

# Conceptualising a Research on Managing the Teaching and Learning Materials in No-Fee Schools: The Case of Ekangala Township in Tshwane Municipality

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**Abstract:** Ineffective management of teaching and learning material can negatively affect the quality of teaching and learning. This implies that policies and processes with regards budget allocation, procurement and distribution procedures, and accessibility of teaching and learning material are key to quality education. The Gauteng Department of Education has mandated, in each school, the Teaching and Learning Material governing boards and committees to manage this material. However, most of these governing bodies and committees lack have limited knowledge and skills to manage these materials effectively. This has negatively impacted on the management of teaching and learning material and, therefore, the envisaged educational outcomes. This paper conceptualises a research meant to interrogate management of teaching and learning materials. Generally, it employs a summative thematic content analysis of literature on the (i.) research physical context or setting, (ii.) research problem, and (iii.) the past and current studies of the research problem to identify the knowledge gap on this research. Further, the interrogation of the research problem makes use of the problem tree, trend analysis, and the theory of constraint so that we have a structured understanding of this problem. This approach provides us with comprehensive and critical content that allows us to state the appropriate research problem and the accompanying research purpose and research questions on how no-fee schools should manage their material. We then use this information to propose (i.) the research strategy, design, procedure, and methods as well as (ii.) the frameworks that we can use to interpret our anticipated empirical research results.

**Keywords:** Management, Research conceptualisation, Research physical setting, Research problem analysis, Research knowledge gap analysis, Teaching and learning material

## 1. Introduction

Service delivery is a complex and a challenging task, and particularly so in South Africa with its legacy of a balkanised and racially inequitably system of a government. The infrastructure backbone of the country was not built to be inclusive, and the process of restructuring the entire system to meet the needs of the entire population proved to be a formidable task of the government that is generally under-capacitated, and resource constrained. The delivery of equitable basic education is not spared either.

At the present juncture, having achieved almost universal access to primary education, South Africa is now focusing on improving the quality of the education, expanding the provision of infrastructure, facilities and learning resources, and strengthening the capacity of the educator cadre to deliver an enhanced range and quality of basic education. The above was necessitated by the fact that essential reforms to the administration, governance and

funding of education are obligatory (Van der Berg et al., 2011). As explicated above, public spending on education was extremely unequal based on race in the heyday of apartheid. Reforms to spending commenced prior to 1994 and public spending has since become increasingly well-targeted to poor learners.

The National Norms and Standards for School Funding announced in 2000 and amended in 2006 aimed to target a countless share of non-personnel expenditure to poor schools. Since 2006 the poorest two quintiles of schools have been classified as "no-fee schools". These schools do not charge fees but receive more non-personnel funding to compensate for this loss of income (Mestry, 2014). The state prioritises the provisioning of teaching and learning materials (teaching and learning material) to achieve curriculum objectives of one textbook per learner per subject irrespective of their socio-economic background. The Gauteng Department of Education has tasked a governing body and the teaching and learning material committees

to manage the Teaching and Learning Materials intervention (Gauteng Department of Education LTSM policy, 2021). Despite these arrangements and reforms, the education quality has remained disappointing (Van der Berg et al., 2011).

Arguably, lack of planning, monitoring, and controlling of resources, makes it strenuous and arduous for the schools to offer active teaching and learning. Indisputably, poor performance of learners is imbedded in the paucity of resources that derives from poor management (Nyundu, 2016). The study seeks to improve the procurement process and efficiency in the management of teaching and learning material funds. The research results will be of use to all public schools as it hopes to contribute knowledge about how no fee schools should implement effective management of teaching and learning material and procurement systems in line with Gauteng Department of Education teaching and learning material policy (2018). The research will highlight the need for school management teams and school governing bodies to equip themselves with necessary management skills which will enable them to manage teaching and learning material excellently and attain all its educational objectives (Phakathi, 2015).

## 2. Tshwane Municipality with Specific Reference to Ekangala Township: History and Description

Figure 1 below displays a map of South Africa, specifying its neighbouring countries. It also indicates that South Africa consists of nine provinces; however, the study focuses on Gauteng Province, which is situated in the north-eastern side of the country (Hlatshwayo & Wotela, 2017). Ekangala Township is positioned in City of Tshwane Metropolitan Municipality, 100 km from Johannesburg. The land was formerly a portion of the KwaNdebele homeland before it relocated to Mpumalanga. Eventually, the Ekangala land was transferred from Mpumalanga to Gauteng due to the complication of the zone, and the process was completed in April 2018 (Naidoo & Gumbo, 2019).

Ekangala residents are categorised into low-income earners. It is an officially disadvantaged zone with subsidised and Reconstruction and Development Programme (RDP) housing with bottleneck infrastructure provision. The StatsSA (2011) states that the total population of Ekangala Township is 48,493 (1 053,09 per km<sup>2</sup>). In terms of education demographics, 7.5 percent of individuals aged 20 years

**Figure 1: Map of South Africa Depicting Neighbouring Countries**



Source: Hlatshwayo & Wotela (2017:111)

and above have had no schooling; 9.6 per cent of those aged 20 and above have higher education; 33.3 per cent of those aged 20 and above are educated to matric level. Household demographics reveal there are a total number of 13,618 households, with 83,9 per cent being formal dwellings. Although Ekangala is mainly a Black African township, it is ethnically diverse. Spoken languages are isiZulu (31 per cent of the population), IsiNdebele (29 per cent), Sepedi (15 per cent) and Xitsonga (1 per cent).

The living standards of Ekangala residents range from abject (poverty) to moderate (hand-to-mouth) hence, the schools in the community meet the criteria of being declared no-fee. The schools are allocated Section 21. (1) (c) status according to South African School Act (SASA, 1996). This implies that SGBs can procure teaching and learning material using their own procurement system.

### 2.1 Provisioning of Teaching and Learning Material

All public schools are funded by using Resource Task Table (RTT) provided in National Norms and Standards for School funding (1998) according to their needs. The teaching and learning material budget consists of 50 per cent of the total school allocation. All public schools procure teaching and learning material using 100 per cent of the teaching and learning material ring-fenced budget as specified in the resource distribution certificate. When schools have procured and covered their teaching and learning material the outstanding capitals must be utilised to procure Top-up textbooks and learner stationery in January when new learners are admitted at their schools (GDE, 2018). The SGB must where necessary, supplement their resources provided by the state to procure the mandatory teaching and learning material.

The SASA (1996) empowers SGB to formulate policies such as finance, procurement of teaching and learning material as well as textbooks retrieval (Bodalina, 2012; Phakathi, 2015). Financial accountability is a demanding obligation, which may in practice pose a challenge for rural-based SGB members with low levels of literacy and financial skills (Kwinda, 2013). Literature reveals that no-fee schools experience dearth of resources regardless of efforts made by the state to provide budget (Phakathi, 2015). Hence the study seeks to investigate how no fee schools manage these resources. Since educational resources are scarce and limited, their management

therefore, demands some skills, training, careful planning, supervision, coordination, and some degree of control in schools (Bodalina, 2012; Phakathi, 2015; Paul, 2019).

### 2.2 The Benefits of Teaching and Learning Material in Schools

Resources are the ingredients for effective teaching and learning (Ayaga, 2011; Bodalina, 2012). Where resources are available and adequate, a qualified and motivated teacher will deploy methods that centre the learners. Such an approach emphasises practical activities and involves the pupils experimenting, solving problems, discussing with each other, and practical hands-on activities. This approach keeps the lesson exciting and captivating to the learners (Ayaga, 2011). Educators should be made aware of all available resources, as well as have the competencies to skilfully manage and use these resources to ensure successful learning.

Mengistu (2014) asserted that educational curricula cannot be sound and well-operated with poorly managed teaching and learning material. Effective learning occurs when suitable resources appropriate to the curriculum are used. Learning requires "both concrete and abstract subject matters and therefore a well-chosen mixture of learning resources" (Ayaga, 2010:29). The abovementioned factors will be achievable if the schools have functional School Governing Boards and school teaching and learning material committees. Therefore, there should be transparency, accountability, efficiency, and effectiveness in the utilisation of funds allocated for the procurement of teaching and learning material (Gumbi, 2009; Bodalina, 2012; Kwinda, 2014). A panoply of inputs such as availability of budget, human resources, and activity such as procurement of resources as well as output such as adequate teaching and learning material are the pillars of effective management (Labane, 2009). The need to conduct research on this area comes from the need for better management of educational materials, since the delivery of quality education depend on the quality and standards of these materials (Mengistu, 2014).

### 3. Management Challenges of Teaching and Learning Material Symptoms, Root Causes and Consequences

Here we review academic and non-academic literature to understand teaching and learning material

management challenges. These include poor resource management including procurement flaws, untimely delivery of materials, poor retention and retrieval of materials, as well as recording and storage of resources in Ekangala.

### 3.1 Historical Challenges to Teaching and Learning Material and Symptoms

The South African education system before 1994 was dominated by the apartheid system in which the country experienced segregation, acute racial discrimination, and inequalities in terms of resource allocation. African black schools experienced deficiencies of resources as opposed to white schools, which were adequately resourced. As a result, this had an impact on curriculum delivery (Maswangaye, 2010; Riet, 2012; Nkosi, 2013).

Monyokolo (1993) points out that textbook scarcities and insufficiencies in financing, provision and distribution are not unique to South Africa. They are typical of the education systems of an extensive variation of developing countries including Zambia, Tanzania, Nigeria and many other African countries, as well as the Philippines, Indonesia, India and Nepal. This study shows that problems are experienced at every solitary stage in South Africa, and that courtesy needs to be paid to a comprehensive,

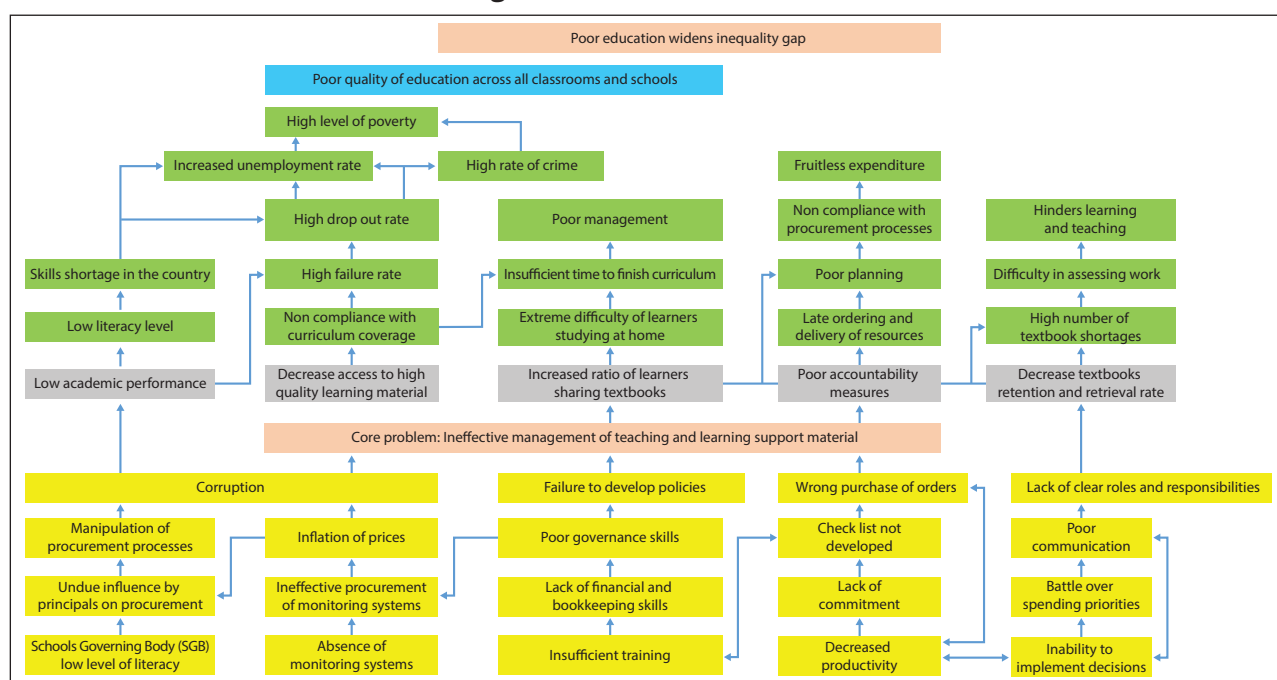
rather than a piecemeal, overhaul of the system. Textbook provision in no-fee schools (black schools) is as poor as in many developing countries, whereas in fee schools (white schools) it is as good as in developed countries (Monyokolo, 1993).

The allocation of funding in previously disadvantaged schools has gradually increased during the post-apartheid regime in comparison with the apartheid era. However, the gap between rural/township schools and urban schools is still in existence (Rammala, 2009). Low school and learner performance is attributed to poor management of resources and insufficient finances (Thwala, 2010; Dangara, 2016; Changala, 2019). A study conducted by Maile (2019) confirms the current trend of previously disadvantaged schools (no-fee), being that they lack essential resources such as laboratories and adequate textbooks. Hence, the study seeks to investigate how resources are managed in no-fee schools.

### 3.2 Symptoms of Ineffective Management of Teaching and Learning Material

Figure 2 illustrates the problem tree analysis of the intervention consisting of the core problem, symptoms, underlying root causes and consequences, outcome and impact. With literature support, we identify (i.) low academic performance, (ii.) decreased

Figure 2: TLM Problem Tree



Source: Authors

access to high-quality learning material, (iii.) increased learner-to-textbook ratios, and (iv.) high number of book shortages as the symptoms of ineffective management of teaching and learning materials. In turn, ineffective management and leadership, which results in inadequate educational resources such as textbooks, laboratory and infrastructure, negatively affects the learnership (Thwala, 2010).

The South African Human Rights has noted the critical challenges that South Africa is encountering with regards access to high-quality teaching and learning material. Further, it is evident that there is a risk of schools accessing inappropriate teaching and learning material which exacerbates inequalities and social exclusion, thus affecting the South African Education system (Thwala, 2010; Mohono, 2010). These schools are encountering high numbers of learners sharing textbooks. This makes the management and monitoring of textbooks by schools questionable and a daunting task. The sharing of books by learners is an obstacle to effective teaching and learning (Mohono, 2010; Kwinda, 2013; Phakathi, 2015). The reasons underlying teaching and learning material shortages are as follows: poor requisition systems, low rate of textbook retention and retrieval, lack of record keeping, procurement flaws, incorrect textbook supply and high overcrowding (Mohono, 2010; Kwinda & Phakathi, 2015).

Studies conducted by Bodalina (2012), Kwinda (2013), and Phakathi (2015) confirm that schools have appropriate textbook retention and retrieval systems in place, however they are unsuccessful in retrieving 100 per cent of the textbooks from learners due to a lack of management authority in schools. It is evident that there is a gap in school

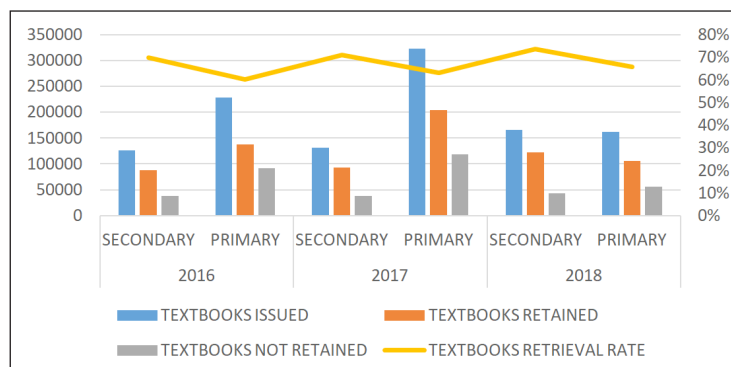
management plans, as they do not indicate proper action on how to successfully retrieve 100 per cent of textbooks. Therefore, this suggests that failure to retrieve books from learners leads to negative consequences in schools and the government, amongst others, waste significant amounts of taxpayer's money annually (Phakathi, 2015).

A record of textbook retention and retrieval in Tshwane municipality (Gauteng North, District 1) further confirms that textbook retrieval rates are below 100 per cent, as shown in Figure 3. The graph shows that in 2016, 126 130 textbooks were issued to secondary school learners at the beginning of the year. Only a total of 88 123 of the textbooks were retrieved, and 38 007 were not retrieved, placing the textbook retrieval rate at 69 per cent. In 2016, 228 956 textbooks were issued to primary school learners at the beginning of the year; only 137 743 of the textbooks were retrieved and 91 213 were not retrieved, which indicated an overall textbook retrieval rate of 62 per cent (GDE, 2018). Besides, the establishment of the Gauteng North District (D1) office in Tshwane Municipality in 2008 has failed to provide official textbook retention and retrieval records from 2008 to 2015.

### 3.3 Underlying Root Causes

School Governing Bodies are responsible for procuring and managing physical resources effectively, but they lack the pertinent skills and experience to exercise their authority, as illustrated in Figure 2. This contributes to the internal inefficiencies that slow schools' improvement and development (Thwala, 2010; Xaba, 2011; Bodalina, 2012). These studies further indicate that many SGBs and principals lack

**Figure 3: Tshwane Municipality (District 1 Office) Textbooks Retention and Retrieval Analysis 2016 to 2018**



Source: Authors

relevant financial management skills to manage resources effectively. Another contributing factor to incompetency maybe be accounted to lack of training, mistrust and conflict between the parent wing and the school principal. Without prior measures to equalise the existing inefficiencies, supplementary resources may still be misused (Kwinda 2013; Dibete, 2015). Several authors, for example Thwala, (2010) and Dibete (2015), believe that in some schools, the principal has undue influence on procurement processes. There is lack of systems to monitor the involvement of quotations from service providers. There is extant evidence of a lack of transparency (Thwala, 2010; Dibete, 2015; Ndaba, 2017).

Research findings (Bodalina, 2012; Rangongo, Mohlakwana & Beckman, 2016) prove that poor monitoring and control of procurement systems leads to wastage, corruption and fraud. It has also been noted that schools make incorrect projections for learner enrolment for the following year, which is against policy (Rangongo, Mohlakwana & Beckman, 2016). The schools encounter inaccurate capturing of learner enrolment statistics, which result in incorrect quantities of books to be procured (Kwinda, 2013; Rangongo, Mohlakwana & Beckman, 2016).

In many schools there are no policies that regulate teaching and learning material. The lack of such policies results in anomalies that affect school planning, control and operations, as well as unplanned ordering of textbooks in a failing procurement system. Policy must be implemented, rather than being left on paper only (Ndaba, 2017; Changala, 2019). Majority of school principals and governing bodies encounter problems of lack of communication, battle over spending priorities and are unable to implement decisions taken at governing body meetings (Bodalina, 2012; Kwinda, 2013).

### 3.4 Consequences

Shortages of teaching and learning resources among other things result in low academic performance and decreased quality of education as reflected by the high number of learners repeating the class and, consequently, increased dropout rates as illustrated in Figure 2. These problems are particularly severe in the lower quintile schools, especially among coloureds, followed by African learners; and drop out is more pronounced in poorer, rural provinces such as Eastern Cape, where only 20 per cent of Grade 2 pupils from the 2001 cohort passed

matric in 2011 (Modisaotsile, 2012; Mnyeni 2017). Warranting that teaching and learning material reach the schools in time at the beginning of the year is a primary challenge, which is consistently not met by service providers as a result of a lack of planning. Successively, these leave teachers with no option but to improvise, or make use of unsuitable methods that are not appropriate for the lessons (Phakathi, 2015; Mnyeni, 2017; Demisse, 2016).

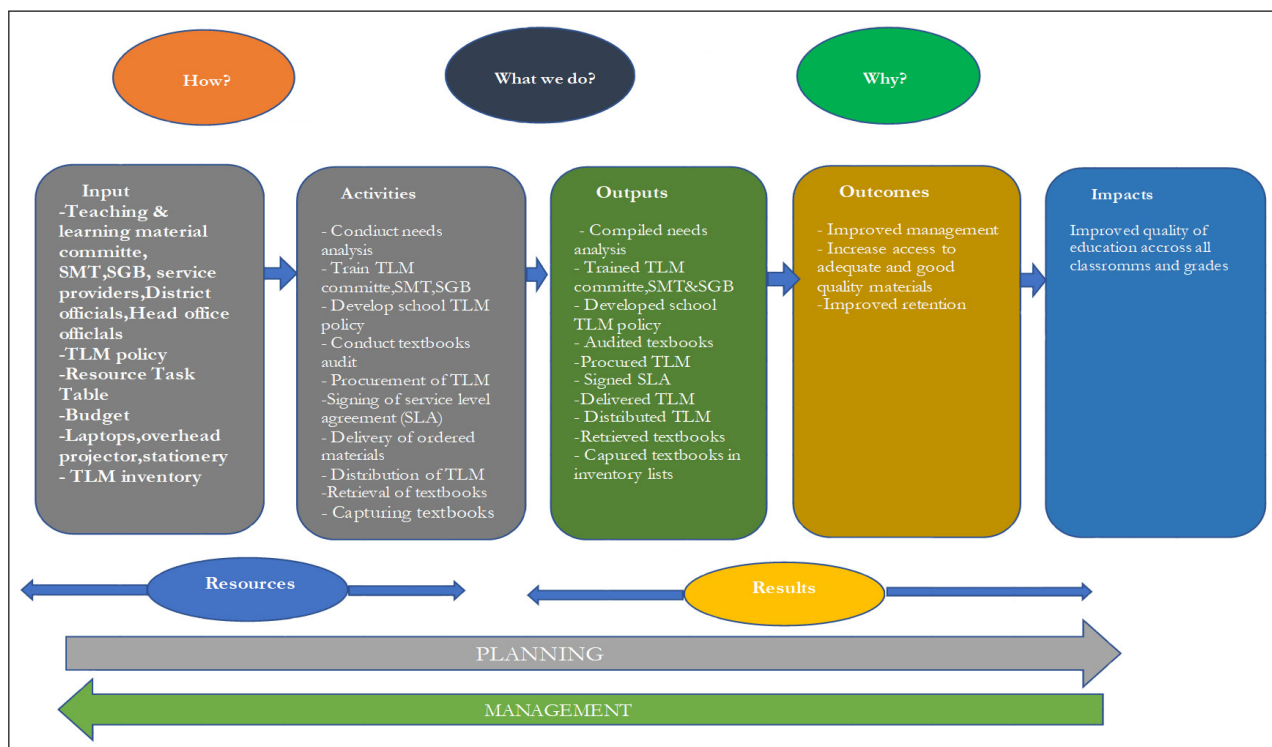
Extant literature, including De Lannoy and colleagues (2018) acknowledges that high rates of unemployment occur due to many challenges, including poor educational outcomes and poorly coordinated education systems which allow many young people to drop out and become vulnerable. Persistent unemployment among the youth has negative effects on their physical and mental well-being and feed the malicious cycle of rejection and poverty. It also has negative impacts on the socioeconomic status of the country (National Treasury, 2011; De Lannoy, Graham, Patel & Leibrandt, 2018).

A lack of accountability for textbooks that are either not delivered or delivered erroneously was cited as an example of an effect of ineffective teaching and learning material management. Financial accountability is a challenging requirement for SGBs, which may in practice pose a challenge for rural-based SGB members with minimal levels of literacy and financial skills (Thwala, 2010; Rangongo, Mohlakwana & Beckman, 2016). This is regardless of the South African Schools Act 84 (1996), which outlines plans and systems in place to deliver poverty-based funding to public schools. The ineffective use and poor management of physical resources result in unreasonable resource wastage for the state. This contributes to learners' uneven schooling, low attendance, dropping out of school; and teachers' and learners' inability to engage in the teaching and learning process (Nkosi, 2013; Bodalina 2012; Phakathi, 2015).

### 3.5 Results Chain and Results Framework for Ekangala Township No-Fee Schools

Figure 4 illustrates the results-chain with five key monitoring and evaluation attributes (impact, outcomes, outputs, activities, and inputs) and the accompanying results-framework (indicators, baselines, target values, assumptions and risks) for the teaching and learning material intervention. This intervention has three outcomes, that is, (i) improved/effective management of teaching and

Figure 4: TLM Results Chain



Source: Modified by author, adopted from UNDP (2009)

learning resources to all schools, (ii) increased access to adequate and quality materials and (iii) improved retention.

The outputs of the teaching and learning material intervention include delivery of material ordered, materials distributed to learners and teachers, and signed service-level agreements (Bodalina, 2012; Kwinda, 2013; Phakathi 2015). Outputs are fundamental to an intervention and it may fail if it fails to deliver its output. However, delivering its outputs does not guarantee its success either (Moilola, 2016). The activities of the teaching and learning material intervention include undertaking a needs analysis and procuring resources (Gauteng Department of Education, 2019; Bodalina, 2012; Phakathi, 2015). This needs human resources such as the school teaching and learning committee, School Governing Body, and heads of department. All stakeholders should ensure that financial resources, such as teaching and learning material budgets and expenditure reports, are properly managed.

The management team of the teaching and learning material intervention developed a costed operational plan and an annual work plan guided by the Department of Basic Education where they

are provided with goals and strategic objectives to align their operational plans with those of the province. However, the description of terms are not in line with the results-chain and results-framework. For example, outputs are described as outcomes, and operational plans lack assumptions and risks. The intervention is rolled out regularly but hardly achieves the desired results. The results-chain for the intervention is not in place and so is the results-framework. Such an omission means management cannot track or assess the intervention (Gamakulu & Wotela, 2016).

#### 4. Methods, Data, Findings, and Conclusions of Studies on and Evaluations of Recruitment and Placement

Interrogating similar studies and evaluations provides for uncovering the knowledge gap of this research and affords us an opportunity to select appropriate research procedure and methods that we should employ. Kunene and colleagues (2004) undertook a study on the impact of resource provisions on the implementation of curriculum. The open systems theory was used to best argue the impact of society on education system. Quantitative

research strategy design, procedure and methods were used to describe the factors that affect provisional systems and the incorporation of the resources into the teaching and learning context. The study used a questionnaire as a data collection instrument and discovered that no clear lines of accountability between the teachers at school and the district teaching and learning material official. Teaching and learning material committees at school level do not ensure that all teachers are engaged in the management of resources. The Department of Education should revisit the school teaching and learning material structures and ensure that they are managed by curriculum specialists.

Yara and Otieno (2010) postulate that the education system in Kenya is developing gradually, though it is faced with several shortcomings, including inadequate teaching and learning material in secondary schools due to corruption and inefficient planning. The study used questionnaires to collect data. Data was collected by using descriptive surveys and was analysed by multiple regression analysis. The study was grounded on the Reinforcement Theory of Motivation (Skinner, 1985). The results show that a lack of teaching and learning material such as textbooks, teaching aids stationeries and laboratories affect learners' academic performance. The study concluded that the financial support from the government to the schools would go a long way in providing most of these learning/teaching resources required for go of performance.

A study by Mohono (2010) qualitatively adopted a multiple case study design to explore the management of teaching and learning resources in three primary schools in Lesotho in the context of free primary education. Data collected through interviews, observations and document analysis were then transcribed, organised and categorised according to themes and patterns of responses. The findings show that the schools studied had functional resource management committees. However, the schools experienced a high shortage of resources, late deliveries of textbooks and poor record management.

Through empirical observation, Bodalina (2012) utilised experimental design to investigate the perceptions and experiences of teachers towards the management of physical resources at Gauteng East public schools. The study employed Giddens' structuration theory and quantitative research strategy

framed the study. The study distributed structured questionnaires to a sample of 30 public schools by using stratified random sampling. The study results highlighted a critical shortage of physical resources in schools where the governing body was ineffective. Most public schools do not have procurement and asset management policies, which often results in unreliable and unplanned ordering of textbooks in a dwindling procurement system. There is little incentive for learners and parents to return books. In conclusion, poor textbook retrieval rates ranged between 40 and 50 per cent, which cost the country large sums of money each year.

Kwinda (2013), employing unstructured in-depth interviews, assessed the effectiveness and efficiency of the supply chain practices of textbook delivery to public schools in Limpopo Province. The study qualitatively discovered general shortages of textbooks in all three schools observed. The results indicated that the supplier's performance is not adequately evaluated. The study concluded that before an order is placed with suppliers, the department should first go through enrolment verification at each school across the province. The research-limiting factor is that the findings were based on information obtained from a limited number of schools.

Mengistu (2014) utilised a quantitative research approach and cross-sectional design to investigate the practice of educational materials management in Jimma town (Ethiopia) secondary schools. The results reviewed that management and utilisation of educational resources is insufficient. Committees for purchasing educational materials in schools are available, however there is a shortage of quality and specifications on purchasing due to the shortage of appropriately trained people. The practice of need assessment on educational material, purchasing, distribution and inventory control in the schools was found to be in poor condition. Therefore, it is fair to conclude that the management and utilisation of educational resources is mainly affected by a lack of leader and staff skills on how to manage and utilise these resources for educational purposes. The study does not explicitly indicate which theoretical framework was used to understand the broad field of study and which conceptual framework was applied to interpret the results.

Mutungwa and Orodho (2015) undertook a study to analyse the main resource management constraints that influence students' academic performance in



primary schools in Kenya. The study was based on the theory of project management. The results indicated that there was insufficient funding and inefficient management of the available physical resources. As a result, it was concluded that the teachers required better communication, and may be involved in the decision making of their school administration. Schools should have diversified ways of improving on their existing resource management strategies.

Phakathi (2015) investigated the role of the School Management Team (SMT) in teaching and learning material management in public schools guided by qualitative research and the interpretivist paradigm. More specifically, this case study design was theorised in terms of the Resource Based Theory. The data was generated through document reviews. The results indicated that the most highly-rated challenges were inadequate funding and inefficient management of available physical resources. The study established that the Senior Management Team developed the school's teaching and learning material policy in consultation with the teachers in section 20 schools, unlike in section 21 schools where the teaching and learning material policy was developed solely by the Senior Management Team. The study concludes that it is significant for the school to develop a school teaching and learning material policy in order to manage textbooks effectively. The Department of Education needs to ensure that the School Governing Boards are fully informed about their roles and responsibilities to appoint a teaching and learning material committee.

A study by Osaat (2017) quantitatively investigated the availability of resources for managing functional secondary education in Rivers state, Nigeria. The results highlighted that the availability of resources in schools in Rivers state is generally low. The study concluded that the government should adequately fund the educational sector. Parents and community leaders should provide support in the form of donations and contributions.

Demmise (2016) conducted a mixed methods study to explore the management of educational material resources in secondary schools in Yaya Gulele woreda (district) in the North Shewa Zone of Oromia state. The findings indicated that the schools do not apply purchasing processes as planned and lack store facilities. Further, a lack of appropriate training and inefficient administrative services

were discovered. The conclusion drawn is that the management of educational material resources in secondary schools under consideration was below expectations. The study does not highlight the model, theoretical framework and conceptual framework applied to interpret the results.

Recently, Navidad (2019) used a quantitative approach to assess the status of learning resource materials utilisation and the level of management of these resources in selected public schools. The conceptual framework addressed the problem of teachers' capability to manage and utilise Learning Resource Materials Development Systems (LRMDS) effectively. The study found that policies or guidelines set forth for learning resource materials are not utilised. Therefore, a training programme is hereby recommended for persons-in-charge or focal persons to enhance their competence in determining usability, quality, quantity, and accessibility of learning resource materials for school use.

An empirical study by Changala (2019) explored challenges faced by school management in the procurement of teaching and learning material and their perceived effect on pupils' academic performance in selected secondary schools in Zambia. The qualitative results revealed that strategies employed by school management in teaching and learning material procurement included facilitating the planning and budgeting processes, approving budgets, allocating material and financial resources, sourcing for funds and monitoring the purchase of materials. The challenges faced by school management in the procurement of teaching and learning materials included severe conditions attached to allowances from government, which downgraded the purchasing of teaching and learning material as well as absence of full-time and trained procurement officers.

Darcho (2019) employed a mixed methods study to evaluate the practices and problems of educational material management in secondary schools in Addis Ababa. The study employed a questionnaire, interviews and an observation checklist as data gathering tools. The limiting factor is that the researcher was unable to collect 5.5 per cent of the questionnaire from teachers, as there were problems of clarity and they were not properly completed. The study discovered that the level of community participation in material planning and purchasing for the schools were below expectations. The lack of skilled labour

on inventory systems were a significant problem, compounded by a lack of training for staff and other stakeholders in the schools' material management. The study concluded that all school leaders should develop the culture of community participation in school material planning and purchasing since it increases the trust in school management and accelerates school activities towards their goals.

Collectively, these studies examined teaching and learning material management resources in schools, investigated the availability of such resources and effects of resource management and provisioning on learner academic performance. With the exceptions of Mohono (2010), Kwindi (2013), Phakathi (2015) and Changala (2019), who employed qualitative strategies as well as Demisse (2018), who employed mixed methods, majority of the studies employed quantitative research strategies that exposed the extent as well as the significance of management challenges. The most predominantly used data collection instruments were questionnaires, and the predominant sampling technique applied was probability sampling. All quantitative studies used descriptive survey research to gather cross-sectional data from a wide range of respondents and draw inferences regarding relationships between variables of interest.

The review uncovered that the majority of public schools experience challenges of the absence, or ineffective management of resources. The most highly-rated challenges were inadequate funding, acute dearth of resources, late deliveries of resources, lack of data verification prior to submissions, failure to implement teaching and learning material policy, lack of assets registers leading to erratic and unplanned ordering of textbooks, as well as poor record management/failure to manage inventory list. The studies concluded that the Senior Management Teams and School Governing Boards should effectively manage the procurement of textbooks in schools. The School Governing Boards should develop the school's teaching and learning material policy in consultation with the Senior Management Teams and teachers. The studies recommended that all schools should have procurement or asset management policies, in order to avoid wrong and unplanned ordering of textbooks. The quantitative studies reviewed have explicitly exposed the extent as well as the importance of the current research problem and answered the research questions that the respective studies pursue.

Regrettably, some reviewed studies implicitly discussed theories to understand the broad field of the study; however, there were notable shortcomings: (i) Some studies failed to explicitly pinpoint theoretical and conceptual frameworks that were utilised to interpret the research results and findings; (ii) No study on this subject was conducted in Tshwane municipality no-fee schools; (iii) Some studies did not use variables relevant to the academic field of study to select frameworks; (iv) No programme theory was applied to interpret the research findings, which is the main focus of this study.

## 5. Conceptualising a Research on the Management of Teaching and Learning Material

Introspecting on the literature we have interrogated on the research problem (Absence or ineffective management of teaching and learning material) within its physical research context or setting (Ekangala township no-fee schools) as well as revealing the research knowledge gap that we should pursue, this section provides for how we should conceptualise this research, that is, 'Management of Teaching and Learning Material in Ekangala township (Tshwane Municipality) no-fee schools. Section 5.1 presents the proposed draft research problem statement while Section 5.2 presents the accompanying research purpose statement and Section 5.3 presents the research questions as well as the accompanying research hypotheses.

### 5.1 Proposed Research Problem Statement

The pre-apartheid era adopted an exclusive education practice based on a biased funding model designed specifically to stimulate certain groups more than others (Mestry, 2018). Before the apartheid era was obliterated in 1994, former Model C schools were prioritised above the black schools situated in Township and rural areas. Post-Apartheid, changes were made to address this inequality. The South African government introduced the National Norms and Standards for School Funding (NNSFF) policy (South Africa, 1998a). The NNSFF, as a social justice and equity mechanism, ensures that poorer schools receive the bulk of the education budget for resources (South Africa, 1998a). The resource management has become a central aspect of school governance for the implementation of the South African Schools Act (SASA) (Republic of South Africa, 1996a), (Mestry & Bodalina, 2015). The Gauteng

Department of Education's (GDE, 2011) teaching and learning material policy ironically emphasises the need to prioritise the provisioning of learning materials to all learners to achieve curriculum objectives of one textbook per learner per subject (100 per cent teaching and learning material universal coverage).

However, no-fee schools experience shortages of resources regardless of efforts made by the state to provide budget (Kwinda, 2014; Phakathi, 2015). The effective management of resources has a large influence on the quality of learning in classrooms. Ineffective teaching and learning material management results in, amongst other consequences, the death of resources. Consequently, acute deficiencies of resources leads to high failure rates that trigger learner dropouts. This further leads to unemployment, spearheading to poverty with an ultimate long-term result of negatively affecting the socio-economic status of the country. Past and current studies confirm that a dearth of resources is caused by, for example, governing bodies' lack of financial expertise, procurement flaws and untimely delivery of resources (Bodalina, 2012; Phakathi, 2015). Symptoms include low rates of textbook retrieval and decreased access to quality material. Textbook Retention and Retrieval Records (TRR) for three years reveal a decline in retrieval target achievement (69 per cent in 2016, 63 per cent in 2017, and 66 per cent in 2018) (Gauteng Department of Education, 2018). This development has negative consequences whereby government wastes significant amounts of taxpayers' money.

The absence of effective budget and procurement planning, organising and monitoring of teaching and learning material by human resource management, schools may not be able to carry out effective teaching and learning. Obviously, poor learner performance is rooted in the scarcity of resources that emanates from poor management (Nyundu, 2016). Demisse (2018) affirms that good performance of schools depends on availability of resources. However, Hanushek (1997) holds the view that higher levels of school resources are not related to learner performance. This study does not aim to assess academic performance but rather investigate the process that leads to good academic achievement.

## 5.2 Proposed Research Purpose Statement

The purpose of this research is to empirically establish how no-fee schools in Ekangala Township

manage their Teaching and Learning Material. To accomplish this, this study seeks to empirically determine the functionality of financial and human resources, and procurement processes of teaching and learning material in no-fee schools. The study also aims to establish the effectiveness of teaching and learning material management in no-fee schools, and to determine the effects of budget, human resources, and procurement processes in teaching and learning material management in no-fee schools Ekangala Township. This study will provide empirically-proven recommendations on how no-fee schools should manage Teaching and Learning Materials in no-fee Schools effectively through, amongst others, improved management of financial and human resources as well as procurement, distribution, retention and retrieval (Kunene, 2004; Phakathi, 2015). Furthermore, it may enrich management studies and the accompanying frameworks. The study may also provide for how to improve their monitoring and evaluation systems to ensure effective and efficient management of resources (Bodalina, 2012; Phakathi, 2015; Gamakulu & Wotela, 2016).

## 5.3 Proposed Research Questions and Where Applicable Accompanying Research Hypotheses or Propositions

The main research question is: how are no-fee schools in Ekangala Township, Tshwane municipality managing their teaching and learning material? We propose answering this question by interrogating the following secondary questions and testing their accompanying hypotheses:

1. How are budget, human resource and procurement systems of teaching and learning material functioning in Ekangala Township no-fee schools?
  - $H_0$ : The budget, human resources and procurement systems of teaching and learning material are not fully functional in Ekangala Township no-fee schools.
  - $H_a$ : The budget, human resources and procurement processes of teaching and learning material are not fully functional in ekangala township no-fee schools.
2. How effective is the management of teaching and learning material management in Ekangala Township no-fee schools?

- $H_0$ : There is no statistically significant evidence that teaching and learning material management is effective in Ekangala Township no-fee schools.
- $H_a$ : There is statistically significant evidence that teaching and learning material management is effective in Ekangala Township no-fee schools.

### 3. To what extent are budget, human resource and procurement systems affecting teaching and learning material management in no-fee schools?

- $H_0$ : Budget, human resources, and procurement systems are not significantly related to effective teaching and learning material management in no-fee schools.
- $H_a$ : Budget, human resources, and procurement systems are significantly related to the effective teaching and learning material management in no-fee schools.

## 5.4 Proposed Research Strategy, Design, Procedure and Methods

Arising from the strengths and shortcomings of studies similar to our research that we have discussed in Section 4, we propose a quantitative research strategy and a cross-sectional research design. Therefore, similar to Kunene and others (2004) as well as Mutungwa and Orodho (2015), our study will employ a structured data collection instrument (questionnaire) to gather appropriate data from a stratified randomly selected sample. More generally, this means we should employ descriptive and inferential statistics for our analysis.

## 5.5 Proposed Interpretive Frameworks

We also propose using the general system theory (Butterlanfy, 1968) and programme theory (Bickman, 1987) to interpret our empirical results to extract research findings. Collectively, these frameworks complement each other, and are apparent in our proposed research questions and their accompanying research hypotheses. We can actually adapt the frameworks to articulate planning, management, monitoring and evaluation of the teaching and learning materials. Planning of teaching and learning materials systems for this study includes procurement, distribution, textbook retention, inventory, training of the teaching

and learning committee should occur before the intervention to increase the chances of programme success. The results chain (inputs, activities, outputs, outcomes) as emphasised in both frameworks is employed as an important instrument to measure the performance of teaching and learning material management. The underlying assumption of the model as presented in both frameworks is that when the inputs are adequate (budget allocation, SMT/SGB/teachers), the achievement of activities (procurement), outputs (procured textbooks) and outcomes (improved teaching and learning material management) are positively impacted.

## 6. Summary and Conclusion

The allocation of funding in previously disadvantaged schools has gradually increased during the post-apartheid regime in comparison with the apartheid era. However, there is a notable gap between urban schools and the rural as well as township schools (Rammala, 2009). Dismal school and learner performance is attributed to insufficient funding and poor management of merger resources (Thwala, 2010; Dangara, 2016; Changala, 2019). Maile's (2019) study confirms that previously disadvantaged schools (no-fee) which are most attended by Blacks perform poorly because they lack essential resources such as adequate textbooks, computer facilities, and laboratories. Earlier studies such as Monyokolo (1993) point out that insufficient funding and, therefore, insufficient teaching infrastructure and material is not unique to South Africa. They were typical in most African countries such as Nigeria, Tanzania, and Zambia as well as other developing countries including India, Indonesia, Nepal, and Philippines. This is a problem that needs to be addressed. Eventually, our study would like to propose how no fee schools can manage their resources. However, to do this we need to first understand how they manage resources in the first place.

Therefore, the purpose of this paper was to conceptualise how we should pursue a research on the implementation and management of teaching and learning materials. We seek to interrogate, amongst others, the handling of financial resources, human resources, as well as procurement and distribution of limited teaching and learning material in no-fee schools.

We have situated this study in a management discourse. Drucker (1998:3-4) describes management

as "...the organ, the life-giving, acting, dynamic organ of the institution...". Therefore, without the institution, there would be no management. However, without management there would only be a mob rather than an institution. This implies that management is the art of creating a performance and cooperation-conducive environment in which people attain organisational goals effectively and efficiently.

We are therefore proposing to employ this strategy hoping that we learn something that other studies could have missed. Further, most study hardly went beyond describing their empirical results and, therefore, we will use the general system theory (Butterlanfy, 1968) and programme theory (Bickman, 1987) to interpret our empirical results.

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