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The leadership role of the principal in fostering sustainable maintenance of school facilities

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The purpose of the study reported on here was to explore the extent to which the role of the principal as ex officio member of the School Governing Body (SGB) facilitated or hindered the development of strategies that are effective and sustainable for the maintenance of school facilities. The rationale for this study was that the South African Schools Act No. 84 (Republic of South Africa, 1996a) regards the maintenance of school facilities as a school governance function and hence under the legal purview of the SGB. This view could limit the role of the principal concerning this aspect of school management. For this research project, semi-structured interviews were conducted with school principals from primary and secondary schools drawn from both historically disadvantaged and privileged schools in one school district in South Africa. It was found that the principal's role is compromised, especially concerning the development of effective and sustainable facility maintenance strategies, as SGBs are inclined to give due consideration to this aspect. The nature of the benefit of the maintenance of school facilities is intricate and is not understood by school stakeholders. As a result, the overall maintenance of school facilities receives less attention and leads to difficulty in defending the cost-benefit ratio thereof against equally competing priorities. We, therefore, recommend that a whole-school approach be embarked upon. The leadership role of the principal may have to be at the centre of this strategy for the maintenance of school facilities.

Keywords: facilities; facilities maintenance; leadership; learning environment; policy; principal; school; strategy

Introduction

South Africa is one of the emerging economies in the world. Ha (2016:para. 1) points out that "education standards in emerging market economies (EMEs) are improving significantly on the back of economic growth and strong public investment." It is, therefore, prudent for South Africa to invest in education by ensuring that among other things, school facilities are provided for and are well maintained. National Treasury, Republic of South Africa (2014) projected a decline in expenditure on education to an average of 6.2% of the gross domestic product (GDP) over the 2014 medium-term expenditure framework (MTEF) period, and 19.1% of total government expenditure over the same period. These ratios suggest that South Africa's "spending on education compares favourably with other developing and middle-income countries" (National Treasury, Republic of South Africa, 2014:34). When spending on education generally, and on school infrastructure specifically, it becomes incumbent on schools to ensure that school infrastructure serves its purpose and achieves optimum value through sustainable maintenance in line with the minimum uniform norms and standards for public school infrastructure (Department of Basic Education [DBE], Republic of South Africa, 2013). For this reason, the South African Schools Act, 84 of 1996 (hereafter referred to as the Schools Act) states that the SGB is responsible for the maintenance and repairs using the school's fund allocation provided by the provincial departments of education (Gauteng Department of Education, Republic of South Africa, 2014:11). Furthermore, the Gauteng Department of Education, Republic of South Africa (2014:11) states that the school governing body, in collaboration with the principal, is responsible for maintenance of the school buildings and premises.

During my tenure as the principal of a historically disadvantaged school, I developed a strong identification with the school's physical environment, which intensified my concerns about its physical appearance, i.e. its buildings, landscape, sporting facilities, and general ambience. My concerns and increasing frustration with the SGB (which tended to consistently under-prioritise the maintenance of the physical space) compelled me to study the significance of the physical space in the creation of a favourable learning environment. I needed evidence and a rationale to justify the commitment of resources to the maintenance of school facilities. For the reason stated above, I argue that the principal should be at the forefront of facilities maintenance because in his/her position, he/she is better able, on behalf of the SGB, to take decisions regarding the various types of maintenance needed at the school. In fact, this is in line with the assertion of Gauteng Department of Education, Republic of South Africa (2014:11), which states that the school governing body, in collaboration with the principal, is responsible for the maintenance of the school buildings and premises. Therefore, the principal, as manager and leader of the school, and by virtue of being ex officio member of the SGB, must play the leadership role in fostering sustainable maintenance of school facilities. This implies ensuring that the SGB's directives on the maintenance of facilities are in line with the provisions of the Schools Act and related policies on school facilities maintenance.

The principal is responsible for the management, safeguarding and maintenance of all assets and liabilities of the school, and must ensure that processes and procedures are effective, efficient, economical and transparent (Republic of South Africa, 1996a). Principals are therefore charged with the responsibility of ensuring that school facilities are well maintained and used effectively and efficiently to create a favourable learning

environment. The statement highlights the necessity of establishing the principal's leadership role in fostering sustainable maintenance of school facilities, which this study aimed to do.

Problem Statement

Walton (2017) argues that South Africans generally tend to focus on improving the academic achievement of learners, which is usually measured by annual Matric results, particularly on the national pass rate. Asiyai (2012:193) argues that "the quality of education delivered by teachers and the academic achievement of learners of any school is dependent on several factors of which the physical environment is paramount." In this regard, Asiabaka (2008:12) asserts that the "teaching and learning process does not take place in a vacuum, but rather in an environment structured to facilitate learning." This environment is characterised by well-maintained and functional school facilities.

School facilities include material resources that improve teaching and learning and make these processes meaningful and purposeful (Uline & Tschannen-Moran, 2008). Adeboyeje (2000:95) asserts that "school facilities are the physical and spatial enablers of teaching and learning that increase the production of results." In essence, according to Emetarom (2004), school facilities can be considered as pivotal levers that are supportive of effective teaching and learning.

Bernard (2005:xvi) explains that because of poor maintenance of school facilities and under resourcing, facilities managers (such as school principals) "constantly find themselves fighting fires, always reacting to adverse situations and rarely having the time to do things by the book." School principals probably lack time to seek proper ways to initiate or facilitate maintenance practices for which they are inadequately trained. Bernard (2005:xvi) further argues that "the danger inherent in the presence of a little knowledge has long been adopted as conventional wisdom, and yet the maintenance of school facilities is still managed mainly by people who have received little or no formal training in this area." School governing bodies in South Africa are tasked with this critical responsibility while they do not have the knowledge or competence to execute it successfully.

The DBE has published numerous policies and guidelines on the effective maintenance of school facilities but due to the conflicting interests between the SGB and principals, the maintenance of school facilities remains neglected. The principal must, therefore, undertake a leadership role across the school. In other words, the principal – together with the SGB – should determine the strategic direction of the school. He/she is also responsible for turning policy aspirations into reality. According to Hinum (1999), the school principal must lead in convincing the staff, learners and the SGB that the quality and durability of a building largely depend on the type and level of service, repairs, and the rate at which needs and requirements change. Furthermore, the maintenance of school facilities should involve keeping records of these, supervising and planning for them, and motivating learners and teachers to participate in the maintenance of school facilities and the evaluation of the existing facilities. Alternative possibilities are available to empower the principal to handle this task effectively, and the baseline is the understanding of the broken windows theory that underpins this topic. Therefore, the following question guided the research reported on in this article: What are the lived experiences of the principals regarding their leadership roles in developing effective and sustainable strategies for the maintenance of school facilities?

Theoretical/Conceptual Framework and Literature Review

In this section I explain the concepts that are essential to the understanding of this discourse: sustainable facilities maintenance, the principal's leadership role, and the broken windows theory. For the purposes of sustainable maintenance of school facilities, Section (24) of the Constitution of the Republic of South Africa, 1996 (Republic of South Africa, 1996b:10) states the following: "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 … ." It is, therefore, imperative to have school facilities sustainably maintained to ensure continued delivery of quality education. In this regard, Pitt, Goyal and Sapri (2006:154) suggest that sustainable maintenance of school facilities can be divided into corrective, preventive and condition-based strategies.

Corrective maintenance is the simplest type of maintenance strategy; any element in a building is used until it breaks down (Pitt et al., 2006:154). This strategy "covers all activities, including the replacement or repair of an element that has failed to a point at which it cannot perform its required function. Corrective maintenance is sometimes referred to as failure-based or unplanned maintenance" (Pitt et al., 2006:154). On the other hand, Pitt et al. (2006:154) stress that preventive maintenance seeks to overcome the shortcomings of corrective maintenance by reducing probable incidents of the occurrence of failure and avoiding sudden failure. This strategy is referred to as cyclic maintenance, time-based maintenance or planned maintenance.

Preventive maintenance tasks are characterised by a predetermined plan at regular, fixed intervals based on, for example, operating time. Such a strategy is frequently applied to external or internal

paintwork. According to Pitt et al. (2006:155), condition-based maintenance is "carried out in response to and as a direct result of a major deterioration or change in a unit as possibly indicated by a change in monitored performance." Pitt et al. (2006:155) further point out that the condition-based maintenance concept takes into account that maintenance is principally carried out because of a change in condition or performance of an item and that the optimal time to perform maintenance is determined from a condition survey used to establish the actual state of each constituent item in a building.

With regard to maintenance, Son and Yuen (1993), and Takata, Kimura, Van Houten, Westkämper, Shpitalni, Ceglarek and Lee (2004) emphasise that the proper upkeep of a building covers many aspects of work, which may be divided into four categories. These are:

- The planning and execution of day-to-day maintenance that includes activities such as servicing, cleaning, and inspection of facilities and components;
- Rectification works to the building because of design shortcomings or inherent faults in the use of materials;
- The replacement of any high-cost items; and
- Aspects of retrofitting or modernisation work such as alteration, addition, and enhancement to existing buildings.

Richard, Devinney, Yip and Johnson (2009) assert that the management of maintenance equipment like, for instance, preventive, routine, emergency, corrective and predictive maintenance, involve complicated processes.

The systems of maintenance management support the effective production process by eradicating and decreasing the rate and severity of equipment failure. The quality of maintenance work does not only affect the technical performance of the school directly, but also the cost-effectiveness of its tasks and services to the client. It contributes immensely to the business – or school – when delivered in the form of an effective business-focused and innovative solution. Therefore, in addition to important technical considerations, maintenance has now evidently become a more prominent management matter. To this end, Murthy, Atrens and Eccleston (2002) suggest that the management of facilities should not be observed only in a constricted working context dealing with failures of the equipment and their consequences, but equally in a long-term tactical context, incorporating different technical and commercial concerns efficiently.

For this reason, the principal should ensure that appropriate policies are in place so that decisions are taken objectively and collectively, and steps are taken to avoid or deal with conflicts of interest – whether real or perceived. In this regard, the broken windows theory attains relevance. To explain this theory, Schnepf (2003) posits that if a broken window is left unrepaired, it signifies a lack of concern about the building and is an indication of the other windows being free to be broken. The broken windows theory is also based on the assumption that comparatively harmless phenomena – such as litter in the streets, graffiti, or abandoned cars – can lead to much worse signs of disorder, including a total state of neglect with high rates of violent and property crime (Kelling & Wilson, 1982). According to Schneider (2002), the effects of poor quality of indoor air on school children is alarming and such quality of air inside public schools' classrooms and ablution facilities may adversely affect the ability of learners to concentrate. Andrews and Neuroth (1988) assert that it is evident that the children under the age of 10 years are more exposed to the types of contaminants such as formaldehyde, asbestos and radon found in some school facilities than adults. Andrews and Neuroth (1988) further argue that it is irrational to expect good results from learners, educators and principals who work daily in an unsavoury environment.

The broken windows theory is, therefore, adopted in this discourse to shed light on the seemingly diminishing leadership role of the principal regarding the maintenance of school facilities. In addition, the theory is used as a lens for this investigation, because the research project is concerned with the role of the principal in creating and maintaining a favourable school environment. Within the framework of the broken windows theory, the school principal plays a crucial role in the maintenance of school facilities. Effective communication between him/her and the SGB should also be fostered in pursuit of sustainable maintenance of school facilities.

Empirical Investigation

Aim of the Investigation

This study purported to explore the extent to which the principal's role as ex officio member of the SGB facilitated or hindered the development of strategies that are effective and sustainable for the maintenance of school facilities.

Methodology

Research Design

The qualitative approach was used in the study since the aim was to seek an understanding of a process or phenomenon. Qualitative research "is a form of social enquiry that focuses on the way people interpret and make sense of their experiences and the world in which they live" (Creswell & Poth, 2018:36). Through a case study strategy, this research project focused on the distinct experiences and views of school principals regarding the maintenance of school facilities. A case study research strategy, as described by Mouton (1998), enabled me to provide in-depth descriptions of the participants' experiences about the maintenance of

school facilities at the selected schools in the Gauteng district.

Data Collection Procedure

Semi-structured interviews were used to establish the leadership role of the principal in fostering sustainable maintenance of school facilities. In-depth interviews enabled me to determine whether the participants were hands-on in the maintenance of the school facilities or not, what their challenges were, the level of support given to them by the Department of Education and the SGB, and how they taught they could can be empowered to execute this task successfully. A set of open-ended questions were derived from an interview protocol that explored items such as the participants' prioritisation of the maintenance of school facilities, the availability of a maintenance plan, and the financial constraints or other challenges regarding the maintenance of school facilities that principals face on a day-to-day basis. Face-to-face interviews were conducted with the research participants from all the identified schools. Each interview session lasted approximately an hour, and the proceedings were recorded. Observations were noted after every interview. For instance, I observed the conditions of key facilities like the ablution facilities, the classroom ceilings and floors, gutters and down pipes, perimeter fencing of the school and the general ambience of the school. For document analysis, I asked for maintenance policies, maintenance plans, departmental policies and regulations as well as the minutes of meetings that have a direct bearing on the maintenance of school facilities.

Sampling

Purposive sampling was used to select six schools from historically disadvantaged communities and six schools from historically privileged communities. This sampling method enabled me to purposefully identify participants based on a particular set of characteristics (Trotter, 2012). For example, all the schools included in the sample were located in the same geographical area, and all the participants were school principals. A purposive sample was, therefore, chosen in a deliberative and non-random manner to achieve a specific goal (Cohen, Manion & Morrison, 2013). In order to compare the maintenance practices and challenges faced by the school principals in the same district but in different sectors of the community, the sample comprised three primary and three secondary schools from both groups. The participants all had five years' experience or more.

Ethical Aspects

I approached the relevant education authorities, as well as the participating principals, to request permission to undertake this study. I assured all the participants that their identities, experiences, and contributions to the study would be treated with anonymity. The school principals participated voluntarily in the study and as such, they could withdraw from the project at any time. Furthermore, they were not obliged to answer questions that made them feel uncomfortable.

Data Analysis Procedure

The data collected through these interviews were transcribed verbatim. These transcriptions were then categorised into themes to enable me to identify patterns and examine the associations between ideas, concepts or variables (Creswell, 2009). The data collected through observations and document analyses were compared to the interpretations of the interview data. Verbatim quotations were used to substantiate the findings.

Findings

I observed that previously advantaged schools tended to pay particular attention to the maintenance of school facilities whereas in the previously disadvantaged schools, vandalism and graffiti were rife. The data also indicate that the maintenance of school facilities at the six schools from the previously disadvantaged communities was not prioritised, whereas at the six schools from the historically advantaged communities there was an attempt of looking at the maintenance of school facilities issues. The data suggest, however, that the main challenges concerning the maintenance of school facilities in both groups are a lack of the necessary training, the principal's compromised position, the functioning of the SGB, and an insufficient maintenance budget.

Lack of Requisite Training Concerning Maintenance of School Facilities

An overarching challenge of the maintenance of school facilities seemed to emanate from the inadequate training of the principals in this regard. Most principals indicated that they were not trained in "college" on how to maintain school facilities, and they had no experience either. Asked about his facilities maintenance skills, a participant's response was: "*When we were training to be teachers, unfortunately, Sir, we were not even made aware of the importance of school facilities and let alone the creation of healthy school environments*." Another participant said: "*When a teacher is promoted to be a principal, the primary expectation is always about the improvement of the academic performance of the school. I can safely say that* [maintenance] *is never a priority in our schools*."

Their responses suggest that these teachers' training was inadequate, and principals did not receive any focused training (in the form of workshops, for example) on how to manage and maintain facilities once they have been promoted to this position. One principal criticised the DBE for not assisting principals in this regard to prevent imminent fatalities. She said: "*There was a training for*

principals at Matthew Goniwe [School of Leadership and Governance] *designed to capacitate the principals with effective school management, leadership, and governance, but, unfortunately, this aspect you are asking me about was not included in the content of the training. I don't know, what does that mean? You are an expert, you will tell me*." Evidently, the maintenance of school facilities is not a priority in the South African education system.

On the other hand, one participant argued that the maintenance of school facilities for a principal should be like maintaining one's own facility at his/her home. He further commented: "*Nobody teaches you how to maintain your own facility. Therefore, principals may take their schools as their own properties, but allow other stakeholders to claim equal responsibility and contribution for the betterment of the school's outlook.*" These mixed responses indicate a widespread disparity about the issue within the South African education system. It is evident, however, that without the necessary training, school facilities will not be adequately maintained, and this could be detrimental to the pursuit of quality teaching and learning.

Compromised Position of the Principal

During the interviews, participants had the opportunity to discuss the challenges regarding their roles in the maintenance of school facilities. One participant told me about her struggle with the maintenance of school facilities at her school. According to her, a teacher – who was also a member of the SGB – was tasked with the responsibility. This staff member became the sole custodian of facilities maintenance at the school. No maintenance activity took place without his approval. The participant explained the situation as follows: "*... this gentleman will address me in front of all my subordinates and tell me that he, as the maintenance officer, is the one who must go to buy replacement parts and appoint, for instance, a plumber for a burst pipe. We are all held at ransom by this man.*" Another participant indicated that the SGB was responsible for the maintenance of school facilities at the school. She said: "*... on the governing body is a sub-committee – building and grounds committee. We've got, erm, monthly checks. We take a stroll along the school to see the areas that need upgrading and fix it.*"

These responses show a compromised leadership role of principals regarding the development of effective and sustainable facility maintenance strategies. Evidently, SGBs have a habit of not paying attention to this problem. If the maintenance of school facilities is managed in this way, the leadership role of the principal must be reinforced in some way. The principals from the majority of the schools included in this study played almost no role in maintaining facilities.

The overall responses – such as one participant's reply that the maintenance of school facilities falls under the job description of the general worker or gardener at the school – reveal that the responsibility often does not lie with the principal. Groundsmen seem to deal with any facilities maintenance issues. Other participants confirmed this with their responses: "*It is the groundsman plus one SMT* [school management team] *member*"; "*the principal and the general workers*"; and "*I, personally, as a principal, do, sometimes, but mostly the groundsman*." In other words, at these schools, one principal and a general worker handled maintenance tasks, while another principal focused on aspects that needed attention, although he mostly delegated the function to the groundsman. The principal of another school made a hesitant reference to the school's facilities maintenance committee. His reluctance to discuss the matter indicated that, despite its existence, the committee was not functional and did not, in other words, pay attention to the maintenance of school facilities as a deliberate action that could warrant the longevity and optimum functioning of facilities. For instance, the participant pointed out the following: "*We are working now closely with the committee that is led by the clerk*." His response raised a question: Why would such an essential function be assigned to a school clerk, instead of the school's leader?

Functioning of the SGB

The analyses indicate that the schools' SGBs do not consider the maintenance of school facilities as one of the critical components of their strategic planning. In this regard, a participant said the following: " *... facilities maintenance is not considered an integral component of the educational programmes at this school. It is viewed as an aspect of school safety and security, and thus did not stand alone as a fully-fledged component of the school's strategic levers for education delivery.*" However, to be able to deal with the various challenges faced by SGBs and to develop an effective school facilities maintenance programme, the SGBs must take a structured approach to the maintenance of school facilities. Such an approach should involve creating an organogram, conducting facilities inspections using checklists, and engaging in a facilities maintenance planning process with a strong strategic dimension. It is imperative that schools prioritise the maintenance of facilities as a key component of their strategic planning. If this aspect is neglected, the facilities cannot promote educational programmes at schools.

Section 20:1(g) of the Schools Act states that the SGB "may administer and control the school's property, and buildings and grounds." In addition,

Section 21:1 permits the SGB to apply to the Head of Department in writing to allocate additional functions. For example, Section 21:1(a) specifically states that the "SGB may apply for such a function as maintaining and improving the school's property, and buildings and grounds occupied by the school, including school hostels" (Republic of South Africa, 1996a:16).

One of the primary duties and responsibilities of the SGB is to adopt school policies. Despite this, none of the 12 schools included in this study had a maintenance plan or a policy on the maintenance of school facilities, as is shown in this response: "*We don't have facilities maintenance. No, we don't have a policy on that. There is no policy around that, em, especially about, em, one that is functional.*" Another principal justified the absence of a policy: "*... we record the smallest things, and the biggest things are reported to me, and I see that done*." Some respondents tended to cite other policies that they thought could be relevant. When reading these documents, however, it became clear that more work needed to be done regarding the maintenance of school facilities.

While SGBs do not prioritise the maintenance of school facilities, the participants in this study acknowledged the need to ensure that facilities were safe to use. They were also aware that attractive school environments had an impact on the school ethos and how parents viewed the schools. If these schools wanted to attain their educational goals, they should regard the maintenance of school facilities as a crucial aspect of their strategic planning.

Insufficient Maintenance Budget

All the school principals indicated that an insufficient budget for the maintenance of school facilities was a fundamental challenge. According to them, the DBE does not allocate enough funds. All schools, for example, received 12% of their total allocation for maintenance, and this was ring-fenced. One participant from a previously advantaged school said that they had to supplement the meagre 12% by the SGB's fundraising cost centre. This principal also mentioned that they "*have to raise funds to make ends meet*."

Although funding was a significant problem at the majority of the schools included in this study, there was no evidence that the maintenance of school facilities formed an integral component of the schools' development planning. Many schools budgeted for routine activities and emergencies, which indicated that facilities maintenance was not considered an integral component of the educational programmes. Due to the intricate nature of the benefits of the maintenance of school facilities to the accomplishment of the whole school performance objectives, this aspect is not accorded the priority it deserves because its cost-benefit ratio is hard to preserve against similarly competing priorities.

Discussion

The findings in this study reveal that sustainable school facilities maintenance is not prioritised in the South African education system. To this end, in its guidelines for general upkeep and maintenance of education facilities, the DBE, Republic of South Africa (2018:25) makes the point that "maintenance is a specialist function that requires specialist knowledge and skills to execute it properly" and argues that:

> People with no technical know-how and no professional training either in Facilities Management or in Building Technology or related fields are put in charge of maintenance activities or get involved in various aspects of maintenance, much as this responsibility tends to be assigned to junior members of staff.

These assertions lend weight to principals' views that they were "not trained" in this discipline and as such, implied that there would be weaknesses in the execution of facilities maintenance at schools. In fact, in most schools, the maintenance of school facilities was restricted to general upkeep, replacement, and repair of facilities and equipment (Nhlapo, 2010:140). However, the principals that participated in this research indicated that they were indeed aware of the need to foster the sustainable maintenance of school facilities. The SGBs' failure to prioritise this aspect seemed to be the primary source of the majority of challenges. Furthermore, principals had little knowledge of school facilities concepts such as predictive and emergency maintenance, and planning. In addition, the roles of the SGB and other stakeholders were not clearly defined, and this often lead to misunderstandings and conflict. As a result, the maintenance of school facilities was neglected. The analyses also provide significant evidence that the maintenance of school facilities was often postponed or deferred. This could be as a result of budgetary inadequacies for maintenance. The DBE, Republic of South Africa (2018:26) acknowledges this fact and points out the fact that:

> Invariably, insufficient budget is made available to undertake maintenance activities with priority being given to the provision of new facilities; and the 'one-size-fits-all' budgeting approach, being premised from fixed percent budget allocations regardless of the extent of general upkeep and maintenance interventions required.

The matter of tension resultant from principals and other role players at schools is reported on in numerous studies. In the case of school facilities maintenance, it was found that the positioning of a teacher as being responsible for facilities maintenance compromised the principal's position. Whitaker (2003:37) points out that the tension "frequently cited in the literature include site-based or

collaborative decision making and increasing pressures related to accountability." In the case of facilities maintenance, the guidelines for the upkeep and maintenance of education facilities, DBE, Republic of South Africa (2018:42) states clearly that the principal is the person accountable for the school facility in terms of the general upkeep, minor repairs and minor replacements (GUMRR). This then positions the principal as the accountable person for the maintenance of school facilities, from whom the SGB, school maintenance committee and co-ordinator gets direction and instructions. In fact, this point is made clear by the DBE, Republic of South Africa (2018:47–48):

> The Facility Manager should identify and formally assign GUMRR responsibility to one of the members of staff as a Facility Maintenance Co-ordinator (FMC); and School Principals to [must] prepare consolidated School GUMRR Reports and submit them to their respective SGBs and to the respective District Maintenance Manager (DMM) ...

These responsibilities include the role of the SGB and the principal as ex-officio member who must account for the overall quality of education at the school, which includes ensuring that school facilities are in a condition that renders them usable to achieve the educational goals of the school. This includes developing plans, schedules and rosters indicating how the facility management will look after and maintain the facility (DBE, Republic of South Africa, 2018:83).

As mentioned in the introduction, South Africa is an emerging economy. Consequently, it has a need for suitable school facilities that will provide for the needs of an emerging economy. This emphasises the need for providing schools with facilities that are suitable for the current technological landscape as required by the Fourth Industrial Revolution. Notwithstanding the need for facilities provision, it is equally important that existing school facilities be well maintained to redirect available funds to the needs of the new technological obligations of the future economy. To this end, it becomes evident that South Africa needs to refocus her attention to school infrastructure since quality education can only be provided to learners if the conditions of school facilities are favourable for teaching and learning.

Conclusion and Recommendations

The analyses show that the maintenance of school facility practices at the schools included in this study are far below the adequate standards as set out in the literature. Facilities maintenance activities at these schools tended to be accidental rather than purposefully and strategically planned actions. Furthermore, the absence of tailor-made school maintenance policies lead to poor or no planning of these tasks. In addition, schools seemed to have more general workers and fewer staff members dedicated to maintenance. For these reasons, school principals need formal training in the maintenance of school facilities. They must also take the lead in the strategic development planning meetings.

From this study I recommend that school principals should be trained for the maintenance of school facilities. Such training should place emphasis on the areas (e.g. buildings and grounds) and the categories (e.g. deferred, preventive, emergency, routine, predictive or corrective maintenance) of maintenance. In return, the principal must guide and enable the SGB to implement school facilities maintenance policies. SGBs should also commit to urgently developing policies on the maintenance of school facilities. The duties and responsibilities of the SGBs must be unpacked and clearly defined to avoid conflict. This should be done in the form of training. Having their role defined would encourage SGBs to be more focused and effective in executing their governance mandate. The principal should be allowed to take the lead in fostering sustainable maintenance of school facilities. A unit in the district office that is tasked with the maintenance of school facilities must support the principals in their efforts. The Department of Education should increase the budget for school facilities maintenance.

For further research, the findings of this study raise a few questions:

- What are the implications of the role of the principal as a facility manager or an accounting person?
- What are the implications of funding for maintenance and its effects on preventive, corrective and routine maintenance of facilities?

Notes

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