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. The study adopted a qualitative research approach. The population of this study was comprised of of all secondary school teachers and principals in Rundu circuit, Kavango east region Namibia. The sample of this study consisted of three principals and seven teachers who were chosen purposively from the 3 secondary schools in the Rundu Circuit in Kavango East region. The qualitative data was collected by means of a semi structured open ended questionnaires. Data collected from the interviews were then transcribed, presented and then analysed using thematic analysis.

The findings of this study indicated that lack of pedagogical training was one of the impeding factors to the implementation of the digital technology policy in the teaching and learning process. The findings of the study also indicated that a greater number of teachers had little or no access to the digital technology resources in their institutions. It was established during this study that burglary was on the increase in Kavango East region and computers and air conditioners were 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 fall on its face. The findings of the study further found that schools in Kavango East Region do not have electricity and that some schools had a lot of broken down computers which accumulated over 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.

It can be concluded from the findings of this study that, lack of pedagogical training was one of the impeding factors to the implementation of the digital technology policy in the teaching and learning process at some Secondary Schools in Rundu circuit, Kavango east region Namibia. 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. The study concludes that burglary was on the increase in Kavango East region.

The study suggested 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. 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.

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, E. 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, 2009). 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 results 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 & 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 (2012) 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. Bloor (2010) also says 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 (2013), 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 (2016) 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

This study followed a qualitative approach, that is why data was analysed thematically and presented in a theme and sub-themes. The data collected from the individual through semi structured open ended questionnaires was transcribed and then analysed according to the framework of 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.

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.

6.1.1 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. Arder (2014) 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.

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".*

Partcipant 7 agrees with the other two participants when he said,*"We do not the have the didgital technology facilitator although the computers are fully availabale 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 concurs 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 profesionally 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 findings above harmonize with the earlier findings of Ajowi (2012) who indicated that lack of relevant resources in the implementation of digital technology was one of the greatest challenges facing teachers in Namibian schools in the integration of digital technology in teaching and learning. Badugela (2012) in his earlier findings again states that one of the major challenges that schools and other institutions face for the successful implementation of the digital technology policy are infrastructure which is the same case with the secondary schools in Rundu Circuit, Kavango East Region in 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 (2013) 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 supports 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 term outdated describes a computer that is considered obsolete, no longer useful, or no longer being manufactured. The issue of some schools using very old computer models makes the whole process of implementing the digital technology in schools very impossible ((Holloway, 2004). He continued that those schools still have computers which are still running on windows 98 or win 95. The participants who took part in this study made the following claims to support this claim:

"*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 above findings squarely concur with the earlier findings by Bingimlas (2010) in a study that he carried out in Uganda and claimed that Uganda being a developing country, the government has not been able to connect all its schools on the national grid. 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). The findings speak for themselves that electricity is very essential for the powering of digital technology tools during teaching and learning.

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

The findings of this study have it 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. They felt that there was need to from time to time further upgrade their teaching methods to fine tune them in line with the technological dynamics that could pose potential challenges to them in the implementation of the digital technology policy in the curriculum. 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 was notable that their understanding of digital technology, its benefits and justification of inclusion in education did not make sense in them. They were that type of people who loved to cling to their olden ways of instruction owing to insufficient skills to make use of the digital platforms which have modern teaching and learning material.

The absence of digital technology resources is also another stinging obstacle to the implementation of the digital technology policy in the classrooms by teachers. It emerged during the study that a greater of teachers had little or no access to the digital technology resources in their institutions. The successful implementation of the digital technology policy only becomes meaningful when there is no questionable accessibility of digital technology resources (e.g. hardware, software and communication infrastructures). The study also exposed that a good number of schools were in underequipped in terms of digital technology tools and supporting facilities. Teachers were finding it very involving to move up and down going for digital technology lessons in the laboratory and setting up of the room for effective teaching and learning to take place. They found the whole process quite involving and time wasting.

It is during this study that it was established that burglary is 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 fall on its face. The few gadgets that remained were disappointingly insufficient to drive the digital technology department and make teaching and learning easy. Teachers were leaving a lot of work undone due to this problem and instead they would use digital technology time for other learning areas or drill their students for examinations. The Digital technology area was left bleeding, resulting in high failure rate on the part of students. This again resulted in the mass exodus of both students and the teaching staff transferring to other schools that had better digital technology facilities. Schools with good digital technology tools outperform those without by far and their enrolments are always high. Staff and student retention is also good in those schools.

Another challenge is that one of the unavailability of electricity in schools. During the study, it was established that some schools were not connected to the national grid. They did not taste the benefits of the rural electrification program which perhaps could have bailed them from using the traditional methods of instruction. Some schools do not have electricity but they have some computers that were donated to them by the government when the digital technology policy was formulated and brought to schools for implementation. Since computers cannot function without electrical power, the donation remains idle in those schools which are not connected to the national electrical grid, thus making the digital technology policy implementation process abortive. However, the affected schools are still considering alternative sources of power so as to catch up with other sister schools in trying to implement the digital technology policy during teaching and learning.

During the study, it was established 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. The problems the computers had, ranged from minor to major but the teaching staff did not have the technical skills that is so much needed to make the teaching and learning process go on undisturbed. The teachers advocated for at least one technician per school who will be solely responsible for fixing such problems and ensuring that the teaching and learning set–up has been done so that no time is wasted on preparations by teachers. Not only will the technician be responsible for fixing broken down computers, but also to solve issues to do with connectivity challenges during the process of teaching and learning. The issue of broken down computers that remain unrepaired derails the digital technology policy implementation process.

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 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.

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