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AN ETHICAL EVALUATION OF THE PERCEPTIONS, ATTITUDES, AND PRACTICES OF TEACHERS AND LEARNERS TOWARDS THE PREVENTIVE MAINTENANCE SYSTEM (PMS): A CASE STUDY OF THREE GOVERNMENT CO-EDUCATION DAY SECONDARY SCHOOLS IN LUSAKA DISTRICT IN ZAMBIA.

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Abstract:

This study conducted an ethical evaluation of the perceptions, attitudes and practices of teachers and learners towards PMS in three government co-education secondary schools in Lusaka district of Zambia. One school was selected for the research from high income areas, one from middle income areas and one from low income areas. The research used a case study design involving a mixed methodology with an ethical component. The primary data was collected from the following: in-depth interviews with 6PMS prefects, 3 PMS coordinators and 3 Assistant School Managers. In addition, questionnaires were administered to 30 grade twelve learners and six teachers, and six focus group discussions were conducted involving 48 learners. Secondary sources involved literature from various relevant sources. The theoretical framework involved value ethics, environmental virtue ethics and care ethics. These were applied to the data findings with respect to perceptions (value), attitudes (environmental virtue) and practices (care). The research findings showed overall, with respect to the government policy on preventive maintenance in schools, that the perceptions, attitudes and consequent practices of both teachers and learners were largely negative. This lack of appropriate care for school property, which was identified as the gap in the literature on caring for school property and grounds, was attributed to the lack of inner ethical motivation as one of the key factors resulting in the failure of responsibility in promoting and implementing the PMS in schools. The recommendations made were (i) that the Ministry of Education needed to place greater emphasis on character formation in education, (ii) that it should also include the teaching of environmental ethics in teacher training colleges, (iii) that the “spirit” of the government PMS policy directives needed to be more specifically emphasised in terms of value-orientation in order to develop environmental virtuous habits and motivate responsible action, and (iv) that government schools needed to have their own clearly defined and publically promoted policies based on the government PMS.

BACKGROUND

The overarching aim of school education is to promote the full and well-rounded development of among others the moral and spiritual qualities of all pupils so that each can develop into a complete person, for his or her own personal fulfilment and the good of society. The Ministry of Education stresses the central importance of instilling a spirit of hard work and developing desirable values, attitudes and qualities among others towards the aesthetic schools through PMS (GRZ, 1996). One of the ways learners can be helped to develop a sense of respect, responsibility and caring towards the school property and grounds is largely with the help of trained dedicated teachers. They are expected to have developed a coherent set of attitudes, values, and beliefs in this case towards maintaining the environment (ibid). According to Dykiel et al. (2009: 99), maintenance of property is important in every educational institution because it prolongs the usable life of any facility. There is, however, a tendency for people who don't own property to neglect it. Education was still viewed as government's responsibility and the schools as government property (GRZ, 1996). Hamid et al. (2010: 44), for example, noted that deferred maintenance was often not immediately reported and sometimes not at all. Indeed, most government school environments seem not to be very suitable for teaching and learning (UNICEF, 2016: 62). It can be argued that PMS is a subject that has continued to be one of the most overlooked areas of school administration.

The presence of a reasonable ethical framework can greatly help in reinforcing PMS. Its success depends largely on the perceptions, attitudes and practices of teachers and learners. For this reason, the Ministry of General Education and Early Childhood (MGEEC, 2015) expects learners and teachers to have positive perceptions and attitudes towards PMS in leading to positive practices. In Zambia, studies done by Chitamaluka (2016) and Likando (2017) concluded that schools were not well maintained. Therefore some form of responsible behaviour towards preventive maintenance in schools is clearly very important.

Aim and methodology of the research

Clearly, the Ministry of Education in Zambia wants to make learners grow holistically by developing value, responsibility, and care towards school property and surroundings through participating in PMS activities. However, studies have revealed trends of schools deteriorating, hence the need to establish how seriously PMS is being implemented. The issue of internal ethical motivation among both teachers and learners for the care of school property and surroundings has been noticeably lacking in studies so far carried out. The aim of this research, therefore, has been to make an ethical evaluation of the perceptions and attitudes of teachers and learners towards PMS in three government co-education day secondary schools in Lusaka district. The three ethical theories that were applied were Value Theory, and Environmental Virtue Theory with reference to perceptions, and attitudes respectively. The objectives of the research were (i) to examine the perceptions and attitudes of teachers and learners towards PMS, (ii) to assess if the practices of teachers and learners corresponded to what they said, (iii) to determine the actual condition of property in the schools and (iv) to make an ethical evaluation of the findings. A mixed methodology was used in the study and the methods included primary and secondary sources. Primary sources were in-depth interviews, Focus Group Discussions (FGDs), questionnaires and observations. Purposive, convenience, and simple random sampling were used. Purposive sampling was used for selecting PMS prefects, PMS coordinators and Assistant School Managers (ASMs) for interviews. Convenience sampling was used when choosing schools and selecting teachers to administer questionnaires. Simple random sampling applied when choosing classes and learners to participate in FGDs and answer questionnaires. Secondary sources involved literature from various relevant sources.

LITERATURE REVIEW

The concern that people must have good attitudes and practices towards school property can be traced to UNESCO in 1975. This document aimed at developing a world population that was aware of, and concerned about the environment and its associated problems. It noted that education should bring about interest, awareness, values and sensitivity in teachers and learners towards the environment. People were encouraged to have knowledge, skills, attitudes, motivations, and commitment to individually and collectively work towards solving current and future environmental problems. PMS policies are deeply embedded in such a document. However, while awareness may be there among teachers and learners, nevertheless, if they do not understand the value of maintaining school property and develop the appropriate attitudes towards promoting its well-being, the desired result may not take place. Motivation is one of the key ingredients in ensuring a favourable outcome and, while motivation can be material or policy driven, the kind that is most likely to greatly drive individuals and communities to care for their immediate environments, such as schools, is the inner motivation which is driven by ethics. The UNESCO document failed to highlight this important ingredient. This ingredient was similarly missing in the Tbilisi Declaration which advocated for programmes aimed at creating new patterns of behaviour towards the environment identifying its objectives as increasing awareness, building knowledge, changing attitudes, and encouraging participation in pro-environmental behaviours (UNESCO, 1977).

In an effort to get teachers and learners more closely related to their environment, the World Commission on Environment and Development defined education for a sustainable future as a learning process that would result in a commitment to development “that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). It aimed at developing a programme through the curriculum that could promote good attitudes and practices in the way people interacted with their total environment. However, although it was concerned with promoting sustainable living, it did not specify the basis for the underlying ethic that would support this programme in terms of personal and social responsibility.

Grafweg has explored the challenges of improving the national educational infrastructure in Rwanda (Grafweg, 2010). His aim was to change the way communities valued their schools by changing their perception of the school from a place for formal state schooling, predominately concerned with academic attainment, into a place concerned with overall life-education. However, whereas the intended goal of the study was to improve the lives of children by educating them to be responsible not just for themselves but for the overall environment, the manner in which it hoped to bring about this change was not clearly stated. While drawing attention to the problems faced in schools that militated against the attainment of a more holistic understanding of education, it did not specify the means by which school communities might be motivated to instil appropriate attitudes and practices in both teachers and learners.

A study was carried out in the Netherlands by using a participatory research design that was framed as a project giving Dutch primary schoolchildren the opportunity to discuss their views and ideas about their school playground (Caro et al., 2016). The study involved 34 primary schools in and around Amsterdam. According to the study, the children considered it important that their school grounds remained undamaged and clean. They identified a clean environment as an important quality of enjoyable playgrounds. They valued the trees, bushes, flowers, plants and grass as important ingredients for enhancing the beauty and pleasant atmosphere of the school environment. The trees and bushes especially provided for hide-and-seek games as well as climbing and rolling on the ground. Some children even wanted to have a vegetable and fruit garden. In addition, there was enthusiasm about the idea of having animals like pigeons in the playground although they realised that it would be difficult to care for and maintain them. This study, however, did not consider the wider educational structure of the schools or the extent to which the school buildings themselves were being maintained.

Types of maintenance

According to the U.S Department of Education (2003: 74), there are four types of maintenance: emergency (or response) maintenance, routine maintenance, predictive maintenance and preventive maintenance. The one everyone dreads is emergency maintenance as, for example, repairing the only water pump when it fails. Sweeping of the classroom everyday early in the morning could be considered as routine maintenance. Predictive maintenance considers the likelihood of something failing and putting measures beforehand to insure smooth running. Preventive maintenance, however, is perhaps the most important category of maintenance of school facilities. Dykiel et al. (2009: 102) noted that while traditionally, school maintenance often aimed at a fix-it-as-it-breaks approach, schools now find it more economical to invest at the beginning by initiating Preventive Maintenance Programmes (PMPs) that address failing school facilities before they come to complete failure. The main aim of the Preventive Maintenance System (PMS) is to fix something before it requires emergency repairs which are often costly, time consuming and disruptive to academic programmes.

These four types of maintenance are more specifically focused on the consequences of not caring for property in good time or not making provision for the future upkeep of property. The maintenance of property, however, requires people to carry out the activities required in order to enable maintenance to take place. Accordingly, in addition to other factors, people require the necessary moral motivation to commit themselves to action if maintenance is to be responsibly carried out.

School maintenance in some countries outside Zambia

A study carried out Ifeoma (2012) to investigate school facilities in public secondary schools in Delta State in Nigeria. The purpose of the study was to find out the following: (a) the state of the facilities available, (b) the types of maintenance carried out by school administrators, (c) the factors encouraging the depreciation of school facilities and (d) the roles of school administrators in the management and maintenance of school facilities. The study employed an ex-post-facto research design using a questionnaire on 640 respondents selected through stratified sampling techniques from all the 358 public secondary schools in the State. The study revealed that the maintenance carried out on school facilities was inadequate for the majority of the facilities. Little attention was paid to the school surroundings. Amanchukwu and Ololube (2015: 99) noted in their study that there were laxities with regard to the maintenance of school plants in some Nigerian public secondary schools.

Lack of a maintenance culture had eaten deep into the fabric of the nation's citizenry. Although the study highlighted the presence of a poor maintenance culture, it failed to offer any solutions to this problem.

Srivastava (2013) carried out a study that included a survey of selected schools in six districts in India and was aimed at providing the status of sanitation and hygiene in these schools. The study concluded that there was poor maintenance of available facilities. Restricting itself to sanitation and hygiene issues, it did not focus on the relationship between the condition of school property and grounds to health issues.

Muzir (2017) conducted a review of the maintenance of four Malaysian secondary schools using a mixed methods research involving a survey questionnaire and face-to-face semi-structured interviews, in addition to walk-through observations of the schools and school documents. The study did the following: (a) examined the current policy, procedures and mechanisms of maintenance in Malaysian secondary schools; (b) established the key challenges of school building maintenance in Malaysia; and (c) assessed the level of satisfaction of the administrators and end users with respect to the condition and maintenance of the school buildings. Multiple key-holder perspectives were drawn from the experiences of education officers, school principals, teachers and students. The study noted that the underlying factor which affected the condition of the buildings was that maintenance received scant consideration. It drew attention, however, to the fact that schools needed to be viewed from an ecological perspective where school building maintenance is understood more holistically within an educational, social, cultural and geographical context.

In 2016 in America, the Office of Inspector General examined the condition of school facilities funded by the Bureau of Indian Affairs and the Bureau of Indian Education focusing on the efforts being taken to maintain the facilities in the best condition possible and in a manner that would be safe for staff and students (OIG, 2016). Onsite inspections of facilities had been carried out in 13 schools. Interviews were limited to school officials and the schools were told to prioritize maintenance needs based on health and safety and the extent to which they negatively affected learning. However, there was no focus on the importance of motivation in teachers to enable learners to develop a caring attitude to property and grounds.

The National Audit Office of Tanzania carried out an audit to assess whether the Ministry of Education, Science, and Technology and the President's Office–Regional Administration and Local Government had taken the necessary steps to establish the mechanisms for ensuring the maintenance of primary schools infrastructures in the country (NAOT, 2017). The study concluded that the steps taken were inadequate to warrant proper maintenance and rehabilitation of school infrastructure. A focus on the condition of school surroundings was absent and no account was given as to why the steps taken were inadequate.

Chimombo et al. (2000) carried out a study on classroom, school and home factors that negatively affected girls' education in Malawi. The selected districts were those where there were UNICEF funded projects in Mangochi, Mchinji, Kasungu and Nkhata-bay. The study used both qualitative and quantitative methods. The selection of the schools was based on convenience and purposeful sampling. The study reported that many primary schools were in bad condition. However, the focus was not comprehensive enough to include the school surroundings.

Ndlapo (2009) conducted a study aimed at determining how a whole-school approach to the maintenance of facilities could be developed in schools in South Africa. It used an exploratory qualitative empirical research design involving the use of ethnographic observation, photography and interviews. It investigated the nature of the maintenance of the school facilities and what the practices were in fourteen schools in South Africa. The study found that the maintenance practices of facilities at the schools mainly comprised of routine, corrective and emergency maintenance and that maintenance was not treated as an integral component of the educational programmes. Preventive maintenance in this case was not much considered.

From all of the above, it is clear that the lack of proper maintenance of school property and grounds is a widely recognised problem. The lack of adequate school maintenance has been noted in all of those countries mentioned above where studies on schools have been carried out. It has also been noted that attention to school grounds is not much emphasised.

More especially, these studies fail to offer adequate solutions to the problem of school maintenance and there is no focus on the motivation that may be required for the successful outcome of school maintenance programmes.

School maintenance in Zambia

In Zambia, successive governments and school policies have always wanted to enable learners to participate in maintaining property and the environment. According to the Northern Rhodesian Government, the general aims of primary education were to develop the highest possible standards of individual conduct and social behaviour and develop an understanding of the immediate environment (NRG, 1963: ii). It was not clearly stated, however, how this ideal form of behaviour would be achieved. There was a directive issued by the Ministry of Education in 1977, *Educational Reforms: Proposals and Recommendations*, stating that the upkeep and maintenance of educational facilities must be done regularly to promote a good learning environment where, for example, no window was broken which would allow rains and unwanted winds to enter learning rooms (MoE, 1977: 83). It stated that teachers should take collective responsibility for the school. However, the basis for such collective responsibility was not specified in order to ensure the desired perceptions and attitudes.

In 1992, the Ministry of Education issued the *Focus on Learning National Education Policy* emphasising that arrangements needed to be made for the development and dissemination of a training manual for teachers in school construction and maintenance. It acknowledged that the physical condition of a large number of primary schools had deteriorated to a shocking degree (MoE, 1992). However, having knowledge does not spontaneously lead to practice. Four years later, the Ministry of Education issued another document, *Educating Our Future Policy*, which reiterated that one of the goals of the Ministry of Education was to produce a learner capable of being animated by a personally held set of civic, moral and spiritual values, a learner who was able to participate in the preservation of the ecosystem in one's immediate and distant environment (MoE, 1996: 5). Once again, however, being knowledgeable about the importance of protecting property and one's environment is in itself no guarantee of its implementation in practice. Whereas the document rightly made reference to the importance of moral and spiritual values, it did not elucidate on what these entailed with reference to the maintenance of school property and grounds. In 2007, the *National Implementation Framework 2008-2010* recommended the continuation of the policy of the maintenance of schools (MoE, 2007: 2). While it was assumed that the focus on maintenance was promoting efficiency and cost-effectiveness, there was no review of previous frameworks to assess if they were successful in implementing maintenance or not. The Technical Education, Vocational and Entrepreneurship Training policy (TEVET) was issued in 2013 (CDC, 2013). It had been informed by *Educating Our Future Policy* which recommended that learners were to have civic, moral and spiritual values and concern for the environment. The intention was that training in preventive maintenance as a social objective would result in the successful care of school property and tools. However, such a training manual was not likely in itself to achieve its purpose without the support of underlying ethical values and principles.

The MESVTEE (2015) in Zambia tasked school administrators with supervising PMS. It issued policy guidelines on how the Preventive Maintenance System (PMS) should be conducted in schools (see appendix I). It recommended that at least once a year, the Ministry was expected to inspect school environments with the help of Education Standards Officers from the district. None of these researchers, however, gave reasons as to why inspections were not being adequately carried out. It made clear that the school administration in Zambia should play its role by, for example, forming policy. The chairpersons of the sub-committees and class teachers were supposed to implement the decisions made by the main PMS committees.

However, passing this responsibility from one to another down the line by giving it to juniors could have the ultimate effect of failing to carry out the required action. The process of supervision descending from the head teacher, through the deputy head, the coordinator, sub-committee chairperson and eventually class teachers could render the final outcome of the exercise ineffective. Whereas the PMS policy guidelines were well intended directives for action, there was no guarantee that they would be sufficient to ensure implementation in practice.

Perceptions and attitudes among teachers and learners

In Malawi, Chimombo et al. (2000) were of the view that there was excessive emphasis on children's labour in carrying out school development and maintenance works. However, it would be important to clarify between the educational value of school works and the exploitative labour of children which would be seen as an infringement of human rights. Caro et al. (2016) found that children often liked to paint graffiti designs and colours sprayed everywhere on walls, doors and floors and even in toilets instead of considering it as damaging school property. Adeoye and Tayo (2012: 232-236) identified bad attitudes to government property by school heads, teachers and students which expressed a lack of a maintenance culture among Nigerians. Instead of using available resources to maintain schools, they preferred to complain to Ministry authorities for attention and action. They noted in their study of government schools that dragging furniture on the floor, moving it to different points, wrongly sitting on it, and so on, caused its rapid wear and tear in most of the schools. In view of observations such as these, they were not surprised that most academic buildings, especially classrooms in the public secondary schools which they investigated, were in a state of disrepair. They recommended that a study be carried out examining the relationship between the poor conditions of public secondary school buildings and user attitudes.

In Zambia, a study carried out by Makoba(2014) noted that it was through PMS outside the classroom environment that teachers and pupils learnt about good environmental management practices. However, such knowledge unfortunately did not automatically translate into actual concern and commitment to solving maintenance problems. A study conducted by Namukolo (2014) established that although teachers were fairly well informed about maintenance activities, more than half of the teachers did not involve themselves in such activities. Nosiku (2016) in view of the failure to deal adequately with waste disposal, recommended the need for a change in behaviour in order to improve the situation and ensure that the school surroundings were kept clean. However, he did not indicate what kind of attitudes lay behind such practices nor did he give guidance on how such irresponsible practices could be improved. It became clear that the knowledge which some had received in environmental protection remained as an academic exercise and was not translated into responsible practices. Moore (2013: 5) pointed out that teachers were expected to "foster environments that reflected ethical behaviour, of respect, kindness, safety and care" and that they were expected to manage school environments. School authorities are thus expected to act as good role models for the holistic education of learners which should include caring for school property and grounds. According to Kowalski (2002: 63), the major players in the actual maintenance of schools are teachers and learners as they are the frequent users of these facilities. In addition, older learners are expected to help and monitor younger learners in developing such caring habits (Ndlapo, 2009: 48).

What is missing in the literature is a focus on the "inner" dimension of moral (ethical) motivation. Such motivation relates to the manner in which teachers and learners perceive the value of school property and school surroundings which in turn will have a major effect on their perceptions and attitudes. Whereas moral motivation may not be the only incentive to result in good maintenance behaviour as justified punishment may also be a necessary ingredient, it is one that plays an important part in ensuring the success of PMS programmes. This is the gap in the literature that this study aimed to fill.

FINDINGS OF THE STUDY

Whereas it was found that all the thirty learners, six PMS prefects, six teachers and three PMS coordinators were familiar with the PMS policy, the overall perception and the consequent attitudes and practices were strongly negative. The following comments with reference to the PMS policy were representative of the feelings of learners: "a sheer waste of time"; "learners are not happy with it"; "they are forced to consider it"; "it is considered punishment on the part of learners." On the part of teachers, a representative comment was that "teachers consider the policy to be retrogressive in an age when cleaning companies are supposed to be hired." Whereas formerly incentives were given by the government, it was not easy to make teachers assume the responsibility of promoting the PMS policy since such incentives were no longer being given. Furthermore, teachers resented being criticised or penalised in any way for not implementing the policy.

Whereas the schools did not disagree with the government PMS policy as such, promotion of the policy was very casual and resulted in merely stating a general school rule on the notice board such as “all learners to take care of the school” and giving directives such as “throw litter in the bin” and “clean classrooms before and after class.” Although there was the stipulation for “all learners to participate in PMS” in the acceptance letters which every parent and learner had to sign, it had very little meaning in actual practice. Learners and teachers clearly had little interest or enthusiasm for the goal of keeping the school property and grounds in a good condition. They did not perceive it to have any value or worth but rather as a way of gaining incentives. Administering penalties for related offences in an effort to improve perceptions and attitudes did not succeed. When performed, it seems to have been perceived as a necessary duty rather than as a good thing for the school and its overall reputation. By and large, the perceptions and attitudes of teachers towards PMS were rather negative.

In investigating the situation currently operating in three day secondary schools in Lusaka, this study concluded that the perceptions and attitudes of teachers and learners and their consequent actions were considerably lacking in caring for school property and its natural surroundings. This became clear in the case of both teachers and learners who failed to act responsibly with respect to their involvement in PMS activities, the organisation of PMS programmes, the care of tools, the inspection of PMS activities, and the promotion of sensitisation programmes. Particularly noticeable was the lack of adequate ethical motivation towards the implementation of the government PMS policy directives.

ETHICAL EVALUATION

The three ethical theories which were applied to the data findings, namely, value ethics, environmental virtue ethics and care ethics, revealed the extent to which ethical motivation was almost totally absent in the perceptions and attitudes of both teachers and learners. The notion of value, which is so critical to appreciating the worth of things, was conspicuously lacking in the perception of teachers in particular. The result was that they were not in a position to convey an appreciation of value to learners if they did not have such an appreciation themselves whether with reference to intrinsic value (i.e., the value or worth of things-in-themselves), inherent value (i.e., the value of experiencing the beauty and order of a well-kept school), or utilitarian value (i.e., the value of the usefulness of property and grounds. Furthermore, the promotion of environmental virtues was not considered an important ingredient of the educational programme. Manual work was looked down upon and almost totally rejected as part of an academic environment. Additionally, failing to care for property and surroundings lessened the effectiveness of the schools in developing responsible character traits in both teachers and learners. An ethics of care, which would encourage both teachers and learners to look after property was missing in the manner in which property and surroundings were treated. In sum, teachers and learners did not seem to care much about the upkeep and appearance of their surroundings in maintaining them properly. The lack of an ethics of care is most likely the result of a failure to appreciate value in material things which in turn is related to the absence of environmental virtues. Care of property does not only look to its present condition but keeps an eye on the possible long-term effects of not repairing or maintaining objects that show signs of deteriorating - hence, the importance of a PMS policy. Unfortunately, the motto that "prevention is better than cure" was not evident among teachers and learners.

What emerges clearly from the ethical analysis made of the behaviour of the teachers and learners in the three schools under this study is that there was an absence of ethical motivation which would result in a change of behaviour. Behaviour does not necessarily change as a result of force or of financial or social benefits only. Such behaviour may be reluctantly carried out but without any sense of meaning or purpose in what is taking place. There clearly is critical need for greater emphasis on the importance of ethical reflection.

Teachers perceive their role as mainly to teach; learners perceive their role as mainly one of learning. In both cases, taking care of school property and grounds is not perceived to fall under their responsibilities. Consequently, manual work under PMS is perceived as an extra that does not have any great significance. Whereas teachers may derive some limited motivation from monetary or social incentives, learners and PMS prefects perceive this activity as forced labour that should not be expected of the mand which is only taking them away from time for learning.

What is missing is the kind of motivation that can only come from some form of ethics that goes beyond the accumulation of material benefits. Value ethics emphasises the importance of acknowledging the value of all things, whether intrinsic, inherent or instrumental, and in responding to that value in one's behaviour. An awareness of these values can support one another in motivating both teachers and learners to act towards property in an altruistic manner. Environmental virtue ethics emphasises that a person, teacher or learner, who has acquired environmental virtues will normally act in such a way as to demonstrate respect and care for property which belongs to another. Care ethics, which focuses on particular situations and on felt relationships with another, whether it is a person or a thing such as a non-human element, will emphasise perceiving the overall context of a concrete situation and act on the basis of showing care. Teachers have a primary role to play with respect to caring for property for they are the ones who can and should exercise influence by word and example on learners. As pointed out, however, in an earlier study by Lijimu (2012), teacher training colleges do not seem to focus on environmental ethics so that teachers are not sensitised to emphasise this in their teaching and may not even be aware of its importance. Consequently, if teachers are not subjected to such ethical theories in teacher training colleges or in some other way, there is little hope that learners will be influenced to behave in an environmentally friendly way. Whereas the government PMS policy in itself contains important directives with regard to promoting the academic environment in schools, it does not ensure that it will be effectively and responsibly implemented unless supported by suitable ethical motivation. The literature on schools and school property focuses almost exclusively on the "external" results from lack of attention to caring for the property itself. Virtually no mention is made of the need for "inner" motivation on the part of teachers and learners.

The conclusion of this study with respect to the application of ethical theories to the findings is that the inner ethical motivation required for adequate care of property in teachers and learners is missing. Furthermore, without such motivation, the likelihood of successfully implementing the government PMS policy is critically reduced. While this is not to deny that other forms of motivation may also be necessary such as incentives and justified punishment, nevertheless, the lack of emphasis on the importance of inner ethical motivation should be seen as a serious omission with respect to the successful implementation of the PMS policy.

RECOMMENDATIONS

1. There is need for greater emphasis to be placed on character formation in education as is specified in the Zambian document *Education for All*.
2. There is need for the teaching of environmental ethics in teacher training colleges.
3. The "spirit" of the PMS policy directives needs to be more greatly emphasised.
4. Schools need to have their own clearly defined and circulated policy guidelines.
5. Future studies could investigate the extent to which private schools may be promoting the PMS policy in ways which government schools are not.

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