ORIGINAL ARTICLE

APPRAISING THE RELATIONSHIPS BETWEEN STUDENTS' ATTITUDE AND THE CLEANNESS OF THE UNIVERSITY'S ENVIRONMENT

|Rabiu Muazu Musa|

| Bayero University, Kano| Department of Physical and Health Education | Kano, Nigeria |

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ABSTRACT

Background: A clean school environment not only engages students academically but also strongly related to a variety of positive health and behavioral outcomes. A university is an institution where a significant level of environmental cleanness should be observed. It is anticipated that surroundings such as student's hostels, lecture halls, cafeterias, water chambers as well as offices should be kept clean due to the health implication attached to the practice. However, this practice cannot be achieved when the attitudes of the students lack positivity to support and safeguard the cleanness. **Objective:** As a starting point, the current study assesses the relationship between the student's attitudes and the cleanness of the university environment. A developed and validated questionnaire was distributed to six hundred students in one of the university in Nigeria and their responses were collected. **Results:** Pearson correlation shows a positive linear relationship between the students attitudes and the cleanness of the surroundings, cleanness of the toilets, provision of dustbins, provision of solid wastes disposal facilities, misusing facilities, repairing damaged facilities and cleaning water chambers, r = 0.98, 0.97, 0.99, 0.97, 0.94, 0.98, 1.0 and 0.96 respectively. Nevertheless, an inverse relationship was observed between the student's attitudes with cleaning rooms and adequate personnel, r = -0.94 and –0.40. **Conclusion:** Student's attitudes play a significant role in ensuring cleanness of our university's environment irrespective of the number of personnel employ to handle such activity. Students should exhibit positive attitude towards environmental sanitation in order to ensure a clean environment in universities for a healthy school living.

Keywords: *Cleanness, Health implication, Healthy school living, Student's attitudes, University surroundings.*

1. INTRODUCTION

Environmental sanitation is practices that contribute to keeping the surroundings where people live clean, tidy and safe. Sweeping the surroundings clearing of bushes around houses, washing toilets, keeping surroundings free from smokes and smells are examples of environmental sanitation [1]. In its widest sense, environmental sanitation refers to the measures taken to control or change the physical environment to prevent the transmission of diseases to human beings. Thus, environmental sanitation here means interventions intended to improve access to safe and adequate water supply, to encourage the sterile disposal of human excreta and household wastes, and to change human behaviors through hygiene education. The primary purpose of these interventions is to prevent or limit the transmission of diseases arising from poor environmental sanitation [2]. In developed countries for instance, almost all human excreta are composed safely via sewerage systems, septic systems or other sanitation systems. Despite the facts that, considerable amounts of sewage are nevertheless discharged into the environment in these countries but could be safely managed. Nevertheless, in developing countries, the sanitation coverage is very different. A small percentage of the total population very coarsely 10% and mainly urban has access to sewerage systems and a slightly larger population, very roughly 20% has some on-site sanitation facility. But the vast majorities (about 65%) of people in developing countries do not have appropriate sanitation systems [3].

Inadequate drinking water, sanitation, and cleanliness (WaSH) in non-family unit settings, for example, schools, human services offices, and working environments affect the wellbeing, education, welfare, and efficiency of publics, especially in low- middle-income nations. These impacts excessively influence certain sorts of individuals. For instance, an absence of gender separated toilets at schools impacts attendance of girls and vise verse. However, people with special needs make up 15% of the worldwide populace that also face physical and social obstructions identified with getting to Wash, conceivably keeping them from going to class, picking up livelihood, and utilizing social amenities and conveniences [4]. Improper management of human excreta from public places led to a potential general wellbeing risk to individuals in that area and the community as a whole. Transmission of infectious diseases in non-family settings might bring about higher epidemics as opposed to family settings [5]. However, Bearings on student accomplishment mirror the apparent impact of the management of a school toilet: new students might perform well on the exams; past students might perform better because of enhancements in the school environment, and/or past students might perform poorer due to congestion of such facility [6].

Schools offer outstanding opportunities to support sanitation and hygiene promotion programs. Schools may be better positions in which to administer certain conducts in youngsters than the home. Schools can likewise deliver an arena where sanitation can be shown at its best and absolute positive hygienic practices. Nevertheless, sanitation promotion in school cannot rely solely on teaching and enforcing certain habits. Research has shown that children will more willingly change behavior if they are having fun and if they are following their peers, Nonetheless, a study conducted by Anijaobi-Idem, Ukata, and Bisong (2015) revealed that some of the secondary schools in Calabar metropolis of Nigeria possess a very low level of sanitation [7]. They reported further that the school premises are scattered with papers and empty sachet water bags. The toilets are unclean and often inadequate for the number of students in the schools. The stink from these toilets are irritating and nauseating and also the unselective solid waste disposal and management. This may call for strategy and plans leading to teachers and other educators getting more involved in the promotion of hygiene behavioral changes directed towards students for positive outcomes.

Despite the fact that it has been deliberated whether attitude influences awareness or awareness influences attitude. Yet, it is essential to note that in the process of building up attitude as well as the awareness regarding perceiving diverse things about the theme comes into the picture. Environmental attitude is universally understood as a cognitive judgment towards the value of environmental protection. However, Divergent results have been found between environmental attitude and behavior. While a few researchers have guaranteed a positive connection between environmental attitude and environmental behavior [8], others have reasoned that the relationship is either moderate or week [9]. The contradicting results in investigations of the relationship between environmental attitude and behavior endorse that further studies are expected to affirm the relationship between environmental attitude and environmental sanitation factors.

1.2 Problem Statement and Purpose of the Research

A university is an institution where a significant level of environmental cleanness should be observed. It is anticipated that surroundings such as student's hostels, lecture halls, cafeteria, water chambers as well as offices should be kept clean due to the health implication attached to the practice. It is unfortunate; however, the environmental condition of some of the premises in some Universities cannot say to have met the requirement of high sanitation. Nigerian universities are not free from environmental sanitation problems such as lack of cleanness of the surroundings and toilets facilities, inadequate water supply, damaged or broken facilities [10, 11]. In response to these problems, the managements of the various universities had contracted out the cleaning of the surroundings of their campuses including the classes and the toilets to a private firm. It is, however, noted that in spite of these efforts, the hygienic conditions of some of the premises and the other part of the University cannot say to be very satisfactory. This situation can have an implication for the health of the students. The safe and clean environment can promote the health of the students and stimulate active learning. Nonetheless, this motive cannot be achieved when the attitudes of the students lack positivity to support and safeguard the cleanness. As a starting point, the current study assesses the relationship between the student's attitudes and the cleanness of the environment of Bayero University Kano.

2. MATERIALS AND METHODS

To achieve the purpose of this study an appropriate questionnaire was developed and validated. To ensure that items and contents in the questionnaire measure what they are designed to achieve, the initial draft was given to the experts for items and materials validation. The corrections and observations of the expert's opinions were reflected in the final version of the questionnaire. Reliability analysis was carried out before the administration of the questionnaire. A Cronbach's alpha coefficient of .78 was obtained from the reliability analysis which confirmed the reliability of the questionnaire to be used as a tool for the data collection. The questionnaire was presented in two parts. Part one addressed the personal information of the respondents while part two covered the questions on factors responsible for the environmental sanitations problems that possess five constructs namely; Personnel, water supply, waste disposal facilities, students' attitude and maintenance of waste facilities. Data were collected through the use of a questionnaire. A sum of six hundred questionnaires was distributed at random to the six hundred students from various departments in Bayero University, Kano.

2.1 Study site:

This study was conducted at Bayero University, Kano new campus as an undergraduate project with registration number Edu|06|PHE|04274.

2.4 Statistics:

Pearson Product Moment Correlation (PPMC) was used to analyze the data collected due to its simplicity and effectiveness in projecting relationship of survey information. All statistical analysis was conducting at a confidence level of $P \leq 0.05$ using XLSTART add in software version 2014 USA.

3. RESULTS

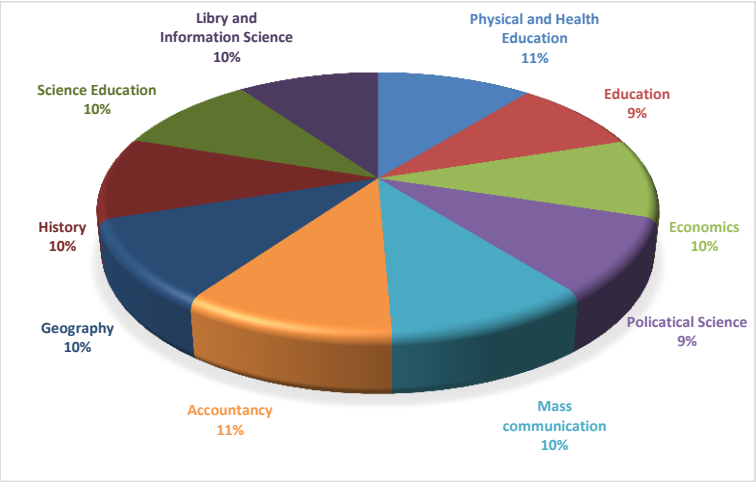

Figure 1: The figure presents the personal Information of the respondents.

Figure 1 project the personal information as well as the percent representation of the respondents. From the figure it can be observed that the respondents were sampled from different departments of the university. The chart has shown that the respondents were drawn from ten main departments of the university with a relatively similar percent representation from each department.

Table 1: Table 1 shows the descriptive statistics of the variables. From the table, the total number of the respondents, the minimum score, maximum score, mean as well as standard deviation are projected.

Variables	No.Resp.	Minimum	Maximum	Mean	Std. deviation
Students Attitude	600	5.00	9.11	7.60	1.49
Cleaning the surroundings	600	5.00	9.11	7.60	1.49
Cleaning Toilets	600	5.00	9.11	7.60	1.49
Water supply	600	5.00	8.89	7.24	1.47
Provision of Dustbins	600	5.00	8.78	7.08	1.44
P. Solid wastes disposal	600	5.00	8.56	6.78	1.38
Misusing Facilities	600	5.00	8.83	7.16	1.45
Cleaning rooms	600	6.44	10.00	8.22	1.38
Repairing damaged F.	600	5.00	9.00	7.41	1.48
Cleaning Water ways	600	5.00	8.72	7.00	1.43
Adequate P.	600	9.11	10.00	9.91	0.22

No.Resp. = Number of respondents**, Std. deviation=** Standard deviation

Table 2: Table 1 shows the inferential statistics between the students' attitudes and environmental sanitation factors

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Cl. the surroundings	0										
2. Cleaning Toilets	< 0.0001	0									
3. Water supply	< 0.0001	< 0.0001	0								
4. Provision of Dustbins	< 0.0001	< 0.0001	< 0.0001	0							
5. P. Solid wastes disposal	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0						
6. Misusing Facilities	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0					
7. Cleaning rooms	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0				
8. Repairing damaged F.	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0			
9. Cl. Water ways	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0		
10. Adequate P.	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0	
11. Students Attitude	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0

*Significant at P < 0.001.

Table 2 shows the statistical significance between the measured variables. From the table, it can be observed that the level of the relationship between the students' attitudes and the environmental sanitation factors is highly significant p < 0.001 which indicates that the relationship between the variables is strong enough to explain the association.

Table 3: Relationships between the student's attitude and University cleanness.

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Cl. the surroundings	1.00										
2. Cleaning Toilets	1.00	1.00									
3. Water supply	0.99	0.99	1.00								
4. Provision of Dustbins	0.97	0.97	1.00	1.00							
5. P. Solid wastes disposal	0.94	0.94	0.98	0.99	1.00						
6. Misusing Facilities	0.98	0.98	1.00	1.00	0.98	1.00					
7. Cleaning rooms	-0.94	-0.94	-0.98	-0.99	-1.00	-0.98	1.00				
8. Repairing damaged F.	1.00	1.00	1.00	0.99	0.96	0.99	-0.96	1.00			
9. Cl. Water ways	0.96	0.96	0.99	1.00	0.99	1.00	-0.99	0.98	1.00		
10. Adequate P.	-0.40	-0.40	-0.44	-0.46	-0.50	-0.45	0.50	-0.42	-0.47	1.00	
11. Students Attitude	.98	.97	0.99	0.97	0.94	0.98	-0.94	1.00	0.96	-0.40	1.00

Abbreviations: Cl. the surroundings = Cleaning the surroundings, P. Solid wastes disposal = Provision of Solid wastes disposal facilities, Repairing damaged F. = Repairing damaged facilities, Cl. Waterways = Cleaning Waterways, Adequate P. = Adequate personnel.

Table 3 indicates the relationship between the student's attitude and the university's environmental cleanness. It can be observed from the table that the students attitude positively highly correlated with environmental cleanness factors specifically; cleanness of the surroundings, cleanness of the toilets, water supply, provision of dustbins, provision of solid wastes disposal facilities, misusing facilities, repairing damaged facilities and cleaning waterways.

This result reveals that the more the students possess a positive attitude to environmental sanitation the higher the cleanness status to be observed in such aforementioned environmental factors. Nonetheless, an inverse association can be recognized between the students' attitude and cleaning rooms as well as adequate personnel which explained that no matter the number of personnel engage to oversee the cleanness of the surroundings could not totally guarantee its cleanness when the attitude of the students remain negative towards the sanitation of the environment.

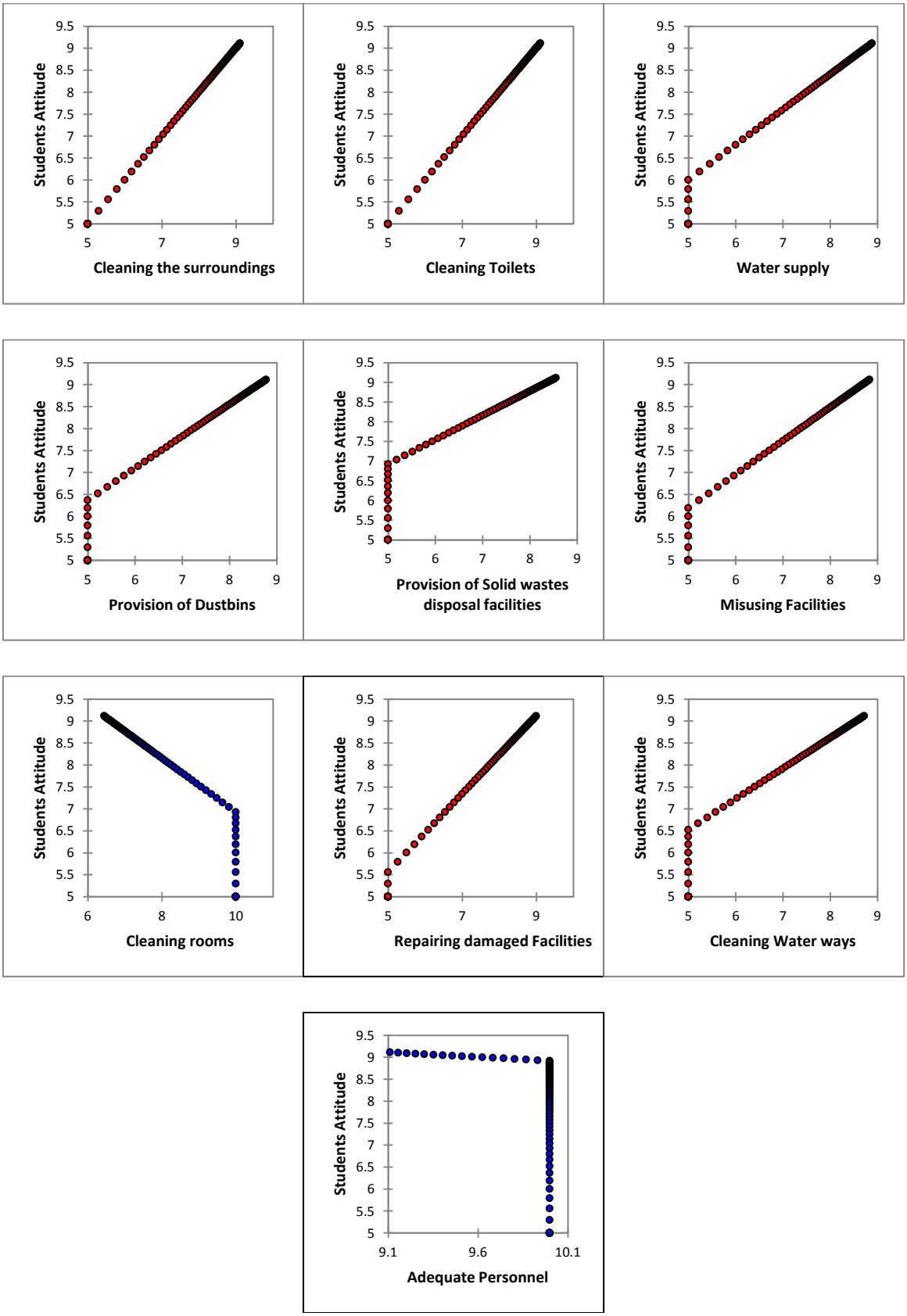

Figure 2: Scatterplots of the relationships between the student's attitude and University's environmental cleanness.

Figure 1 outlines the degree of the relationship between the students' attitudes and the environmental sanitation factors. From the figure, it can be noticed that 8 variables namely; cleaning the surroundings, cleaning the toilets, water supply, provision of dustbins, provision of solid wastes disposal facilities, misusing facilities, repairing damaged facilities and cleaning waterways have a positive strong linear relationship with students' attitudes as the scatterplots from each variable shows a straight perfect line. Meanwhile, it can be noticed that 2 variables i.e. cleaning rooms, and

adequate personnel show a nonlinear relationship with the students' attitudes revealing that adequate personnel could not ensure cleaner university's environment when the students' attitude is negative as earlier mentioned.

4. DISCUSSION

The major findings of this study showed that there is a positive, strong linear relationship between students' attitudes and environmental sanitation factors such as the cleanness of the surroundings, cleanness of the toilets, water supply, provision of dustbins, and provision of solid wastes disposal facilities, misusing facilities, repairing damaged facilities and cleaning waterways. However, the results also indicate that there an inverse relationship between students' attitudes and cleaning rooms as well as adequate personnel. This means that student's attitudes play a significant role in ensuring cleanness of our universities' premises irrespective of the number of personnel engages in handling such activity.

The finding of this study is in agreement with Adukia (2014) who revealed that for effective control and improvement in the environmental sanitation, positive environmental attitude from the populace is highly needed [10]. He maintained that when there is a strong will from the people involved in cleaning and protecting the environment, it will go a long way in safeguarding the health of the students and promote the aesthetic appeal of the environment. Also, the healthy physical environment is characterized by nature of an adequate and regular water supply. Furthermore, sanitary conditions in our schools are still appealing [11]. In developing nations, urban and rural areas schools environmental sanitation facilities are grossly inadequate [12]. For environmental sanitation to be meaningful and efficient there must be a provision of adequate facilities whereby the complete solid wastes collected could be dumped and dispose of properly. Environmental sanitation cannot be fully achieved without t the contribution of individuals in maintaining cleanness and ensuring a free dirty environment that is largely determined by their attitude [12]. It was emphasized that people contribute to poor environmental sanitation through their attitude of neglecting to carry out necessary measures to ensure clean environment [13]. Similarly, the lack of repairs of damage facilities in an environment plays a role in poor environmental sanitation. The samples of pathogens that can be overseen by the procurement of sufficient sanitation facilities incorporate Salmonella typhi, Shigella spp., Hepatitis A Virus, Hepatitis E Virus, Helicobacter pylori, and Schist soma spp. [14]. Insufficient sanitation is assessed to symbolize generally 50% of all hospitalizations in the developing world [15, 16]. Examples of such health issues include diarrhea [17, 18] blinding eye-trachoma [19, 20] typhoid fever and Hepatitis A [21, 22].

Environmental attitudes are regularly seen as preconditions for accomplishing positive environmental conduct. Hines and associates (1987) led a meta-investigation of the connections between environmental attitudes and behavior [23]. They saw 'expectation to act' as a determinant of good environmental sanitation. 'Desire to act' itself was depicted as a composite component, made out of attitudes among different variables. Moreover, Bamberg and Moser (2007) revised the meta-investigation of Hines et al., (1987) on a bigger and more exceptional example of studies and achieved comparative results [24]. Such discoveries drove numerous scientists to see attitude acquisition as a 'stepping stone' towards the acquisition of effective environmental sanitation [25, 26, 27, 28, 29]. It, therefore, not surprising that the current study has revealed a strong significant relationship between attitudes of the students and the factors of environmental sanitation (see Table 3 and Figure 2). The finding further affirmed and supported the numerous aforementioned literatures that emphasized cleanliness in our environment is achievable when the attitudes of the people that are directly involved are positive.

5. CONCLUSION AND RECOMMENDATION

From the finding of the present study, it was presumed that there is a positive, strong linear relationship between students' attitudes and environmental sanitation factors in our universities. This explained that positive environmental attitudes of the students prompts the upkeep of lecture rooms' cleanness, university's compound sanitation as well as other premises which could lead to the procurement of healthful school living. The more the positivity of the student's attitudes towards environmental sanitation the cleaner the university premises tend to be and vice versa. It is therefore recommended that adequate measures ought to be set up where the attitudes of the students will be actively engaged. This will increase not only the students and the other school's stake holder's awareness about environmental issues but also sensitize the student towards recognition of the need to keep the school environment clean. With this measure, every member of the school is carried along because school sanitation is a collective effort. Additionally, Information on how to use toilet equipment and other facilities should be included in the students' handbook so as to educate them on the proper usage. Students should also inculcate the habit of keeping their environment clean and tidy, by ensuring that any used materials are properly disposed of. This will equip the school community with the vital information in the upkeep of a sound school environment for a better living.

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