion that while a good number of schools benefited from donated computers, they have not been adequately equipped with the same on maintenance and repair, hence it is very common to see a school's computer laboratory full of broken down computers, some repairable and others not. The findings clearly outline the need for a technical expert who from time to time attends to technical faults when need arises.

6.2. Discussion of the Results

According to the study's findings, one of the things preventing the application of the digital technology policy in the teaching and learning process is a lack of pedagogical training. The teacher participants lacked the necessary training to fully utilize digital technology tools in their instruction. They believed that periodically improving their teaching strategies was necessary to bring them into line with technological dynamics that would provide difficulties for them in implementing the digital technology strategy in the curriculum. According to the data, the majority of the teachers were digital immigrants who went to school and grew up before the widespread adoption of digital technologies like computers and the internet. It was striking that they did not appreciate the advantages of digital technology or the rationale for its use in education. Because they lacked the skills to use digital platforms that contained up-to-date teaching and learning materials, they belonged to the type of people who wanted to stick to their antiquated methods of education.

Another painful barrier to teachers implementing the digital technology strategy in the classrooms is the lack of digital technology resources. The survey found that more teachers had little to no access to the digital technology resources available to them at their institutions. Only when there is undisputed accessibil-

ity to digital technology resources will the execution of the digital technology policy be significant (e.g. hardware, software and communication infrastructures). The study also showed that many schools lacked the necessary digital technology tools and support infrastructure. Moving back and forth between the lab for digital technology classes and setting up the classroom for efficient teaching and learning was quite time-consuming for the teachers. They discovered that the entire process was time-consuming and involving.

This investigation proved that burglaries are on the rise in the Kavango East region, with computers and air conditioners serving as the primary targets. The majority of schools had lab break-ins, theft of computers and other equipment, and other mishaps that rendered the digital technology policy's entire implementation ineffective. Sadly, there weren't enough tools left to support the digital technology department and facilitate teaching and learning. Due to this issue, teachers were leaving a lot of work undone and instead using digital technology time for other learning areas or preparing their pupils for tests. Students failed at a high rate as a result of the haemorrhage in the digital technology sector. Once more, this led to a large exodus of students and faculty members who moved to other schools with better digital technology infrastructure. Schools with effective digital technology tools perform significantly better than those without, and their enrolments are consistently high. In those institutions, staff and student retention are both good.

Another challenge is that there is no electricity in schools. It was discovered throughout the examination that some schools weren't wired onto the national grid. They were unable to experience the advantages of the rural electrification program, which may have spared them from having to use the conventional methods of instruction. While some schools lack electricity, they do have some computers that the government donated to them when the digital technology strategy was developed and introduced to schools for adoption. Since computers require electricity to operate, the donation is useless in schools that are not wired into the national electrical grid, rendering the execution of the digital technology policy pointless. However, in order to catch up with other sister schools in attempting to adopt the digital technology policy during teaching and learning, the affected schools are still taking into consideration other sources of electricity.

This study found that some schools had a large number of malfunctioning computers that had collected over time because teachers lacked the necessary technical know-how to have them serviced so that they could be used by both teachers and students. The computers' issues ranged from small to serious, but the teaching personnel lacked the necessary technological know-how to ensure that the teaching and learning process continued uninterrupted. The teachers pushed for the hiring of at least one technician each school who would be completely in charge of resolving these issues and making sure that the teaching and learning environment was prepared so that teachers wouldn't have to spend time preparing. The technician will be in charge of not only repairing malfunctioning

computers but also resolving connectivity-related problems that arise throughout the teaching and learning process. The process of implementing digital technology policies is hampered by the problem of malfunctioning computers that go unfixed.

7. Conclusion

From the findings of this study, it can be concluded that, lack of pedagogical training is one of the impeding factors to the implementation of the digital technology policy in the teaching and learning process. The teacher participants were not equipped with sufficient training so that they could exploit digital technology tools in their teaching. The findings revealingly claim that most of the teachers were digital immigrants, who grew up and attended school way before the dawn of the digital technologies such as digital technology came into use.

It can also be concluded that the absence of digital technology resources was another stinging obstacle to the implementation of the digital technology policy in the classrooms by teachers. It emerged during this study that a greater number of teachers had little or no access to the digital technology resources in their institutions. Furthermore, the study concludes that burglary was on the increase in Kavango East region and computers and air conditioners are the main targets. Most of the schools had their laboratories broken into and their computers and other supporting gadgets stolen, making the whole implementation of the digital technology policy to fall on its face.

It can further be concluded from the results of this study that some schools did not have electricity, as they did not taste the benefits of the rural electrification program which perhaps could have bailed them from using the traditional methods of instruction. Last but not least, it can be concluded from the results of this study that some schools had a lot of broken down computers which accumulated over the time due to lack of the proper technical skills on the part of the teachers to have them repaired or fixed for use by both teachers and students.

8. Recommendations

The following recommendations are made based on the research findings of the study:

- The study recommends that the Ministry of Education has to fully intensify its involvement in the digital technology policy implementation process through the provision of human and material support, supervision and constant reviews or evaluations.
- There is dire need for the Parent Board and school administration to ensure that teachers get the fullest support and backing during the digital technology implementation process in schools through giving a digital technology place on their budget.
- There is need to constantly explore new teaching strategies to improve our

educational processes in Namibian schools.

- Schools need to fully work hand in glove with the Ministry of Education, Arts and Culture in the implementation of the digital technology policies in schools.
- Teachers need to be constantly in-serviced on digital technology skills in schools so that they are fully equipped and aware of the digital technology tools' usage for the benefit of the Namibian child.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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