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EXAMINING HOUSE KEEPING MANAGEMENT PRACTICES OF HOUSEMASTERS AND HOUSEMISTRESS IN SELECTED SENIOR HIGH SCHOOLS IN THE KUMASI METROPOLIS

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A Dissertation Submitted to the Department of HOSPITALITY AND TOURISM EDUCATION, Faculty of VOCATIONAL EDUCATION, School of research and Graduate Studies, University of Education, Winneba in Partial Fulfilment of the Requirements for the award of Master of Technology Education (Catering and Hospitality) M-Tech

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DECLARATION

STUDENT'S DECLARATION

I, **EMELIA FRIMPONG** hereby declare that this dissertation is the result of my original research except for references made to other peoples' work and textbooks which have been duly acknowledged. The investigation was undertaken under the guidance and supervision of Dr. Mrs. Ellen Olu of the Catering and Hospitality Education, University of Education Winneba (Kumasi Campus). This work has not been fully or partly submitted for any other degree neither has it been submitted simultaneously in candidature for any other degree.

SIGNATURE: ……..…… DATE: ……..……

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of Project Report as laid down by the University of Education, Winneba.

SIGNATURE: ……..…… DATE: ……..……

(DR. MRS. ELLEN OLU)

DEDICATION

This work is dedicated to my husband and children who have been very instrumental in my educational progression.

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I thank God Almighty for His mercies, guidance and protection throughout the period of this study. I am grateful to the respondents who participated in the study. My deepest appreciation goes to my supervisor Dr. Mrs. Ellen Olu who tireless efforts and expertise made this study possible and meaningful. My sincere gratitude also goes to all faculty members and administrative staff of the Catering and Hospitality Education Department, University of Education Winneba (Kumasi Campus), for their mentorship throughout this period. Many thanks to the Housemasters and Housemistress of Opoku Ware Senior High, Adventist Day Senior High, and Kumasi Girls Senior High for their unflinching support they gave me. Also, my heartfelt appreciation to Mr. Awuah Amponsah for his encouragement. Lastly, my gratitude goes to my friends whose encouragement and contributions made this work possible.

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ABSTRACT

The main purpose of the study was to examine housekeeping management practices of housemasters and housemistress in selected Senior High Schools in the Kumasi Metropolis. The research adopted descriptive research design. Quantitative research approach was used. The population consisted of all boarding house students and house masters/mistresses engaging in housekeeping practises in the three selected Senior high schools namely Seven Day Adventist SHS, Kumasi Girls SHS, and Prempeh College. The study population was 6905. Non-Probability sampling (convenience) procedure was used to select 364 respondents for the study. Questionnaires were used to gather primary data. Descriptive statistics was used to analyse data. The study results show that majority (88.1%) of the respondents agreed that student's roles as housekeepers is to regulate activities such as cleaning, weeding, washing and smoking that can lead to hazardous conditions. Moreover, most of the respondents (58.8%) agreed that student's roles as housekeepers is to properly control waste. Furthermore, most of the respondents (67.3%) agreed that student's roles as housekeepers is to weed and control grass and bush. The study concluded that the equipment required for housekeeping in selected Senior High Schools in the Kumasi Metropolis were detergents (13.7%), scrubbing brushes (10.6%), brooms (8.9%), 8.9% used cutlasses, (6.2%) used hoes, 9.7% used rake and mob, 10.2% used shovels, 11.1% used rag, 2.7% used wellington boots and gloves respectively, while 1.3% used protective clothing, buckets and head pans and disinfectants. The study recommended that the Teachers and housekeeping practices supervisors should continue to organise housekeeping practices for students frequently to improve environmental cleanliness and prevent infectious diseases in the selected SHSs.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

According to Malik in 2010, the term "housekeeping" is broken down into two different words: house and keeping. There are several meanings of the term housekeeping. The word “house” is described as a building in which people live and the word “holding” is described as staying or staying in a similar situation or doing something regularly or frequently. The term “housekeeping” refers to the house been kept regularly or frequently in a specific state to keep the guest at ease. Raghubalan (2015) states that "a clean, comfortable, safe and friendly environment could be defined as “housekeeping.".

Another definition the author has provided for housekeeping is “an operational department in a hotel which is responsible for cleaning, maintenance, aesthetic, upkeep of rooms, public areas, back areas and the surroundings”. Inadequate housekeeping may threaten the fire security of exposed structures and items stored out-of-doors. Accumulations of rubbish and waste and overgrown grass and weeds adjacent to buildings or stored items are probably the most common hazards. Inspecting the grounds and correcting problems is essential (Raghubalan, 2015).

The practice of proactive housekeeping practices has the potential of saving institutions enormous sums of money that might be needed to undertake a major overhaul in the form of unanticipated renovations. Effective housekeeping practices can increase the economic lives of the buildings concerned and provide security for the lives of the inhabitants of such buildings (Kamarazaly, 2014). Housekeeping

actices generates the opportunity for improving and adapting buildings and facilities to the standard of serviceability for habitation which creates an enabling atmosphere for achieving the main objectives of institution and organizations (Kamarazaly et al., 2013).

An exploratory surveyor's observation of the buildings in the public institutions of Ghana reveals a rather bad state of facility management. The facilities in these public institutions in Ghana are either poorly maintained or managed. A visit to selected Senior High Schools in the Kumasi Metropolis explains a rather poor state of maintenance of the buildings in the schools. The poor state of maintenance of the buildings might not only be seen as a manifestation of the inability of management to perform its janitorial services (Mavalankar et al, 2015) but also puts the lives of the people habiting such structures on the line and as well showcasing a poorer housekeeping practices outlook of the schools.

Nearly all the buildings in the selected schools are either due for extensive renovation or for a general overhaul to restore them to a serviceable state to meet the standard for habitation. The state of the buildings reveals the need to undertake major repairs and renovations to rehabilitate the buildings and facilities. There are no reliable available estimated of the financially erosive impact of the poor facility management but it is safe to conclude that the effects are undesirable (Yusof et al, 2017). Some of the buildings in the public institutions appear to be 'death traps' and can be described as 'recipes for disaster'. The effects of poor housekeeping practices/facility management only leaves nothing to be desired as it has engineered the collapse of buildings and often require that colossal sums of money are expended

to right the wrongs (Jusoff et al, 2018). It is anticipated that management of the schools are aware of the state of the buildings and yet they are negligent. However, previous research works only concentrated on either maintenance; which is only a section of housekeeping practices/facility management or on facility management challenges but a knowledge void remains regarding the real causes and effects of the poor facility management in the public institutions of Ghana.

In schools the housemasters and housemistress and students are internal housekeepers who does the hygienic practices like cleaning of the dormitories, toilets, sweeping the environment daily, mopping the floors, weeding the campus environment etc. This means the cost of buying equipment to start up an internal housekeeping department can be quite high depending on the size of the institution in question. The machinery needed will be washing machines and drying machines to wash the housekeepers' dirty cleaning cloths at the end of the day. Different kinds of cleaning materials need to be purchased including products used to disinfect and clean the rooms. Carriages, paddles, brushes and other tools for cleaning should be purchased periodically to replace the old ones worn and damaged. The promotion of housekeeping in colleges reflects an art of instilling in students cleanliness and hygiene (Lopez Quintero, et al 2009). In the end, this improves disease prevention in school. This study therefore examined the housekeeping management practices of housemasters and housemistress in selected Senior High Schools in the Kumasi Metropolis.

1.2 Statement of the Problem

Housekeeping is an integral part of schools and hotels and is fundamental to the reputation of the business. Putting together a reliable team for the housekeeping department is labor intensive and requires a lot of time and effort and usually the entire human resources team is required to handle their needs (Singh, 2014). Promoting good hygienic practices as well as a clean environment with dormitories became paramount in the boarding houses. What is not clear is the extent to which housemasters /mistresses and students are assigned to perform housekeeping duties (Ejemot, 2018).

Housekeeping is not only about performing cleaning services, the challenge is to consistently maintain the upkeep and cleanliness standards throughout the college/hotel by adopting innovative trends and practices in housekeeping (Singh, 2014). The important solution is to prepare housekeepers to face challenges one of the precarious success factors of hostel housekeeping and is the revolutionary trends or best housekeeping practices (Khatri, 2016). To become more energetic and innovative, new trends must be implemented and incorporated in hostel housekeeping, standard operating procedure and work manual strengthened through new trends and demand of hospitality sector.

Various tools are used to generate optimum output in hostels but there is a strong need of optimum utilization of resources available ,manpower, supplies and new scientific trends like Ergonomics, Eco –friendly practices (energy conservation, waste management, eco-friendly products, stationary, ozone treatment , reduce, recycle,

reuse), etc. All these trends and practices undoubtedly can lead to hostel growth and long term success resulting into purely guest satisfaction and meeting industry standards (Khatri, 2016).

Observing and assessing performed hygienic practices reveals some sources of contamination and risk of infection. Sanitation and sewage are the main tools in combating endemic contagious diseases, and defeating them by improving the overall hygiene and conditions of the environment (Singh, 2014). This could be achieved by limiting the risk of contact with disgustful dirt and waste. Also, how much supervision they are given is also not documented. Additionally, specific equipment used to perform the tasks would be investigated.

1.3 Purpose of the Study

The main purpose of the study is to examine housekeeping management practices of housemasters and housemistress in selected Senior High Schools in the Kumasi Metropolis.

1.4 Specific Objectives of the Study

Based on background, the writer sets this dissertation's objectives below:

1. To examine the housemasters and housemistress' roles as housekeepers in selected Senior High Schools in the Kumasi Metropolis.

2 To investigate the level of supervision housemasters and housemistress receive as house keepers in selected Senior High Schools in the Kumasi Metropolis.

3 To examine the equipment required for housekeeping in selected Senior High Schools in the Kumasi Metropolis.

1.5 Research Questions

1. What are the housemasters and housemistress' roles as housekeepers in selected Senior High Schools in the Kumasi Metropolis?

1 What is the level of supervision housemasters and housemistress receive as house keepers in selected Senior High Schools in the Kumasi Metropolis?

2 What are the equipment required for housekeeping in selected Senior High Schools in the Kumasi Metropolis?

1.6 Significance of the Study

This study will examine the examine housekeeping management practices of housemasters and housemistress in selected Senior High Schools in the Kumasi Metropolis. This study will improve the housekeeping practises of housemasters and housemistress in selected schools in Senior High Schools in the Kumasi Metropolis and improve cleanliness and hygienic practises in the school. Moreover, the study will identify the find solutions to the challenges the housemasters and housemistress face regarding their housekeeping practises and finally, the findings and recommendations of the study will recommend the necessary housekeeping practises and strategies that could help the housemasters and housemistress to develop housekeeping practices to keep the school clean and tidy to prevent outbreak of diseases.

1.7 Scope of the Study

The main purpose of the study is to examine housekeeping management practices of housemasters and housemistress in selected Senior High Schools in the Kumasi Metropolis. The theoretical, empirical and conceptual scope of the study is to

examine the housekeeping management practises of housemasters and housemistress in selected schools in Kumasi Metropolis. Therefore, the study will be geographically limited in scope to selected schools in Kumasi Metropolis.

1.8 Organization of the Rest of the Study

The study is presented in five chapters. The first chapter which is the introduction covers the background to the study, problem statement, purpose of the study, objectives of the study, research questions, significance of the study, as well as the scope and overview of the study. This would be followed by chapter two which reviewed extensive related theoretical, empirical and conceptual literature on the subject matter. Chapter three would look at the methodology of the research which comprises the research design, the research population, sample and sampling technique. It also considered the sources of data and data collection instruments, methods of data collection and analysis. Chapter four would be dedicated to data analysis, findings and discussions. Finally, chapter five would deal with a summary of the study, conclusions drawn from the findings and recommendations of the study and suggestion for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Housekeeping Practices

For every kind of occupancy, from the simplest dwelling to the most advanced industrial complex, good housekeeping is essential. The maintenance of a proper, clean and neat work place is a housekeeping activity. Good indoor and outdoor housekeeping reduces the risk of fire. They can control the presence of unwanted fuels, barriers and ignition sources that can cause extremely dangerous living and property exposures. Each aspect of good housekeeping cannot be discussed or discussed. In virtually all areas of housekeeping some aspects are common; others are specific to a specific occupation and require special procedures. Although a cliché, the statement "a place for everything and everything in its place" captures the best approach to assuring good housekeeping practices (Nitschke & Frye 2008).

2.2 Principles of Good Housekeeping

Jones and Pizam, (2008) asserted that housekeeping consists of the simpler aspects of building care and maintenance:

1. Maintaining operational tidiness and order,
2. Properly controlling waste, and
3. Regulating activities such as cleaning, weeding, washing and smoking that can lead to hazardous conditions.

To be successful, housekeeping requires organization and continuous monitoring.

2.2.1 Responsibility for Housekeeping

Regardless of the field of operation, waste and obstructions are created in the premises for orderly movement. Each organization needs to have a system to remove them. It is insufficient to realize that waste accumulates and obstacles to movement can occur and then remove it if it becomes unmanageable or nuisance. The only way to ensure the housekeeping operations meet their goals is to establish a structured approach: an organized workspace contributing to fire safety and disease control. It is essential to develop a disciplined approach to prescribed housekeeping practices, so that workers remove debris and trash regularly and store materials and equipment neatly.

The same applies to maintenance tasks in buildings. Jones and Pizam, (2008), can suffer from work without a systemic approach and property. This could also indicate that the organization neglects fire defense routines. Management usually assigns housekeeping to maintenance workers who work on housekeeping and maintenance routines in a large company. However, management remains the direction for the overall effort. Management describes how critical and urgent good housekeeping routines are to make efforts effective.

Without direct and vigorous management support, housekeeping goals and objectives can become a low priority (Jones & Pizam, 2008). In a smaller organization without a maintenance staff, good housekeeping is more an individual effort. Yet the principles are the same: Management must lead workers and convey to them how important vigorous and systematic attention to the tenets of orderliness and cleanliness is.

2.3 Basics of Good Housekeeping

Except for the somewhat specialized activities of basic building maintenance, there are three factors required for good housekeeping:

1. Adequate space, proper layout and equipment.
2. Correct materials handling and storage.
3. Cleanliness and orderliness.

Good housekeeping is certain to result when the organization pays proper attention to establishing routines for these three factors.

2.3.1 Layout and Equipment

A properly designed workspace has adequate work space, proper storage facilities and the right moving material equipment. Otherwise, good home maintenance will wane as the workplace gets blocked, materials will be restored and the dirty atmosphere will cause a decrease in overall cleanliness. A careful review of space requirements for actual operations can suggest ways of reorganizing space. Better organized room will dramatically boost housekeeping (Jones & Pizam, 2008).

2.3.2 Materials Handling and Storage

The lack of suitable materials for moving and arranging in convenient storage spaces leads to dangerous storage. This complicates the problem of housekeeping. It can easily lead to blocked escape tracks and hinder access to fire extinguishers, small pitchers and control valves. Many fire safety equipment may become inoperative, such as fire doors. Wrongly arranged storage may lead to waste and garbage being collected at neglected spots and sacks (Jones & Pizam, 2008).

2.3.3 Cleanliness and Orderliness

Regardless of occupancy, an organisation, by taking care of the fundamental necessity to keep all areas as clean and clever as possible, can immensely increase their fire safety level. Every person's personal sense of responsibility and desire to maintain the surroundings in order and clean is the most important defense against unsightly and dangerous accumulation of undesirable materials and waste. Management needs to provide workers with effective and timely waste management programs (Jones & Pizam, 2008).

2.3.4 Building Care and Maintenance

There are several noteworthy procedures for the proper care and maintenance of buildings. These procedures apply regardless of occupancy. They either address inherent fire hazards or work to reduce the fire danger to the building.

2.3.5 Cleaning and Treatment of Floors

Floors can pose a risk of fire if workers use or terminate flammable solvents or if the process produces sufficiently large fuel residues. For example, the use of petrol in clean garage floors has caused many fires. Cleaning or final compounds that contain solvents below room temperature with flash points are too dangerous for normal use, except in very little quantities. The risk is determined by the conditions under which people use solvents and by what precautions. A range of cleaning compounds with little or no hazards were listed by fire laboratories (Linder, 2004).

2.3.6 Sweeping Compounds

These compounds, that consist of sawdust or other combustible material treated with oil, are hazardous. The degree of danger depends upon the character of the oil. The use of sawdust or similar materials to absorb oil spillage increases the fire hazard unnecessarily since non-combustible oil-absorptive materials are available for this purpose (Linder, 2004)

2.3.7 Floor Oils

Compounds containing oils and low-flash-point solvents are a hazard particularly when freshly applied. The oils are subject to spontaneous heating. To promote safety, organizations should require employee to store oily mops and wiping rags in metal or other non-combustible containers. The excessive use of any combustible oil increases the combustibility of the floor. Oil soaked floors, resulting from years of use and cleaning, also show increased combustibility
(Linder, 2004).

2.3.8 Waxes

Low-flash point solvents are hazardous, especially when used with electric polishers. Water emulsion waxes are preferable.

Furniture Polishes: Polishes that contain oil subject to spontaneous heating become hazardous when individuals do not properly dispose of polish soaked rags.

2.3.9 Flammable Cleaning Solvents

Organizations should not use these since a number of nonhazardous cleaning agents are available. There are a number of relatively safe materials that have high flash point, stability, and low toxicity. There are several commercial-type stable solvents available that have flash points from 140° to 190°F and have a comparatively low degree of toxicity. Safe materials are available for most of the preceding purposes (Linder, 2004).

2.3.10 Chimney Cleaning

Periodic cleaning of chimneys is necessary. The frequency depends on the fuel used and how carefully boilers and furnaces are worked by staff. Annual cleaning may be necessary for soft coal and wood fuel. Mechanical cleaning is best, however, it can be difficult to find experienced fireplaces. An employee can wrap an old piece of tapestry in a brick as a substitute. Instead he or she tied the wrapped brick to a rope and eventually felled it down. Instead of using the brick, the employee can use a chain part bunched. Specific proprietary products for soot removal are available. Some of the products work by fueling and disposing of the soot by specially controlled burning.

Other soot removing compounds that contain oxidizing agents have caused explosions when thrown into stoves or furnaces. The National Bureau of Standards has run tests that indicate that using chemical means to remove soot is, at best, of uncertain value (Mirzayev, 2015).

2.4 Housekeeping practices in schools and colleges in West Africa

Housekeeping and workplace hygiene means providing adequate sanitation and hygiene facilities that are regularly cleaned and maintained so they do not pose a health and safety risk to students. Students need to have potable drinking water that is safe to drink, sanitary toilet facilities, safe food prepared in sanitary kitchens and served in clean canteens, and a work environment that is otherwise kept hygienic through periodic housekeeping practices. Performing regular housekeeping and maintenance helps you identify potential issues and take preventative action before problems develop. Good housekeeping practices also help you control problems by eliminating tripping hazards, making sure floors are never slippery and keeping exit routes clear (Waddington, 2009).

A socially responsible school makes sure that none of its facilities and practices create a situation where students and workers are at risk due to poor housekeeping and workplace hygiene (Clapp, *et al.,* 2011). In many Schools and Colleges in West African countries there exists a high prevalence of water and sanitation related diseases, causing many people, children in particular, to fall ill or even die. Improved hygiene practices are essential if transmission routes of water and sanitation related diseases are to be cut. Whereas appropriate hygiene education can bring about the intention to change hygiene behaviour, for most hygiene behaviours appropriate water and sanitation facilities are needed to allow people to transform intention to change into real change (Clapp, *et al.,* 2011).

This section on school sanitation and hygiene (SSH) housekeeping practices deals with both hardware and software aspects needed to bring about changes in hygiene behaviour of students and, through these students, in the community at large (Lorntz, 2016). The hardware is the total package of sanitary conditions and facilities available in and around the school compound. The software are the activities aiming to promote conditions at school and practices of school staff and children that help to prevent water and sanitation-related diseases (Clapp, *et al.,* 2011).

Why is it important to focus on schools? After the family, schools are most important places of learning for children; they have a central place in the community. Schools are a stimulating learning environment for children and stimulate or initiate change. If sanitary facilities in schools are available, they can act as a model, and teachers can function as role models. Schools can also influence communities through outreach activities, since through their students, schools are in touch with a large proportion of the households in a community (Clapp, *et al.,* 2011).

Why is it important to focus on students? A survey among school children in West African Colleges in Nigeria, Senegal, and Togo revealed that about half of the ailments found are related to unsanitary conditions and lack of personal hygiene. Such survey results show the need for a focus on students. Also, it is generally recognized that childhood is the best time for children to learn hygiene behaviours. Children are future parents and what they learn is likely to be applied in the rest of their lives (Waddington, 2009). They have important roles in the household, taking care of younger brothers and sisters, and depending on the culture, they may also question existing practices in the household. If children are brought into the development

process as active participants, they can become change agents within their families and a stimulus to community development. They are eager to learn and help, and if they consider environmental care and their role in this as important, they will take care of their own health and the health of others. Being tomorrow's parents, children are also likely to ensure the sustainability of a programme's impact (Clapp, *et al.,* 2011).

In reality, schools are often more than just places for learning and behaviour change. If school sanitation and hygiene facilities are absent, or are badly maintained and used, schools become risky places where diseases are transmitted. Schools can also pollute the natural environment in such a way that it causes health hazards for the community at large. It is therefore important that schools have proper facilities (Bowen, 2007). However, improved facilities in themselves are not sufficient. If we want to reduce the incidence of sanitation and hygiene-related diseases, and to protect the natural environment, behavioural changes are also needed, leading to proper use of the facilities (Clapp, *et al.,* 2011).

Three factors have to be addressed if lasting changes in hygiene behaviour are to occur. These are: - predisposing factors - knowledge, attitude and belief;

- Enabling factors - availability of resources like latrine facilities and safe water supply, enabling students to transform newly acquired knowledge, attitudes and beliefs into desirable behaviours;

- Reinforcing factors - factors affecting the students' ability to sustain a certain behaviour, like support and cooperation received from parents, guardians and peer groups.

Increasing students' knowledge about health and disease prevention should therefore only be part of the story. When knowledge is supported by enabling and reinforcing factors, desirable changes may occur in the school setting and in the community. This stresses the importance of combining hygiene education with the construction of water and environmental sanitation facilities and involving the community and health institutions in housekeeping practices A good housekeeping programme is a comprehensive programme, including:

1. A participatory needs assessment involving students, teachers, parents and community members;
2. Formulation of objectives, outputs/results and an action plan;
3. Improved water and environmental sanitation facilities;
4. Properly used and maintained facilities;
5. Hygiene education for students;
6. Teaching aids which build on the practical situation in and around schools, making students aware of the benefits of using improved facilities in a proper and hygienic way and the seriousness of diseases that result from poor housekeeping practices;
7. improved facilities and hygiene education going hand-in-hand;
8. Involvement of students in planning, implementation and maintenance;
9. Training for technical staff and teachers;
10. Monitoring of the programme and its impact, with a focus on self-assessment.

Although the need for sanitation is widely known, reality does not reflect this insight. Workshops held in West Africa and Latin America have revealed that the hygiene education and environmental sanitation situation in schools leaves much to be desired. In West Africa this is particularly so in boarding schools. Among the reasons most often mentioned to explain the often deplorable situation with regard to housekeeping practices are:

• Inadequate training of teachers;

• Absence of functioning water supply and sanitation facilities, to enable students to put into practice what they have been taught;

• Inadequate access to appropriate teaching methodologies and materials;

• Health or hygiene education is not a separate examination subject and is at the same time insufficiently addressed through other subjects;

• Inadequate supervision and monitoring of housekeeping activities at schools.

2.5 Housekeeping practices in schools and Colleges in Ghana

Cleaning is a popular practice in Ghanaian schools and colleges to maintain a clean, safe and friendly climate. Specific cleaners have become omnipresent parts of our everyday lives. Cleaning among people who perform cleaning activities or spend time in recently cleaned indoor environments is increasingly seen as being connected to asthma and other respiratory diseases. While cleaning in almost any industry and home is popular in schools and colleges that involve intense and regular cleaning and use a broad range of products for cleaning and desinfecting (Massawe et al., 2007). This is particularly essential.

Cleaning in schools and colleges serves the dual functions of providing surface cleanliness and infection prevention and control. Both the importance and complexity of infection prevention and control are increasing due to rapidly developing strains of multidrug-resistant organisms that can result in serious worker and patient illness and even death (Ejemot, 2008). More importantly the media attention to certain antibiotic-resistant organisms such as Methicillin-resistant Staphylococcus aureus (MRSA) or infectious agents that form spores (e.g., Clostrium difficile) has intensified interest in cleaning and disinfection in schools and colleges facilities (Massawe, *et al.,* 2007).

Cleaning products are complex mixtures of chemical ingredients. Toxicologic analyses of cleaning products show that many contain chemicals that are known or suspected triggers of asthma and other respiratory problems. Some of these ingredients are also associated with dermatitis, endocrine and neurologic effects, and cancer (Massawe, *et al.,* 2007).

However, many ingredients have not been tested and so their effects are still unknown. Several population-based studies confirm that health- care workers who are exposed to cleaning products have high rates of asthma and other respiratory symptoms, including illness severe enough to result in lost time from work (Talaat, 2011). However, very few of these studies provide information about which specific ingredients are related to the health effects and which cleaning tasks are most hazardous. In addition to human health effects, there is evidence that some cleaning product ingredients harm the environment, damaging aquatic ecosystems and causing air and water pollution (Massawe, *et al.,* 2007).

Concern for the environmental effects of cleaning products led to the development of new products, called “green cleaners”. However, these new products neither have consistent criteria for their environmental benefits, nor do they always consider the human health effects. As a result some green cleaners can still cause health problems to housekeepers (Lorntz, 2016). Changes to reduce the harmful effects of cleaning must ensure effective infection prevention and control as well as being healthier, safe, and environmentally sound. To develop new approaches that account for health, environment as well as infection prevention and control, it would be useful to have a broad over- view of the functions of cleaning and the work environment systems in which it is performed. With this information, a full range of options for effective change can be identified and evaluated (Massawe, *et al.,* 2007).

Given the variety of activities brought under housekeeping practices (construction of facilities that need approval and finance, hygiene education which may require a change in curriculum, curriculum development for informal education, etc.), the involvement of various line agencies and possibly NGOs is needed to cover the entire spectrum in a comprehensive way when implementing housekeeping practices (Massawe, *et al.,* 2007).

The parties involved could include the Ministry of Education, Ministry of Health, Public Works Department, international organizations, NGOs and the Teachers Organization. Government involvement at different levels - national, district, block - is essential to ensure the sustainability of sanitation programmes in Ghanaian schools and college (Njunguna, 2008). In Egypt, a pilot project therefore paid specific attention to improving the involvement of the Education Department. In order to help

achieve cooperation among the agencies involved, the creation of a formal mechanism at the inter-ministerial level may be desirable. This could be in the form of a permanent committee or a task force having sufficient authority to influence policies and practices in the sectors involved (Massawe, *et al.,* 2007).

2.6 Supervision of housekeeping operations in schools and colleges in West Africa

In Togo school legislation contains sections on school sanitation and hygiene. The rules state that:

• The school is owned by the pupils, and they should therefore maintain it well while the teachers supervise.

• The compound and classes should be cleaned by the pupils every morning

• The pupils should be clean, every morning this is to be inspected before the school starts • schools should have drinking water facilities and latrines (Quinn, et al., 2016).

The departments concerned, including education, health, public services, foreign organizations and NGOs, should also be included in a national needs assessment (Kochurani 2008). A participatory needs assessment would ideally be carried out, which will provide all participants with the opportunity to express their views and experience. In the absence of significant potential players in the field of SSH, national support activities are not ideal and can even contribute to actors affecting development adversely. If teachers do not involve themselves, for example, they can adversely affect school hygiene (Quinn et al. 2016).

In Togo a study on school sanitation was carried out in 1995. The objective of the evaluation was to get an overview of the condition of the sanitary facilities in schools and of hygiene education. One of the difficulties encountered by the evaluation team was that some headmasters did not want to cooperate (Kochurani, 2008). According to the headmasters, school sanitation was so marginalized that it would be of no use to inspect their school. The team found that 30 percent of the primary schools had latrines. Open field defecation was only practised in schools without latrines. The main reasons were insufficient number of latrines, the bad state of the latrines, and the habit of not using latrines. Twenty-six percent of the schools had access to drinking water (piped, spring, well, or handpump) (Quinn, *et al.,* 2016).

In many schools waste was not properly disposed of. Every morning teachers checked the personal hygiene of the children.

• The study recommended the following:

• Every school should have drinking water facilities

• Every school should have well maintained latrines

• Every school should have facilities to burn waste

• A system to control the quality of the food sold to the students should be established

• A health education programme should be developed

A pilot project in Egypt formulated the following objectives to improve the involvement of the Education Department:

1. Work out with the Education Department alternative strategies for sustaining the programme as part of its action strategies.

2. Provide teachers with intensive training to enable them to carry out their role as effective hygiene promoters with children.

3. Propose an alternative package for utilizing the time and effort of public service candidates by involving them in the programme as monitors and resource persons.

4. Develop and test a package of reference material and guidelines to be employed by others, especially teachers and officials in the education directorate, while carrying out similar programmes.

There is a need for political support, in particular when allocation of funds and changes in curriculum are required. Policy makers and politicians can provide support through:

• Commitment to and promotion of the provision of water supply and sanitation facilities;

• Formulation of objectives and standards for construction of facilities;

• Creation of a conducive environment through hygiene education activities to ensure that facilities are properly used;

• monitoring and regulating implementing agencies;

• Institutionalization of teacher training;

• Appropriate legislation.

When monitoring we look at different issues. When developing and implementing housekeeping programmes we would like to find out whether they contain the right and most useful activities, i.e. whether they are in accordance with insights and lessons learned elsewhere. We also want to find out the impact of our programme; whether the hygiene behaviour of students changes and whether

environmental conditions improve. Monitoring requires indicators and clarity on who collects the monitoring information and how it will be used (Kochurani, 2008). The choice of indicators depends on our objectives and on the activities planned to achieve those objectives, in which the local situation and perceptions play a crucial role. In general, it is important to consider monitoring as a positive activity, giving the opportunity to improve housekeeping programmes, and not as negative, 'finding the weak spots or mistakes made and blaming people for it'. As with the initial data, obtained through the assessment, it is crucial that monitoring information is collected by and shared among the groups involved and that remedial action is decided upon jointly (Quinn, et al., 2016).

Monitoring the implementation of housekeeping activities implies finding out, first, whether planned activities are carried out, and secondly, whether the output of our activities is of the required quality. Carried out as a continuous process, monitoring helps us to immediately detect deviations from what was planned. Whereas deviations may be positive or negative, they always help us improve future planning and to identify the corrective actions needed (O'Reilly, 2008). For SSH programmes the following criteria can be distinguished: • they should not merely focus on prevention of diseases, but also promote well-being; • activities need to be designed to also develop long-term decision-making competencies related to health and hygiene behaviour; • the students' needs and emerging health concepts are to be the basis of a planned, sequential curriculum; • they should offer opportunities for students to apply their hygiene-related knowledge, attitudes and practices in real-life situations (Hoppin, & Donahue, 2014).

If these criteria are adopted, monitoring indicators should reflect this. For example, monitoring the adaptation of the curriculum should not only tell us whether this is really being done, but also whether decision-making competences are addressed (O'Reilly, 2008). When monitoring the installation of sanitary facilities, we will not only monitor the number of latrines built, but also whether their design is appropriate, which may mean assessing whether the sanitary facility is adapted to local ablution practices and/or also accessible for small children. Refinement of the indicator requires further definition of 'appropriate' by the users (Hoppin, & Donahue, 2014).

Monitoring the impact of housekeeping activities requires indicators related to changes in hygiene behaviour and in environmental conditions. Indicators should not only relate to quantity but also to quality. As stated above, the choice of indicators depends on the objectives, the expected results and the activities required. Possible indicators for the objective 'students make consistent and proper use of the sanitary facilities' are: 'no feaces laying around in and around the school compound' and 'toilets are clean', i.e. there is no feaces and/or urine on the slab (Hoppin, & Donahue, 2014).

The use of check-lists by an outsider to monitor and supervise housekeeping programme may be artificial and may not contribute to programme improvement, but if monitoring is done in a participatory way this will increase its effectiveness (O'Reilly, 2008). The outcome of monitoring activities should not be: 'you have done the following things wrong', but how can people be supported to improve their actions. Monitoring has to be thorough and be supportive to the project, the

government and UNICEF. To make monitoring effective, the information obtained should be accessible to all persons involved (Hoppin, & Donahue, 2014).

An example of a participatory monitoring exercise is self-monitoring. Students could for instance make their own monitoring chart, posted visibly in the classroom. In this manner data can be collected on, for instance, who suffers from a disease. This type of monitoring does not necessarily require a lot of extra work from teachers, since students are involved and collect the information themselves. Sometimes this self-monitoring will already enhance improved hygiene behaviour related to housekeeping practices and increase motivation for it (Onyango-Ouma, Aagaard-Hansen, & Jensen, 2015).

In Madras, this led to schools and students initiating activities related to school sanitation. It is often necessary to strengthen self-monitoring to ensure follow-up action; for instance, data can be reported to a teacher who writes the information on the board. The same method may be used within families and neighbourhoods. Within families, mothers and fathers could strengthen the self-monitoring process, while within neighbourhoods, this could be done by community workers. Self-monitoring can also serve as a concrete reminder to practise new behaviour. Feedback on the monitoring information is also an important mechanism for helping children to remember what they have learned and to positively reinforce changed behaviour. Positive reinforcement can come initially from teachers; at a later stage, the continuous approval of the teacher is no longer required and reinforcement can come from peers, friends and classmates, who want to adopt the same new behavior (Hoppin, & Donahue, 2014).

Whereas behavioural changes are usually monitored through observation, the monitoring of related knowledge can also be useful. Several ways of monitoring can be used, and some form of competition, such as an essay competition, a quiz contest, plays, etc. may, in addition, help in reinforcing behaviour changes (Onyango-Ouma, et al, 2015). In West Africa, for instance, contests among schools are organized. To help assessing the impact of housekeeping activities, health institutions could also take up monitoring of disease prevalence in schools. In Ghana, so-called 'circuit supervisors' visit schools on a regular basis (Hoppin, & Donahue, 2014).

Self-monitoring is not only important for pupils, it can also be helpful for government and UNICEF staff. If all parties involved consider their own role in supporting SSH and search for possibilities to improve the situation, this could mean a breakthrough from a situation where everybody blames someone else: students wait for the teachers to act; teachers wait for the school management to act; the school management waits for the government; UNICEF waits for government action, and vice versa (Hoppin, and Donahue, 2014).

To achieve good SSH programmes, a two-track approach may be useful; with UNICEF officers on the one hand working as a catalyst at the national level trying to create a conducive environment, while at the same time promoting SSH initiatives in schools. Self-monitoring of staff working at the national level and of teachers and pupils may be helpful in this.

In this document school sanitation and hygiene at two different levels - the district/national and school/community level - has been discussed, because we have seen that it is important to take both levels into account. At national level government policies have to be such that initiatives can be taken and that sharing of experiences and information among actors involved in housekeeping operations is stimulated. In practice, however, national and local governments often don't take responsibility for a healthy school environment due to limited financial and human resources. In such cases housekeeping programmes rely more and more on students, teachers, parents and communities (Hoppin, & Donahue, 2014).

UNICEF officers and other parties have a challenging role to play in the development and support of school sanitation programmes. Their enthusiasm can be a catalyst to encourage all parties involved in housekeeping programmes. This manual provide material to sustain this stimulating role, giving ideas and examples to continue with the development of new housekeeping programmes and the improvement of existing ones (Onyango-Ouma, et al, 2015).

Proper selection of technology is important. School staffs have to know about local conditions and preferences related to the design and use of facilities. The involvement of students, community members and local craftsmen will ensure the most appropriate design. ‘Appropriate’ also means that community members can copy the sanitary and (if possible) water supply facilities constructed for schools for their own purposes. In UNICEF-supported housekeeping programmes country-specific sanitation packages are developed in close cooperation with the Public Works or

Water Department. Sanitation packages include both water supply and sanitation facilities. Water facilities provide water for:

• pour-flush latrines

• Anal cleansing

• Hand-washing

• drinking

Sanitary facilities include facilities for: • excreta disposal • drainage • garbage disposal. Although the sanitation package includes detailed designs, flexibility is needed. Depending on the local situation and needs it may be necessary to adapt a design. It is important to consider at an early stage how the housekeeping programme is to be spread to schools which are not included in the programme, and to communities. If the programme is not spread, this could mean that it will have limited impact, since the government and UNICEF cannot reach all schools and communities in a country (Curtis, 2011).

In this respect, private sector and NGO involvement may be considered. An example of private sector involvement is the set-up of sanitary marts in India, where materials for the construction and maintenance of sanitary facilities can be purchased, where the names of skilled masons are available, and where information on hygiene behaviour is given (Hoppin, & Donahue, 2014).

Site selection for all these facilities is important, and should be done by teachers, students and technical staff. If schools and communities are involved in site selection

this may enhance their feeling of ownership and eventually contribute to behavioural change.

2.7 Supervision of Housekeeping operations in schools and colleges in Ghana

The Ghana Education Service has a school health policy, which states that schools have to establish School Health Committees to ensure:

- Supervision of sanitation in schools
- Supervision of the activities of school vendors
- Provision of good drinking water and sanitation facilities
- Proper refuse disposal sites
- Provision of hand washing facilities
- Development and implementation of health education programmes at schools (Dancer, 2009).

In Ghana regular visits to schools are made by the so-called "circuit supervisors." Circuit supervisors give a rating of a number of problems using the monitoring checklist. Which include: implementation of the curriculum on water and sanitation; schools; school facilities (latrines, drinking water, disposal of waste); and personal hygiene for professors and students. In addition to the information obtained through observation, the interviews assess the student's knowledge and skills. There are several headings in the interview style. The supervisor nevertheless formulates specific questions.

The headings include personal hygiene, water-borne and sanitation-related diseases, the school health committee and formation of health clubs (Dancer, 2009). As a supervisor your responsibilities are at two levels. You have responsibilities as a manager and you also have responsibilities as an employee. At the supervisor level of management you are responsible for your area. You implement the systems, policies and procedures in your area and with the team that you manage (Curtis, 2011).

As an employee you are responsible to set an example for your own team. Good housekeeping is the responsibility of everyone in the workplace. It is important that you set an example for your workers always demonstrating good housekeeping practices and encouraging your workers to do the same (Dancer, 2009).

As a supervisor your role in reducing the risks of poor housekeeping include: ensuring the work area you are responsible for is maintained in a tidy condition ensuring workplace policies and procedures for housekeeping practices are in place and being followed ensuring all your workers are appropriately trained and follow good housekeeping policy and procedures ensuring any incidents relating to poor housekeeping are reported, you investigate the incident quickly and take any actions to prevent the incident happening again conducting regular inspections of your work area including cleanliness of floors, correct storage of equipment, hoses, waste bins are routinely emptied to prevent buildup etc. (Dancer, 2009).

You have legal responsibilities to ensure the safety of your area. If you do not meet your legal responsibilities you may be faced with serious consequences including fines. If you do your job you will be ensuring your work area is as safe as it

can be. Objectives can be selected based on the assessment. The outputs or results needed to achieve the objectives reflect the improvements needed (Dongre, 2008).

As in planning at school level, it is important to formulate clear objectives to ensure a national school sanitation programme, whereby integration of software and hardware is ensured, directed ultimately towards behaviour change. In general it can be said that objectives need to be Specific, Measurable, Applicable, Realistic and Time-bound (SMART). Plans should include budget and manpower. Setting of objectives is preferably done with all the parties involved: the departments of education, health and public works and international organizations and NGOs. Examples of national level objectives are:

• Two teachers of each school trained to develop good hygiene education lesson plans;

• Separate latrine facilities for all girls at the upper primary level;

• School legislation adapted to include school sanitation and hygiene;

• School health committees established in every school.

After the objective setting is completed, action plans can be formulated with all parties involved. Action plans are not made once and for all. Ongoing monitoring and periodic assessment of the achievements may call for adaptation of the plans at any time (Dancer, 2009).

It is important that hygiene education is incorporated in the school curriculum. Opinions differ as to whether it needs to become a subject in its own right, or whether it should be part of a wider syllabus of health education, home economics, natural science or civic education. A workshop held in West Africa concluded that it is not

necessary to create a slot exclusively for hygiene education, since it would be most effective when integrated into various parts of the curriculum, such as natural science and civic education (Dongre, 2008).

Others argue that in order to give hygiene education the emphasis it needs, it requires a slot of its own and that is has to be an examinable subject. The most important point seems to be that a discussion takes place about whether or not hygiene education should be part of the curriculum, and if it should be graded and examined. UNICEF could be a partner in this discussion. In most cases teaching aids will have to be developed or adapted. It is important, not only that good quality materials are developed, but also that they are properly distributed and used by teachers and children. Teaching materials should be based and built upon the existing situation in schools (Dancer, 2009).

Often school sanitation is not included in the curriculum. In such cases it is important that UNICEF officers go through the existing textbooks. Often the science book includes information related to health, for instance on brushing teeth. The importance of focused information- and action-oriented messages may be discussed with the government. Key messages for the prevention of diarrhoeal disease and worm infections are: use a latrine regularly and keep it clean; wash hands with soap before feeding brothers and sisters or eating and after defecation; cover your food (Rutala, & Weber, 2011).

These messages are more important for health than promoting teeth brushing. In order to facilitate the revision of textbooks, it is important for UNICEF officers to find out what the cycle is in which textbooks are revised. In India, for instance, this is every five years. Revision of the curriculum and textbooks is a long-term objective. As long as the adapted curriculum and textbooks are not yet available, UNICEF, with government support, could stimulate the production of teaching material, with the short-term objective of ensuring sufficient suitable teaching material for schools (Dancer, 2009).

In order to become effective promoters and implementors of housekeeping practices, teachers require a certain level of hygiene awareness and commitment. This includes:

• A working knowledge of the relation between water, sanitation, hygiene behaviour and health;

• Awareness about their importance as a role model, resulting in proper hygiene behaviour; • skills to work with students in a participatory way;

• Commitment to bring about improvement themselves, or to get third parties involved if necessary.

Training of teachers who, if motivated and enthusiastic, are a key element for effective hygiene education, should also include effective teaching methodologies, e.g. the use of participatory techniques (Rutala, & Weber, 2011). For bringing about or facilitating improvements in the water and sanitation situation, teachers will need to know how and where to apply for assistance, how to mobilize community members, etc. Construction of a latrine at the teacher's premises will help enhance the

teacher's appreciation of sanitary facilities and at the same time be a motivating factor (Dancer, 2009).

Selection of teachers for training should be done carefully. Selection criteria include: the teacher can act as a role model and have good contacts in the community, the teacher has a genuine interest in housekeeping practices and the teacher can be allocated some time for taking housekeeping activities in the school a bit further. Care should also be taken that male as well as female teachers get involved in housekeeping operations (Dancer, 2009).

However, as we have seen earlier, teachers may not be able to put their knowledge and commitment to effective use if the curriculum does not allow for hygiene education, or if agencies do not respond to requests for assistance in the provision water and sanitation facilities. Training of teachers should therefore never be carried out in isolation, which also calls for interagency cooperation (Rutala, & Weber, 2011). The basic professional training of school teachers should include education related to sanitation and hygiene and to a participatory way of working. Teachers already in service have to get the opportunity to upgrade their knowledge and skills in this respect. Regular interdisciplinary workshops involving school teachers, health workers, planners, etc., (Dancer, 2009).

Although it is necessary to include housekeeping practices in the curriculum of teacher training institutions, this is in many cases a long-term objective. Including housekeeping practices in the curriculum does not reach teachers who have already been trained (Carlin, Parry, & Von Beheren, 2008). As long as housekeeping practices is not a regular part of the programme in teacher training institutions a

short-term objective of training teachers in housekeeping practices could be established. This could, for instance, be in the form of one- or two-day orientations for teachers during the holidays (Dancer, 2009).

2.8 Equipment used in Housekeeping operations in West Africa

Cleaning products are designed to remove surface contaminants like soil particles and grease. Disinfecting products are meant to destroy microorganisms. Both cleaning and disinfecting products are often a mixture of many chemical ingredients. The Centers for Disease Control and Prevention (CDC) uses these definitions for cleaning, disinfection, and sterilization in healthcare:

- Cleaning is the removal of visible soil (e.g., organic and inorganic material) from objects and surfaces and normally is accomplished manually or mechanically using water with detergents or enzymatic products. Or
- Cleaning is a form of decontamination that renders the environmental surface safe to handle or use by removing organic matter, salts, and visible soils, all of which interfere with microbial inactivation (Klevens, et al., 2007).
- Disinfection describes a process that eliminates many or all pathogenic microorganisms, except bacterial spores, on inanimate objects.

In addition, the CDC defines sterilization as a process that destroys or eliminates all forms of microbial life, including bacterial spores.

Antimicrobial products are registered as pesticides under the US Environmental Protection Agency (EPA) which uses this definition for antimicrobial pesticides:

- Antimicrobial pesticides are substances or mixtures of substances used to destroy or suppress the growth of harmful microorganisms whether bacteria, viruses,

or fungi on inanimate objects and surfaces. Antimicrobial pesticides have two major uses:

(1) Disinfect, sanitize, reduce, or mitigate growth or development of microbiological organisms; (Klevens, *et al.,* 2007).

(2) Protect inanimate objects (e.g., floors and walls), industrial processes or systems, surfaces, water, or other chemical substances from contamination, fouling, or deterioration caused by bacteria, viruses, fungi, protozoa, algae, or slime.

While cleaning and disinfecting have essential benefits for combating infections, there is evidence of an association of conventional cleaning products with adverse health effects among cleaning staff and building occupants. Epidemiologic studies, carried out mostly in Europe, show that cleaning products are associated with respiratory irritation and asthma. In addition to potential harms to health, environmental risks are evident: many cleaning chemicals released into the environment biodegrade slowly or incompletely, posing a risk of water supply contamination and/or impact on wildlife (Carlin, et al, 2008).

Nearly all used cleaning products and wastewater are disposed into municipal sewers. So far, efforts to replace toxic cleaning products with green cleaners have mostly focused on environmental impacts and not accounted (Klevens, *et al.,* 2007).

Cleaning holds special importance for hospitals and other healthcare facilities. The healthcare industry represents a significant population for health studies on cleaners because of the intensive and frequent cleaning with a wide range of cleaning and disinfecting products. While the aesthetic benefits of cleaning are necessary for attracting and retaining patients, cleaning and dis- infection play an essential role in

healthcare settings by preventing healthcare-associated infections (HAIs) (Klevens, *et al.,* 2007).

As the use of cleaning and disinfecting agents is increasing due to infection prevention and control efforts, there is movement towards green cleaners or products that have fewer potential harms to health. Improving cleaning is not just about transitioning to more benign chemicals but also about broadly examining the purpose that cleaning serves and systematically considering alternative, and sometimes very different, strategies for minimizing unintended consequences while achieving the desired outcome. The good organization of cleaning and maintenance of the water and sanitation facilities is of the utmost importance (Carlin, et al, 2008).

Badly maintained sanitation facilities often cause an even bigger health risk than scattered defecation. Stagnant water around tap stands and in blocked drainage channels attracts rodents and forms a breeding place for mosquitoes. It is not so important who cleans and maintains facilities, but that arrangements for it are made, and that this is done before construction starts (Klevens, *et al.,* 2007). A good cleaning and maintenance system requires funds, spare parts, people and equipment, and a clear division of roles and responsibilities among the actors involved. A number of organizational options for maintenance exist:

- Through a cleaning committee
- By classes on a rotation basis, with or without a rewarding mechanism
- By external cleaning personnel
- By individual students

Older students could also be involved and trained in water supply management in the community at large. Responsibility for cleaning and maintenance and involvement in it are often seen as being synonymous. Often teachers refer to students, who have been given the task to clean latrines, as being finally responsible for the latrines' upkeep, whereas the final responsibility, involving supervision and corrective action if needed, should usually remain with the school management. In Nepal a school management committee supervises sanitation activities and provides guidance for the more effective launching of the sanitation programme. Pollution of the environment around places with a high concentration of people, like schools, is very likely. Therefore sanitary facilities are to be provided (Klevens, *et al.,* 2007).

2.9 Excreta disposal facilities

For schools, three types is suggested of excreta disposal systems: pit latrines, VIP and pour-flush latrines. The VIP latrine is the most suitable for schools in areas where no or insufficient water is available near the latrine or where stones or bolts are used for cleaning. A projected well maintained powder latrine can be considered if a sufficient amount of water is available close to the latrine (Talaat, 2011). Regular cleaning of pour-flush latrines is particularly important; if these facilities are not cleaned they will become so dirty that they are no longer used.

In Asian countries there is often a strong preference for pour-flush latrines, even when there is no water available close to the latrine and when it is not clear who will keep the facilities clean. Although these three latrine types are recommended, there is a range of options available for schools and households, and any latrine is better than no latrine (Klevens, *et al.,* 2007). The number of latrines required should

be discussed with the technical department. An indication for the number of latrines required is one latrine for twenty students. It is advisable to include separate facilities for teachers. If teachers do not get their own facilities, they may lock the students' facilities and thus prevent their regular use by the students.

Site selection of latrines is important and needs careful consideration. If facilities are located far away from the school this may encourage misuse; if they are too close, stench may penetrate the classrooms. Schools and housekeeping programmes may also be instrumental in promoting the construction and maintenance of household latrines (Bowen, 2007). When planning the number of latrines for a school, certain issues should be considered: • Are separate urinals available for boys? If so, fewer latrines will be needed (Klevens, *et al.,* 2007).

• What is the proportion of boys to girls? If urinals are available, boys need fewer latrines. • Are children allowed to leave the classes to use the latrine? If not, pressure on latrines during breaks is great and more latrines are required.

• Do all children have breaks from classes at the same time? If so, more latrines are required. Could breaks be staggered?

Since school facilities are most often used during peak hours (breaks between classes) and facilities are mainly for urination, it may be helpful to design separate urinals. A urinal will reduce the smell from urine in the latrine (Bowen, 2007). Urine can drain to the pit or soakaway. If the urine is not flushed properly a very bad smell may result. Whether urinals are to be provided or not should be discussed with the technical department and with teachers and pupils (Klevens, *et al.,* 2007).

Drainage Stagnant water due to poor drainage, blocked sewers, and overflowing septic tanks or soakaways may create adverse health effects. It is important to distinguish between sullage and sewage. Sullage refers to wastewater from the kitchen, shower, etc. Sewage is water mixed with excreta or water which has been in contact with excreta. If possible, schools should not create an environmental hazard by polluting the environment with contaminated surface water, specifically with sewage. Schools with VIP or pour-flush latrines deal with the contaminated water on site and are therefore no danger to the environment (Klevens, et al., 2007). Preferably schools try to limit the amount of contaminated surface water. This can be achieved by choosing on- site dry disposal systems or wet systems which deal with any contaminated water on site, such as a pour-flush latrine with leaching pit (Ejemot, 2008). When a septic tank is constructed, the soakaway should have sufficient capacity to filtrate all contaminated water. Soakaways may also be constructed for sullage. Effluent from septic tanks can, if a soakaway is no option, drain into small-bore sewers. Water which is not contaminated, such as excessive rainwater, can directly drain into a receiving water body, a river, lake or pond (Klevens, *et al.,* 2007).

The type of drainage system to be selected depends on the level of filtration and evaporation taking place. Those in turn depend on the soil and weather conditions and slope of the terrain. In peri- urban areas, drains should be cleaned by the municipality. In rural areas, a soakage pit may be sufficient. For school compounds, unlined open drains may be considered (Ejemot, 2008). These are only advisable when the slope is less than 1 percent. Grass will help to hold the top soil. For slopes of more than 1 percent lining is needed. Closed drains can best be avoided, open drains should be

cleaned and maintained regularly. Water should not remain stagnant in the drains to avoid health hazards (Klevens, *et al.,* 2007).

2.10 Garbage disposal

Poor garbage disposal may lead to stagnant water due to blocked drains, to fly breeding and to the attraction of vermin. These situations can contribute to the transmission of diseases. Garbage therefore needs to be dealt with in a safe way. The selection of a garbage disposal system is basically determined by the type and amount of waste being produced. In rural and peri-urban areas, garbage consists mainly of compostable matter. In such cases the establishment of a well-managed compost heap will suffice. It is not advisable to burn garbage, in view of health hazards such as respiratory diseases. In some schools, solid garbage disposal may be more complex because they have a wider variety of materials that need to be disposed of (Ejemot, 2008).

Plastic and tin waste, for instance, will have to be dealt with separately. These can either be collected for recycling or disposed of through a municipal collection system. Waste bins placed in every classroom and around the school compound should be used to facilitate collection before treatment (Lorntz, 2016). Sometimes space for garbage disposal is a problem. An option is for the older pupils to collect the garbage and take it to the municipality if it is not collected. Older pupils can also help with the selection of material for recycling. Another option is to ask community members for their help (Klevens, *et al.*, 2007).

A survey in Benin showed that there are several ways in which solid waste is removed:

• depositing outside schools to be collected by the municipality (urban schools)

• depositing in the open field (rural schools)

• incinerating or burying in areas nearby the school (rural schools) • recycling of, for example, paper and cardboard (Klevens, *et al.,* 2007).

2.11Equipment used in housekeeping operations in Ghana

2.11.1 Detergent or Cleaning Agent

Both soaps and detergents help water to emulsify fats and to suspend solid soil particles. Soaps are made from fats and lye, while detergents are synthetic chemicals. Soaps and detergents act by reducing the surface tension of water, which increases water's interaction with soils, surrounds and lifts the soil from the surface, and allows water to flush the surrounded soils away (Lorntz, 2016). Proteins will hydrate and swell when they come into contact with water, which helps alkalis to react with them, forming soluble salts (Klein, *et al.,* 2015).

2.11.2 Manual Cleaning

Pads, brushes and brooms should be: 1. Dedicated to tasks for which they are designed.

• Optimizes cleaning effectiveness; and

• Minimizes cross-contamination between areas of the plant.

- Designed for the task.

• Brushes—proper stiffness;

• Pads—proper cutting properties; and

• Pressure sprays—moderate pressure.

• Cleaning aids that retain water, such as sponges, wiping cloths, and mops should not be used for routine cleaning.

Do not mix uses.

For example, never:

• Use floor brooms / floor squeegees on tables

• Use green pads used for cleaning waste barrels on grading or packing tables

• Use the same brush to clean floors on any food contact surface (Klein, *et al.,* 2015).

2.11.3 Broad-spectrum Germicides

The term "Broad Spectrum" when applied to a sanitizer means that it will attack a wide variety of different types of microorganisms, including gram-positive bacteria (Listeria and Staphylococcus), gram negative bacteria (E. coli and Salmonella), viruses, fungi (both yeasts and molds), as well as many parasites (Njunguna, 2008). Broad-spectrum germicides act on microbial membranes, cellular enzymes, DNA, and protein. Iodine-based sanitizers have been used as antimicrobial agents since the 1800s and have a broad spectrum of activity They are a powerful sanitizer in strong acidic aqueous solutions. They are generally used at 12.5 to 25 ppm available iodine, and can cause staining on some surfaces, especially plastics (Klein, *et al.,* 2015).

2.11.4 Other Sanitizers

Quaternary ammonium compounds (Quats) are cationic surfactants. They have fair wetting properties and react strongly with cell walls of certain microorganisms. Quats are more effective than chlorine against yeasts, molds and gram- positive microorganisms like Listeria monocytogenes, but less effective against gram-negative

bacteria such as coliforms, Salmonella, and E. coli. Quats are incompatible with soaps and anionic detergents (Njunguna, 2008). Most cleaners are anionic, so surfaces must be thoroughly rinsed between cleaning and sanitation. Quats are excellent environmental sanitizers for floors, walls, drains, and equipment. They are non-corrosive to metals and stable at high temperature, but highly affected by water hardness (Klein, *et al.,* 2015).

Acid-anionic sanitizers are surface-active sanitizers, but negatively charged. Formulations include inorganic and organic acids plus a surfactant. Carboxylic acids (fatty acids) are sometimes incorporated as well. They are unaffected by hard water or organic soils. The dual function of acid is that it can be used for rinsing and sanitizing in one step. These sanitizers must be used at low pH. Activity above pH 3.5–4.0 is minimal. Acidity, detergency, stability, and noncorrosiveness makes them highly effective. Acid-anionic sanitizers are broad spectrum against bacteria and viruses, but not very effective against yeasts and molds (O'Reilly, 2008). Peroxyacetic acid (PAA) is an equilibrium mixture of acetic acid and hydrogen peroxide in an aqueous solution. It is a very strong oxidizing agent and has a stronger oxidation potential than chlorine. It has a pungent acetic acid odor, and can be used to control odor and biofilms from food contact surfaces, and as a microbial control agent for sanitizing surfaces of equipment, floors, walls, and indoor processing and packaging facilities (Klein, *et al.,* 2015).

2.11.5 Methods of Applying Sanitizers

Working with Concentrated Chemicals

• Follow label instructions carefully.

• Always store concentrated chemicals in original container.

• Work with proper dilutions.

• Wear protective equipment recommended by manufacturer.

2.11.6 Cleaning and Sanitation Basic Steps

• Flush or sweep surfaces to remove gross soil.

• Wash the surface with the appropriate cleaning compound.

• Flush the cleaner from the surface.

• Apply a sanitizer.

• Flush the sanitizer.

2.12 Housekeeping for Occupancy and Process

2.12.1 Rubbish Disposal

Rubbish handling is essential to the housekeeping process. Its success depends primarily upon having and observing a satisfactory routine. Most important is the proper and regular disposal of combustible waste materials. In industrial-type operations, the removal of combustible waste at the end of each day's work or at the end of each work shift is a common practice. Sometime, however, even more frequent waste disposal is necessary. In other operations, collecting waste, storing it safely pending disposal, and the routines for disposal vary with the nature of the property use. Regardless of the routine, having an adequate waste collection and disposal program is a fire safety essential. Keeping a place tidy also depends on providing enough wastebaskets, bins, cans, and other proper containers so that building users will find tidiness convenient (Mirzayev, 2015).

2.12.2 Receptacles

Disposal of waste and rubbish should be in non-combustible containers. This is applies to small receptacles such as ashtrays and wastebaskets and to larger units such as those used on commercial properties. Industrial waste barrels should be of metal and be equipped with a fitted cover. Organizations must make sure that workers avoid mixing waste materials where such mixing can create additional hazards. Plastic wastebaskets of varying sizes are widely available. These baskets are popular because they are quiet, attractive, and scratch and dent resistant. Some plastic baskets readily melt and burn. These baskets create a comparatively serious fire exposure problem by collapsing and spilling their burning contents as well as adding fuel to the fire. Other baskets may contribute relatively little fuel to the fire while maintaining their shape fairly well. If an organization prefers plastic baskets, it should evaluate the various brands and types carefully. Many manufacturers now provide information on their products' burning characteristics.

2.12.3 Housekeeping Hazards

Many occupancies pose special housekeeping problems because of their operations. Specific planning and arrangements are necessary to address these.

Drip pans are essential for many operations. In particular, workers must place pans under some motors, under machines using cutting oils, bearings, and where work involves borings and turnings that may contain oil. Pans should be of non-combustible material. Workers can best handle spills and drips by using oil-absorbing compounds that consist primarily of diatomaceous earth. These compounds are commercially available and are preferable to sawdust or sand. Regular removal of oil soaked material is essential.

Organizations should anticipate **flammable liquid spills** whenever operations required the use of such liquids. The materials -- oil absorbing compound and appropriate tools -- to handle spills should be close at hand and readily available. Workers should receive training in the appropriate steps to cut off sources of ignition, to ventilate the area, and to safely dissipate any flammable vapours.

Flammable liquids waste disposal can often be troublesome. Organizations should never drain waste liquids, such as automobile crankcase draining, into sewers. Instead workers should place such waste in metal drums until proper disposal take place. Where such facilities exist, organizations should recycle such waste. There are companies that specialize in collecting waste petroleum products and refining them for further use. Organizations should burn flammable liquid wastes only in containers designed or adapted for this purpose. Many fire departments like to receive waste oils for training firefighters in handling flammable liquid fires.

Coatings and lubricants such as paint, grease and similar combustibles are widely used. Good housekeeping requires the collection and safe disposal of combustible residues. Experts recommend the use of non-sparking tools for cleaning spray booths and associated exhaust fan blades and ducts to prevent igniting combustible residues. It is essential to maintain sprinklers free from deposits. There are two effective methods. The first is to applying a thin coating of grease to sprinklers and then to clean them frequently. Another is to enclose each sprinkler in a light paper bag that workers change daily. Organizations should locate air ducts so vapors from spray booths vent directly to the outside and residues do not accumulate.

Clean cotton waste is mildly hazardous, chiefly because it is readily flammable when not baled. In addition, if dirty waste or small amounts of certain oils become mixed

with them spontaneous heating can result. Although clean waste presents only a small fire hazard, it is a good practice to handle it in the same manner as dirty waste. Storage of large supplies of clean waste should be in metal bins or in metal-lined woodbins. Bins should have covers and workers should close them except when removing waste. Organizations should provide an adequate number of bins if supplies are large or if it stores different kinds of waste. The bin covers should have counterweights so that the covers are easy to lift and lower. Experts recommend that the counterweight rope have a fusible link so that the cover closes automatically in the event of fire. Storage of local supplies of clean waste should be in small, properly labeled waste cans. Local supply points have the advantage of discouraging workers from keeping clean waste in lockers, drawers, benches, and other areas. This practice can be dangerous because someone might inadvertently store dirty waste in these areas and a fire might result.

Oily waste on wiping rags, sawdust, lint, clothing, etc. -- particularly waste containing oil subject to spontaneous heating -- is extremely dangerous. Storage of all such materials in ordinary quantities should be in a standard waste can. When selecting cans, organizations should look for a label indicating that a recognized laboratory has tested and approved them. Storing large amounts requires heavy metal barrels with covers. Good housekeeping includes emptying cans containing oily waste daily and keeping wiping rags in covered metal containers until laundered.

Packing materials are generally combustible and, therefore, hazardous. Workers should treat burlap, straw, excelsior, and similar materials as clean waste unless the organization uses large quantities. If this is the case, the organization may need special vaults or storerooms. Fire safety experts recommend automatic sprinklers in areas where workers store or handle large quantities of packing materials even if the

rest of the building lacks this protection. Promptly removing and disposing of used or waste packing materials and crating from receiving and shipping rooms is essential to minimize the danger of fire. Workers should be orderly when they pack and unpack to minimize scattering of materials around the area.

2.12.4 Lockers and Cupboards

When lockers are not clean and when workers use them as storerooms for waste material, they are fire hazards. This is particularly true if the stored items include oily rags, cloths or clothes smeared with paint. Pipes and cigars that workers do not completely extinguish before placing them in lockers are very dangerous; so is the careless storage of matches in lockers. Metal lockers reduce the danger of fire spreading from one locker to another. Organizations should conduct regular inspections if they use wooden lockers. In addition, solid construction can help to confine a fire to a locker.

Therefore, lockers should have solid backs and solid dividing partitions rather than expanded metal or wire screen ones. Lockers stacked in two tiers, one upon the other, is not a good choice. They do not allow workers to hang their clothes so they do not wrinkle. As a result, workers often hang their clothes outside the locker or place them haphazardly into the locker. The latter practice can increase the danger of spontaneous heating if clothes are oil or paint spotted. If lockers have mechanical exhaust ventilation, the organization should follow NFPA No. 91, Blower and Exhaust Systems, to avoid the danger of spread of fire originating in a locker.

If it provides and washes protective clothing, fire safety experts suggest that the organization install a system of wire baskets, suspended from the ceiling by a small chain running over a pulley. Each employee should have his or her own basket. This system has proved successful in maintaining cleanliness, thereby reducing the fire hazard. If the locker area has automatic sprinklers, lockers should have expanded metal or screen tops so water from sprinklers reaches the locker contents. If necessary, workers can cover the top with paper to protect their belongings from dust. Using the tops of locker for storage is a bad practice both from fire and accident prevention standpoints. Sloping tops solve this problem because workers cannot place items on the top.

Wooden supply **cupboards** present a fire hazard in such places as machine and paint shops if the woodwork becomes oil or paint soaked and if workers leave clothes or oily waste in the cupboards. Regular inspections of such cupboards can verify that workers are maintaining an appropriate level of cleanliness. Steel is the ideal material for cupboards that store tools and similar materials.

2.13 Outdoor Housekeeping

Good housekeeping is just as important outside as inside houses and buildings. Failure to maintain households can threaten the fire safety of exposed structures and stored items outside. The most common threat is possibly the accumulation of garbage and waste and overgrown grass and weeds adjacent to buildings or stored goods. It is necessary to inspect the reasons and correct the problems.

2.13.1 Weed and Grass Control

A strong fire danger is associated with dry weeds and grass around buildings and roads and railways. The purpose of the people who maintain these areas has always been to destroy vegetation. It is a regular removal method to add a chemical solution that acts as a pesticide on the weeds. Some chemicals can, however, create risks. The oxidizing agents are, for instance, chlorate compounds, especially sodium chlorate. While not burning, when they come in touch with fuel, they optimize the conditions for fire or explosion. During hot periods in summer a number of fires resulted in the use of sodium chlorate solution on dry grass and weeds.

Sodium chlorate solutions are suspect in numerous other fires in buildings and on properties where workers may have spilled such solutions. A personal hazard arises when a person's clothing becomes soaked while using such solutions. Sodium arsenite and other compounds containing arsenic are efficient herbicides but are poisonous and are not recommended. Various proprietary weed-killers do not pose fire or serious toxic hazards. Calcium chloride and agricultural borax, applied dry or in solution, are effective non-hazardous weed killers. Ammonium sulfamate and various other commercial chemical weed killers also have little or no fire hazard and only a slight toxic hazard.

The amounts of various chemicals needed for effective weed killing, and the duration of their effect, vary depending upon the weed-killing agent used, the character of the vegetation, and atmospheric and soil conditions. Manufacturers' directions indicate the amounts that workers should use under various conditions. Burning as a method for removing dry grass and weeds frequently ignites buildings when grass fires spread out of control. Controlled burning at the proper time of the

year under direct fire department supervision largely avoids this hazard. A good method is to cut grass and remove it or, if environmental regulations allow burning out of doors, burn it in piles. Fire extinguishing equipment should be adequate and available.

Although flame-throwing torches can be useful, the organization should use them only when the vegetation sufficiently moist so that it cannot propagate fire readily beyond the area reached by the flame-thrower. However, the torches can introduce a hazard if not carefully operated. Organizations should always obtain a permit from the fire department before burning grass and brush. First, having the permit is a legal requirement. Second, the permit application process allows the fire department the opportunity to educate the public about safe burning. Third, the application process provides the department with an opportunity to prohibit burning during hazardous periods and to provide control of burning during other periods.

2.13.2 Refuse and Rubbish Disposal

If the organization keeps materials and equipment outdoors, good housekeeping requires keeping combustibles and obstructions out of the passageways between storage piles. Keeping passageways clear permits efficient firefighting should the need arise. Organization should locate storage areas at sufficient distances from buildings of combustible construction or from other combustible storage to prevent fire spread. Housekeeping focuses on maintaining these separations by prohibiting even the temporary introduction of objects such as contractors' shacks, discarded crates, or other combustibles. Proper housekeeping also requires prohibiting smoking in areas of outdoor storage.

The organization should provide suitable warning signs and non-combustible receptacles for the disposal of smoking materials before entering a “no smoking” area. When it must store combustible materials from industrial operations outdoors until disposal, the organization should locate the storage area at least 20 ft. (and preferably 50 ft.) distant from buildings. They should also be and at least 50 ft. from public highways and sources of ignition, such as incinerators. A secure non-combustible fence of adequate height should enclose the area. For most organizations, the regular collection of rubbish is the most satisfactory solution to the unavoidable accumulation of waste. Burning rubbish is generally unsafe and most urban areas do not permit it (Tesone, & Pizam, 2008). Dumping rubbish creates a fire danger even in landfills. Sparks from a dump fire or a bonfire can carry fire long distances. This can also occur if the organization burns rubbish in an incinerator that lacks an adequate spark arrestor. In most parts of Michigan, there are certain days when dry conditions make burning is dangerous. Usually night and early morning are the safest time to burn rubbish because of there is more moisture. This helps to reduce the chance of ignition from sparks.

2.13.3 Reducing Risks of poor housekeeping

According to Tesone, & Pizam, (2008), good housekeeping practices and supervision are crucial to basic workplace safety. Work health and safety laws mandate that senior management must take a risk management approach to minimise the risks to health and safety in the workplace. This involves taking a systematic approach to identifying all the risks associated with poor housekeeping and implementing control measures to eliminate the risks or, if that is not possible, to reduce the risks to the lowest possible level. This includes:

- Identifying cleaning and maintenance requirements in all areas of the workplace
- Assessing the risks associated with each situation
- Identifying and implementing control measures that reduce the risks to the lowest possible levels
- Reviewing the effectiveness of these control measures and making adjustments as needed
- Conducting regular workplace inspections that include checking housekeeping and taking corrective actions as appropriate
- Reporting, investigating and implementing control measures in regard to any incidents to ensure they don't happen again
- Documenting this process so that there is evidence of everything that has been done in the workplace to reduce the risks to the lowest possible levels
- Conducting training for all staff in the importance of good housekeeping practices, their role and the need for them to report hazards to their supervisor.

It is important that in identifying control measures the primary focus is on identifying and implementing the most effective control measures. The most effective control measures include elimination, substitution and engineering controls. Every effort should be made to implement these types of control measures. Examples of control measures follow.

Table 2.1: Hierarchy of control measures

Effectiveness	Types of control	Examples
Most effective	Elimination	
↓	Substitution	Resurface floors with hygienic non-slip flooring
	Isolation	
	Engineering controls	Install additional power points Suspend cabling from the ceiling Use stands to store cabling and hoses Regular maintenance program
Least effective	Administrative controls	Replace damaged and worn equipment Provide appropriate training, instruction or information in good housekeeping procedures
	Personal Protective Equipment	Non slip footwear Pouch belt with safety rings for storing knives and steels

Some examples of good housekeeping practices include:

- Conducting regular workplace inspections that include housekeeping
- Regular cleaning program both during and before and after shifts
- Workplace procedures for cleaning up spills and other emergency
- Regular, scheduled maintenance program for plant and equipment
- Keeping work areas well maintained, clean, well lit, uncluttered and free of waste
- Cleaning up spills on floors immediately and locating and fixing the cause of spills or leaks
- Keeping walkways clear of obstructions
- Storing materials and equipment neatly and out of the way of production

• Regularly removing waste

• Repairing damaged plant and equipment quickly

• Installing suitable containers for waste products that are conveniently located and regularly emptied to ensure that there is not a buildup of meat products on the floor

• Having a 'broom boy' during production to keep the production area as clean and tidy as possible.

2.14 Summary

The literature reviewed says that housekeeping and working hygiene means adequate sanitation and sanitary facilities, which are periodically cleaned and kept so that students are not at risk for safety and health. In addition, housekeeping practices like sweeping, scrubbing, burning, cleaning of the toilets, wetting, mowing, etc. improve the health of campus students and ensure they have drinking water, toilets, safety food in the kitchens and clean canteens; a hygienic working environment. Good housekeeping practices also help to control problems by eliminating tripping hazards, making sure floors are never slippery and keeping exit routes clear. Good housekeeping practices are essential for a hygienic school management.

CHAPTER THREE

METHODOLOGY

3.1 Research Design

The researcher adopted quantitative research approach analysis were used to carry out the study (Bryman, 2018). The researcher used the quantitative method because questionnaires were the instruments used for the study. Descriptive design specifies the nature of a given phenomenon and its specification can be simple or complicated. This research design is usually in the form of statistics such as frequencies or percentages, average and sometimes variability (Bryman, 2018). The design enables variables and procedures to be described as accurately as possible so that the study can be replicated by other researchers. In a descriptive research, data may be obtained through a variety of techniques. Some of the techniques used by the researcher to collect data were questionnaire and interviews.

3.2 The Study Population

The population consists of all boarding house students and house masters/mistresses engaging in housekeeping practises in the three selected Senior high schools namely Seven Day Adventist SHS, Kumasi Girls SHS, and Prempeh College as shown in Table 3.1 below.

Table 3.1: Population and Sampling size

Name of school	Population	Sample size
Seven Day Adventist SHS	1902	96
Kumasi Girls SHS	2016	117
Prempeh College	2987	151
Total	6905	364

3.3 Sample Technique and Sample Size

Non-Probability sample (convenience) procedure was used to select 364 respondents for the study. The sample size was made up 364 people comprising boarding house students (354) and house masters /mistresses (10) in the selected Senior High schools in the Kumasi Metropolis.

3.4 Data Collection Instruments

The data for this research was collected from the various selected population including: boarding house students and house masters and mistresses in the selected schools in the Kumasi Metropolis through the administration of questionnaires. The primary data for the study would be obtained from the field through structured questionnaires. Data would be collected from boarding house students and house masters and mistresses in the selected schools in the Kumasi Metropolis. However, questionnaires were used to collect data. The researcher gave a serious thought to the wording of individual questions. This was done to ensure that respondents answered objectively to the questions in the questionnaire.

Majority of the questions were in the closed ended form with only few open ended. In the open ended questions, the respondents formulated their own answers. In closed format, respondents were forced to choose between several given options. The open ended format allowed exploration of the range of possible themes arising from an issue. It was used where a comprehensive range of alternative choices could not be complied. The closed or forced choice-format was easy and quick to fill and also minimized discrimination against the less literate (in self-administered questionnaire). It was easy to code, record, and analyze results quantitatively and easy to report

results (Leung, 2001). The questionnaire consisted of four sections. Section 1 contains the demographic information of the respondents including the respondent's gender, age and class. Section 2 would identify the housemasters and housemistress' roles as housekeepers in selected Senior High Schools in the Kumasi Metropolis. Section 3 would investigate the level of supervision housemasters and housemistress receive as house keepers in selected Senior High Schools in the Kumasi Metropolis and Section 4 would examine the equipment required for housekeeping in selected Senior High Schools in the Kumasi Metropolis. The analysis of the study was based on these objectives of the study. The researcher also observed how the students and their house masters and mistresses conducts their house keeping practices.

3.5 Administration of Questionnaire

Questionnaires had a personalized covering letter explaining briefly the purpose of the survey, the importance of the respondents' participation, who is responsible for the survey, and a statement guaranteeing confidentiality. This cover letter also expressed thanks to the respondents at the end. The researcher personally administered the questionnaire to the respondent. A letter would be obtained from my department to enable me introduce myself in conducting the research as part of an academic work. All the respondents would be informed of the objectives and design of the study. Emphasis would be placed on the fact that the findings would be primarily for academic purposes.

The respondents were familiar with answering of questionnaires. All the respondents had some experience in completing questionnaires and were generally not apprehensive. The researcher's own opinions would not influence the respondent to answer questions in a certain manner. There were no verbal or visual clues to

influence the respondent. The researcher administered the questionnaires personally to the respondents in their classrooms and offices in the selected institutions. The participants would be given one week to respond to the questionnaires after which I went back to retrieve the questionnaire from them.

The researcher sent 364 questionnaires to the field to gather primary data. Out of the 364 questionnaires sent out for primary data, 226 questionnaires were retrieved while 138 questionnaires were not retrieved. Therefore, the analysis of the study was based on 62.1% response rate.

3.6 Data Analysis

Data analysis played a major part in the completion of this study. Data was reviewed after the collection of filled questionnaires and compilation of data from the interview was also performed. A critical analysis was done after which the data was interpreted and graphically represented. Both quantitative and qualitative analysis of data was done. Quantitative methods involve proceeding for the positivist assumption that, if something exists, it exists in some degree and can therefore be numerically measured. Qualitative methods were more of open-ended and required the researcher to elaborate with words convincingly, concerning the motive. The approaches for qualitative analysis of data involved data reduction, coding, tabulation and calculation of summarizing statistics. Microsoft Excel and Statistical Package for Social Studies (SPSS) were used. Tables, charts, frequencies and percentages were used to present the findings of the study.

3.7 Pilot study

The researcher conducted a pilot study to assess the authenticity of the research instruments. The pilot questionnaires were given to 37 people to answer to correct errors like repetition of questions and typographical mistakes and the avoidance of double questions. The pilot testing took place at Kumasi Girls SHS in the Kumasi Metropolis. The results from the pilot testing became a clear evidence that the questionnaire and interview guide were accurate and grammatically good for distribution.

3.8 Ethical Considerations

This relates to moral stand the researcher should consider in all research methods in all stages of the research design. The researcher followed three principles of the Belmont Report, namely beneficence, respect for human dignity as well as justice (Polit et al 2001:75). According to Resnik (2011), there are several reasons for the adhering to ethical norms in research. Norms promote the aims of research, such as knowledge, falsifying or misrepresenting research data, promote the truth and avoid error. Moreover, since research often involves a great deal of cooperation and coordination among many different people in different discipline and institutions, ethical standards promote the value that are essential to collaborative work, such as trust, accountability, mutual respect and fairness.

For instance, many ethical norms in research, such as guidelines for relationships, copyright, and patency policies, data sharing policies and confidentiality and peer reviews are designed to protect intellectual property interest while encouraging collaborations. Many of the ethical norms help to ensure that researcher can be held accountable to the public. William (2016) lists some of the ethical issues as

informed consent, confidentiality and anonymity. Given the importance of ethical issues in several ways, the researcher would avoid taking any ones' work and where someone's work was included, such were acknowledged. In the process of data collection, respondent's identities would be concealed and any information obtained would be handled with utmost confidence. No harm of any nature would be meted out on any respondent, aspects of privacy would be observed and any cruelty avoided.

3.9 Validity and Reliability of the Research

According to Rubin, et al. (2010, p. 209) the idea of validity and reliability of a research is the same in both quantitative and qualitative though it is mostly used in evaluating quantitative research. Qualitative research can employ validity and reliability in different ways. Validity and reliability are factors which any qualitative researcher needs to consider when designing and judging quality of a qualitative research as noted by Patton (2012).

The researcher made careful non – participant observation and accurate recording of activities. The interviews were carefully thought out by making each item relate to the objectives and research questions. Two other researchers read through the semi – structured interview items and provided useful suggestions for the revision or restructuring of the items. Successful interviews were conducted on-site with the respondents. Content validity is regarded highly because the researcher presented the exact information from the responds through the detailed description of the findings. The ability to generalize the findings in any Senior High School in Ghana renders the findings externally valid. This study can be used as guideline for housekeeping practices thereby making the research valid.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

Table 4.1 Demographic information of respondents

Demographic information of respondents	Frequency	Percentage
Gender		
Male	81	35.8
Female	145	64.2
Total	226	100
Age of the Respondents		
Below 18 years	139	61.5
19-29 years	63	27.9
30-39 years	9	4
40-49 years	5	2.2
50-59 years	10	4.4
Total	226	100
Status of the Respondents		
Teacher	11	4.9
House master / mistresses	28	12.4
School Prefect / Student	187	82.7
Total	226	100

Table 4.1 indicates that 145(64.2%) of the respondents were females while 81(35.8%) of the respondents were males. Moreover, majority 139(61.5%) of the respondents were below 18 years, 63(27.8%) of the respondents were between the ages 19-29 years, 10(4.4%) of the respondents were between the ages 50-59 years, 9(4%) were between the ages 30-39 years while 5(2.2%) were between the ages 40-49 years. Moreover, 187(82.7%) of the respondents were students and school prefects, 28(12.4%) of the respondents were house masters/mistresses while 11(4.9%) were teachers.

4.1 The housemasters and housemistress' roles as housekeepers

Table 4.2: The housemasters and housemistres's roles as housekeepers in the

No.	Statement(s)	SD N(%)	D N(%)	N N(%)	A N(%)	SA N(%)
1	Regulating activities such as cleaning, weeding, washing and smoking that can lead to hazardous conditions.	10 (4.4)	10 (4.4)	7 (3.1)	124 (54.9)	75 (33.2)
2	Properly controlling waste	22 (9.7)	23 (10.2)	48 (21.2)	76 (33.6)	57 (25.2)
3	Weed and Grass Control	22 (9.7)	23 (10.2)	29 (12.8)	126 (55.8)	26 (11.5)
4	Monitor students to maintain operational tidiness and order	12 (5.3)	5 (2.2)	12 (5.3)	174 (77)	23 (10.2)
5	Materials Handling and Storage	14 (6.2)	32 (14.2)	5 (2.2)	125 (55.3)	50 (22.1)
6	Monitor students to clean and treatment of floors	7 (3.1)	15 (6.6)	9 (4)	152 (67.3)	43 (19)
7	Monitor students to sweep compounds	10 (4.4)	15 (6.6)	6 (2.7)	101 (44.7)	94 (41.6)
8	Monitor students to Polish Furniture	8 (3.5)	11 (4.9)	7 (3.1)	175 (77.4)	25 (11.1)
9	Rubbish handling is essential to the housekeeping process.	10 (4.4)	10 (4.4)	7 (3.1)	124 (54.9)	75 (33.2)

SHS

Scale of 1-5 where 1 represents strongly disagree, 2 represent disagree, 3 represents uncertain, 4 represents agree, 5 represents strongly agree. N=226

The study shows that 88.1% of the respondents agreed that housemasters and housemistress's roles as house keepers in the college is to regulate activities such as cleaning, weeding, washing and smoking that can lead to hazardous conditions, 8.8%

of the respondents disagreed while 3.1% of the respondents were neutral. A good method is to cut grass and remove it or, if environmental regulations allow burning out of doors, burn it in piles. Fire extinguishing equipment should be adequate and available.

The study revealed that 58.8% of the respondents agreed that housemasters and housemistress's roles as house keepers in the college is to properly control waste, 19.9% disagreed while 21.2% of the respondents were neutral. Jones and Pizam, (2008) asserted that housekeeping consists of the simpler aspects of building care and maintenance: Maintaining operational tidiness and order, properly controlling waste, and Regulating activities such as cleaning, weeding, washing and smoking that can lead to hazardous conditions. To be successful, housekeeping requires organization and continuous monitoring.

The study depicts that majority 67.3% of the respondents that agreed that housemasters and housemistress's roles as house keepers in the college is to weed and control grass and bush, 19.9% disagreed while 12.8% of the respondents were neutral. The amounts of various chemicals needed for effective weed killing, and the duration of their effect, vary depending upon the weed-killing agent used, the character of the vegetation, and atmospheric and soil conditions. Manufacturers' directions indicate the amounts that workers should use under various conditions. Burning as a method for removing dry grass and weeds frequently ignites buildings when grass fires spread out of control. Controlled burning at the proper time of the year under direct fire department supervision largely avoids this hazard

The study depicts that majority 87.2% of the respondents agreed housemasters and housemistress's roles as house keepers in the college is to maintaining operational tidiness and order, 7.5% disagreed while 5.3% of the

respondents were neutral. A strong fire danger is associated with dry weeds and grass around buildings and roads and railways. The purpose of the people who maintain these areas has always been to destroy vegetation. It is a regular removal method to add a chemical solution that acts as a pesticide on the weeds. Some chemicals can, however, create risks. The oxidizing agents are, for instance, chlorate compounds, especially sodium chlorate. While not burning, when they come in touch with fuel, they optimize the conditions for fire or explosion. During hot periods in summer a number of fires resulted in the use of sodium chlorate solution on dry grass and weeds.

The study shows that majority 77.4% of the respondents agreed that housemasters and housemistress's roles as house keepers in the college is to handle materials well and store them properly, 20.4% disagreed while 2.2% of the respondents were neutral. Good housekeeping is just as important outside as inside houses and buildings. Failure to maintain households can threaten the fire safety of exposed structures and stored items outside. The most common threat is possibly the accumulation of garbage and waste and overgrown grass and weeds adjacent to buildings or stored goods. It is necessary to inspect the reasons and correct the problems.

The study indicates that majority 86.3% of the respondents agreed that housemasters and housemistress's roles as house keepers in the college is to clean and treat floors with disinfectants and detergents, 9.7% disagreed while 4% of the respondents were neutral. These disinfectants kill all the germs and bacteria and improves the cleaning process. According to Tesone, & Pizam, (2008), good housekeeping practices and supervision are crucial to basic workplace safety. Work health and safety laws mandate that senior management must take a risk management approach to minimise the risks to health and safety in the workplace. This involves

taking a systematic approach to identifying all the risks associated with poor housekeeping and implementing control measures to eliminate the risks or, if that is not possible, to reduce the risks to the lowest possible level.

The study reveals that 86.3% of the respondents agreed that housemasters and housemistress roles as house keepers in the college is to sweep compounds, 11% disagreed while 2.7% of the respondents were neutral. This system has proved successful in maintaining cleanliness, thereby reducing the fire hazard. If the locker area has automatic sprinklers, lockers should have expanded metal or screen tops so water from sprinklers reaches the locker contents. If necessary, workers can cover the top with paper to protect their belongings from dust. Using the tops of locker for storage is a bad practice both from fire and accident prevention standpoints. Sloping tops solve this problem because workers cannot place items on the top.

The study demonstrates that 88.5% of the respondents agreed that housemasters and housemistress's roles as house keepers in the college is to polish furniture, 8.4% disagreed while 3.1% of the respondents were neutral. The student's roles as house keepers in the college is to polish furniture so that they may look neat.

The study results show that majority 88.1% of the respondents agreed that rubbish handling is essential to the housekeeping process, 8.8% disagreed while 3.1% were neutral. The study indicated that rubbish handling is essential to the housekeeping process. For most organizations, the regular collection of rubbish is the most satisfactory solution to the unavoidable accumulation of waste. Burning rubbish is generally unsafe and most urban areas do not permit it (Tesone, & Pizam, 2008). Dumping rubbish creates a fire danger even in landfills. Sparks from a dump fire or

a bonfire can carry fire long distances. This can also occur if the organization burns rubbish in an incinerator that lacks an adequate spark arrestor. In most parts of Michigan, there are certain days when dry conditions make burning is dangerous. Usually night and early morning are the safest time to burn rubbish because of there is more moisture. This helps to reduce the chance of ignition from sparks.

4.2: The level of supervision housemasters and housemistress receive as house keepers

Table 4.3 The level of supervision students receive as house keepers

	Statement(s)	SD N(%)	D N(%)	N N(%)	A N(%)	SA N(%)
1	Housemasters/housemistress conduct regular workplace inspections that include checking housekeeping and taking corrective actions as appropriate	16 (7.1)	30 (13.3)	15 (6.6)	110 (48.7)	55 (24.3)
2	Housemasters/housemistress conduct training for all staff in the importance of good housekeeping practices, their role and the need for them to report hazards to their supervisor.	19 (8.4)	12 (5.3)	15 (6.6)	117 (51.8)	63 (27.9)
3	Housemasters/housemistress identify cleaning and maintenance requirements in all areas of the workplace	13 (5.8)	0	10 (4.4)	27 (11.9)	176 (77.9)
4	Housemasters/housemistress identify and implementing control measures that reduce the risks to the lowest possible levels	11 (4.9)	12 (5.3)	10 (4.4)	167 (73.9)	26 (11.5)
5	Housemasters/housemistress report, investigate and implemente control measures in regard to any incidents to ensure they don't happen again	11 (4.9)	15 (6.6)	11 (4.9)	127 (56.2)	62 (27.4)
6	Housemasters/housemistress document this process so that there is evidence of everything that has been done in the workplace to reduce the risks to the lowest possible levels	7 (3.1)	10 (4.4)	9 (4)	108 (47.8)	92 (40.7)

Scale of 1-5 where 1 represents strongly disagree, 2 represent disagree, 3 represents uncertain, 4 represents agree, 5 represents strongly agree. N=226

The study revealed that majority 73% of the respondent agreed that housekeeping supervisor's conduct regular workplace inspections that include checking housekeeping and taking corrective actions as appropriate, 20.4% disagreed while 6.6% of the respondents were neutral. Although it is necessary to include housekeeping practices in the curriculum of teacher training institutions, this is in many cases a long-term objective. Including housekeeping practices in the curriculum does not reach teachers who have already been trained (Carlin, Parry, Von Beheren, 2008). As long as housekeeping practices is not a regular part of the programme in teacher training institutions a short-term objective of training teachers in housekeeping practices could be established. This could, for instance, be in the form of one- or two-day orientations for teachers during the holidays (Dancer, 2009).

The study findings shows that 79.7% of the respondents agreed that housekeeping supervisors' conducts training for all staff in the importance of good housekeeping practices, their role and the need for them to report hazards to their supervisor, 13.7% disagreed while 6.6% of the respondents were neutral. Rubbish handling is essential to the housekeeping process. Its success depends primarily upon having and observing a satisfactory routine. Most important is the proper and regular disposal of combustible waste materials (Mirzayev, 2015).

The study results hold it that majority 89.8% of the respondents agreed that housekeeping supervisors identify cleaning and maintenance requirements in all areas of the workplace, 5.8% disagreed while 4.4% of the respondents were neutral. The study concluded that housekeeping supervisors identify cleaning and maintenance requirements in all areas of the workplace.

The study shows that 85.4% of the respondents agreed that housekeeping supervisors identify and implement control measures that reduce the risks to the lowest possible levels, 10.2% disagreed while 4.4% of the respondents were neutral. The study results hold it that housekeeping supervisors identify and implement control measures that reduce the risks to the lowest possible levels.

Table 4.4: How often do you organise housekeeping practices for students?

How often do you organise housekeeping practices for students?	Frequency	Percent
Every week end	185	81.9
Every two weeks	29	12.8
Every three weeks	12	5.3
Total	226	100

Source: Field survey, (2020), N=226

Table 4.4 indicates that majority 81.9% of the respondents indicated that they organize housekeeping practices for students every week end, 12.8% of the respondents said that they organize housekeeping practices for students every two weeks while minority 5.3% of the respondents said that they organize housekeeping practices for students every three-week end. For most organizations, the regular collection of rubbish is the most satisfactory solution to the unavoidable accumulation of waste (Tesone, & Pizam, 2008).

4.4 The equipment required for housekeeping in selected Senior High Schools

Table 4.5 shows the equipment required for housekeeping practices

Table 4.5: The equipment required for housekeeping practices

The equipment required for housekeeping practices	Frequency	Percent
Detergents	31	13.7
Scrubbing brushes	24	10.6
Cutlasses	20	8.9
Hoes	14	6.2
Rake	22	9.7
Shovels	23	10.2
Brooms	24	10.6
Rag	25	11.1
Mob	22	9.7
wellington boots	6	2.7
Gloves	6	2.7
protective clothing	3	1.3
Buckets and head pans	3	1.3
Disinfectants	3	1.3
Total	226	100.0
Who supply this equipment to the school?		
School supply	178	78.8
Students supply	39	17.3
PTA supply	9	3.9
Total	226	100

Source: Field survey, (2020), N=226

Table 4.5 indicates that 13.7% of the respondents said that they used detergents for housekeeping practices, 10.6% said that they used scrubbing brushes and brooms,

8.9% used cutlasses, (6.2%) used hoes, 9.7% used rake and mob, 10.2% used shovels, 11.1% used rag, 2.7% used wellington boots and gloves respectively, while 1.3% used protective clothing, buckets and head pans and disinfectants. The study concluded the equipment used for the housekeeping practices are standard tools and detergents. Both soaps and detergents help water to emulsify fats and to suspend solid soil particles. Soaps are made from fats and lye, while detergents are synthetic chemicals. Soaps and detergents act by reducing the surface tension of water, which increases water's interaction with soils, surrounds and lifts the soil from the surface, and allows water to flush the surrounded soils away (Lorntz, 2016). Proteins will hydrate and swell when they come into contact with water, which helps alkalis to react with them, forming soluble salts (Klein, *et al.,* 2015).

Moreover, the study results held that 78.8% of the respondents affirmed that the school supplied housekeeping equipment, 17.3% said that students supply equipment while 3.9% indicated that PTA sometimes supply housekeeping equipment. As the use of cleaning and disinfecting agents is increasing due to infection prevention and control efforts, there is movement towards green cleaners or products that have fewer potential harms to health. Improving cleaning is not just about transitioning to more benign chemicals but also about broadly examining the purpose that cleaning serves and systematically considering alternative, and sometimes very different, strategies for minimizing unintended consequences while achieving the desired outcome. The good organization of cleaning and maintenance of the water and sanitation facilities is of the utmost importance (Carlin, et al, 2008).

Table 4.6: What is the cost involved in supplying these equipment?

What is the cost involved in supplying these equipment?	Frequency	Percent
High	26	11.5
Low	8	3.5
Moderate	32	14.2
I do not know	160	70.8
Total	226	100.0

Table 4.6 indicates that majority 70.8% of the respondents said that they do not know the cost involved in supplying the housekeeping equipment, 14.2% of the respondents said that the cost involved in supplying the housekeeping equipment are moderate, 11.5% of the respondents said that the price of the equipment are high while minority 3.5% said that the price is low.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The main purpose of the study was to examine housekeeping management practices of housemasters and housemistress in selected Senior High Schools in the Kumasi Metropolis. The research adopted descriptive research design. Quantitative research approach was used. The population consists of all boarding house students and house masters/mistresses engaging in housekeeping practises in the three selected Senior high schools namely Seven Day Adventist SHS, Kumasi Girls SHS, and Prempeh College. The study population was 6905. Non-Probability sample (convenience) procedure was used to select 364 respondents for the study. The sample size was made up 364 people comprising boarding house students and house masters /mistresses in the selected Senior High schools in the Kumasi Metropolis. Questionnaires were used to gather primary data. Microsoft Excel and Statistical Package for Social Scientists (SPSS) version 22 were used. Tables, charts, frequencies and percentages were used to present the findings of the study.

5.2 Summary of Major Findings of the study

1) The study shows that 88.1% of the respondents agreed that student's roles as house keepers in the college is to regulate activities such as cleaning, weeding, washing and smoking that can lead to hazardous conditions. The study revealed that 58.8% of the respondents agreed that student's roles as house keepers in the college is to properly control waste.

2) The study depicts that majority 67.3% of the respondents that agreed that student's roles as house keepers in the college is to weed and control grass and bush. The study depicts that majority 87.2% of the respondents agreed student's roles as house keepers in the college is to maintaining operational tidiness and order.
3) The study shows that majority 77.4% of the respondents agreed that student's roles as house keepers in the college is to handle materials well and store them properly. The study indicates that majority 86.3% of the respondents agreed that student's roles as house keepers in the college is to clean and treat floors with disinfectants and detergents.
4) The study reveals that 86.3% of the respondents agreed that student's roles as house keepers in the college is to sweep compounds. The study demonstrates that 88.5% of the respondents agreed that student's roles as house keepers in the college is to polish furniture.
5) The study results show that majority 88.1% of the respondents agreed that rubbish handling is essential to the housekeeping process.

5.2.1 The level of supervision students receives as house keepers.

1. The study revealed that majority 73% of the respondent agreed that housekeeping supervisor's conduct regular workplace inspections that include checking housekeeping and taking corrective actions as appropriate.
2. The study findings show that 79.7% of the respondents agreed that housekeeping supervisors' conducts training for all staff in the importance of good

housekeeping practices, their role and the need for them to report hazards to their supervisor.

3. The study results hold it that majority 89.8% of the respondents agreed that housekeeping supervisors identify cleaning and maintenance requirements in all areas of the workplace.
4. The study shows that 85.4% of the respondents agreed that housekeeping supervisors identify and implement control measures that reduce the risks to the lowest possible levels. The study revealed that majority 83.6% of the respondents agreed that housekeeping supervisor's report, investigate and implement control measures in regard to any incidents to ensure they don't happen again.
5. The study indicates that majority 81.9% of the respondents indicated that they organize housekeeping practices for students every week end.

5.2.2 The equipment required for housekeeping in selected Senior High Schools in the Kumasi Metropolis.

The study findings held that the equipment required for housekeeping in selected Senior High Schools in the Kumasi Metropolis were scrubbing brushes, brooms, cutlasses, hoes, rake, mob, shovels, rag, wellington boots and gloves, protective clothing, buckets and head pans and disinfectants.

5.3 Conclusions

The study concluded that the Housemasters/housemistress roles as housekeepers in the college are to maintain operational tidiness and order, properly control waste, regulate activities such as cleaning, weeding, washing and smoking that can lead to hazardous conditions, handle materials well and store them properly, clean and treat

floors with disinfectants and detergents, sweep compounds, polish furniture, rubbish handling is essential to the housekeeping process, to weed and control grass and bush. These are the major activities housekeepers perform at the college.

Moreover, housekeeping supervisors identify cleaning and maintenance requirements in all areas of the workplace. Also, the housekeeping supervisors identify and implement control measures that reduce the risks to the lowest possible levels. They reviewed the effectiveness of these control measures and making adjustments as needed. Furthermore, the study revealed that housekeeping supervisor's conduct regular workplace inspections that include checking housekeeping and taking corrective actions as appropriate. To add more, the housekeeping supervisor's reported, investigated and implemented control measures in regard to any incidents to ensure they don't happen again. Moreover, the housekeeping supervisors' conducted training for all staff in the importance of good housekeeping practices, their role and the need for them to report hazards to their supervisor. They organized housekeeping practices for students every week.

The equipment used for housekeeping practices were detergents, scrubbing brushes, cutlasses, hoes, rake, shovels, brooms, rag, mob, wellington boots, gloves, protective clothing, buckets and head pans and disinfectants. The study concluded the equipment used for the housekeeping practices are standard tools and detergents. Moreover, the school, students and PTA supplied housekeeping equipment.

5.4 Recommendations

According to the major findings and the conclusion remarks, the study recommended that;

1. Teachers and housekeeping practices supervisors should continue to organise housekeeping practices for students frequently to improve environmental cleanliness and prevent infectious diseases in the selected SHSs.
2. Teachers of the selected SHSs should must seriously monitor the activities of housekeeping practices.
3. The Management of the selected SHSs and the Parent Teacher Association (PTA) should continue to periodically provide housekeeping practices equipment to improve housekeeping practices in the selected SHSs.
4. The Management of the selected SHSs should organize periodic workshops, seminars and conferences to enhance the knowledge and practical expertise of housekeeping practices supervisors to improve hygiene and cleanliness initiatives in the selected SHSs.
5. Moreover, the housekeeping supervisors should continue to conduct training for all staff in the importance of good housekeeping practices, their role and the need for them to report hazards to their supervisor.

5.5 Suggestions for Further Research

Therefore, the researcher suggested that a similar study should be conducted to assess the influence of school health education programme (SHEP) on teaching and learning in selected SHSs in the Kumasi Metropolis.

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APPENDIX A

UNIVERSITY OF EDUCATION, WINNEBA

COLLEGE OF TECHNOLOGY EDUCATION

Questionnaire for the Students and Housekeeping Supervisors

The researcher is a Student of UEW, Kumasi Campus. She is conducting a piece of research to **EXAMINE THE HOUSE KEEPING MANAGEMENT PRACTICES OF HOUSEMASTERS AND HOUSEMISTRESS IN SELECTED SENIOR HIGH SCHOOLS IN THE KUMASI METROPOLIS.** I respectively request that you form part of this research by completing the attached questionnaire. It is my fervent hope that you participate in the study. May I thank you for your valuable cooperation.

Section A: Demographic Information of the Respondents.

Please tick [√] in the box where appropriate

1. Gender: Male [ ] Female [ ]

2. Age: Below 18 years [ ] 19-29 years [ ] 30-39 years [ ] 40-49 years [ ] 50-59 years [ ] 60-69 years [ ] above 70 years [ ]

3. Status

Teacher [ ] House master / mistresses [ ] School Prefect / Student [ ]

Section B: The housemasters and housemistress' roles as housekeepers in selected Senior High Schools in the Kumasi Metropolis.

To what extent do you agree on the following practices associated with the housemasters and housemistress' roles as housekeepers in selected Senior High Schools in the Kumasi Metropolis? Please rate using a scale of 1-5 where 1 represents strongly disagree, 2 represent disagree, 3 represents uncertain, 4 represents agree, 5 represents strongly agree.

The housemasters and housemistress's roles as housekeepers in the SHS	**1**	**2**	**3**	**4**	**5**
Regulating activities such as cleaning, weeding, washing and smoking that can lead to hazardous conditions.					
Properly controlling waste					
Weed and Grass Control					
Monitor students to maintain operational tidiness and order					
Materials Handling and Storage					
Monitor students to clean and treatment of floors					
Monitor students to sweep compounds					
Monitor students to Polish Furniture					
Rubbish handling is essential to the housekeeping process.					

Section C: The level of supervision housemasters and housemistress's receive as house keepers in selected Senior High Schools in the Kumasi Metropolis.

To what extent do you agree on the following practices associated with the level of supervision students receive as house keepers in the college? Please rate using a scale of 1-5 where 1 represents strongly disagree, 2 represent disagree, 3 represents uncertain, 4 represents agree, 5 represents strongly agree.

The level of supervision students receive as house keepers.	**1**	**2**	**3**	**4**	**5**
Reviewing the effectiveness of these control measures and making adjustments as needed					
Conducting regular workplace inspections that include checking housekeeping and taking corrective actions as appropriate					
Conducting training for all staff in the importance of good housekeeping practices, their role and the need for them to report hazards to their supervisor.					
Identifying cleaning and maintenance requirements in all areas of the workplace					
Identifying and implementing control measures that reduce the risks to the lowest possible levels					
Reporting, investigating and implementing control measures in regard to any incidents to ensure they don't happen again					
Documenting this process so that there is evidence of					

everything that has been done in the workplace to reduce the risks to the lowest possible levels					

How often do you organise housekeeping practices for students?

Weekly [ ] every two weeks [ ] every three weeks [ ] one month or more [ ]

Section D: The equipment required for housekeeping in selected Senior High Schools in the Kumasi Metropolis.

21. What are the equipment required for effective and efficient housekeeping practises in the SHS? Please tick as appropriate.

Detergents [ ] Scrubbing brushes [ ] cutlasses [ ] hoes [ ] rake [ ] shovels [ ] brooms [ ] rag [ ] mob [ ] wellington boots [ ] gloves [ ] protective clothing [ ] Buckets and head pans [ ]

Disinfectants [ ]

other please specify …….

22. Who supply this equipment to the school?

School supply [ ] Students supply [ ] PTA supply [ ] House masters /Mistresses [ ]

23. What is the cost involved in supplying these equipment?

High [ ] Low [ ] Moderate [ ] I do not know [ ]