

# Linking Physical Resources to School Effectiveness: A Comparative Analysis between Schools from Different Quintiles

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## Abstract

One of the pillars of school effectiveness is proper management of a school's physical resources. The physical resources available in a school can directly impact both teaching effectiveness and student learning. Thus, managing schools' physical resources is a critical element of effective school management. According to the Gauteng Department of Education, school effectiveness falls within the purview of school governing bodies under the guidance of the principal. Although South African schools have different levels, volumes, and types of resources, most have at least a school yard, fences, gates, toilets, desks, chairs, blackboards, and buildings. However, some reports suggest that some schools have ineffective monitoring, management, and control mechanisms in place for even the most basic of physical resources. This phenomenological, qualitative study was undertaken to determine if there is a link between physical resources and school effectiveness in the KwaZulu-Natal province. A small non-representative sample of 10 secondary schools, five historically disadvantaged (quintiles 1 to 3) and five more affluent schools (quintiles 4 and 5), was purposively selected for participation. The study is underpinned by the Contingency theory of Mintzberg, established in 1979. Thematic analysis was used to analyze the results. A key finding was that school principals and members of the school management team (SMT) may compromise effective management and maintenance of school physical resources in low quintile schools, while the more affluent or higher quintile schools seldom reported serious challenges with the management and maintenance of the physical resources.

**Keywords:** physical resources, historically disadvantaged communities, school facilities, school effectiveness, school management, school governance

## Introduction

This research was conducted in the Amajuba District in KwaZulu-Natal in South Africa. Given the legacy of apartheid, which includes systemic inequalities, many schools in these previously disadvantaged communities are still unable to manage the physical resources of their schools. Such schools are often declared to be underperforming because of the continued poor academic performance of learners. This

study relied on an analysis of relevant literature and the data gathered through semi-structured interviews at 10 schools. The schools were selected across the five quintile rankings. The lower quintiles (1-3) describe schools from low-income communities, while the higher quintiles (4 and 5) refer to more affluent public schools (Department of Education, 2005, p. 7). The interviews were conducted specifically to gather insight into and perspectives on the link between physical resources and school effectiveness.

## Historical background of the education system of South Africa

South Africa is a developing country in the global South. Before the advent of democracy in 1994, the country had more than 18 different education systems. Resource allocation, including funding, was done along racial lines. Mabula et al. (2023) argue that the unequal distribution of educational resources among schools is historical and can be traced back to the apartheid era. This inequality compromised the dignity of disadvantaged communities. According to Statistics South Africa (2021, p. 8), South Africa still has the highest rate of socio-economic inequality in the world, coupled with the highest unemployment rate, which is approximately 34.5%. After 1994, the government created a national department of education so that resources could be equitably distributed (Du Plessis & Mestry, 2019). However, the stubborn legacy of the apartheid system still lingers in many schools. Some schools show effective management of physical resources, while others are still struggling to cope.

The next section elaborates on the findings of a literature review and interviews with schools on the extent to which the management of physical resources could be linked to school effectiveness. The section also highlights the value of the effective management of physical resources regarding literature and interviews.

## School effectiveness and the management of physical resources

Leadership and management skills play a significant role in the maintenance of schools and the improvement of school effectiveness. Hallinger and Heck (2011) argue that strong leadership from the school principal is pivotal as it sets high expectations for learners and educators, promotes discipline and order, develops learner-centeredness, and aids in the continuous monitoring of academic work. How the physical resources of a school are managed has a significant effect on school effectiveness. Poor management of these resources results in poor academic performance among learners and poor educational outcomes (Mestry & Bodalina, 2015). School physical resources support academic performance by contributing to quality education, which encompasses learners, learning environments, content, processes, and outcomes.

A key finding of this study is that school principals and members of the school management team (SMT) in lower quintile ranking schools do not effectively manage and maintain school physical resources. It was the general feeling of the majority of participants from lower quintile schools that the management of school physical resources has been neglected, and that this has hurt school effectiveness. According to the participants, many of the lower quintile schools do not have libraries, laboratories, or proper ablution facilities. Schools from quintiles 4 and 5 have proper physical resources. The participants indicated that they have maintenance plans as primary control tools for the effective management of physical resources. Hallinger and Heck (2011) espouse the view that a school can only be effective if it can mobilize the necessary resources at hand.

The Financial and Fiscal Commission (2009) asserts that a school in a dilapidated state poses a challenge to the accomplishment of academic goals and deprives learners of social justice.

Romlah and Latief (2021) point out that the principal is in a position of responsibility as a professional official in the school, tasked with the management of all the school's resources. Therefore, leadership and management skills play a significant role in maintaining schools and improving school effectiveness. According to Leo and Wickenberg (2013), a distributed leadership that engenders a school culture that supports initiatives by both educators and learners is crucial for school effectiveness. According to Section 38(1)(d) of the Public Finance Management Act (PFMA) of 1999, the accounting officer of a department, trading entity or constitutional institution is responsible for the management, safeguarding and the general maintenance of the resources of the department, trading entity or constitutional institution, which includes schools (South Africa, 1999).

### The value of a school's physical resources

Onuh et al. (2021) contend that physical resources are the most important elements of effective and efficient functional education. The authors (Onuh et al., 2021, p. 95) continue to argue that "putting in place adequate resources together with enforcement of effective management strategies is a pre-requisite towards actualization of educational goals and objectives". In a study conducted by Asuquo and Ogar-Ikwen (2021), the researchers found that the enhancement of a conducive pedagogic environment, the extension of the life span of the school, and securing a school's physical resources constitute vital reasons for proper physical resource management for school effectiveness. The participants in this study unanimously indicated that physical resources are important. They argued that an unkept school environment is unattractive and has the potential to demotivate teachers and learners. This finding corresponds with a Latin American study that examined 50,000 learners from Grades 3 and 4. The results indicated that the learners in poorly equipped classrooms and schools with inadequate physical facilities had significantly lower academic achievement and higher repetition rates compared to those in well-resourced schools (Willms, 2002).

According to Biyela (2009), at the heart of school life, there is leadership and management. It is these aspects of school life that ensure that all other aspects are held together and developed. Gumbi (2009) asserts that school principals contribute greatly to the success and effectiveness of educational organizations through proficient planning, organizing, leading, and controlling of physical resources. They have to collaborate with all educators and non-teaching staff to set clear objectives to keep the school functional and effective. The subsequent section discusses the possible link between school physical resources and school effectiveness.

In this study, it became evident that physical resources in the lower quintile ranking schools, even though the participants were aware of the value of the resources, were not well managed. The lack of proper management was ascribed to ineffective leadership and management by the school principals. Most participants lamented that resource management and infrastructure in the Amajuba District are a huge challenge. Thus, the participants felt that managers do not do their due diligence; as such, the communities experience a lack of resources due to a lack of resource maintenance and management.

For this reason, the performance of staff and learner academic achievement could be linked to the quality of available resources.

### Possible link between school physical resources and school effectiveness

The investigation found that all participating schools confirmed a link between school physical resources and school effectiveness. However, the approach to the management of physical resources at previously disadvantaged schools differed from the approach at ex-model C schools (previously advantaged schools). The investigation discovered that the management of resources was better at ex-model C schools than at the previously disadvantaged schools. There were, nevertheless, schools in the previously disadvantaged communities that managed their resources adequately. Most participants concurred that if the infrastructure is dilapidated, the staff loses morale because nobody wants to work in a place where the environment is not conducive.

The study also found that the effectiveness of any school is largely dependent on the school principal's proficient management of physical resources. This means that principals require expertise in the effective management and allocation of resources so that they can make a valuable contribution and have a positive impact on the functionality of the school. Furthermore, the management of school physical resources and other physical infrastructure involves promoting the school and community's pride in school facilities through a program of cleanliness and maintenance. It has far greater significance than just pleasing the public. One of the interesting points from this study is that all the participants had a common understanding of what physical resources entail, and also how these resources were to be mobilized. The participants' understanding of physical resources is in line with the Department of Education (2005), which emphasizes the fact that every school must have basic resources to operate effectively. The ideal is attained when every school has adequate classrooms, equipment, sufficient staff, a library, library staff, a staffroom, and laboratories.

The route linking social-environmental phenomena, such as resource management for social justice, with outcomes of different levels, for instance, learner academic achievement, normally goes through the psychological sphere. This suggests that social or environmental provocations appeal to psychological processes affecting individual-level behavior and performance. Many studies argue that linking physical resources to school effectiveness and learner academic achievement is complex and inconclusive. The indication also implies that some of this complexity may be a result of potential intervening components that were not considered in examining this linkage. However, the literature finds social justice as a possible link between management of physical environmental factors and school effectiveness with the desired outcomes, learner academic achievement.

### A contribution to comparative and international education

As education was declared a human right, it becomes imperative for schools to ensure that social justice is not only talked about but must be seen to be done. Considering the comparative and international education framework, all the schools in South Africa should consider upgrading their physical resources to be on par with schools locally and internationally. The concern of poor physical resources and infrastructure

may be addressed by engaging school principals and school governing bodies to help them comply with the prescripts of the law. One example is Section (24) of the Constitution of the Republic of South Africa, which states that “Everyone has a right to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of the present and future generations ...” (South Africa, 1996).

This study is informative since it compares the management of schools’ physical resources between different quintiles. More often, the lower the quintile ranking, the more ineffective the management of physical resources is, and the less the school’s effectiveness is. Schools can learn from this study that there is an important link between school physical resources and school effectiveness. School governors and school management teams should be made aware of the value of physical resources and the role that they play in the academic performance of learners. The study also revealed that some schools are managing resources correctly, which could serve as a motivation for others to emulate the good practices.

## Conclusion

Schools were created to provide quality education to all learners, both at public and independent schools. This study, therefore, concludes that without proper and sufficient physical resources, the objective of providing quality education is not possible. Teachers may only be productive, hardworking, willing to go the extra mile, and effective in their work if they are equipped with requisite skills and, above all, have adequate and relevant facilities. This means that the implementation of educational programs, meeting the educational needs of the learners and staff, as well as enhancing learners’ academic performance and achievement, all depend largely on the school’s physical resources. The ambience of a school, which is linked to the quality of physical resources, serves as a good yardstick for school effectiveness. For this reason, quality education depends on school effectiveness. School effectiveness, on the other hand, revolves around good-quality physical resources. In all the higher quintile ranking schools, quintiles 4 and 5, the buildings, school grounds, technological gadgets, and textbooks were reported to be in good condition, and this could be ascribed to these schools’ understanding that they should preserve the physical resources to ensure school effectiveness. Even though there were schools in the lower quintile ranking schools (quintiles 1 to 3) that did perform well, the environment and the management of physical resources were not prioritized.

Therefore, this study concludes that there is a link between the management of physical resources and school effectiveness.

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