

**Implications of Educational Infrastructure Development on Educators'  
Performance in Some Schools within Thulamela Local Municipality, Vhembe  
District**

By

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## DECLARATION

I, Mathase Ndweleni, Student Number: 11532191, hereby declare that this dissertation for the Master's in Public Management (MPM) degree at the University of Venda, hereby submitted by me, has not been submitted previously for any degree at this or any other University, and it is my own work and execution, all reference material contained therein has been duly acknowledged.



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Mathase Ndweleni

28-11-2021

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Date

## DEDICATION

This research is dedicated to all teachers who are working in rural secondary and primary schools. For the work they are performing tirelessly to make sure that education be the priority to all in South Africa even though they are not well equipped with the relevant resources.

## ABSTRACT

Educational infrastructure are the material things which facilitate teaching and learning processes in schools and they include school buildings, equipment which covers teaching aids, computers, typewriters and computer science and laboratory equipment. Although South Africa has made a significant stride regarding the provision and development of educational infrastructure, a lot still needs to be done considering that education is no doubt, a dynamic instrument of change. There was a great anticipation that the educational system would be greatly transformed for the better by dismantling the apartheid order and creating a new system based on the Freedom Charter. The introduction of apartheid has affected all areas of life for South African populace and as a result, determined which South Africans were given privileges and which ones were deprived and oppressed. The purpose of this study is to investigate the implications of educational infrastructure development on educators' performance. The general objective of this study will involve the comparison of provision of infrastructure prior and after 1994, examining the impact of educational infrastructure development on educators' performance, identifying the challenges facing the Department of Basic Education to provide adequate educational infrastructure as the South African Schools Act, 1996 prescribes and to find the mechanisms that can be used to address the lack of adequate and sufficient educational infrastructure as a measure to promote educators' educational performance. Methodologically, the researcher made use of a descriptive case study design. The study followed a mixed methodology approach that focuses on collecting, analysing and mixing both quantitative and qualitative strategies in different phases of the research process in a single study or series of studies. A combination of research questionnaires and interviews were used as data collection tools. Study findings were that some rural schools lack teaching and learning material and this has impacted on the performance of educators. Additionally, it was found that in most schools infrastructure might be there but it is poorly maintained for instance the buildings, books and school furniture. For instance, some schools the buildings have broken windows which affect both teachers and learners during winter and rainy seasons.

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## ABBREVIATIONS AND ACRONYMS

ANC	African National Congress
ASIDI	Accelerated Schools Infrastructure Delivery Initiative
DBE	Department of Basic Education
DoE	Department of Education
IBPM	Integrated Building Performance Model
ICT	Information Communication Technology
NEIMS	National Educational Infrastructure Management Systems
NMNSSI Infrastructure	National Minimum Norms and Standards for School
SAHRC	South African Human Rights Commission
SASA	South African Schools Act
SRN	School Register of Needs

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## CHAPTER 1

### INTRODUCTION AND BACKGROUND

#### 1.1 Introduction of the study

The purpose of this study is to investigate on the implications of educational infrastructure development and the educators' performance. Educational infrastructure are the material things which facilitate teaching and learning processes in schools and they include school buildings, equipment which covers teaching aids, computers, typewriters and computer science and laboratory equipment (Akhihero, 2011; Koroye, 2016). Khumalo & Mji, (2014) are of the view that although South Africa has made a significant stride regarding the provision and development of educational infrastructure, a lot still needs to be done considering that education is no doubt, a dynamic instrument of change. It is worth stating that education is not only the key to maintaining freedom in our country but it is also a key to continued growth of freedom throughout the world (Southern Africa Legal Services Foundation, (SALS), 2013; Bayat, Louw & Rena, 2014). Thus, there is a compulsory need for the provision and development of infrastructure so that every individual may succeed in getting adequate and proper education.

Educational infrastructure are tangible structures which serve as shelter for educational activities which include among others classrooms, laboratories comprised of physics, chemistry, biology, agricultural science, geography and languages, local crafts and home economics), teachers common rooms, toilets, rest rooms, reading rooms, dispensaries, libraries, hostels, dining halls and others related features (Akhihero, 2011). Post-1994, education was called on to address and respond to the needs of all citizens and to the social and economic development imperatives of the new democratic dispensation. There was a great anticipation that the educational system would be greatly transformed for the better by dismantling the apartheid order and creating a new system based on the Freedom Charter which stated that, 'The doors of learning and culture shall be open to all'. That is a clear indication that the democratic led government is concerned and responsible on its People's education (Badat & Sayed, 2014). But even to date, South African educational system is still experiencing so many infrastructure development challenges. High population of learners is greatly affected by the shortage of classrooms and necessary stationary needed to support the learners to fully enjoy and realise their dreams, which ultimately

affect their learning performance. Thus, this study is aimed at examining the implications relationship between educational infrastructure development and the educators' performance. The next section will present the background of the study.

## **1.2 Background of the study**

Over time, education in South Africa was a contested terrain between the state and those whom the education system is intended to serve (Clark & Worger, 2016). This kind of contestation resulted into a predicament which drew the focus of variety of parties, each concerned to concoct their own scenario and solution to how education has to be run (Rakometsi, 2008:27). The election victory of the National Party in 1948 came with a new apartheid approach which discriminated people according to racial lines and that has affected education and the provision of educational infrastructure development because as a result, the better infrastructure was distributed across the White minority areas while the Black areas was suffocated in this regard (Coetzee, 2014). The Black learners were attending lessons under trees, unhealthy dilapidated old mud class rooms and sometimes in the open sunny environment (Khumalo & Mji, 2014). This was derived from the speech of Hertzog at the Congress National Party on the 13<sup>th</sup> of October 1921 which stated segregation had to take place and to the Black man the right would not be given to live where he could wish to, but land would be set aside for him. Also industrially, there should be a separation between the two races as there would be no peace in South Africa. As a result of the implementation of the Bantu Education Act, 1953 (Act No. 47 of 1953), many Black learners dropped out of schools while on the similar cases they failed to complete their education because when it rained, they did not attend classes due to lack of proper infrastructure adequate for effective learning (Moore, 2015).

The introduction of apartheid has affected all areas of life for South African populace and as a result, determined which South Africans were given privileges and which ones were deprived and oppressed. The effects of apartheid thereof, were visible in all areas of life but specifically in the area of education (Hill, 2008; Rakometsi 2008:2). In order to enforce racial segregation, the Bantu Education Act was enacted in 1953 and known as Bantu Education Act, 1953 (Act No. 47 of 1953) and legalised aspects apartheid and the major provision was enforcing racially separated educational facilities and even the universities were made tribal (Clark & Worger, 2004:48). In 1959, this type of education was extended to non-White universities and colleges with

the Extension of University Act. It was often argued that the policy Bantu education was aimed to directing black or non-white youth to unskilled labour market although this was refuted by Verwoerd who argued that the aim of the policy was to solve South Africa's ethnic problems by creating complementary economic and political units for different ethnic groups (Byrnes, 1996).

The dawn of democracy in 1994 saw the new democratically elected government introducing significant changes regarding education system across the country (Sayed & Ahmed, 2011; Government Gazette, 2010:7). The South African government was concerned about the performance of both educators and learners who were deprived of their educational rights and opportunities by the apartheid government. This was done through the enhancement of policies that boost teacher performances such as improving teaching infrastructure in previously disadvantaged schools. The African National Congress (ANC)-led government realised that school infrastructure is a key base of effective teaching and learning in schools and as a result, on the 29 November 2013, the Minister of Basic Education, Angie Motshekga published legally binding Norms and Standards for School Infrastructure. For the first time in many years that it is now a law that every school must have water, electricity, internet, working toilets, safe classrooms with maximum of 40 learners, security, and thereafter, libraries, laboratories and sports facilities (South African Schools Act No. 84 of 1996). The goal of educational infrastructure is to increase school attendance of learners, enhance staff motivation and improve educational achievements of learners. Therefore, learners and teachers need to be housed in the school and at the same time need sanitation facilities like toilets, waste disposal services and clean water. The lack of adequate educational infrastructure development warrants a research study to investigate the implications of educational infrastructure development on educators' performance in their education. The next section will present the problem statement of the study.

### **1.3 Problem statement**

The challenge of providing adequate educational infrastructure has been a serious concern in the South African education system since the enactment of the Bantu Education Act (Act No. 47 of 1953, Rakometsi, 2008:60). From that enactment of the Bantu Education Act (Act No. 47 of 1953 the provision of good infrastructure was only focused on the White schools while the Black schools were side-lined and the majority

of them only survived from hand-outs supplied by the Christian missionaries (Moore, 2016). As a measure to redress the lack of educational infrastructure, the South African government through South African Schools Act (Act No. 84 of 1996) issued an order a legally binding Norms and Standards for Schools Infrastructure. It is now a law that every school must have water, electricity, internet, working toilets, safe classrooms with maximum of 40 learners, security, and thereafter, libraries, laboratories and sports facilities Section 5a of the South African Schools Act, 47 of 1996.

Despite the provisions of the South African Schools Act, 47 of 1996 Section 5 (a) for every school to have classrooms with sufficient and well ventilated space conducive for learning with maximum of 40 learners, water, electricity, internet, working toilets, security, and thereafter, libraries, laboratories and sports facilities, many schools around the country do not have these facilities as the Act prescribes. Some of the above conditions are spelt in the Republic of South Africa's Constitution Section 24 as it indicated that "everyone has the right to environment that is not harmful to their health and well-being Government Gazette, 2010). Therefore, this study focuses on the impact of educational infrastructure development on educators' performance in their education. In the next section, the researcher will present the aim of the study.

#### **1.4 Aim of the study**

This study investigates the implications of educational infrastructure development on educators' performance in Vhembe District.

#### **1.5 Objectives of the study**

This study will be guided by the following general and specific objectives:

##### **1.5.1 General objective**

The general objective of this study will involve the comparison of provision of infrastructure prior and after 1994, examining the impact of educational infrastructure development on educators' performance, identifying the challenges facing the Department of Basic Education to provide adequate educational infrastructure as the South African Schools Act, 1996 prescribes and to find the mechanisms that can be used to address the lack of adequate and sufficient educational infrastructure as a measure to promote learners' educational performance.

### **1.5.2 Specific objectives of the study**

This study has the following specific objectives:

- To identify the role of the Department of Basic Education in providing educational infrastructure development in schools.
- To compare the effects of educational infrastructure on educators' performance in a sufficiently and insufficiently provided schools.
- To establish how co-curricular infrastructure influence educators' performance in schools.
- To suggest recommendation that can be implemented to improve infrastructure in schools which is affecting educator performance.

### **1.6 Critical research questions**

In order to answer the primary research question, the following secondary research questions need to be posed:

- What is the role of the Department of Basic Education (DoE) in providing adequate educational infrastructure development in schools?
- How do the effects of educational infrastructure development on educators' compare in the sufficiently and insufficiently provided schools?
- What is the physical layout of co-curricular infrastructure and its effects on performance of teachers in schools?
- What strategies can be used to promote adequate and sufficient educational infrastructure as a measure to enhance educators' educational performance?
- What are the recommendations that can be implemented to improve infrastructure in schools which is affecting educator performance?

### **1.7 Significance of the study**

The success of this study may help the local Department of Basic Education to deal with the problem of educational infrastructure development in the Thulamela Municipal Area which the educators and the schools desperately need and deserve. The study will also bring awareness to the Department of Basic Education, teachers, learners and parents with regard to addressing the challenges infrastructure development in schools around the municipal area. This study is expected to provide precautionary measures lessons on the impact of educational infrastructure on educators' educational performance and to add literature on the already lacking on this area of the study.

### **1.8 Delimitation of the study**

This study will be delimited according to the following:

#### *Geographical delimitation*

This study will be delimited to the officials of DBE, teachers, learners and SGB in selected schools of Thulamela Municipality in Vhembe District, Limpopo Province.

#### *Time*

The researcher will focus on incidences of educational infrastructure provision from 1980 to 2017.

### **1.9 Limitations of the study**

Every research has its own limitations. The variables below may have effects on the validity and reliability of the results of the study.

#### *Resources*

Lack of financial resources may have a negative effect on the study because sometimes travelling for data collection may demand more than what the researcher can afford.

#### *Sensitivity of the research topic*

People are different and they react to the research topics as such. To others, the sensitivity of the research topic may scare some respondents from taking part in the study and such may bear unwarranted challenge to the successful conduct of this study.

### **1.10 Definition of operational concepts**

The concepts below have been identified as operational concepts and are made clear and understandable as a measure to avoid misinterpretation and distortions:

**Educator:** refers to any person who teaches or educates other person or anyone who provides professional educational services to the school or academic institution (Page 2017:15). This is in line with the definition by National Education Policy Act 27 of 1996 who defined an educator as a person who teaches or train other persons at academic institution or an individual who renders educational services, auxiliary or support in an a educational department. In this study an educator is someone who impacts professional academic services to the pupils in an educational institution.

**Learner:** it is defined by the South African Schools Act (SASA) (Act No. 84 of 1996) as person who receives or obliged to receive education. For the purpose of this study a learner is an individual who is receiving academic instructions from the educator.

**Teaching Facilities:** The study defined teaching facilities as materials used and activities done by educators for the purpose of teaching learners such as chalkboard, textbooks, charts, laboratories and projectors among others. This is in line with Osuji, (2016) who defined teaching facilities as the materials used by teachers to teach students in order to making teaching and learning easier.

**Educational infrastructure** refers to the physical facilities available in the school such as the school site, the buildings, equipment, machinery, furniture, electrical and water supply (Koroye 2016). Akhihiero, 2011 defined educational infrastructure as tangible structures which serve as shelter for educational activities which include among others classrooms, laboratories, teachers common rooms, toilets, rest rooms, reading rooms, dispensaries, libraries, hostels and dining halls. Musyoka, (2013:12) defined educational infrastructure to mean the basic facilities and equipment needed for the functioning of a school such as library, science laboratories, computer laboratories, classroom, school furniture among others.

**Students' Academic Performance** refers to the results, outcome or achievements of students after being subjected to the use of teaching and learning process with the aid of facilities that the academic institution has (Osuji, 2016). Page (2017) defined academic performance as the educational outcomes of learners which are measured by grades of results. Further, Page (2017) indicated that performance is measured examination and continuous assessment of learners. Musyoka (2013:12) is of the view that performance refers to the grades that a learner obtain.

### **1.11 Sequence of the study**

The following chapters are presented in their systematic and logical arrangements:

**Chapter 1: Introduction and background of the study** – this chapter presented the introduction and the background of the study, problem statement, aim of the study, objectives of the study, critical research questions, delimitation of the study, limitations of the study, definitions of operational concepts, ethical considerations and the sequence of the study.



**Chapter 2: Literature review** – in this chapter the researcher presented a literature review on the legislative and policy and conceptual frameworks, the impact of educational infrastructure on learners' performance and role of the Department of Basic Education in providing adequate educational infrastructure.

**Chapter 3: Research methodology** - research design and approach, research methodologies, geographical area of the study, population of the study, sampling, sampling methods and sample size; data collection and data analysis techniques will be discussed in this chapter.

**Chapter 4: Data presentation, analysis and interpretation** – Chapter 4 will present, analyse and interpret data collected during the study process. The data collected through questionnaire will be analysed using Statistical Package for Social Sciences while data collected through face-to-face in-depth interviews will be analysed using thematic (content) analysis.

**Chapter 5: Findings, conclusions and recommendations** – in chapter 5, the researcher will present the findings of the study, conclusions derived from the findings of the study and make recommendations for possible solutions and strategies that might help in addressing the impact of poor educational infrastructure on learners' educational performance.

### **1.12 Conclusion**

The chapter addressed the introduction and background of the problem under investigation, the problem statement, purpose of the study, stating the research aims and objectives, significance of the study and lastly defining the operational terms frequently used in the study. The following chapter gives a critical review of the studies carried out by other scholars on the issue of educational infrastructure.

## Chapter 2 Literature review

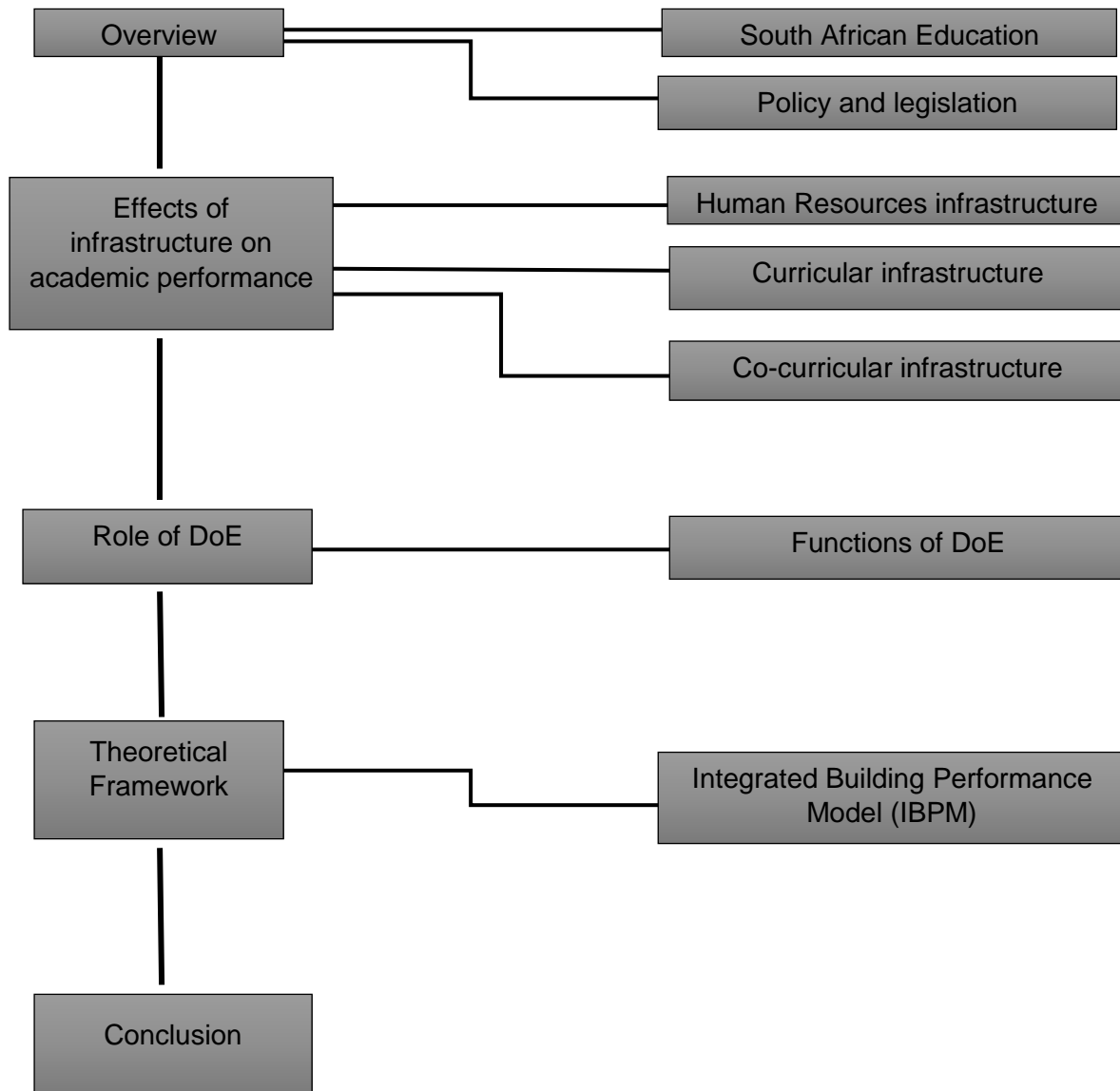
### 2.1 Introduction

The educational system is certainly a system that requires men, money and material resources to aid its functionality and boost the performance of educators. This study focuses on the impact of educational infrastructure development on learners' educational performance in selected schools in Thulamela Local Municipality. This section of the study will provide a review of literature related to the topic under investigation. The review of literature will be done to create a firm foundation for advancing knowledge (Webster and Watson, 2002). Literature review will be conducted thematically following study objectives as the review framework.

The aim of this study is to investigate the implications of school quality on the academic performance of learners in South Africa with special reference to schools located in Thulamela Municipality, in Vhembe District of Limpopo Province. The review is going to focus on aspects that include the overview of South African education system, the impact of infrastructure development on learner performance, it also highlighted other factors that affect learner performance, the role of the Department of Education and how co-curricular infrastructure influence learner performance.

## 2.2 Literature review framework

The literature review framework below shows the aspects that are going to be discussed in the chapter. It gave an overview of the South African education both the historical and the current issues, followed by the effects of infrastructure on academic performance of learner, the role of Department of Education (DoE), theoretical framework and lastly the conclusion of the chapter.



**Figure 2.2** Literature review framework

**Source:** Developed for this research

### **2.3 South African education system an overview**

This section discusses both the historical (apartheid) and the new dispensation (1994-present) education system in South Africa. In the country, the quality of schools within the public school system is heterogeneous and highly stratified along racial lines, socio-economic status and geographic location. Large parts of the population live in geographic locations where poverty or affluence determines or correspond with the quality of schools in such locations (Coetzee, 2014). It is believed that poverty was caused by social and economic discrimination against black South Africans and this left a legacy of income inequality along racial lines (Jansen & Taylor, 2003). The stratification of school quality was as a result of apartheid system which caused the distribution of households along racial grounds Coetzee (2014) and this affected the blacks who were having limited financial prospects. This made the black who were affected by the government system to study at schools with poor facilities and thus affecting the performance of learners.

The education system during the apartheid era was stratified and favoured some racial groups, who are the whites, Indians and Coloured whilst the blacks were adversely affected and the faced shortages in the distribution of resources (Legodi 2001). Thus, the infrastructure or service provisions of non-white schools during that time were not conducive and this contributed to the underperformance of the underprivileged schools. Naicker (2000) points out that the apartheid system in South Africa promoted separation and discrimination along race, class and ethnicity. This influenced the equitable distribution of resources as more resources were channelled to whites at the expense of other population groups. This was an ideology to push the interest of white ruling government. During the apartheid the education system was designed to provide more resources to white educational institutions and non-white were given inferior educational opportunities and resources (Government Gazette, 2010). Coetzee, (2014) indicated that there were influential discriminations that caused racial exclusion in education department where non-white schools received less funding as compared to their white counterparts.

Khumalo & Mji, (2014) is of the view that infrastructure problems were inherited from the apartheid system where African people were facing discrimination in the service delivery. The Government Gazette, 928 (2010) mentioned that during the apartheid era there were unequal education opportunities that were caused by unequal

distribution of teaching and learning resources. This is said to have negatively affected the academic performance of learners. In addition, the Government Gazette 928 indicated that the schools that were affected had no safe running water, poor sanitary conditions, and no electricity, and were without co-curriculum amenities. The general developmental programs including education related to black Africans were minimal and in some cases there were neglected services. Thus, the developmental problems experienced by schools can be traced back to the apartheid system. Due to racial segregation within the education system, during the apartheid system, schools for black neighbourhood were of lower quality by virtue of their location.

After attaining independence in 1994 a number of changes were made as the country moved to be a democratic nation. The newly elected government under the African National Congress made a commitment towards change and development, and thus most of the initiatives were developmental in nature. The government through its Constitution grant rights to access to education, health care, food, water, social security and housing (Southern Africa Legal Services Foundation, (SALS), 2013) as a way of redress the apartheid legacy (Bayat, Louw & Rena 2014). The apartheid system was abolished and the government introduced a separate education department that saw the founding of nine provincial departments of education those were under the Department of Education (DoE) (DoE, 1996; Page, 2016).

One of the most critical questions for the post-apartheid government was how the state and the DoE finance education sector in a way that is coherent with the constitution. One of the first adopted initiatives was fees payment exemptions to government schools based on the socio-economic status of the family or households. This is argued by Legodi (2001) that it was an initiative by the government to create a fair and equitable society and redress the past inequalities caused by apartheid. This is also in line with Page (2016) who indicated that the 1994 democratic elections brought about equity in the education system on the delivery of services to different racial groups.

According to the Department of Basic Education (2017) number of initiatives to promote equity and improve the quality of education in formerly underprivileged schools, including rural schools have been implemented since 1994. The government utilised a number of measures to achieve equity among schools. The purpose of the

measures was to address the gap between rich and poor schools, made education accessible to all and develop educational infrastructure (Jansen & Taylor, 2003). Furthermore, the author postulates that the human resource infrastructure should be changed. Thus, the Department of Education changed pupil to teacher ratio. The new adopted ratios were of 40 to 1 for primary schools and 35 to 1 for secondary schools. This process contributes to the sharing of human resources infrastructure among schools. Schools that have a high ratio meant that some educators are to be moved to under human resourced schools. This was a move towards realisation of improved academic performance of previously disadvantaged schools.

However, studies have found that although the new dispensation of 1994 has brought about change in many sectors of the political, economic and social life; education is still underserved especially for the rural communities (Jansen & Taylor, 2003). According to Khumalo & Mji, (2014) the South African's new dispensation of 1994, is still affected with a number of issues with special reference to the education system especially in the rural communities. The author argues that the South African education system has been affected by infrastructure shortages with Limpopo, KwaZulu Natal and Eastern Cape provinces being the most affected. This is also supported by (Bayat et al., 2014; Skelton, 2014) who highlighted that little has changed for the last two decades of democracy in the education system because poor are still be given a far inferior quality of education when compared to their wealthier counterparts.

#### **2.4 The role of the DE in providing adequate educational infrastructure**

It is undeniable that education is a human right (Skelton, 2014) and a well-known game changer with regard to socio-economic development of the population as whole (John, 2016). It is therefore, important for the government through the DoE to provide the necessary educational infrastructure which according to Fisher (2000), is divided into structural and cosmetic factors. Fisher further described that structural factors as including school buildings, windows, flooring student density, heating and the size of the site while cosmetic infrastructure (factors) include interior painting, graffiti, furniture and sanitation, school grounds, curriculum and text books which need to be provided. In addition, the Department of Education (2012) highlights that education district offices ensure that all learners have access to education of increasingly high quality

as they link between the provincial and the education institutions within their jurisdiction. Thus, their involvement is important when it comes to requisition and distribution of infrastructure to schools.

As mentioned in the background of this study, that before the attainment of constitutional democracy in South Africa, educational infrastructure was not favourable to all population groups. Most known as Black schools, were overlooked regarding the provision of proper and sustained infrastructure development. It is from this background that the DoE, after 1994, saw the need for proper provision of equitable educational infrastructure delivery aimed at changing the old order by putting forth the National Minimum Norms and Standards for School Infrastructure (NMNSSI) (Department of Education, 2009). The NMNSSI was established to address challenges relating to providing a physical teaching and learning environment required to sufficiently support the implementation of the core sector policies and, to facilitate effective delivery of curricula activities. The DoE has its focus on policy change in the education system that would benefit all. It focused on infrastructure development, improving infrastructure planning and developing human resource in schools (Khumalo & Mji, 2014). SAHRC (2012) indicated that the DoE is committed to increase the numbers of teachers in rural areas a way that is aiming at increasing the human resources infrastructure that would positively impact on learner performance. Mabogoane & Pateli (2006) highlighted that the effort can be seen from policies that were initiated by the post-apartheid government towards the education system.

Although the DoE has made a notable stride, a lot need to be done to change the educational infrastructure for the better. It seems the government has a backlog on the infrastructure development of schools. This is evidenced from the study National Educational Infrastructure Management Systems (NEIMS 2009) in Bayat et al., (2014) who found out that 3,600 public schools have no electricity, 2,444 have no water supply, 11,231 use pit-latrines toilets, only 21% have a library, and 23% have a computing facility. From the above statistics it shows that a lot needs to be done towards the infrastructural development of schools so that it will benefit or improve the teacher learning process which will in turn promote learner performance. The DoE gave a recommendation that to tackle the issue of backlog there is need to device a deficit model that counteract through capacity based model (DoE 2005). This was

supported by Myende (2014) who consider applying a bottom-up approach on addressing the issue of infrastructure development in schools.

## **2.5 Policy Framework**

School infrastructure remains one of the problem facing many nations and South Africa in particular. In response to the challenges faced in academic institutions the South African government developed a number of policy initiatives mainly with the focus on equality and equity in terms of resources provisions. The purpose of the policies sounds to redress the inequalities established during the apartheid system that discriminate non-white institutions to access improved education. In addressing some of these challenges the Department of Basic Education established a School Register of Needs (SRN) that was used to identify the gap and magnitude of the problem (Government Gazette, 928 2010). Further, the Government Gazette found that there are inequalities and inadequacy of educational infrastructure and this is impacting on the learner performances. The name was later changed to National Education Infrastructure Management System (NEIMS) in 2006 and since that time the NEIMS tried to close the gap in terms of resource allocation of school infrastructure.

Additionally, the South African Human Rights Commission (SAHRC, 2012) indicated that the government adopted the Accelerated Schools Infrastructure Delivery Initiative (ASIDI) and the Quality Improvement, Development, Support and Upliftment Programme, with the aim to enhance infrastructure development in schools. It also aims at making quality teaching and learning resources accessible to under-resourced schools and previously disadvantaged schools. Skelton (2014) highlighted that the ASIDI aims to deal with the infrastructure backlog in schools and it set out the list of schools requiring infrastructure upgrades. The objective of the ASIDI is to do away with improper infrastructure and provide schools with basic services such as sanitation, water and electricity among others. DoE compels for the elimination of infrastructure backlogs, the upgrading of standard of schools to meet the optimum functionality levels prescribed by the Norms and Standards for Schools Infrastructure and to eradicate inadequate, unsafe poor physical infrastructure by using allocated funds properly (Department of Basic Education, 2010). ASIDI is supported by two infrastructure grants which are the Education Infrastructure Grant and School Infrastructure Backlogs Indirect Grant. The Education Infrastructure Grant is said to



have funded R5.498 billion in financial year 2011/12 and was increased to R6.207 billion in 2013/14 financial year; the School Infrastructure Backlogs Indirect Grant funded 700 million in 2011/12 and was also increased to 5.189 billion in 2013/2014 (SAHRC, 2012).

Furthermore, the National Policy for the Equitable Provision of an Enabling School Physical Teaching and Learning Environment (2010) was established. It acknowledges that school infrastructure is vital to excellence in the teaching and learning process so as to yield good educational outcomes. According to the SAHRC, (2012) the National Policy for the Equitable Provision of an Enabling School Physical Teaching and Learning Environment specifically seeks to ensure and equalise provisioning of infrastructure across all the provinces. To make certain that there is provincial equity; the policy commits the DBE to upgrade national norms and standards for the physical teaching and learning environment. The norms will clearly outline what comprises minimum and optimum provisioning and compels all provinces to conform to the minimum norms. The provision of this policy framework is in line with the Constitution that calls for equity in the provision of teaching and learning environment.

The above policies are an indication to show that the government is trying the best to make sure that infrastructure resources are distributed equally in schools. This shows the initiative by the government to try and provide infrastructure development in schools that will bring improved outcome on learner performances. From the above discussion, it shows that the ASIDI forms part of a broader infrastructure programme aimed at achieving optimal functioning of schools with an emphasis on the improving schools infrastructure.

## **2.6 Legislative framework**

The following legislations were established to ensure that educational infrastructure developments are in place to benefit schools and beneficiaries who are the learners.

### **2.6.1 The Constitution, 1996**

The Constitution of the Republic of South Africa is the supreme law of the Republic and everything inconsistent to it is unlawful. Section 29 (1) of the Constitution provides

that everyone has the right to a basic education, including adult basic education and to further education which the state, through reasonable measures, must make progressively available and accessible (Republic of South Africa Constitution, 1996). In addition, the Constitution aims at transforming the education system and to democratise it so that it values human rights, human dignity, equality, non-sexism and non-racism in its services provision (The Constitution of South Africa, 1996 Act 108 of 1996). In the context of school infrastructure the Constitution, Section 24 indicated that “everyone has the right to environment that is not harmful to their health and well-being (Government Gazette, 2010). Thus, it is the right of the learner to be in an environment that is safe, secure and hygienic for them to be accommodated for the teaching and learning process. Moreover, Section 9 of the Constitution notes that there must be equal opportunities for all and there should be no discrimination. This can be applicable to the context of provision of academic infrastructure that there must be equally distributed to all institutions regardless of geographical locality, race or ethnic group. In distribution of resources, the government through the Department of Education should distribute resources equally to all.

### **2.6.2 South African Schools Act (SASA), 1996**

Section 5 (a) of the South African Schools Act, 1996 (Act No. 84 of 1996) provides that the implementation of the norms and standards continued in these regulations is, where applicable, subject to the resources and cooperation of other government agencies and entities responsible for infrastructure in general and the making available of such infrastructure. According to the Department of Basic Education (2016), the SASA guarantees that pupil should have access to improved education without discrimination. Section 34 of indicated that the state must finance schools from public revenue in an equitable manner that addresses the past inequalities. The financing of schools includes finance for the provision of infrastructure development. The Department of Basic Education must, as far as practicable, facilitate and co-ordinate the responsibilities of the government agencies and entities as envisaged in 5 (a) above (Section 5 (b) of the South African Schools Act, 1996). Myende (2013) highlighted that the adoption of SASA 1996 was an initiative to improve the quality of education and educational infrastructure. SASA make legal condition for the role of public school principals and to define the minimum requirements for public school infrastructure (DoE, 2012).

## **2.7 Effects of educational infrastructure on teacher performance**

In their research, Hardré, et al., (2018) found that school buildings had an impact on the mental development of learners. They further explained that schools that are properly build and attractive when looked at, motivated the learners to stay in schools and learn as well unlike those attending in dilapidated school buildings. Mokaya (2013) shared the same view by stating that a number of studies have shown that many school systems, more especially, those in urban and high-poverty areas, are plagued by poor planned infrastructure, decaying buildings that threaten health, safety and learning opportunities of learners. Furthermore, the author, concluded by acknowledging that, good facilities appear to be an important precondition for learners' performance. Analysis shows that there was a stark contrast in satisfaction levels between students attending schools with good quality infrastructure as compared with schools with poor infrastructure. Those attending schools with quality educational infrastructure are by far the best performing learners and most of them are destined to complete their studies (Gautua, 2015). From the above discussion, it can be concluded that educational infrastructure has a serious effect of the learners' performance.

The performance of learners and the provision of quality education are enriched by providing adequate educational infrastructure. Inadequate and unsatisfactory infrastructure in schools negatively impact student learning and schooling performance. The required infrastructure includes conducive classrooms, laboratories, library, hygienic environmental conditions, electricity, play grounds, school furniture textbook and writing materials. In the context of South African National Education Infrastructure Management System (NEIMS), school infrastructure include the number of learners per teacher ratio, sanitary amenities, availability of clean water, electricity, computers, furniture and communication technologies (Amsterdam, 2010). The infrastructures mentioned above are some of the basic required for learners in the South African context. For learners to be able to perform well they need an enabling environment that will foster confidence and able to participate in academic initiatives. The Government Gazette highlighted that there is a link that exist between the environment where learners' are taught and the effectiveness of the teaching and learning process including the performance of learners. The discussion below focuses on the effects of educational infrastructure on the performance of learners.

### **2.7.1 Physical infrastructure**

Learning infrastructure is a crucial element for efficient teaching and learning process in academic institutions as this contribute to learner performance. Bayat, et al., (2014) defined performance in school to mean schools that obtain a pass mark of 60% in final National Senior Certificate examination. The teaching and learning infrastructure forms a very important component in ensuring successful education. Study by Siocha, Onderi, & Mwebi, (2017) have found that quality education involves learners who are supported by improved school environment that are healthy, safe, protective and providing adequate resources and facilities. The author further notes that quality education includes schools that teach relevant curricula and have material for the acquisition of basic skills. Khumalo & Mji, (2014) postulate that infrastructure plays a crucial role in the teaching and learning process as it enables learners to have access to needed services. Good learning facilities are an important for learners teaching and learning process as they provide mental support that needed conditions are present that support a strong academic program in the school. Bush, Joubert, Kiggundu & van Rooyen, (2010) concur to the above by highlighting that there are fundamental requirements for developing effective teaching and learning in schools and they include sound classroom practice from specialist educators and sufficient and suitable learning materials that supports learning. There are a number of issues that are considered to be determinants for quality education to be provided by an institution. Learning environments are made up of quality educational facilities.

### **2.7.2 Teaching and learning infrastructure**

The World Bank (2009) highlighted determinants for quality education and these include facilities such as libraries, instructional time, homework, textbooks, teacher experience, laboratories, teacher salaries, and class size. In some schools, learners share textbooks this means that individual learner do not stand a chance to use those textbooks at home and this affects the performance in that particular subject. Therefore, it can be argued that the shortage of reading materials to support teaching and learning will in turn affect the performance of the learner (Khumalo & Mji, 2014; Musyoka, 2013; Bayat, et al., 2014). Access to infrastructure resources such as electricity is of importance in the today's world. The advancement in technology has made the use of computer gadgets an important aspect in teaching and learning. Thus,

lack of gadget and no access to electricity will make it difficult for Information Communication Technology (ICT) and it becomes useless (Khumalo & Mji, 2014). The lack of electricity in some schools provides hindrances towards the use of ICT and they face problems with internet connections. Thus, learners have limited opportunity to research for information over the internet especially in rural schools (Khumalo & Mji, 2014). When it comes to ICT it becomes difficult for educators and learners to conduct practical on issues that they have no or limited artifacts that they can use. In addition, lack of educational resources affects learners who are in the science, technology and engineering fields as they lack laboratories and apparatus to use (Musyoka, 2013). Nghambi, (2015) argues that it is important to provide teaching and learning material so that learners are able to conceive abstract information and have practical skills through handling. Absence of laboratories and equipment deny learners the chance to learn and conduct experiments and familiarise with scientific apparatus (Khumalo & Mji, 2014; Musyoka, 2013).

Quality education and learners performance is also determined by the quality and quantity of educational physical infrastructure that are attractive, non-crowded classes and good surroundings. Facilities such as, chairs, desks, chalkboard, teaching aids, and cupboard are constituents for effectual teaching and learning process. Overcrowded classes have a disadvantage especially to slow learners because they cannot receive needed attention from the educator. The teacher-to-learner ratio affects progress for slow learners to fully grasp a concept. Musyoka, (2013); Khumalo & Mji, (2014) in their study found that overcrowded classrooms poses a problem for educators because it is difficult for them to manage what learners are doing at any given time. There is a very strong relationship between institutional resources and the academic performances of learners. Lolwana (2004) points out that schools that are under resourced and lack infrastructure are associated with educational failure of learners. Hervie & Winful, (2018); Khumalo & Mji, (2014) notes that school infrastructure are important on the attendance and drop-out rates of learners. The author advances that learners are less likely to attend schools that are of temporary structures and understaffed. The same applies to educators; most of them are not willing or motivated to be working in schools that have unsatisfactory learning conditions or environment. Study by Hervie & Winful, (2018) has found that teachers

consider school infrastructure impact on teacher's willingness to be recruited in schools with less improved infrastructure.

### **2.7.3 Human resource infrastructure**

Lack of infrastructure and basic facilities in schools affect the performance of learners and negatively attract qualified teachers, hence contributing to poor academic performance of learners (Khumalo & Mji, 2014). Extremely poor and dilapidated infrastructure has a gross effect on teachers and pupils, and this affects the performance of the learner (Skelton 2014). Most qualified teachers opt or are lured to more resourced schools leaving the under resourced schools and this is contributing to poor performance in schools that lack infrastructural resources. This is in line with the study by Nghambi, (2015) who highlighted that professional qualified teachers are less likely to dedicate on their work when they are working in unfavourable conditions. Thus, their productivity is affected. Khumalo & Mji, (2014) argues that absence of qualified teachers has an implication on the learning process as learners are to be taught by unqualified and inexperienced teachers and, this contribute to bad academic performance and school dropout. Learners from schools that have resources tend to be academically bright or gifted as they have access and privileges of utilising resources at their disposal. This is so because the learners have adequate learning resources that they can utilise. Studies have found out that schools that have been bestowed with resources have learners who perform better than those that have fewer resources (Adeogun 2001). Furthermore, study by Adeogun (2001) has found out that private schools in Kenya outplay public schools in terms of performance due to the fact that private schools have more instructional resources. A study in Nghambi, (2015) have also found that learners performance is high in private schools that in public schools and this is because private schools are efficient and better supervised.

In addition to the above, teacher performance is one of the important aspects that contribute to learner performance. Educators are considered to be the most important human resources that are able to create improved educational quality for learners. Institutions that have trained and qualified teachers tend to produce better results as compared to schools that do not have a large number of qualified professionals. The performance of learners in schools is determined by the human resources that the school has. Nghambi, (2015) observed that quality education and learner performance

relies on the teacher and their capacity to improve teaching and learning processes. Skelton (2014) indicated that teachers play a vital role in the teaching and learning process and that they have a greatest impact on learner outcome. Lack of qualified human resources affects the provision of improved education and this impact on the learner performance (Khumalo & Mji, 2014). Moreover, in their study Khumalo & Mji, (2014) found that there are high rate of unqualified teachers in rural areas and some are employed on temporal basis and this is contributing to underperformance of learners in rural schools. Unqualified and non-academic professional staff has a negative influence on the teaching, learning and performance of learners (Nghambi, 2015). They possess a qualification which is not linked to the teaching and learning process hence, they cannot fully contribute to the performance of learners. According to SAHRC (2012) the Department of Basic Education made a commitment to improve the number of teachers in rural institutions as a way of boosting the academic performance and increasing human resources to the under-resourced areas.

Hervie & Winful, (2018) highlighted that teachers are a source of inspiration to their learners because of the rapport that they develop with their learners and they also provide instructions in their respective academic area. Thus, institutions that have quality human resources stand a higher chance of improvement on skills, performance and knowledge acquisition of learners. Additionally, the quality of teachers that is teacher education, professional upgrading and training support the attainment of positive learning outcomes in schools and this contributes to improved performance (Hervie & Winful, 2018). Khumalo & Mji, (2014) accounts that the Department of Education in South Africa increased its pace on infrastructure development as well as human resources and capacity development so as to improve performance of learners. A study by Dikgale (2012) have found out that the majority of educators in rural areas of Limpopo province are inadequately trained hence this is affecting the academic performance learners. Therefore, it is imperative for institutions to conduct employee training and development programs that aid on their competences on their job so as to increase the improved learner performance. Training as a process will empower teachers and enhance their skills, knowledge, attitudes and attributes that would improve the learning process. With the advancement of technology and changing demands of educational environment, training and development are important to improve their knowledge on the subject matter. There will be in a better

position to effectively teach, attain better teaching methods and have a better grip on the learner contributing to improved learner performance.

Apart from teacher performance, infrastructure and family background, learner performance is also affected by the acute shortage of teachers in schools. There is a shortage of teachers in most schools and this contributes to a high workload for the available teacher and the teacher-learner ratio will be high. The educator will not be able to fully accommodate the needs of every learner. The slow learners are more to be affected. Nghambi, (2015) found out that the shortage of teachers has a negative effects on the quality of education for learners thus it affect their performance. Therefore, there is need to address the acute shortage of teachers in schools.

#### **2.7.4 Family background, academic infrastructure and learner performance**

The environment and family, more specifically parents play a role towards the academic achievement of the children. The family background shapes the child by providing financial and emotional support. Children who grow up in families where parents are not educated suffer from lack of support from parents towards academic achievement (Khumalo & Mji, 2014). Page (2016) indicated that parental involvement has a positive effect on learners' academic achievement. Their home environment is not conducive because they might not have access to reading material that can boost their academic performance. Children from poverty stricken families are affected as parents might not be able to support them financially and academically and they might have no formal education to contribute towards the performance of the child. Family background is a vital element of school performance of learners (Nghambi, 2015; Bayat et al., 2014). Additionally, parents are not able to pay monthly subscriptions to libraries so that their children can use the facilities for their academic advantage. Page (2016); Khumalo & Mji, (2014) postulated that it is difficult for poverty stricken families to have support certain activities needed by the child due to the fact that they cannot afford to do so. For instance funding for their children to travel to urban centres where they can access necessary information on the Internet and utilise internet for academic purposes. There are high chances that one might not find a reading material in the house and the absence of a book in the house places a disadvantage on a child's academic performance. Bayat et al., (2014) are of the view that socio-economic status



of the family are a determinant in the performance of the learner and socio-economic status correlate with the cognitive ability (IQ) score of the child.

### **2.7.5 Academic infrastructure within the neighbourhood**

Neighbourhood plays a crucial role in academic performances of children in the area. Lack of access to libraries, media centres and internet cafés limit learners' access to information. More time is spent on non-academic activities and thus, lowering their school performance. There is need by local councils and municipalities to engage in the building of community libraries, information centre, media houses and internet café so as to contribute in academic infrastructure development that can boost learners' performance. Thus, change must not only be limited to school premises rather it should extend to the community outside school premises.

### **2.8 Influence of co-curricular infrastructure**

The central purpose of education system is to provide holistic development in a child which encompasses intellectual, physical, social and moral development. In this context all the activities done in school setting are considered important, be it curricular, co-curricular or extra-curricular activities. Co-curricular activities are the fundamental part of educational system as they help in the all-round development of a learner (Bashir & Hussain 2012). In as much as most people might consider curriculum to be more important, co-curriculum activities are essential part in the whole curriculum system. As illustrated before, there are two main categories of infrastructure and the cosmetics one is in most cases undermined. Mokaya (2013) defined co-curricular infrastructure to mean infrastructure that is meant to bring social and physical adjustment in learners and these are the play fields, gymnasiums and recreation centres. Cosmetics infrastructure is also referred to as co-curricular factor which include fields, music rooms, theatre rooms among others, they help learners to participate in different activities which help in developing the learners physically, socially, mentally and emotionally (Gatua, 2015; Mokaya, 2013; Bashir & Hussain 2012). Co-curriculum activities play a significant role for learners to choose the best pathway they can choose from. Thus learners are given the opportunity to have option to choose what best suits them.

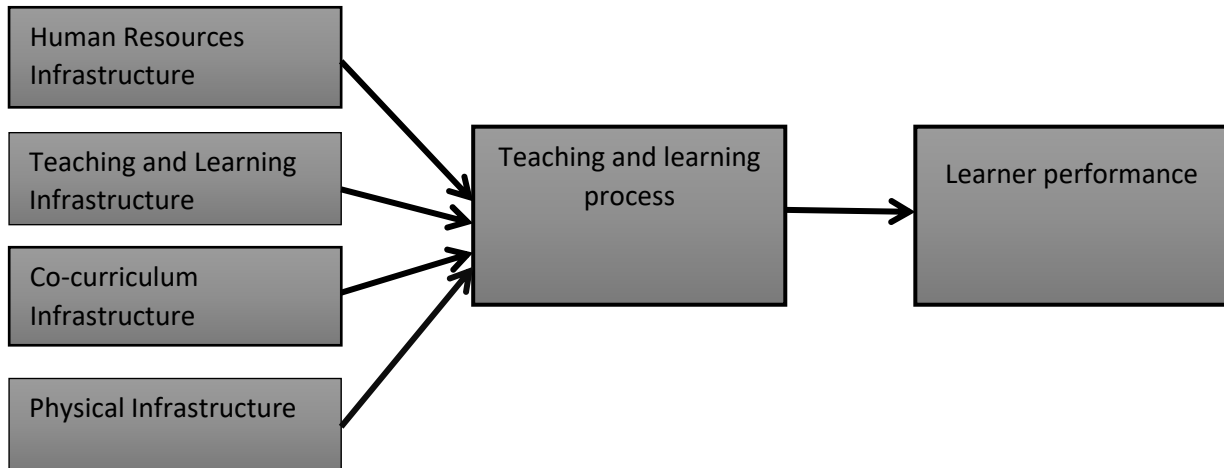
Participations in physical activities promote health and well-being of learners. It helps in building healthy bones, assists in controlling body weight, prevents the occurrence

of diseases and contributes to development of physically active lifestyle among the participants. Nelson, Mbugua & Kagema, (2017) also note that participation in co-curricular activities such as sport and physical activity programs provides many positive benefits to learners. Also neglected are the location and availability of adequate playing fields and necessary equipment for talent development. Co-curricular infrastructure should be made available, well-structured and having necessary equipment for nurturing talents in learners (Khaemba, and Okemo, 2007; Mokaya, 2013). The playgrounds, however, should be attractive, inviting, safe and secure from hazards. Amsterdam (2010) mentioned that the playgrounds should be inviting free from hazards such as glass debris, rocks and thorns.

A study in Amsterdam, (2010) found that students consider cosmetic infrastructure to be included in their school environment, the findings highlighted that students' most favourite space was the gymnasium or the playground. Thus, the development of these infrastructure aids students to be able to display their talents and participants in initiatives that contribute to improved performance. From the content, a conclusion could be drawn that modern approaches of education emphasize on all round development of the learners as Stephens & Schaben, 2002). From different studies perspectives, it is believed that unless balancing both curricular and co-curricular activities is done, the very purpose of education would be left unrealized (Broh, 2002). It is important to develop and maintain the co-curriculum infrastructure as it improves the participation and performance of learners in co-curricular activities. In their study Nelson, Mbugua & Kagema, (2017); Mokaya (2013) notes that co-curricular infrastructures should be maintained as some students' strength lies in such activities and these include sports, athletics, music, religious, debate and drama. A study in Bashir & Hussain (2012) found that co-curricular activities are associated with high grade and academic performance of a learner. All the activities that they participate in directly or indirectly enhance learning essential skills and elements through participation, demonstration and observation.

The effects of infrastructure on academic performance is summarised diagrammatically by the figure below. The figure 2.2 below illustrate that if all the infrastructure that is human resources, teaching and learning, co-curriculum and physical infrastructure are in place they foster conditions favourable for teaching and

learning process to take place. When effective teaching and learning process is done this brings to positive learner performance. Thus, infrastructure development in schools plays a significant role in teaching and learning which contribute to improved academic outcomes.



**Figure 2.2** Conceptual Framework to show educational infrastructure and performance

**Source:** Developed for this research

## 2.9 Theoretical framework

A theory is defined as a mental view of a phenomenon and will form the basis for a chain of reasoning throughout the study. Blanton and Kegley (2016) defined a theory as a set of assumptions postulating the correlation between variables. Theory play an integral role in a study as it helps in deepening the understanding of a phenomenon and that no single theory can fully explain a phenomenon (Blanton &Kegley, 2016). For the purpose of this study, the Integrated Building Performance Model (IBPM) was utilised as the theoretical underpinning of the study.

### 2.9.1 Integrated Building Performance Model (IBPM)

This model suggests that the performance of school infrastructure should be defined in terms of three focus areas which are the people, the infrastructure and programme. The notion under this framework is that school infrastructure should ensure that its users are comfortable, healthy and productive and, have their academic basic needs are met. It should also ensure that human rights are respected. In addition, school infrastructure should be able to inherently perform well. This includes ensuring that buildings are weather tight, structurally sound, have low operating costs and are spatially and resource efficient. Lastly on programme the school infrastructure should

effectively support the activities that they are required to accommodate and service (Sebake, Mphutlane & Gibberd, 2007). For instance, school buildings should ensure that the current curriculum and preferred modes of teaching and learning can be accommodated effectively (Sebake et al., 2007). This is in line with the school infrastructure that it should be comfortable and health so as to avoid harm to the learners who are the user of the infrastructure. Once these conditions are met chances are high that both the teaching and learning process will be enhanced and this contributes to learner performance. Dilapidated and old buildings are less likely to attract learners hence their absentee level is increased and are less motivated to partake in academic activities thus, affecting their performance. As indicated that the school infrastructure should support programme, it is in line with the idea that both curriculum and co-curriculum infrastructure must be improved. Infrastructure made for sport activities should meet the standards required and should be safe, secure and sounding so as to attract learners to participate in activities and thus, improving their performance.

## **2.10 Conclusion**

In this section the researcher presented the legislative and theoretical frameworks, the role of the DoE in providing the equitable and proper educational infrastructure, the effects of educational infrastructure on learners' performance and the influence of co-curricular infrastructure. The next section will present research methodology to be employed when conducting the study.

## CHAPTER 3 RESEARCH METHODOLOGY

### 3.1 Introduction

The central focus of this study is to examine the impact of educational infrastructure development on the performance of the educators in the Thulamela Municipality. This chapter discusses the methods and procedures for collecting and analysing data. Research methodology outlines the specific techniques utilized, measuring instruments employed and the series of activities done in making measurements. The aim of this chapter is to highlight the detailed approach and techniques employed in obtaining and analyzing data for the study. The chapter discusses methodological issues that include research design, study population, location of study, sampling procedures, sample size, methods of data collection, data analysis and ethical consideration to be upheld in conducting data collection.

### 3.2 Research Design

A research design is a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings (Burns & Grove, 2003). A research design focuses on the end-product and all the steps in the process to achieve that outcome. Research design expresses what data is required, what methods to be used to collect and analyse data. It is stated in Braun and Clarke (2013) that a design of the project is “the blueprint of the project”, which summarises the entire strategy on how the research is going to be conducted. In addition, Van Wyk, (2012) add that a research design is the overall plan for connecting the conceptual research problems to the pertinent (and achievable) empirical research.

For this study, the researcher made use of a descriptive case study design. Creswell (2013) states that case study is one of the qualitative methods in which the investigator investigates in depth a program, event, process or a phenomenon on individual or group of individuals. Babbie (2013) is of the view that a case study research design is an in-depth approach to studying a social phenomenon through an individual case. Descriptive research is defined as the investigations aimed at answering research questions that focus on describing phenomena thoroughly and in depth rather than investigating causal relationships (Vogt, Gardner & Haefelle, 2012). For the purpose of this study, descriptive research was chosen for two reasons: first, for its ability of using both quantitative and qualitative methods, second, to provide a clear picture of the phenomenon under study as it naturally happens (Burns & Grove, 2003).

### **3.3 Research Methods**

Leedy & Ormrod (2010) define research methodology as the researcher's general approach in carrying out the research project. This study then followed a mixed methods research study of the variables related to the phenomenon under investigation. The researcher recognised at an early stage that the research problem was complex and suspected that one method may not comprehensively address the problem and decided to employ mixed methods research (Richards & Morse, 2007). Mixed methodology is a research strategy that focuses on collecting, analysing and mixing both quantitative and qualitative strategies in different phases of the research process in a single study or series of studies (Creswell & Plano Clark, 2007). Mixed methods or triangulation is a research approach in which the researcher combines quantitative and qualitative techniques, methods and concepts in a single study. It involves the application of philosophical assumptions and the mixing of both approaches in a study (Creswell, 2014). The study followed the sequential mixed model whereby quantitative data will be collected and analysed first and the qualitative data later. The following are the rationales for mixing quantitative and qualitative approaches: participant enrichment, instrument fidelity, treatment integrity, and significance enhancement (Onwuegbuzie & Leech, 2006).

#### **3.3.1 Quantitative research method**

Maree (2007) defines quantitative research as a process that is systematic and objective in its ways of using numerical data from only a selected subgroup of a universe to generalise the findings to the universe that is being studied. For the quantitative data collection, the researcher used survey design through standardised instrument in the form of questionnaire. The quantitative method was used because of its ability to use numerical data, graphs, frequencies and percentages to analyse and interpret and also to draw conclusions from the data (De Vos, Strydom, Fouche' & Delpont, 2012). The intent of using quantitative methodology was to establish, validate relationships and to develop generalization.

#### **3.3.2 Qualitative research method**

A qualitative approach is a systematic subjective approach used to describe life experiences and situations to give them meaning (Burns & Grove, 2003). Qualitative research is based on a naturalistic approach that seeks to understand phenomena in context and the researcher does not attempt to manipulate the phenomenon of interest (Maree, 2007). The researcher in this case, selected the case study design in order to

provide rich data. The qualitative data was collected through face-to-face interviews with semi-structured open-ended questions and the data was solicited from its natural environment.

### **3.4 Geographical area of the study**

This study was conducted at Thulamela Municipality which is one of the 4 local municipalities that constitute Vhembe District Municipality. This research site was chosen for the following reasons: First, the researcher is living in the Thulamela Municipality and assumes that empirical data could be collected with lesser resources. Second, it is alleged that the educational infrastructure development is a cause for concern and almost non-existent which suggested that the research site is more suitable for the study.

### **3.5 Population of the study**

The population of the study is the group the researcher wants to describe or make the generalization about (Vogt, Gardner & Haeffele, 2012). The target population for this research consist of academic educators from three selected secondary schools in the local educational sector located in the Thulamela Municipal Area. These are preferred because they are affected directly by the impact of educational infrastructure on a daily based and therefore, are the relevant respondents for the study.

### **3.6 Sampling**

This study focuses on the impact of educational infrastructure development on the educators' performances in their studies. For some studies, the population may be small enough to warrant the inclusion of all of them in the study. But for this study, it was not possible for all to be studied. In order to cover more grounds, this research used both probability and non-probability samplings respectively.

#### **3.6.1 Sampling methods**

According to Bless, Higson-Smith & Kagee (2006), sampling method is a technique by which the sample is drawn from the population. This study adopted a mixed method research and used both probability (quantitative) and non-probability (qualitative) sampling methods in a sequential explanatory manner whereby quantitative research preceded the qualitative research.

##### **3.6.1.1 Probability sampling**

Probability methods were based on the principles of randomness and probability theory (Maree, 2007). A stratified sampling procedure was used for selecting the

participants for the study in order to ensure a fairly equal representation of the variables for the study. The stratification was based on the four local municipalities and the PP's office. Within each section, selection of participant selected through simple random sampling. This was achieved by writing out the names in piece of paper which will be folded and put in a basket. After thorough reshuffling, the researcher selected an element, record it and put it back in the basket until the required number was obtained. Stratified sampling was used for the following rationales: it provides better chances that the sample represents the whole population, needs less time and resources to conclude.

#### **3.6.1.2 Non-probability sampling**

Strydom (2011) considers non-probability sampling as a technique in which the odds of selecting particular individuals are not known and does not provide equal opportunity to be selected to take part in the study. Since the population of this study was heterogeneous, the researcher decided to use non-probability sampling and its subtype that is, purposive sampling. Purposive sampling is a non-probability sampling method in which the researcher selects participants based on personal judgment about who would be most informative (Polit & Beck, 2014). The reasons for using purposive sampling are as follows: it avoids irrelevant items, it provides better results if the researcher is unbiased and has sound judgment.

#### **3.6.1.3 Sample size**

Maree (2007) advised that in heterogeneous populations bigger samples are needed to represent the diversity of the population. Practical considerations such as time and cost, the researcher set the sample size of this study at 40 educators. The researcher was convinced that this sample would provide adequate data to answer the question posed by the study on the effectiveness of the PP's office in enhancing the ethical conduct in Vhembe.

### **3.7 Data collection and instrument**

Data collection is a systematic approach to the gathering of information from different sources to get a complete and accurate picture of an area of interest (Davies & Hughes, 2014). In order to find a clear knowledge and understanding on the phenomenon under investigation, the researcher utilised both the primary and the secondary data.



### **3.7.1 Primary data**

Primary data in this study refers to the data which the researcher collected directly from the sampled subjects specifically to answer the question posed by the study (Hox & Boiie, 2005). The researcher obtained primary data from the study participants through the use questionnaire and the interviews.

#### **3.7.1.1 Questionnaire**

Babbie (2013) defines a questionnaire as a document containing questions and other types of items designed to solicit information appropriate for analysis. The researcher will use questionnaire comprised of closed-ended statements which adopted the Lickert scale method (*strongly agree, agree, not sure, disagree and strongly disagree*) and no choice will be considered wrong or right. The questionnaires will be self-administered and the researcher will distribute them to the respondents to complete and collect them after completion. The researcher will use questionnaire for the following reasons: firstly, it saves time, secondly, the researcher can cover a bigger sample at low cost and thirdly, the participants answer questions without being manipulated by the researcher.

#### **3.7.1.2 Face-to-face interviews**

Investigating the impacts of educational infrastructure development need data collection instruments that allow the researcher opportunity to probe for information. Therefore, in addition to questionnaires, the researcher will make use of face-to-face interviews as a mechanism to collect data. Interview is a two-way conversation in which the interviewer asks the participant questions to collect data and to learn about ideas, beliefs, views, opinions and behaviours (Maree, 2007). The interview schedule with flexible interview guide made up of open-ended questions will be used.

### **3.8.2 Secondary data**

Secondary data are those data collected for a different purpose and reused for another research question (Hox & Boiije, 2005). Documentary sources from which secondary data was obtained for this study include:

- The catalogue of dissertations and theses of South African Universities
- Relevant published textbooks, journal articles;
- The Constitution of the Republic of South Africa, 1996 and other relevant laws and statutes and
- Internet sources

### **3.9 Data analysis and instrument**

Burns & Grove (2003) define data analysis as the mechanism for reducing and organizing data to produce findings that require interpretation by the investigator. Data analysis is the process of bringing order, structure and meaning to the mass of collected data (Silverman, 2013). In this study, the data collected through questionnaire and interviews was analysed.

#### **3.9.1 Analysis of data collected through questionnaire**

The researcher utilised questionnaire to solicit data from the sampled subjects. The data which the researcher collected through questionnaire was analysed using Statistical Product and Service Solution (SPSS). The analysed quantitative data will be presented in frequencies, percentages, graphical and tabular forms.

#### **3.9.2 Analysis of data collected through interviews**

With reference to the qualitative data, the researcher made use of face-to-face in-depth interviews to solicit the most relevant data from the subjects purposively selected. The data which the researcher collected through the face-to-face in-depth interviews was analysed using thematic analysis and the information was presented in the descriptive-explanatory form. The researcher will analyse qualitative data following eight Creswell's (2013) steps of data analysis which described below:

- **Planning for recording data**

The researcher planned for recording data in a systematic manner by reading through all the transcriptions, written and documented notes or voice (tape) recorded information collected very carefully while writing down the ideas as they come to mind.

- **Preliminary analysis**

During the process of data analysis, the researcher went through one document at a time trying to find out what was it about, what information was contained and while thinking about the underlying meaning thereof, rather than focusing on the substance.

- **Managing data**

The researcher went through several documents and clustered them into file folders and converted the files into appropriate text units. After doing that, he formed the topics into columns that were arranged as major topics, unique topics and leftovers.

- **Reading and writing memos**

After the organization and the conversion of the data, the researcher continued analysis by getting a feeling for the whole data base, by reading and writing memos. The researcher read all the data gathered from respondents with the aim of getting understanding of the data.

- **Generating categories, themes and patterns**

From the reading and writing of memos, the researcher found the most descriptive wording for his topics and turned them into categories, themes and patterns while looking at reducing his total list of categories by grouping topics that relate to each other.

- **Coding the data**

Generating categories, themes and patterns contributed to the researcher's application of analytical thinking and coded the categories and themes and worked passages in the data using codes. The researcher made a final decision on the abbreviations or codes for each category and alphabetises the codes while breaking down the categories into smaller units.

- **Assembling the data material belonging to each category**

The researcher assembled the data material belonging to each category in one place and performed a preliminary analysis of data. The researcher evaluated the emergent understanding and explored its usefulness and centrality to the phenomenon under study.

- **Re-coding existing data and writing the report.**

It was found necessary by the researcher to re-code the existing data in order to get the quality data needed for the successful and effective data analysis. The researcher searched for the alternative to explanations for the re-coded data in order to find linkages. As a result, the researcher identified and described the linkages and demonstrated why the explanation was the most reasonable and likely the truest.

### **3.10 Ethical considerations**

Ethics is a good conduct and the moral obligation or responsibilities we have towards others (Vogt et al., 2012). For this study, the following ethics will serve as a guideline:

### **3.10.1 Permission to conduct a study**

All areas have the custodians and it will be unethical to enter into the area of study and start conducting a study without permission. The researcher will therefore, obtain the permission to conduct the study from authorities and the respondents in advance to being as denied entrance.

### **3.10.2 Informed consent**

Informed consent refers to permission granted in full knowledge of the possible consequences that may occur during the course of the study (Davies & Hughes, 2014). Before starting with the data collection, the researcher will seek to obtain a written consent from the participants after truthfully and honestly informing them about the purpose of the study and the role they will play. Informed consent entails giving as much information as possible about research to participants so that they make well informed decisions. The purpose is to conduct research openly and without deception (Silverman, 2013). Subjects must base their voluntary participation in the research project fully knowing the possible risks that might be involved.

### **3.10.3 Confidentiality and Anonymity**

Confidentiality is an ethical principle that protects the respondents, making sure that all their information is not disclosed. This requires that the researcher take steps to ensure research data and its sources remain confidential unless participants have given consent for their disclosure (Silverman, 2013). Confidentiality means not to share information beyond agreed limit (Davies & Hughes, 2014). The researcher will make sure that the information provided by the participants is treated with high degree of confidentiality and their identity will be kept anonymous unless at all times.

### **3.10.4 Voluntary participation**

De Vos, et al., (2012) define voluntary participation as a process of taking part in an activity freely without being forced or coerced by anyone and during the process; the participant may decline or withdraw from participating in the study. In voluntary participation, participants must not feel coerced or forced to participate in a study. Babbie (2013) states that the researcher must not coerce anyone into participating but participation must be on voluntary basis. In this study, participation was fully voluntary and no participant was forced or unfairly pressurised to take part in the study (Maree, 2007). The participants took part in the study without being forced but according to their own will.

### **3.10.5 Protection from harm**

The fundamental ethical rule of social research is that it must cause no harm to participants (Babbie, 2013). It is upon this background that the researcher will do everything to protect the participants and will never in any means expose them into any danger. The next section will present the sequence of the study.

### **3.11 Conclusion**

This chapter explained the methodology that was used to collect and analyse data for this study. It described the research design that followed in conducting the research. An overview of the research methodology and design which was used in the study was presented. The section gave an outline of data that was collected from participants up to the final analysis of raw data. The chapter also looked and discuss the ethical considerations that were employed during the data collection and analysis process.

## CHAPTER 4: DATA PRESENTATION AND ANALYSIS

### 4.1 Introduction

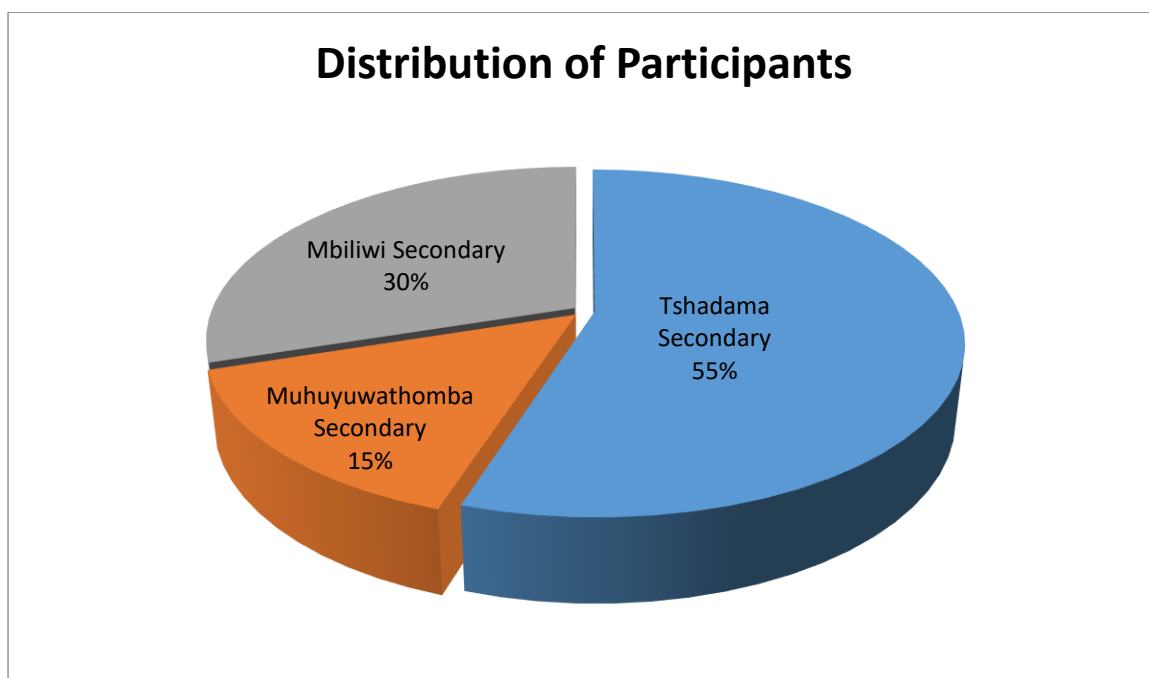
This chapter focuses on the presentation and analysis of data collected, with the goal of investigating the impact of educational infrastructure development on educators' performance. Data was gathered from primary respondents that is the educators.

In this chapter the researcher interpreted and analysed the data that was collected from secondary school teachers from Thulamela local Municipality, Vhembe district. This process allowed the researcher to shift the descriptive events shared by the participants into a deeper understanding of how educational infrastructure influences their performance.

The researcher used a questionnaire comprised of closed-ended statements which adopted the Likert scale method (*strongly agree, agree, not sure, disagree and strongly disagree*). Quantitative data entry and analysis was done through the use of SPSS. The opinions presented by the respondents were presented as frequency distributions and then the deeper meaning of the data was investigated from the face-to-face interviews

Thematic analysis was used for analysing the qualitative data that was collected. The data collected was analysed and categorized into themes and the themes which were discussed include: the age and teaching experience of educators, the state of buildings and availability of learning space, sanitation, the support for extra-curricular activities, the access to study facilities, the condition and availability of school furniture, the access to books and computers.

This chapter begins with the presentation of the distribution of participants followed by thematic analysis of the qualitative data. The analysed quantitative data will be presented in frequencies, percentages, graphical and tabular forms.



**Figure 4.1 Distribution of participants**

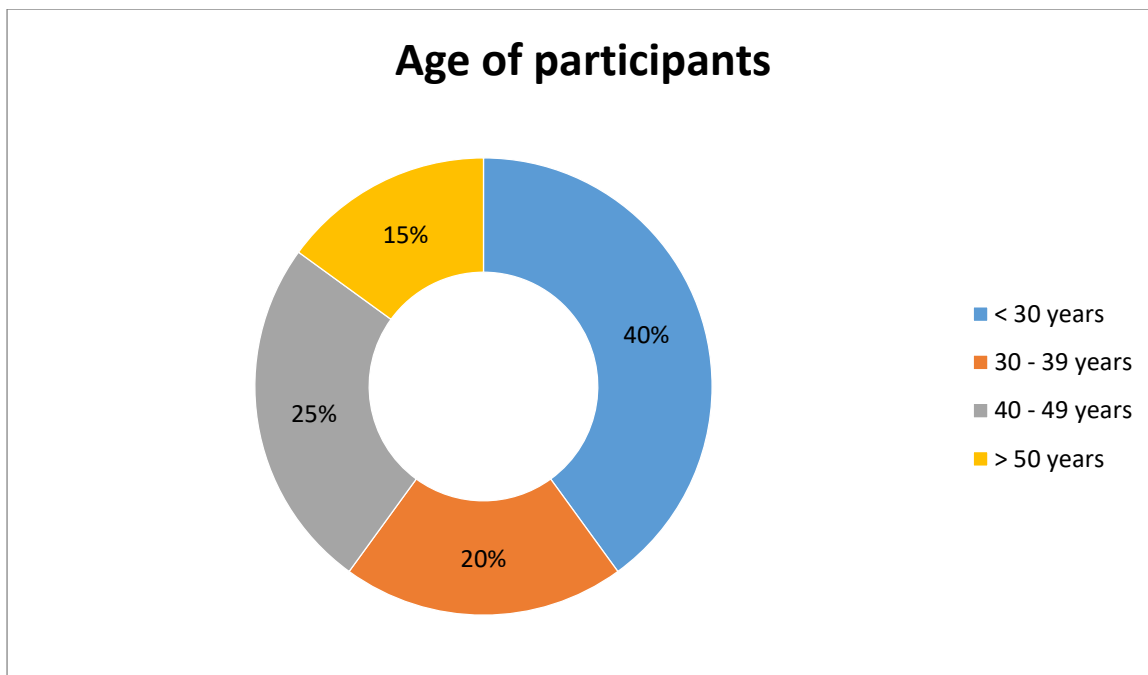
Although the objective was to collect equal sample size from the 3 schools educators from Tshadama Secondary gave the most responses. They were more confident in submitting completed questionnaires. Tshadama Secondary participants constituted 55% of the total sample size whilst Mbiliwi and Muhuyuwathomba Secondary constituted 30% and 15% respectively.

## **4.2 Emerging themes**

Hereunder follows the discussion of the emerging themes from the collected data.

### **4.2.1 Theme 1- The age and teaching experience of educators**

Age and teaching experience at a school affect educator performance in a plethora of ways. Below is the age distribution of the targeted respondents:



**Figure 4.2** Age of participants

The age section in the questionnaire was categorised in a manner that does not reveal the exact age of the respondent. This was in a bid to gain their confidence and get them to respond more freely as this aids in preserving their anonymity. 40% of the educators were below 30 years of age. 20% were between 30 and 39 years, 25% between 40 and 49 years and lastly 15% of the participants were of the age 50 years or greater.

This revealed that the majority of the educators that participated in this survey were youth. This is a good proportion as one respondent puts it:

*'It is always good to know that when you are confused with something you are supposed to do within the classroom, you can ask from your colleagues within your age group. And when you want to invest in a teaching strategy you are experimenting with, you can get the counsel of the older members of the staff. The balance in age distribution is vital because the younger teachers need to learn from the older educators but at the same time be in numbers that can sustain the pattern for when they get older. As for myself, I used to have problems with disciplining my students. I took the issue to my older members of staff and they gave me time tested strategies they use to deal with our student particularly.'*

Another respondent gave a statement in line with the previous saying,

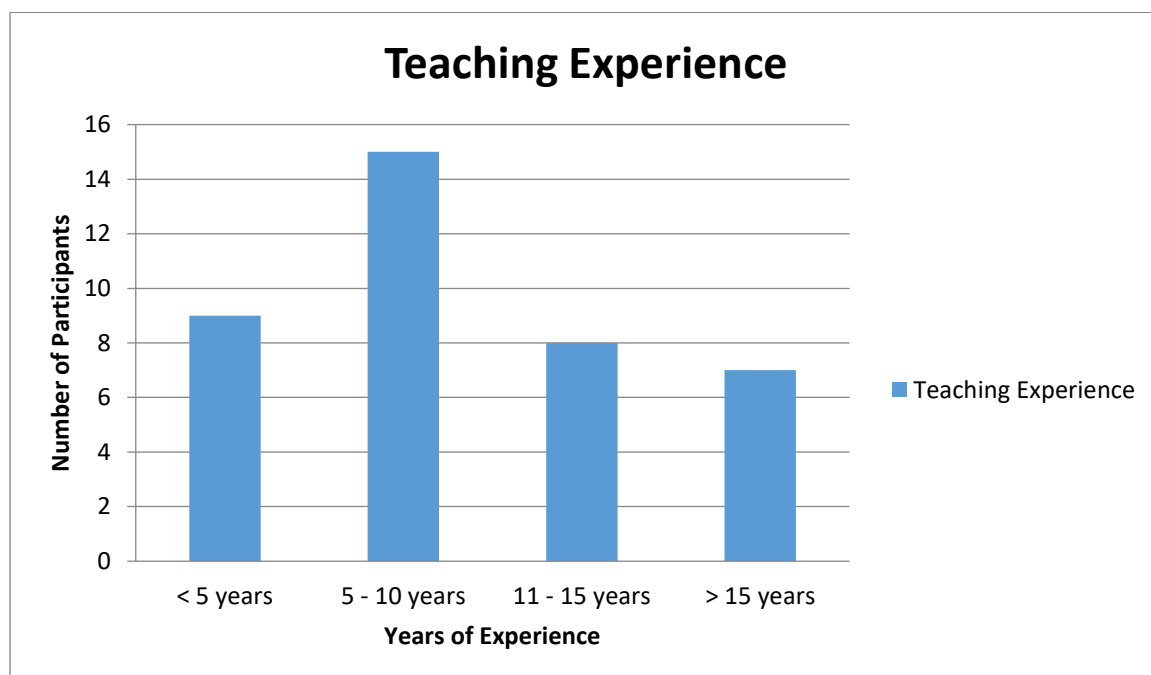


*‘The older members of staff are the foundation of the school whilst the younger ones bring innovation and vitality, which secures the future of the establishment.’*

Respondents showed an appreciation for the different age groups and experience levels among staff members. They revealed that imbalances in age distribution would determine the style that was used to manage the student with a predominantly young staff population not having the foresight of how to manage misconduct whilst predominately senior staffs lacks energy to introduce something new effectively.

The interviews revealed that younger educators were less committed to their work. They revealed intentions of looking for better places to work. This made them reluctant to engage with students constructively, as they felt not as invested in the school as much as the senior members of staff. A junior member of staff had this to say,

*‘I never had plans to end up at this school when I was in college. I always wanted to work at a private school, get a huge salary and a wife, then live in the suburbs. I came here because this was the only available job and I needed some work. I am furthering my studies right now so that I become a more appealing applicant when I apply for a better school or be promoted and get an administrative position that gets to work in the office.’* A survey on experience levels was also conducted which yielded results represented in the figure below:



### Figure 4.3 Teaching Experience

Educators with less than 5 years experience constituted of 22% of the respondents. 37.5% had 5-10 years' experience, 20% were of 11-15 years experience and 17.5% had greater than 15 years experience. There are a higher proportion of teachers with less than 10 years experience. This show the schools have been getting new teachers over the last few years. It is expected for an experienced educator to perform and produce better results than their lesser experienced counterparts. The study found that the more experienced the educator was, the better the results they produced with students.

Interviews revealed that the more experienced educators were more comfortable with setting aside time for student consultations. Lesser experienced teachers tend to seem too busy with their lives outside of school that they usually are the first among staff to leave the school premises as soon as their scheduled work is done. A respondent with below 30 years of age had this to say:

*'When you are a new teacher at the school, you usually don't have much to do. So after my lessons are done I sort out my papers and go home. Student rarely consult with me because they go to the older educators that teach my subject. The seniors have been handling it for a while for longer more than I have been here, I take advantage of the opportunity and go home and finish house work and cook. When students want to consult me, they set an appointment with me, but they rarely do it.'*

The table below displays the respondents' opinion on if student consultation is sufficient at their schools.

Student consultation is sufficient here					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	14	35.0	35.0	35.0
	Disagree	22	55.0	55.0	90.0
	Not sure	4	10.0	10.0	100.0
	Total	40	100.0	100.0	

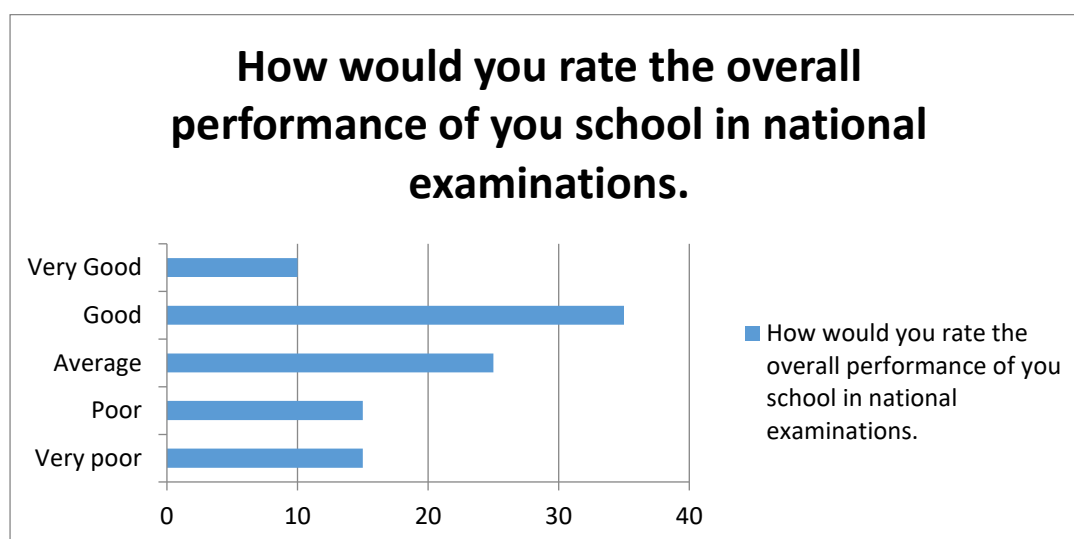
Table 4.1 Student consultations

Students are promoted to get teacher assistance on concepts they did not understand at during regular lessons from teachers. This is what the respondents understood as student consultation. 35% of the participants strongly disagreed with the opinion that student consultation where sufficient whilst 55% disagreed. The remaining 10% responded 'Not sure' which was anomalous because educators are supposed to know their status on such outstanding issues. One senior interviewee gave insight when he stated

*'Students are reluctant to form a relationship with teachers. There is a common culture that identifies teachers as oppressors or 'freedom-limiters'. This is harmful because students then fail to identify us with our real role, which is to serve them. When I was a new teacher at this school, I never had students following me up at my office till I started directly promoting the practice. Even though, still only a small portion of my students follow up on what they did not understand.'*

This showed that educators need to advertise themselves as approachable so as to form relationships with students. Students might not understand what they have access to so they need to be reminded constantly as part of their education. Young educators need to be mentored into taking more student consultations since having a good relationship with students in your class makes the movement of information from educator to learner more fluid.

The researcher also investigated the educators' subjective opinion on how they rated their schools at national examinations. Their responses are displayed in fig 4.4 below.



**Figure 4.4 How Educators rate their schools in national examinations**

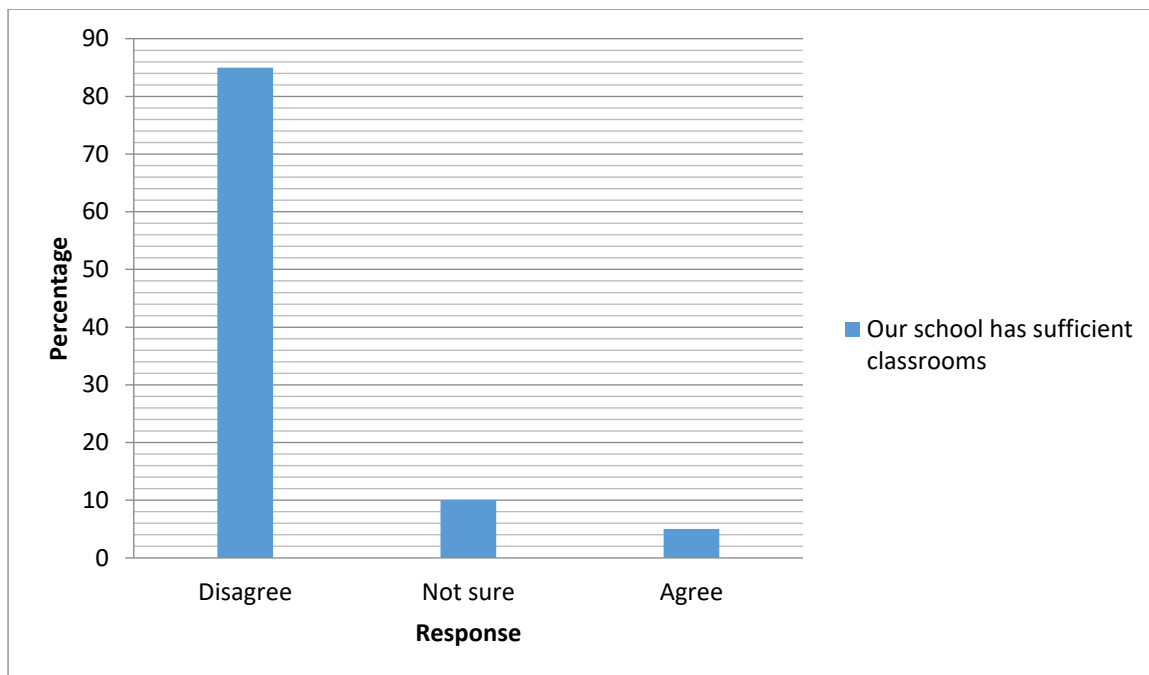
Despite the respondents' negative opinions of their infrastructure, they show a positive opinion on their academic performance with 70% of the respondents finding their performance to be average or better. The remaining 30% find their examination performance either poor, or very poor. Thus, it can be argued that the quality of school infrastructure has a significant effect towards the delivery of teaching and learning processes and outcomes. Shortage of teaching and learning material, schools with temporal structure and those that are understaffed results in underperformance of learners. This also in line with the study by Hervie & Winful, (2018) who argues that school infrastructure can negative affect the performance of teachers which in turn will affect the performance of learners by contributing low rates in their national examination.

This either is because the bias that the teachers believe they do their best in limited infrastructure and do not want to objectively identify their shortcomings collectively, or because they rate themselves against a pool of schools with similar infrastructure inadequacies. An educator told us that

*'We always strive to do our best even though the conditions do not permit us to produce the results we are actually capable of. My classes have always produced the best results at our school, meaning that we can produce better results with the limited facilities. The state of our school demoralises some teachers and gives others an excuse to underperform, even though they might fail to produces the same results as mine with students if we put them in better equipped schools. Teaching is about inspiring students to be better despite their current prevailing economic situations. Sometimes we rely on teaching aids too much and forget the art of transforming mindsets which is what we are trained to do.'*

#### **4.2.2 Theme 2- The state of buildings and availability of learning space**

The respondents were asked to state their opinions on the state of buildings and availability of learning space at their respective schools. This was aimed at determining if the prevailing conditions are affecting their work performance.



**Figure 4.5 The state of buildings and availability of learning space**

The data reveals that there is great shortage of classrooms with 85% of the respondents disagreeing that the number of classrooms are sufficient', 10% being 'Not Sure' and 5% agreeing that their classrooms were sufficient. Further analysis reveals that the 5% that found classrooms to be sufficient came from respondents from Mbilwi Secondary. This can be said that teachers in schools with satisfactory building conditions are more likely to express positive attitude than teachers who are in schools that have unsatisfactory buildings. The state of buildings can impact the attitude of educators, educator recruitment and retention in the service. The lack of improved resources is a dire factor in education because it may negatively affect the learning and teaching processes within the classroom (Khumalo & Mji, 2014).

A Student teacher gave this testimonial,

*'... our classrooms are not enough. We find it difficult to explain in depth science because we do not have labs. Our classrooms are overcrowded and students don't have proper toilets. My typical class has got 65 students. Just maintaining order in the classroom is a major challenge. The students know that they overrun the staff and that's what makes them more difficult to manage. What we need is a big building project. So many things are in the lack, we only can work with what we have.'*

*We do not have laboratories at our school and it is difficult for us as educators to conduct scientific experiments during lessons. The only way we are currently overcoming this challenges is to give theoretical notes to the learners without conducting the practical experiment.*



**Figure 4.6 Toilets**

Toilets are in short supply. Sanitation should be top of the necessity list when designing school infrastructure. 2.5% of the strongly disagreed that toilets are enough, 77.5% disagreed, and 12.5% were ‘not sure’ whilst 7.5% of the respondents agreed that they have enough toilets. It must be understood that sanitation is one of the priorities to be included and if it is not catered for then the whole process of teaching and learning will still be faced by a big predicament. Clean and healthy school environment are fundamental human rights which is schools that does not have proper or recommended sanitation are depriving educators and learners their basic human rights. Lack of sanitation in schools exposes educators to health hazards thus, there are high chances that they cannot be attached to such a school environment.

A female educator who was not satisfied with the current toilet facility at her school had this to say:

*‘Toilets are always dirty. They are cleaned daily, but sometimes their state force the cleaning staff to clean two or three times. Personally I believe that the school was*

*not designed to accommodate the number of students we currently have. The available toilets are simply being overwhelmed by the number of students. It is not unusual to find queues in front of Female toilets. To make it even worse, students do not have access to toiletries like tissue and hand sanitizer. They have to carry such from their homes and those that cannot afford to bring their own are expected to improvise.'*

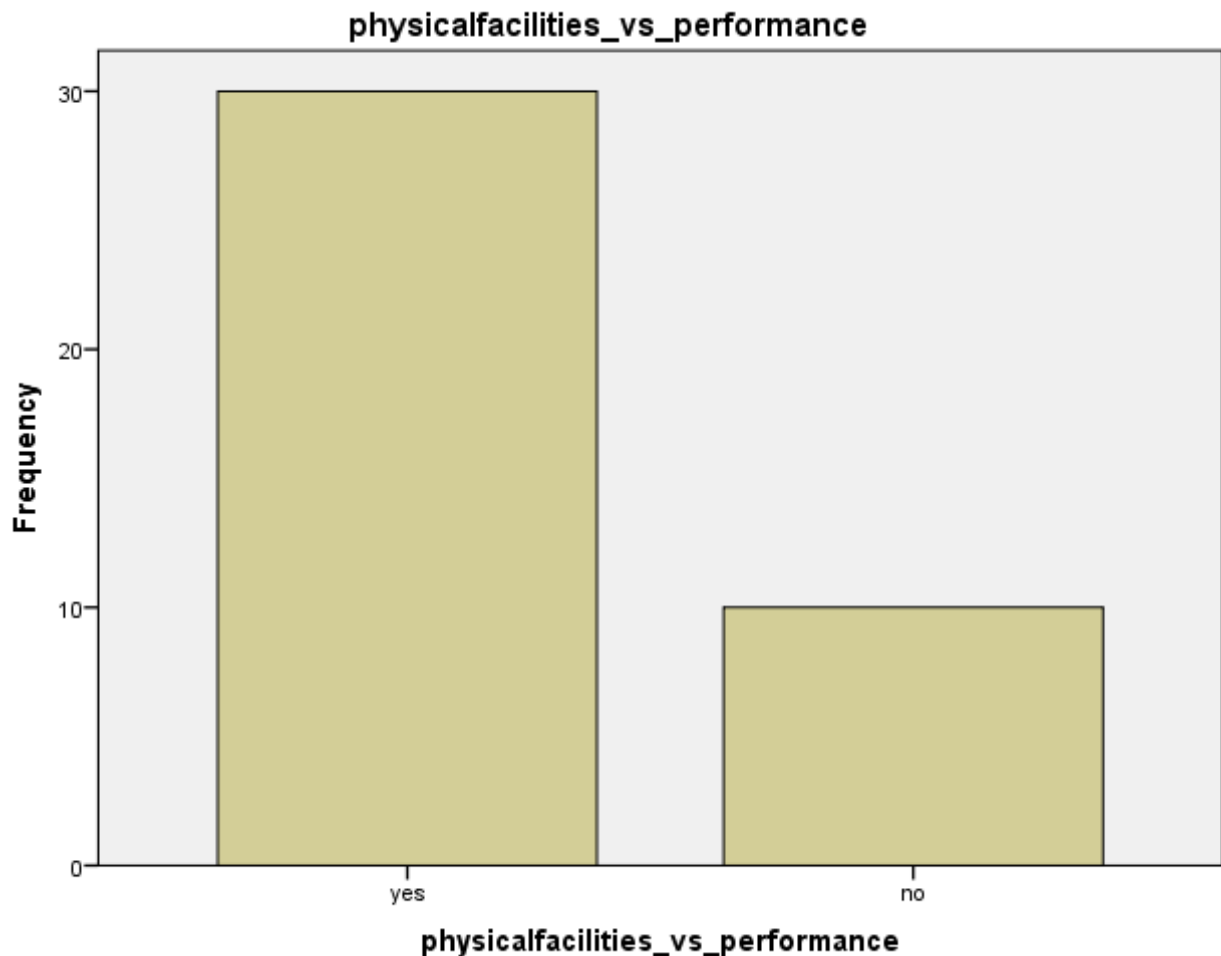
Another respondent troubled with availability of toilets had this to say:

*'My typical class has got about 60 students, and on average we have got one toilet per class. We resorted to making students take turns in cleaning because the mess that they used to leave, particularly the boys, was just negligence. Now that they clean the toilets things have been better but we are sure that we need more toilets never the less. The state of a society's toilet tells a lot about the general health of its members. Something needs to be done and fast ...'*

The other responded gave a suggestion

*"I feel the Department of education should help in providing sanitary and toiletries in schools to improve the hygienic conditions in schools. Donors and well-wishers can be motivated to provide mobile toilets and tanks of water in schools"*

Educators were asked if they believe the physical infrastructure around them affects their performance. Their responses are represented in the figure 4.7 below.



**Figure 4.7 the effect the state of physical facilities have on educator performance**

The majority of educators (75%) believe that the physical state of their institutions is adversely affecting their performance. This goes in line with their opinions about the various parts of infrastructure presented above, which they claim to be overly inadequate. One respondent said,

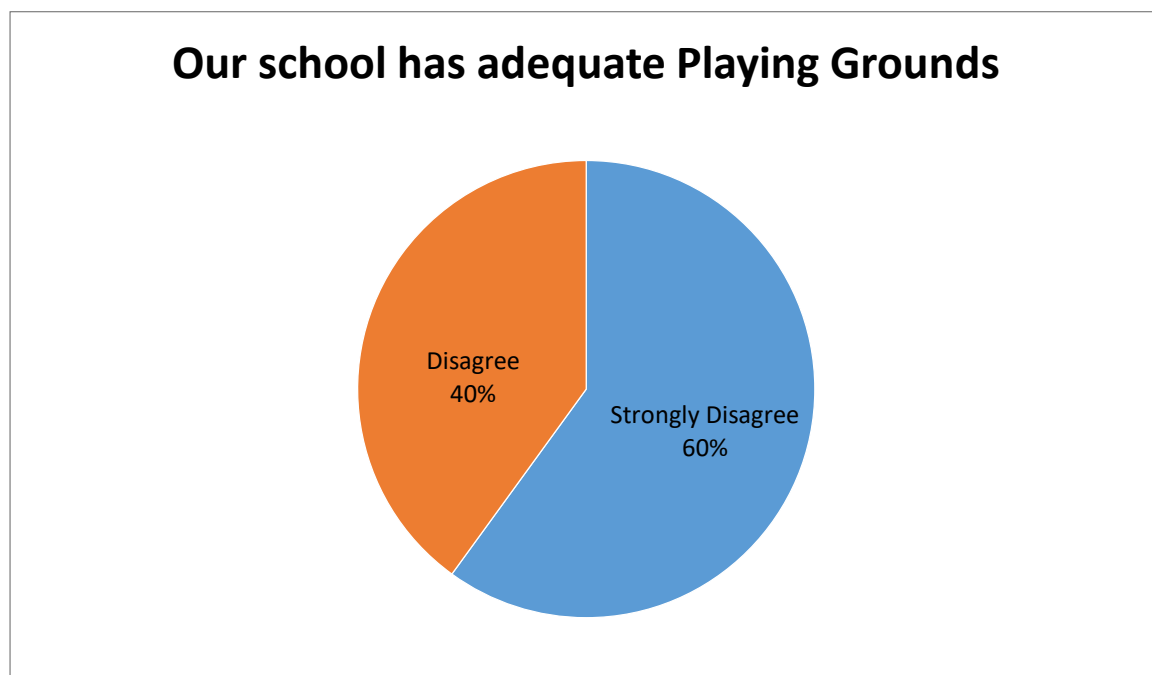
*“We face challenges with innovation. The education system in the country follows a top down structure. Sometimes we come up with solutions, such as promoting e-learning to fight text-book shortages but for such solutions to be implemented, we need the aid of the government. Currently the communication with the higher offices of the education system works by the ministry formulating policies but doesn’t give us teachers a proper mechanism of feedback so that we are able to build from the ground up. This makes it difficult for us to lead the movement on how the*



*Department can assist us best. Simple things like paint would increase our morale since we already spent a significant portion of our lives in these classrooms.”*

#### **4.2.3 Theme 3 – Support for extra-curricular activities**

The schools the researcher sampled were found to have extracurricular facilities that were out of shape. Starting with sports and playing fields, the respondents were of opinions represented below.



**Figure 4.8 Playing grounds**

Of the total number of respondents'60% strongly disagreed whilst the remaining 40% disagreed to the opinion that they have adequate playing grounds. Most of the available sports and playing fields are poorly maintained. It is difficult to put pressure for improved sports facilities whilst there is a clear shortage classrooms and manpower. This is what was conveyed by one interviewee responsible for physical education:

*'It is difficult for me to push for equipment that would make my job be considered to operate on basic standards. Physical education requires a lot of equipment besides balls. But every time I put forward a request, I am met with a list of outstanding commitments the school has made and is trying to fulfil. So I have stopped putting much pressure internally and started to look for external assistance since I'm in the*

*full picture of where we stand as a school. It is a shame because some of these kids have so much potential that will not be realised, not only on the fields, but in the classrooms too. Funding for extracurricular activities I found to be easier to access than what we require to raise our school standard in education. But just as what we expect from our students, we will never stop trying.'*

Another respondent had this to say:

*We have sports fields which are poorly maintained and the sports equipments are no longer serviced, thus we are depriving some learners the chance to utilise their talents. Not all learners are good at co-curricular activities some are talented in sports activities.*

An analysis pertaining to music and theatre rooms was conducted. The respondents of the questionnaire gave responses represented in the figure below

<b>Our school has adequate Music and theatre rooms</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	28	70.0	73.7	73.7
	Disagree	9	22.5	23.7	97.4
	Agree	1	2.5	2.6	100.0
	Total	38	95.0	100.0	
Missing	System	2	5.0		
Total		40	100.0		

**Table 4.2 Music and theatre rooms**

When the respondents were asked if they had adequate music and theatre rooms, 70% strongly disagreed, 22.5% disagreed whilst 2.5% agreed. Further investigation showed the 2.5% that found music and entertainment facilities to be adequate came from Mbilwi Secondary school. The facilities there give priority to senior students so

as to manage the number of people that have access to musical instruments as the music teacher explained

*‘There has always been a musical culture here that’s why we have a variety of musical instruments. We perform an intensive selection process lets us be able to select the best seniors to represent our school. Instrument time is prioritised mostly for them, which makes it easier to monitor the presence and state of our instruments. Anyone with a passion to play can get a chance to play during our weekly music sessions.’*

In Tshadama Secondary and Muhuyuwathomba Secondary school where there is no significant extra-curricular activity during the weekends and after schools, teachers have been noticed to leave school premises early as they see themselves having nothing left to do, unlike in Mbilwi secondary, where teachers have duties to monitor students who remain for music and other extra-curricular activities. Generally teachers from Mbilwi were found to spend more time in and around the school premises. This gave them the chance to form co-operative relationships with their students.

#### 4.2.4 Theme 4 - Access to study facilities

Educators find it easier to work with students that can carry their own weight, than those that rely on being spoon fed in the classroom. Unfortunately because of the variability of circumstances, not all students have the ability to study from home due to a number of reasons like availability of electricity and non-conducive environments for study. Ideally the school should be able to provide disturbance free and secure rooms for students to study after school and during the weekends.

**Our school has adequate Study areas**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	30	75.0	75.0	75.0
Disagree	10	25.0	25.0	100.0
Total	40	100.0	100.0	

**Table 4.3 Study areas**

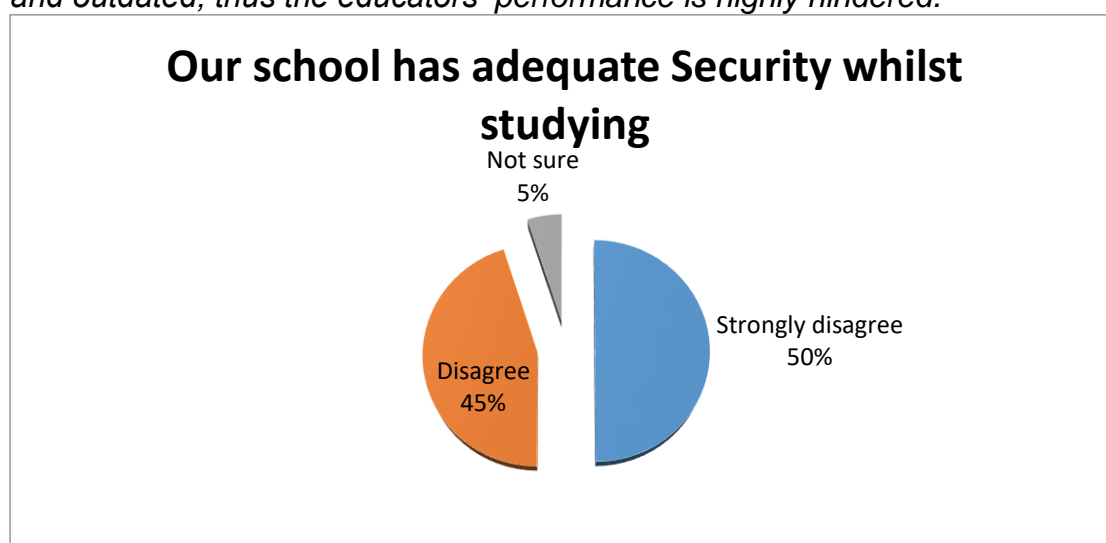
There are overall lacks of study areas amongst the three schools with 75% of the respondents strongly disagreeing that they have adequate study areas and the remaining 25% disagreed. One respondent gave this view on the available study facilities,

*‘Students are given a 3.30 pm curfew to vacate the school. Only selected classrooms are allowed to be used. The good part is older students get a chance to study with the younger ones. The downside would be for those that prefer isolation whilst they study for this is not catered for. The whole move is to control movement around the school so as to avoid mischief and abuse of school equipment’*

Students have shown a tendency of vandalising walls and hiding with girls around the schools which make it difficult for the staff to trust students with the school facilities. One respondent said this,

*‘it will take a radical culture change for staff to trust the students again, it is going to take some time. The easiest way to stop restricting movement around the school during weekends is to increase school security, which also is not going to happen overnight,’*

*It is difficult for us as staff members to fully execute our duties considering that we do not have a library that is fully functional. The books which are in our library are torn and outdated, thus the educators’ performance is highly hindered.*



**Figure 4.9 Security whilst studying**

Generally, there is no proper security structure in the school premises. 50% of the respondents strongly disagreed, 45% disagreed and 5% of the respondents were 'Not Sure' whether the school had adequate security whilst studying. There are no positive opinions about school security. This may lead to students being afraid of accessing the available study rooms as they will associate them as security risks. One Educator stated

*'There are a few numbers of students that come over during the weekends. Even fewer are the number of girls that stay at school to study. Most of the cases of bullying and misconduct occur during weekend study sessions. It is generally unsafe to hang around the school during weekends as you can also be suspected to be the ones vandalising and causing trouble.'*

Another Educator acknowledged how risky being in the school neighbourhood is saying

*'There is a high crime rate in the neighbourhood in which the school is located. Sometimes we are afraid of the thuggery and gangstarism which is in the neighbourhood as this might as well spread in to school premises.'*

A male teacher narrated his unfortunate ordeal in these words

*'I happen to be a victim of assault by a community member after I had disciplined his child for bullying a younger learner. His father confronted me with insults and hit me repeatedly in the face and ribs with his fists. I live with the fear that anything can happen to me at anytime if i ever meet him again. This has made me to seriously consider leaving this school for a better place.'*

This automatically becomes a disadvantage to those that want to get hold of study rooms for the right reasons. Fortunately a few resilient students make use of the facility for as long as it is available to them, particularly from the music department of Mbilwi Secondary, which opens even on weekends. The security situation in and around the school premises is negatively affecting the performance of both educators and learners. Learners are not able to utilise teaching and learning facilities due to fear. At

the same time educators face intimidation from community members. The safety and security of the school premises is much of concern.

The distribution of the availability of schooling facilities during the weekend is represented the figure below



**Figure 4.10 Facility access on weekends and public holidays**

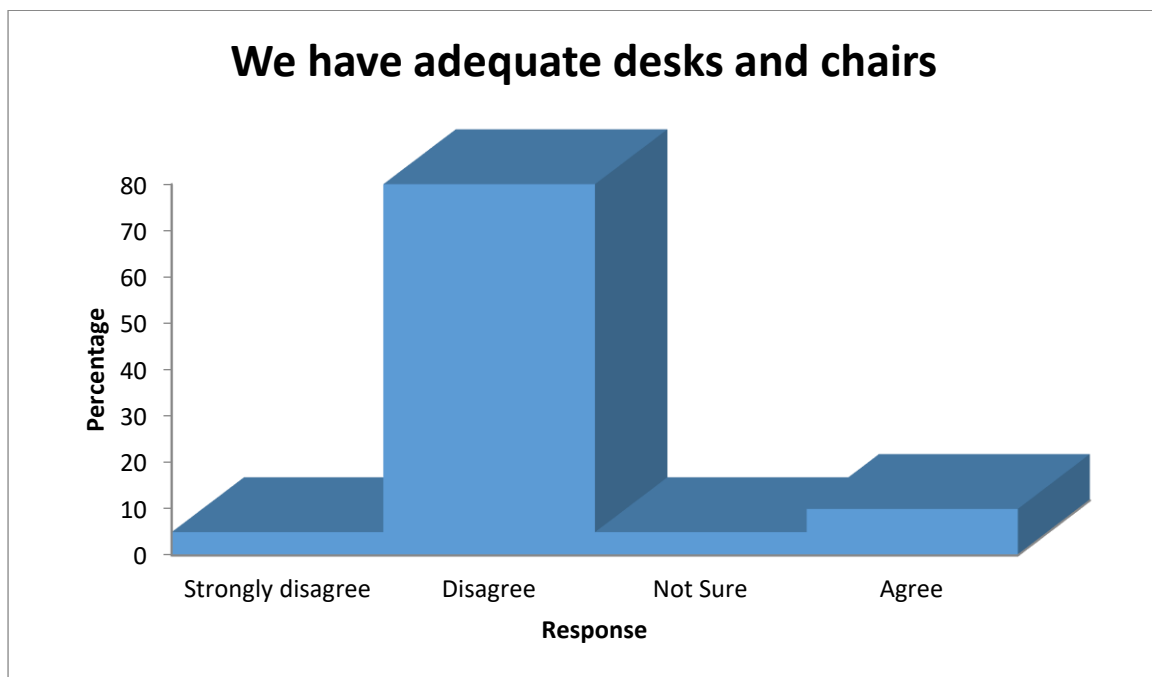
Most participants don't have access to study rooms on public holidays and weekends. 65% and 5% of the participants gave the responses 'strongly disagree' and disagree respectively to having access to study facilities during the weekends and public holidays whilst 2.5% and 27% responded 'not sure' and 'agree' respectively. The 27% of respondents that responded agreed were from Mbilwi. There seems to be a weekend opening of the school so as to support the music department.

A senior Teacher articulated

*' It appears that one flourishing department can have so much of a positive influence on the rest of the school, things are still bad enough but we have maintained something to fight for. The whole school staff and students are proud of our work we are doing with the music department'*

#### 4.2.5 Theme 5 - The condition and availability of school furniture

School furniture is among the elements which are vital for teaching and learning process to take place. The shortage of these products inhibits the effectiveness of the teaching and learning process. Shortage of furniture affects both the learner and educator where the educators will not have good chairs and tables and, learners are forced to sit crowdedly. Below is a graph that shows the educators' opinion on the adequacy of school furniture in their schools.



**Figure 4.11**adequate desks and chairs

The larger number of respondents 5% strongly disagreed that they have adequate chairs and furniture. 80% disagreed and 5% were not sure and 10% responded 'Agree'. In a bid to understand the response of the latter group of educators here is what one respondent stated

*'Sometimes when students have to change classrooms, they find the classroom they are going into without enough chairs. They then go back to their previous classroom to collect chairs and carry them for use. The ritual usually wastes time as we need to make sure everyone is settled before we continue with the lesson. The school ordered chairs last year but they were not enough to solve the problem. The students have a*

*vandalistic tendency so there are a large number of chairs that have been damaged. Stronger chairs are required but they come at a cost. The school Head is afraid that if stronger desks and chairs are purchased, students would still vandalise them. This makes it a difficult problem for us to solve on our own.'*

The respondent states the school may need help in procuring quality furniture for its students. Respondents raised questions about the role the government is expected to play in the procuring of classroom furniture. They expect more and believe a blind eye is turned on schools from rural setups, as one respondent puts it

*'I wouldn't say the Department is not doing anything for the welfare of schools in our community but we get the feeling that schools from regions of intense poverty do not get as much attention as urban A-listed schools. We always see senior government officials attending ceremonies at these schools and we never get any attention comparable to that although we are the ones in dire need of it. This is one of the reasons I almost left this school for an urban setup when I began teaching, but the circumstances here made me feel I can do more right here than anywhere else. I need the department to show a similar conviction particularly on securing items like furniture, which we find hard to afford.'*

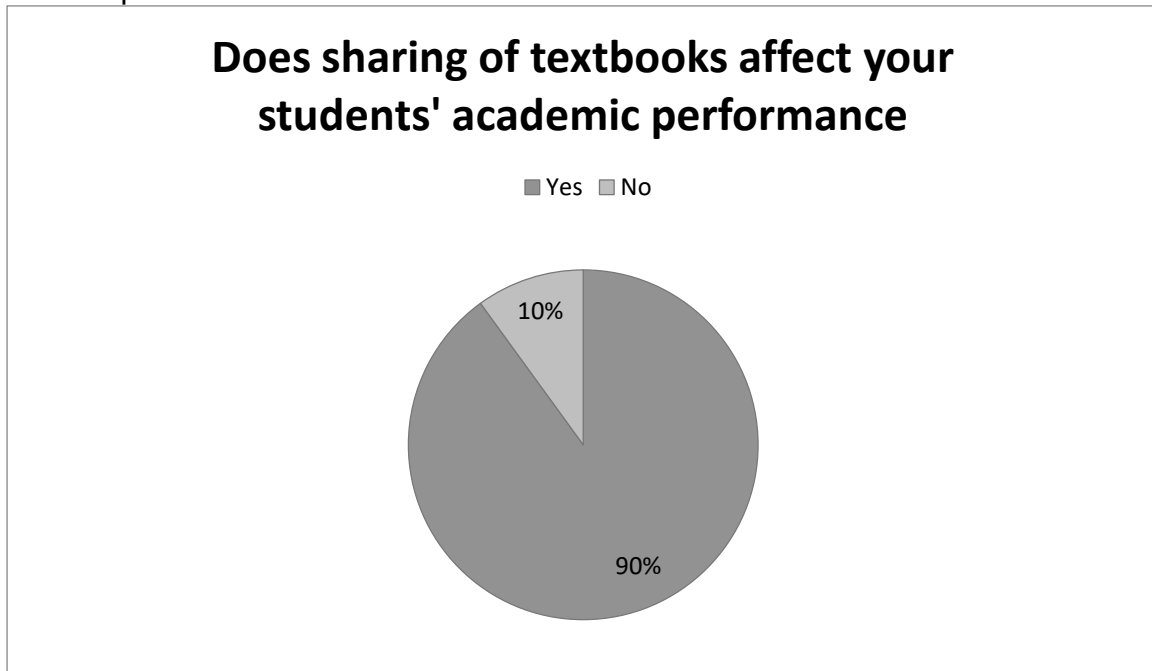
#### **4.2.6 Theme 6 – Access to books and computers**

Universal access of textbooks has affected the performance of learners and access to computers is of paramount importance so as to keep up and take advantage of technological developments. Digital learning aids can make educators work less demanding as students will be able to Google various questions and not solely rely on the educator. This changes the educators' paradigm from an 'information-giver' to more of a 'student-manager' who is there to give direction as learners perform their own researches.

When textbooks are in short supply, students are left with no option but to share the ones that are available. For the educator this makes teaching and coordinating class exercises more difficult if the available books are not sufficient. Sharing textbooks in groups of more than 5 students might be good for cooperation skill development but presents a challenge when doing written class work.



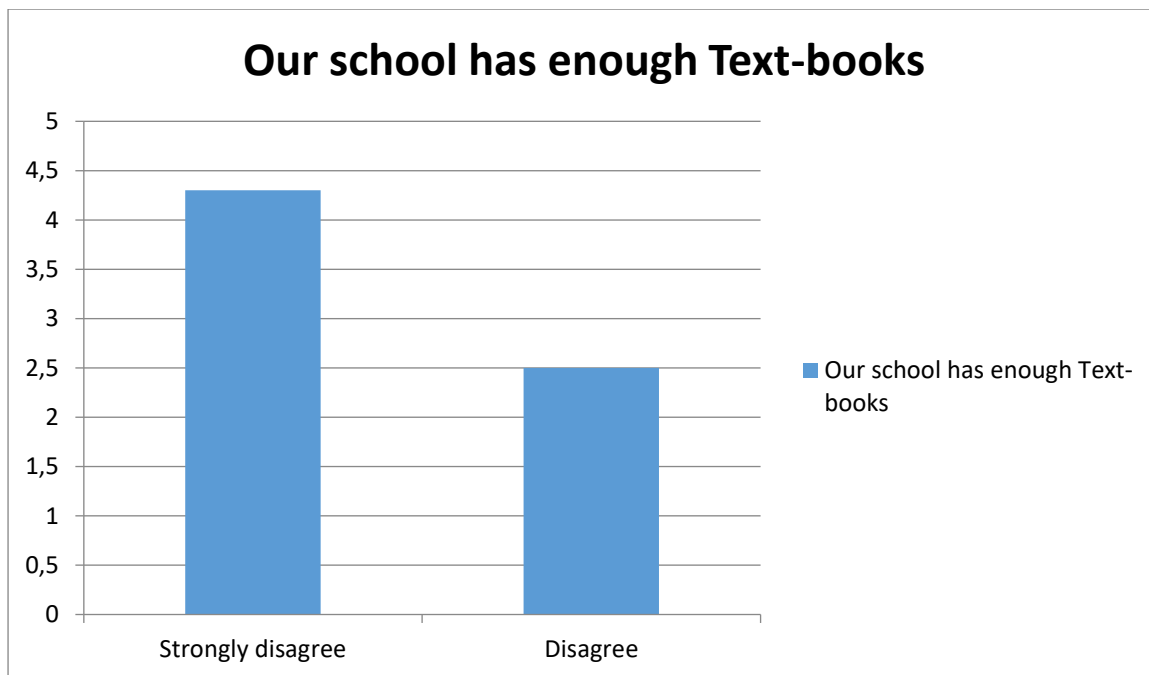
Below is a pie-chart of how educators perceive the sharing of textbooks affects student performance



**Figure 4.12 textbook sharing versus Academic performance**

There seems to be a shortage of textbooks in the secondary schools, with 90% of the educators claiming that their performance is negatively affected by their shortage. A female Educator stated,

*'In the case of research and homework, it is difficult to give my students a considerable amount of work because most students share books and have no proper facility for internet access. Some students from more privileged backgrounds resort to buying their own textbooks. In the classroom, they still share with other students but they have the chance of taking them home and do further study on concepts they did not understand. I see daily improvement in students that study at home, but for those who don't have text books, it makes it difficult because they cannot afford the chance for self-improvement'*



**Figure 4.13 Textbook availability**

There is universal consensus on the shortage of textbooks, with 55% of the respondent strongly disagreed to that there are enough textbooks while the remaining 45% disagreed. A younger educator came to say,

*‘Textbooks are the life blood of Secondary schools. Everything becomes more challenging in the absence of textbooks. We look up to the government and ministry for aid.’*

*Another Educator said this*

*‘The shortage of textbooks has greatly affected our performance as educators. It is difficult to provide adequate attention to one learner due to time constraints. Students with learning challenges are the ones that are greatly affected. Keeping students that are sharing a textbook from misbehaving takes a lot of my energy as some will not be concentrating because they do not have the best view of the textbook.’*

Accessing books is a major challenge now more than ever because the paper they print on comes from trees whilst deforestation, amongst other things, is causing global climate change. Banks and corporate businesses are already engaged in reducing the

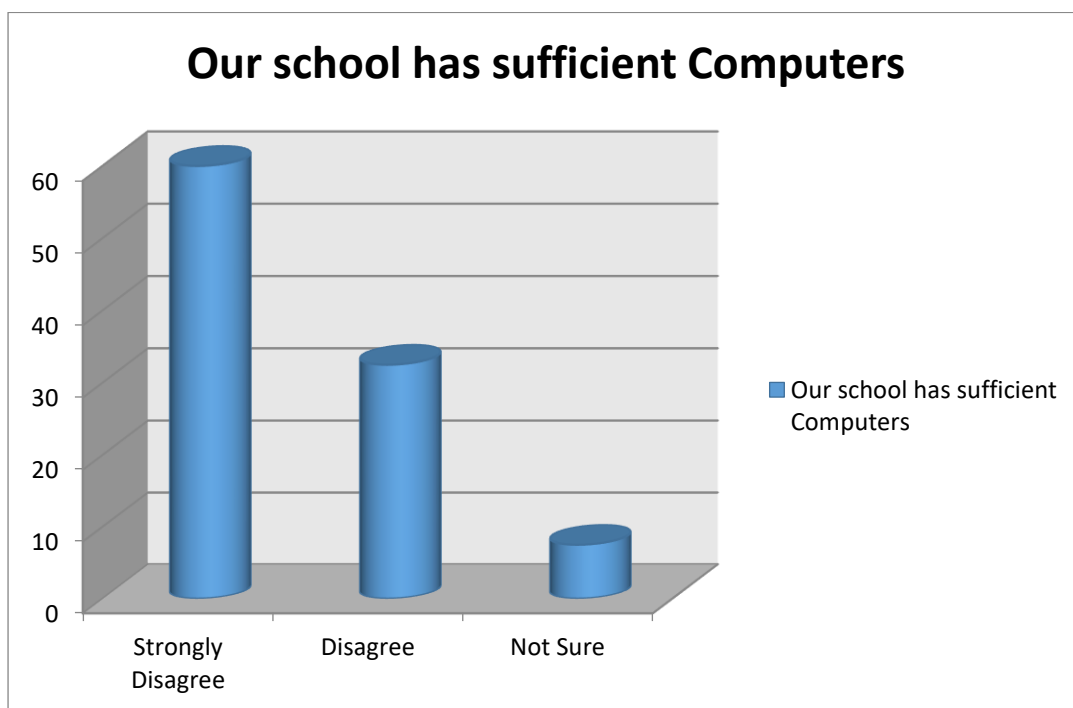
amount of paper they use on a day to day basis through incorporating digital technologies. Higher learning institutes find it easier to share and use digital textbooks on learners' laptops and tablets. In secondary schools, smart phones can be used to view PDF files and if learners could get access to them, this would provide the chance to put a library of e-books in the palm of their hands.

One respondent gave his view of incorporating 21<sup>st</sup> century technology in classrooms saying

*'If we had a government program that would provide learners with access to tablets and hand held devices in schools, producing high performing students would be much easier.*

*Even tablets or phones that they can access through a library or during school hours would be sufficient. Students will be able to view video tutorials and have access to a variety of e-learning solutions available to them. Ideally computers are required but this would cost much. I hope something is done soon to address the technological gap between us and the best schools, otherwise with the speed at which things are now changing we are getting left behind faster every day.'*

Figure 4.14 shows how educators find the sufficiency of computers in their schools.



### Figure 4.14 Computer availability

According to the quantitative data, computer access is limited. Of the total number respondents 60% strongly disagreed, 30% agreed and 7.5% responded 'Not Sure' when asked if they had sufficient access to computers. An Mbilwi Secondary educator gave the following statement

*'I am not sure if students are allowed to access the computers that are available. Firstly there are not enough to service the entire student body, and the computers are bit on the old side. Some don't work and others run old versions of windows. The Newest computers are reserved for computer science students and processing students' results. We definitely would be doing better if we had more computer rooms with modern computers. The problem is the school currently cannot afford even to get students internet access on the currently available computers. The available internet access is reserved for school staff.'*

Building and running computer labs for students require a considerable amount of electricity. The researcher went on to investigate on the availability of electricity at the respondents schools. Figure 4.15 shows how the participants responded.

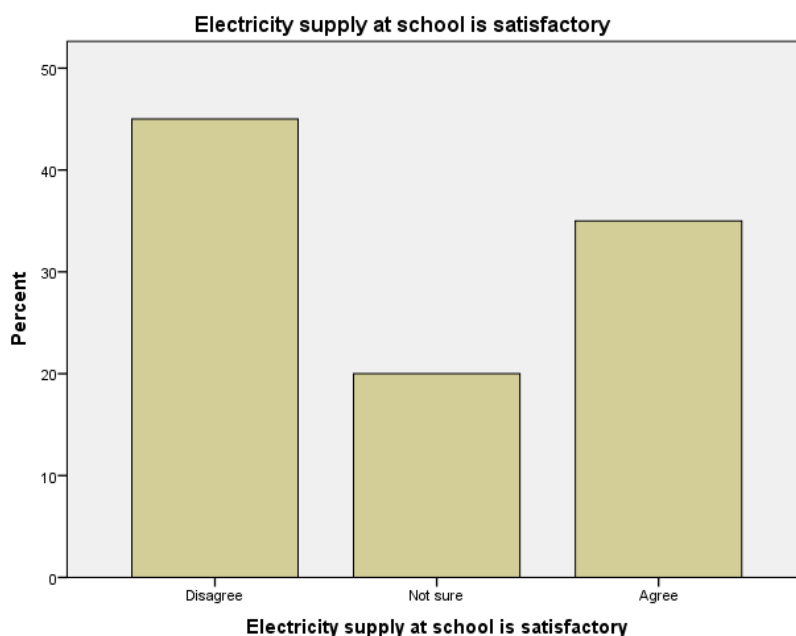


Figure 4.15 Electricity supply

Availability of electricity at the schools is distributed as in the graph above. 45% of the respondents disagreed to that they had a satisfactory electricity supply. 20% were not sure and 35% agreed to have a satisfactory electricity supply. A respondent stated the following

*'Electricity is always available. Only when there is electric load shedding is electricity not available'*

A respondent from the opposite side of the spectrum gave this:

*'After school is over, they cut the electricity for the classrooms at the main breaker. Only perimeter lights are left on and this makes sure no students are loitering around the school at night. We have had cases whereby students carried school furniture home in the pasts which has made access to classrooms after school hours prohibited. So they cut off the lights to make sure activity is minimised in a bid to protect the available equipment. It is sad the way some student sabotage others because a lot of them do not have adequate study quarters at their homes and many would benefit from studying at the school overnight. The school does not want to spend too much money on security personnel because as it is we do not have enough money to go by. So adding the number of security guards is out of the question '*

This reveals that electricity is sufficiently available if ever the schools get the opportunity to build computer laboratories, although some adjustments to the current school schedule are supposed then to be made.

#### **4.3 Conclusion**

This chapter presented and analysed the data collected for investigating the implications of educational infrastructure on the performance of educators in Thulamela Municipality, Vhembe District. Analysis was done through the combination of thematic analysis and descriptive statistics which was done with the usage of software package SPSS. Chapter five will summarises the research findings make recommendations and conclude the study.

## CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

### 5.1 Introduction

Despite the effort by the government of South Africa to commit to equitable distribution of resources and increase in infrastructure development in schools, some schools are still facing the challenges of not having adequate infrastructure. From the study findings, it is established that some schools have insufficient teaching and learning material and this has affected the performance of both the educator and the learner. The aim of this research was to investigate the impact that the development of educational infrastructure has on the performances of educators in Thulamela Municipality. The purpose of the study was achieved through the use of interviews discussions and distribution of questionnaires to the educators. A mixed method approach was employed as a research methodology for the study. The aim of this chapter is to provide a summary of the study, present the study findings and make recommendations based on the study findings.

### 5.2 Summary

The study was divided into five chapters which are summarised below.

Chapter one is mainly concerned with the introduction and background of the problem under investigation, purpose of the study, stating the research aims and objectives, significance of the study and lastly defining the operational terms frequently used in the study.

Chapter two critically reviewed studies that were carried out by other scholars on the issue on educational infrastructure. The chapter reviewed literature based on the overview of the education system in South Africa from the apartheid era to the new dispensation, the role of the department of education in providing educational infrastructure, policies and legislative frameworks that governs the education system and the effects of educational infrastructure on performance.

Chapter three described the methodological approaches that was utilised in collecting data from respondents. The contents of the chapter were; research design, population of the study, study location, sample size and sampling methods, and tools of data collection. The data was gathered through the use of questionnaire and interviews as

data collection tools. Quantitative data analysis was done through the use of SPSS whilst thematic analysis was used to analyse the qualitative data.

Chapter four was on the presentation and analysis of the data collected. The presentation had both extract from the participants' opinion regarding the issue of the impact of educational infrastructure and also descriptive statistics.

Chapter five provides the overview of the study, findings of the study, conclusions and the recommendations that emanates from the study.

### **5.3 Findings of the study**

The following are the study findings:

- The study found that some rural schools lack teaching and learning material and this has impacted on the performance of educators and in turn affected the performance of learners. The study found that textbooks are among the basic tools needed and their insufficiency makes the teacher to deal with it in a theoretical approach.
- The results of the study have found out that in most schools infrastructure might be there but it is poorly maintained for instance the buildings, books and school furniture. For instance, some schools the buildings have broken windows which affect both teachers and learners during winter and rainy seasons. This will result educators and learners feeling the cold, exposing them to ailment such as flu which will contribute to absenteeism. In addition lack of sanitary conditions is affecting the working conditions of educators exposing them to health hazards and at the same time depriving them of their human right to a clean and healthy environment.
- Study findings found that the provision of adequate educational infrastructure has an impact on the educators' performance and they argued that this has affected their students' academic performance as they are limited due to resource constraints. This is because there is no educational activity that can be done without required equipment for teachers. Thus, the study indicated that there is a lack of infrastructure in the rural schools of South Africa and this makes teaching and learning to be difficult.

#### **5.4 Recommendations**

Improving the quality of school infrastructure and facilities is expensive to undertake. There is need for resourcing the infrastructure and facilities of the education system in the country through the provision of financial support from the government, private sector and the community. Schools require adequate teaching and learning materials including resources such as textbooks, human resources and up to standard infrastructure. This is achieved when the school has funding.

Additionally, science laboratories and ICT laboratories needs to be equipped with apparatus of good standards to enable educators to carry out practical experiments or teaching learners so as to enhance understanding. It is important that the government through the department of education should provide proper teaching infrastructure for educators. It is recommended that there must a consistent, regular and equitable distribution of resources in schools because some schools are well equipped whilst others are grappling.

Sanitary conditions in schools should be improved. The Department of Health should help in providing sounding measures towards safe and clean water and toilet facilities that are up to standard. There is need to increase the ratio of toilet to teacher. Facilities such as washing basin with running water should be erected close to the toilets.

From the study finding, it was found that there are problems in relation to school libraries, some not having school libraries whilst other does not have books in the library. It is then recommended that the DoE should work out a library upgrading policy that will see schools having standard and sounding libraries with up to date textbooks. The department should see to it that there is a constant supply of prescribed textbooks to help teaching process which enhances the performance of learners. The libraries should be resourced to the extent that it corresponds with the standards of 21<sup>st</sup> century libraries. That is they should also have computers, internet access and online library resources.

The government must work out a more watertight monitoring system so as to guarantee that the schools are consistently and effectively monitored and supervised. There is need for monitoring of schools with the aim of checking if the institution's



infrastructure meets with the requirements of the department of education. This will help to highlight the schools that are in need of infrastructure. Monitoring of school infrastructure must be conducted regularly.

### **5.5 Conclusion**

The study has examined the implications of educational infrastructure on the performance of educators. The study have found out that infrastructure has an impact on the performance of educators hence, they is need to provide educators with the required materials or resources and improved infrastructure for them to perform well.

## References

- Adeogun A.A., 2001. The principal and the financial management of public secondary schools in Osun State. *Journal of Educational System and Development*. 5(1), pp.10
- Akhihero, E. T., 2011. Effect of inadequate infrastructural facilities on academic performance of students of Oredo Local Government Area of Edo State, *The Nigerian Academic Forum* Vol. 20(1). pp. 1-6
- Amsterdam, C., 2010 *School Infrastructure in South Africa: Views and experiences of educators and learners*
- Babbie, E. R., 2013. *The basics of social research: Cengage Learning*.
- Badat, S. & Sayed, Y., 2014. Post-1994 South African education: The challenge of social justice. *The ANNALS of the American Academy of Political and Social Science*, 652(1), pp.127-148.
- Bantu Education Act 1953 [Available Online] from: [https://en.wikipedia.org/wiki/Bantu\\_Education\\_Act,\\_1953](https://en.wikipedia.org/wiki/Bantu_Education_Act,_1953) [Accessed on 10 May 2017].
- Bashir, Z & Hussain, S., 2012. The Effectiveness of Co-curricular Activities on Academic Achievements of Secondary School Students in District Abbottabad Pakistan - A Case Study, *Journal of Education and Practice*, Vol 3(1): pp. 44-48
- Bayat, A., Louw, W & Rena R., 2014. The Impact of Socio-economic Factors on the Performance of Selected High School Learners in the Western Cape Province, South Africa, *J Hum Ecol*, 45(3): 183-196
- Birdsall, N., 1988. Economic approaches to population growth. *Handbook of development economics*, 1, pp.477-542.
- Blanton, S. L., & Kegley, C. W., 2016. *World Politics: Trend and Transformation, 2016-2017: Cengage Learning*.
- Bless, C., Higson-Smith, C. & Kagee, A., 2006. *Fundamentals of social research methods: An African perspective*. 4th Edition. Juta and Company Ltd: Cape Town

- Boissiere, M., 2004. Rationale for public investments in primary education in developing countries. *World Bank, IEG*.
- Braun, V. and Clarke, V., 2013. Successful qualitative research: A practical guide for beginners. Sage.
- Braun, V. & Clarke, V., 2006. Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Broh, B.A., 2002. Linking extracurricular programming to academic achievement: Who benefits and why? *Sociology of education*, pp.69-95.
- Burns, N & Grove, S.K., 2003. The practice of nursing research: conduct, critique and utilization; 3rd edition. Philadelphia: Saunders.
- Bush, T., Joubert, R., Kiggundu, E., & Van Rooyen, J., 2010. Managing teaching and learning in South African schools. *International Journal of Educational Development*, 30(2), 162-168.
- Clark, N.L. and Worger, W.H., 2016. *South Africa: The rise and fall of apartheid*. Routledge.
- Coetzee, M., 2014. School quality and the performance of disadvantaged learners in South Africa. *Stellenbosch University Economics Department Working Paper*, 22, 14.
- Creswell, J. W., 2013. *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage publications.
- Creswell, J. W., 2014. *A concise introduction to mixed methods research*: Sage Publications.
- De Vos A.S., Strydom H., Fouché C.B., and Delpont C.S.L., 2009. Research at Grassroots for the Social Sciences and Human Service Professions. 3rd ed. Pretoria: Van Schaik.
- De Vos, A.S., Strydom, H., Fouche, C.B. and Delpont, C.S.L. 2012. Research at Grassroots for social sciences and human service professions. 4<sup>th</sup> Edition. Pretoria: Van Schaik.
- Department Of Basic Education, 2016. Revised five-year strategic plan 2015/16-2019/20

Department of Basic Education, 2017. Rural education draft policy: Draft Document.

Department of Basic Education Act 2010. [Online]. Available from: [https://www.google.co.za/search?ei=BjQJW5CRFciCgAaw3YC4DQ&q=Department+of+Basic+Education%2C+2010&oq=Department+of+Basic+Education%2C+2010&gs\\_l=psy](https://www.google.co.za/search?ei=BjQJW5CRFciCgAaw3YC4DQ&q=Department+of+Basic+Education%2C+2010&oq=Department+of+Basic+Education%2C+2010&gs_l=psy) [Accessed 26 May 2017].

Dikgale, M. M., 2012. *Factors affecting academic performance of Grade 12 learners in Mogalakwena Circuit* (Masters Thesis, University of Limpopo).

Fisher, K.D., 2000. *Building better outcomes: the impact of school infrastructure on student outcomes and behaviour*. Department of Education, Training and Youth Affairs.

Gatua, J.W., 2015. *Assessment of the Implementation of Ministry of Education Safety Guidelines on Physical Infrastructure in Public Secondary Schools in Nairobi West Region, Kenya* (Doctoral dissertation, The Catholic University of Eastern Africa).

Government Gazette, 2010. The national policy for equitable provision of an enabling school physical teaching and learning environment, Vol. 540, No. 33283

Hardré, P.L., Sullivan, D.W. & Roberts, N., 2008. Rural Teachers' Best Motivating Strategies: A Blending of Teachers' and Students' Perspectives. *Rural Educator*, 30 (1), pp.19-31.

Hervie, D.M & Winful, E.C., 2018. Enhancing Teachers' Performance through Training and Development in Ghana Education Service (A Case Study of Ebenezer Senior High School). *Journal of Human Resource Management*. Vol. 6, No. 1, 2018, pp. 1-8.

Hossain, D. M., 2011. Qualitative research process. *Postmodern Openings*(07), 143-156.

Ivankova, N.V., Creswell, J.W. & Plano Clark, V.L., 2007. Foundations and approaches to mixed methods research. *First steps in research*. Pretoria: Van Schaik, pp.253-282.

- Jacobs, P.J., Aliber, M., Hart, T. & O'Donovan, M., 2008. Review of rural development: A 15 year review of economic and social sector programmes. *Unpublished paper*.
- Jansen, J., & Taylor, N., (2003). *Educational change in South Africa 1994-2003: Case studies in large-scale education reform*. The World Bank.
- Jochimsen, R., 1966. *Theorie der Infrastrucktur: Grundlagen der marktwirtschaftlichenEntwicklung*. Mohr Siebeck.
- John Chetty, D., 2016. *Mobilising women in the space between education access and socio-economic empowerment: a human rights perspective* (Doctoral dissertation, North-West University (South Africa), Potchefstroom Campus)
- Khaemba, P. & Okemo, M., 2007. Universities Open Doors to More Students. *Elimu News, Nairobi: Ministry of Education*, (2), pp.8-9.
- Khumalo B., & Mji A., 2014. Exploring Educators' Perceptions of the Impact of Poor Infrastructure on Learning and Teaching in Rural South African Schools, *Mediterranean Journal of Social Sciences* Vol. 5 (20) pp. 1521-1532
- Koroye, T., 2016. Theinfluence of school physical environment on secondary school students' academic performance in Bayelsa State, *Asian Journal of Educational Research*, Vol. 4,(2) pp. 1-15
- Leedy, P. D & Ormrod, J.E., 2010. *Practical Research: Planning and Design*, 9<sup>th</sup>edn, Pearson, Upper Saddle River, New Jersey, MacMillan.
- Legodi, M.R., 2001. The transformation of education in South Africa since 1994: A historical-educational survey and evaluation, (Doctoral Dissertation, University of South Africa).
- Lolwana, P., 2004. What is the standard of the senior certificate examination? Umalusi report in context. *Paper presented at the Human Sciences Research Council's (HSRC) matric colloquium*, at the Sheraton Hotel, Pretoria, November 3, 2013.
- Mabogoane, T. & Pateli, F., 2006. Recognising behaviour that increases learning: the possible role of incentives in the teaching profession. *Perspectives in Education*, 24, 127–139.

- Maree, K., 2007. *First Steps in Research*. 1st ed. Van Schaik: Pretoria.
- Marlow, C., 2011. *Research Methods for Generalist Social Work, 5th ed.* U.S.A. Brooks.
- Mokaya, Z.M., 2013. Influence of school infrastructure on students' performance in public secondary schools in Kajiado County, Kenya, (Masters' Thesis, University of Nairobi).
- Mokaya, Z.M., 2013. *Influence of School Infrastructure on Students' Performance In Public Secondary Schools in Kajiado County, Kenya* (Doctoral dissertation, University of Nairobi).
- Moore, N.L., 2016. In a class of their own: the Bantu Education Act (1953) revisited (Doctoral dissertation, University of Pretoria).
- Musyoka, L., 2013. Influence of provision of school physical infrastructure on students' performance in Kenya certificate of secondary education in Mwingi Central District, Kenya (Masters' Thesis, University of Nairobi).
- Myende, P.E., 2014. Improving academic performance in a rural school through the use of an asset-based approach as a management strategy, (Doctoral Dissertation, University of the Free State).
- Naicker, S. M., 2000. From apartheid education to inclusive education: *The challenges of transformation International education summit For a Democratic Society, Wayne State University, Detroit, Michigan U.S.A., June 26- 28, 2000*
- National Education Policy Act No. 27 of 1996
- Nelson, M., Mbugua, Z.K. & Kagema, J., 2017. Assessment of Secondary Schools Teachers Participation in Co-Curricular Activities in Kirinyaga Central Sub County, Kenya, *International Journal of Humanities and Social Science* Vol. 7(4):pp. 192-199
- Nghambi, G.H., 2015. Factors contributing to poor academic performance in certificate of secondary education examination for community secondary schools in Urambo District, Tabora, Tanzania, (Masters' Thesis, The Open University of Tanzania).

- Nkomo, M., 1981. The contradictions of Bantu education. *Harvard educational review*, 51(1), pp.126-138.
- Osuji, J.N., 2016. Impact of school facilities on students' academic performances in public secondary schools in Giwa and Zaria education zones, Kaduna State, Nigeria, (Masters Thesis, Ahmadu Bello University)
- Page, R.D., 2016. The role that parents play in their children's academic progress at a previously disadvantaged primary school in Cape Town, Masters thesis, University of the Western Cape.
- Rakometsi, M.S., 2008. *The transformation of Black school education in South Africa, 1950-1994: A historical perspective* (Doctoral dissertation, University of the Free State).
- Richards, L. & Morse, J.M., 2007. Coding. *Readme first for a user's guide to qualitative methods*, pp.133-151.
- Sayed, Y. & Ahmed, R., 2011. Education quality in post-apartheid South African policy: balancing equity, diversity, rights and participation. *Comparative Education*, 47(1), pp.103-118.
- Sebake, T.N., Mphutlane, L., & Gibberd, J.T., 2007. Developing a School Infrastructure Performance Indicator System (SIPIS), *The Second Built Environment Conference 2007 The Impact of School Innovation: Thuba Makote*, 361-372
- Silverman, D., 2013. *Doing qualitative research: A practical handbook*: SAGE Publications Limited.
- Siocha, O. N., Onderi, H., & Mwebi, B., 2017. Quality implications of learning infrastructure on performance in secondary education: A small scale study of a county in Kenya.
- South African Human Rights Commission, 2012. Charter of Children's Basic Education Rights The right of children to basic education
- South African Schools Act, No. 84 of 1996. [Online]. Available from: <https://www.gdeadmissions.gov.za/Content/Files/SchoolsAct.pdf> [Accessed 12 May 2017].

- Southern Africa Legal Services Foundation, 2013. "The Legal Resources Centre and the Courts in South Africa: Realising Social, Economic and Cultural Rights through Litigation," *February 2013 at the Pocantico Center of the Rockefeller Brothers Fund.*
- Stephens, L.J. & Schaben, L.A., 2002. The effect of interscholastic sports participation on academic achievement of middle level school students. *Nassp Bulletin*, 86(630), pp.34-41.
- Tooley, J., 2013. *The beautiful tree: A personal journey into how the world's poorest people are educating themselves.* Cato Institute.
- Van Bueren G "Housing" in Cheadle M.H & Davis D.M et al (eds) South African Constitutional Law, The Bill of Rights 2<sup>nd</sup> ed (LexisNexis Butterworths Durban 2009) 21.1-21.18.
- Van Wyk, B., 2012. Research design and methods Part I. University of Western Cape.
- Vogt, E & Gardener, D.C., Haeffele, L.M., 2012. Selecting the right analyses for your data: qualitative, quantitative and mixed methods.
- Vogt, W.P., Gardner, D.C., Haeffele, L.M. and Vogt, E.R., 2014. *Selecting the right analyses for your data: Quantitative, qualitative, and mixed methods.* Guilford Publications.
- Watson, J.W.R.T., 2002. Analyzing the past to prepare for the future: writing a literature review. *MIS quarterly*, 26, p.2.
- World Bank. (2009). Worthen B.R. & Sanders, R.S., 1987. *Educational Evaluation: Alternative Approaches and Practice Guidelines*, Longman, August 1, 1987.



## Appendices

### APPENDIX A:

#### INFORMED CONSENT



#### EDUCATIONAL INFRASTRUCTURE DEVELOPMENT

Dear Participant,

##### **Introduction**

Thank you for participating in this research. This questionnaire is part of a study designed to assess the impact of educational infrastructure development on learners' performance in Thulamela Local Municipality: Local Vhembe District. The questionnaire should only take up to 20 minutes of your time. Your cooperation is much appreciated.

##### **General Instructions**

The following instructions and conditions must be understood by all respondents:

- (a) Answer from your own perspective, as honestly as possible;
- (b) Please complete all sections, do not leave any unanswered questions;
- (c) Please note that your name is not required, hence confidentiality is assured.
- (d) Indicate your selected response by marking with a cross (x).
- (e) Note. There are no wrong or right answers.
- (f) By completing the survey, you indicate that you voluntarily participate in this research.

**The primary investigator, Mr. Mathase Ndweleni, can be contacted during office hours at 015 962 8903/8071 on his mobile phone 073 0449294, or email [ndweleni.mathase@univen.ac.za](mailto:ndweleni.mathase@univen.ac.za)**

Thank you.

Mr. Mathase Ndweleni

## APPENDIX B: RESEARCH QUESTIONNAIRE

### 1. What is your age

Less than 30	1
30-39 years	2
40-49 years	3
50 years or older	4

### 2. What is your gender

Male	1
Female	2

### 3. What grade do you teach?

Grade	
-------	--

**4. Indicate your current school**

Tshadama Secondary School	1
Muhuyuwathomba Secondary School	2
Mbilwi Secondary School	3

**5. How many years have you been teaching?**

Less than 5 years	1
5-10 years	2
11-15 years	3
Greater than 15 years	4

**6. What is the average number of students in a single class you teach**

**7.**

	(1) Not Available	(2) Inadequate	(3) Not sure	(4) Adequate	(5) Highly adequate
<b>Facilities</b>					
Classrooms					
Toilets					
Playing Grounds					
Sitting Areas					
Music and theatre rooms					
<b>Library</b>					
Books					
Computers					
Study areas					
Security whilst studying					
Open during weekends and public holidays					
<b>Classrooms</b>					
Desks and chairs					
Space between one student and the other					
Electricity					
Teachers for all subjects					

<i>Ration of students to teacher</i>					
<i>Student consultation</i>					

**8. How many of your students share one textbooks**

Number of students	
--------------------	--

**Why do they share textbooks?**

.....

.....

.....

.....

**9. Does sharing of textbooks affect your academic performance**

Yes	1
No	2

**10. How would you rate the overall performance of your school in national examinations.**

Very Poor	1
Poor	2
Average	3
Good	4
Very Good	5

**11. Is the overall performance of your school influenced by the existing physical facilities available**

Yes	1
No	2

**if Yes, in what ways**

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**12. What do you think needs to be done in relation to the existing physical facilities to boost students' performance in your school?**

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