



## THREE INNOVATIVE WAYS OF DEALING WITH SANITATION PROBLEMS IN BASIC SCHOOLS IN ASSIN CENTRAL DISTRICT, CENTRAL REGION, GHANA

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### Abstract:

This paper, initiated by three members of the WASH (Water, Sanitation and Health) committee in Foso College of Education, was aimed at examining how the implementation of three innovative ways will impact positively on school sanitational habits and their effect on teaching and learning. The study was conducted in three schools in the Assin North Municipality in the Central Region of Ghana. The pupils were selected from different classes through the purposive sampling and census techniques to participate in the study due to the gravity of the problem identified there. Since the problem was a school issue that required immediate attention, action research design was used. The data collection procedure occurred in three stages; pre-intervention stage, intervention stage and post-intervention stage. A pre-intervention observation chart was designed to record the pupils' attitude towards sanitation. Intervention activities were carried out after the pre-intervention observation using the following strategies: Introducing the Picking Sticks and Class Waste Bins, Recycling Empty Water Sachets into Raincoats to Enhance Punctuality to School during Rainy Seasons and Turning Decompose Waste into Organic Manure. Three student members of the WASH Club of Foso College of Education, an initial teacher training institution, were selected during their consolidating teaching implement the innovative strategies under the supervision of Miss Comfort Arthur, for the lower primary; Miss Ruby Jecty, for the upper primary

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and Mr. Charles Appiah Nuamah, for the junior high school. During the intervention stage, the pupils were taken through three weeks of sanitation-conscious activities to promote good sanitational hygiene through talk for learning, peer collaboration, hands-on activities to mention but a few. A post-intervention observation was conducted after the intervention to find out the impact of the intervention on pupils' attitude towards school sanitation. This research type helped the study to identify the causes of pupils' inability to maintain their environment clean as lack of waste bins, no strict measures to check it, lack of education and common practice in the nation. It was discovered that consciously making learners aware of good sanitational practices helped learners to maintain good sanitational hygiene. Apart from the observation, an interview was used to collect data on pupils' perception and impression of the activities embarked upon. The data collected showed that when school sanitation practices are effective, learners' health and academic performances are enhanced in a relaxed condition while their thinking ability is stimulated. Prior to the interventions, the pupils held the notion that there was no need to be particular about school sanitational hygiene. Apart from the peculiar sanitation problem identified in each school, in all three schools, there was an emission of a very strong stench resulting from open fluid excretion everywhere on the school compound. Because of the pressing demand of this fluid excretion, most pupils will be seen rushing out of their classrooms, or during break times and as characteristic of most of the basic schools, where there are neither no urinals or the places are woefully unclean, these pupils are left with no options but to expose themselves and urinate anywhere found convenient on the compound, most often visible to other pupils. This called for temporary washrooms to be constructed in each school. Miss Comfort Arthur who identified the problems researched into the causes, effects and the solutions, and organized the findings into this write-up, the intervention procedures were designed by Mr. Charles Appiah Nuamah designed the interventions to remedy each of the three problems and prepared the final script and finally the results from the pre- intervention, intervention post-intervention procedures were analyzed by Miss Ruby Jecty. The funding for publication was from the Book and Research Allowance paid by the government to tutors of colleges of education in November, 2019.

**Keywords:** indecent exposure, changing rooms, picking sticks, class waste bins, empty water sachets, decomposed waste, nursery bags, raincoats

## 1. Introduction

Every brilliant pupil by all odds is neat and gentle and respects the rules of nature. A successful pupil should be incorporated with sanitational skills and sharpened attitudes which will create a smooth avenue for knowledge acquisition. Bolt & Cairncross (2004) believe that pupils' sanitational attitudes can be enhanced if they are trained from the home. Ghana Education Service (2003) also comes with the view that school sanitation can be enhanced if there is a supply of suitable sanitational gadgets. Hence, these gadgets

supply must be the responsibility of the health sector. Unfortunately, the health system does not have the resources to take over the construction of sanitational facilities in every school. However, improvised hygiene materials, adequate sanitation and safe drinking water are cost-effective, life-saving interventions critical to securing progress on health and reducing the global disease burden. (WHO (2015), Facts sheet on Sanitation, from [www.who.int/topics/sanitation/en](http://www.who.int/topics/sanitation/en)).

Another influential stimulus for school health and sanitation is to be found in the declaration of Ama Atta Aidoo (WHO, 1978). This statement came out of a major international conference on Primary Health Care where she called on all governments to formulate national policies, strategies and plans of action, to develop a multi-sectorial approach to involve citizens in planning, organization, operation and control of primary health care, and to focus on education as means of preventing and controlling health problems. Perfectly, the declaration focused on educating the society as a whole on sanitation with which pupils are keenly involved. It developed five key plans as:

- build healthy public policy;
- create supportive communities;
- strengthen community action;
- develop personal skills and;
- reorient health services and schools.

## 2. Merits of School Environmental Hygiene

According to the Hygiene and Environmental Health Module: 5. (2018), the provision of school environmental sanitation as well as school environmental hygiene ensures the right of students to acceptable hygiene practices, safe water supply, latrines and healthy school environment in general. The impact could have further beneficial effects, for example: healthy environments facilitate more effective learning opportunities for students to gain life-long positive hygiene behaviours and for increased school enrolment, retention and attendance for both boys and girls.

Nartey (2012) posits that lack of sanitation leads to diseases and a less scientifically rigorous but nonetheless professionally significant indicator of the impact of poor sanitation on health in most Ghanaian schools is the emission of a very strong stench resulting from open defecation in the bushes and other secluded areas on the school compound. (Kotler and Roberto, 1989).

## 3. What is Indecent Exposure?

Indecent exposure is the act of intentionally exposing one's genitals in a public area. Indecent exposure is a crime, the laws of which vary by jurisdiction. In the majority of states, it is not required that someone actually observes the act, or sees the perpetrator's private parts, in order for the perpetrator to face criminal charges. The act of intentionally exposing one's private body parts in a way that is offensive, or which goes against

accepted behavior, in a public place. While some people believe they can do nearly anything they want in the name of “*freedom of expression*,” it is against the law to expose certain private body parts in a place where the public can see it.

Areas of the body that cannot be legally exposed or shown in public include genitals, inner buttocks, and female nipples. The law does not require that any person actually sees the exposure, but considers whether the perpetrator has, or should have, a reasonable belief that the act could be viewed by others.

### **3.1 Elements of Indecent Exposure**

In order for a person to be convicted of indecent exposure, prosecutors must prove certain elements beyond a reasonable doubt. Though these may vary from state to state, it includes:

- Exposing Private Body Parts – This often refers to male or female genitals, buttocks, or breasts. In some states, exposure of the buttocks is not enough on its own to charge a person with indecent exposure.
- Exposure is Willful – The person exposing him/herself must act with intent. Accidental exposure is not considered a crime. For example, if Jane jumps into the swimming pool and her bathing top comes off and bystanders see her breasts, this is not intentional and not classified as indecent exposure.
- Exposure Occurred in Public – The exposure must occur in a public place, including such areas as retail establishments, outdoor areas, public venues, and businesses. These can be either publicly or privately owned, and include any place that is accessible, or readily visible, to the general public.
- Locations such as inside a bedroom or other room inside a home are not considered public. However, if an individual exposes himself from within such a private location, through a window or doorway, to persons outside the home, he has committed indecent exposure.
- In the Presence of Another – In order for an act to be considered indecent exposure, it must take place where other people are within sight, or there is a high likelihood that others would be within sight.

### **3.2 Urinating in Public**

Urinating in public is illegal in all states, though the specific charges it results in varies. While some states have laws that specifically make urinating in a public place a criminal offense, others may charge the individual with disorderly conduct, or being a public nuisance. Most consider the circumstances. While this definition varies by state, exposure in places accessible to the general public, such as roads, stores, parks, and restaurants certainly falls within the public place requirement. Moreover, exposure in other environments not open to the general public, such as jails and hospitals, may suffice. In fact, in many states, exposure in any place visible to the public is sufficient to satisfy this element of indecent exposure. For example, exposure inside an automobile, which is visible to someone outside the automobile, is sufficient. Similarly, exposure inside a

private home may meet the public place requirement if persons outside the home can observe the exposure.

#### 4. Intervention

Intervention is a set of strategies planned and implemented to solve a specific problem, improve or inform an educational practice located in an immediate situation. It involves a step – by – step procedure which is constantly monitored over varied periods of time and by a variety of mechanisms. Activities are planned, implemented and monitored for a period of time, days, weeks and months.

The intervention strategies were done on Mondays, Wednesdays and Fridays.

- A. Introducing the Picking Sticks and Class Waste Bins to Improve Environmental Sanitation among Class Two Pupils of Foso Methodist 'A' Primary School.
- B. What are Picking Sticks? According to Helping Hand Environmental (2002) picking sticks are litter tools that help in the collecting of litters along streets, parks, highways, grounds as well as housing.
- C. Why is it Important to Use Picking Sticks for Litter Collection? This will make sanitation in the school and environments very friendly and easily accessible. One collects litter with ease without waiting for cars or waste management companies.
- D. What is a Waste Bin? The waste bin, according to Wikipedia, is a container for temporarily storing waste, and is usually made out of metal or plastic materials. Some common terms are dustbin, garbage can and trash can.

#### Week One - Day 1

##### Session 1

**Session Topic:** The Concept of Sanitation in Schools.

**Duration:** 40 minutes

##### Sessions procedure:

1. Pupils were put into five groups of six. The researcher discussed the objective with the pupils and each group balloted for questions which asked them to discuss 1. Why they sweep their classrooms and the school compound, 2. Why they weed at the beginning of every term, 3. Why they scrub their urinal at the end of each week 4. Why they clean their windows at the end of each month, 5. Why they burn the rubbish at the end of each week
2. Group leaders were appointed randomly to ensure that everyone in the group says something and the researcher led the pupils in useful discussion on sanitation as each group brings their feedback. It was concluded that sanitation is keeping your environment clean to be safe from sicknesses and disaster. The sanitation practices in the school were sweeping, dusting, weeding, collecting rubbish, scrubbing and picking, to mention but a few.

The second activity for the day was for the Pupils in groups to determine the importance or reason for school environment sanitation based on how they perceived the

concept. The researcher collected pupils' points after 10 minutes and led the class to discuss essential points which included:

- 1) for the school to look tidy;
- 2) to promote a healthy learning atmosphere;
- 3) to reduce outbreaks and infections of diseases;
- 4) to reduce a stinky atmosphere which invites houseflies;
- 5) to give recognition and respect to the school authorities;
- 6) to drive away dangerous animals from the compound;
- 7) to avoid choking of gutters leading to floods;

The session ended.

### **Week One - Day 2**

#### **Session 2**

**Session Topic:** Why is School Environment Sanitation Important?

**Duration:** 40 minutes

**Sessions procedure:**

- 1) A video of how waste is managed and disposed effectively was shown pupils.
- 2) The researcher drew pupils focus to some of the methods of managing sanitation which are convenient to the school as well as pupils and to note some practices they think effective which can help sanitational measures in the school.
- 3) After the video, a lengthy discussion on what they had watched ensued.
- 4) The pupils were asked to demonstrate what they learnt from the video and immediately, they went round the compound and picked all the solid waste and dumped them on the rubbish dump.
- 5) The researcher made sure all pupils washed their hands with soap and water before leaving for home.

### **Week One - Day 3**

#### **Session 3**

**Session Topic:** The Health and Academic Benefits of School Environment Sanitation and the Dangers of Insanitation

**Duration:** 40 minutes

**Session Procedure:**

- 1) This day's session also commenced with a documentary video on the said topic. The focus was on the benefits of sanitation. (this was necessary because the pupils were engrossed in the previous day's, and the healthy discussion which followed immediately showed the depth of their understanding)
- 2) After, 20 minutes of show time, the researcher led pupils to determine and identify the academic and health merits of school environment sanitation.
- 3) The answers from pupils included:
  - a) promote punctuality and regularity;
  - b) promote critical thinking;

- c) ensure attentiveness in class;
  - d) instructional time is used beneficially;
  - e) regular academic excellence in examinations;
  - f) no incidence of casualties;
  - g) conducive and comfortable use of urinals;
  - h) hygienic environment for eating;
  - i) attracting foreign and governmental awards, and sponsorship;
  - j) NGOs, missions and individuals donate academic materials to the school.
- 4) The researcher guided pupils to identify the various effects of poor sanitation to the school as a structure as well as staff and pupil.
- 5) The following feedback was given:
- a) lateness and absenteeism;
  - b) negative health implications;
  - c) frequent flooding at school;
  - d) staff not accepting posting to the school or teachers applying for transfer;
  - e) part of instructional time used for tidying up the school prior to an official's visit;
  - f) low pupils enrolment;
  - g) low academic performance;
  - h) school attacked on national media.
- 6) Pupils were told to bring boxes, palm or coconut branches, empty water sachets, pairs of scissors, to school the following week.

## **Week Two - Day 1**

### **Session 4**

**Session Topic:** Constructing the Classroom Waste Bins

**Duration:** 40 minutes

#### **Session Procedure:**

This day's session was focused on the classroom waste bins.

- 1) The importance of the classroom waste bins was discussed; paramount among them is to ensure classroom neatness and tidiness for good health and vitality.
- 2) Pupils were prepared for a classroom waste bin campaign. They were told that because they had watched the video and understood the benefits of good sanitation and the effects of bad sanitation, they were to be the ambassadors of good sanitation in the school so they had to make classroom waste bins, distribute them to the other classes, show them their use and discuss their benefits.
- 3) The pupils were happy and ready for the task ahead. Pupils were then told to display the items brought to school.
- 4) Pupils were put into 5 division- of-labour groups namely the box cutters, the sewers, the weavers, the decorators and the assemblers. The boxes were cut into sizeable squares, the empty water sachets are split opened and dried by the cutters, the sewers then sewed the sachets to match the sizes of the squared boxes. The

weavers used the palm and coconut branches to weave very nice and sizeable but portable baskets and it was then the turn of the decorators to wrap the sachets around the squares and inside the baskets. The assemblers fixed the squares inside the baskets to make them firm. About 20 baskets were made that day.

- 5) Pupils made the woven baskets dry in the sun, later removed them and packed them into the classroom and left for home.

## **Week 2 - Day 2**

### **Session 5**

**Session Topic:** Preparing the Picking Sticks

**Duration:** 40 minutes

**Session Procedure:**

- 1) Sticks of all kinds were cut from the school compound and gathered at the pupils' work place.
- 2) Cutting tools like sharp knives and machetes were basically used for the picking sticks. The sticks were peeled nicely and straightened, one edge sharpened narrowly so as to pierce through any object.
- 3) About 20 sticks were done and dipped into a big bowl of water overnight.

## **Week 2 - Day 3**

### **Session 6**

**Session Topic:** Piloting the Use of the Waste Bins and Picking Sticks

**Duration:** 40 minutes

**Session Procedure:**

In this session, the researcher introduced pupils to the core intervention: the use of the picking sticks and waste bins as sanitational measures to tidy the school environment.

- 1) The researcher drew pupils' attention to the fact that the picking stick is a very unique and convenient tool which when used in picking litters and papers does wear out and ensures no contact with filth for germs infestation.
- 2) The researcher demonstrated to pupils the use of the picking sticks and their unique function of piercing through the filth and disposing onto the rubbish dump.
- 3) The researcher then allowed pupils to take turns and use the items.
- 4) When they had perfected in the use of the picking sticks, the male school prefects were invited for the basic two pupils to take them round to teach them to pick all litters in and out of the classrooms to test the effectiveness of the tools and impact.





**Figure 1:** Male prefects posing after piloting the use of the picking sticks  
(Source: field work)

### **Week 3 - Day 1**

#### **Lesson 7**

**Session Topic:** Rehearsing for the Picking Sticks and Waste Bin Campaigns

**Duration:** 40 minutes

#### **Session Procedure:**

The researcher had talked to the head teacher about the plans to educate the whole school on sanitation and the introduction of the picking sticks and waste bins to all classes. The permission was granted so pupils were prepared for the next day's activity.

This day's intervention was a rehearsal of the campaign speeches on the use of the waste bins and picking sticks to be rendered to the whole school.

- 1) Pupils were put into four groups as follows: Drama group, Demonstration group, Educators on Waste Bins and Campaigners of the Picking Sticks. The groups were rehearsed:
  - a) to enact a play on a dirty school environment which resulted in frequent illnesses, stinky atmosphere and flooding which affected the running of the school. This made the school authorities embark on a Friday clean-up exercise at the expense of instructional hours.
  - b) on the demonstration of the use of both the picking sticks and the classroom waste bins.
  - c) on the campaign speeches on the health benefits of the picking sticks and the waste bins were.

### **Week 3 - Day 2**

#### **Lesson 8**

**Session Topic:** Distribution of Waste Bins and Picking Sticks.

**Duration:** 40 minutes

**Session Procedure:**

The bins and sticks were ready for distribution.

- 1) The head teacher instructed for the bell to be rung for assembly.
- 2) The purpose of the gathering was told by the head teacher who then opened the floor for BS 2 pupils to demonstrate what they had for the school.
- 3) First, as rehearsed, the play was enacted on the effects of poor sanitation then a speech on the need for a good sanitation was given.
- 4) The picking sticks and waste bins were shown and their benefits mentioned. Pupils demonstrated their use after which representatives from each class were given two picking sticks and a waste bin.
- 5) Each class rep was made to demonstrate how they are used before taking them away. Everybody present was astonished at the performance of the BS 2 pupils.
- 6) The head teacher showed appreciation for the education given and she made all the class reps take a vow to use the items given them.

### **Week 3 - Day 3**

#### **Lesson 9**

**Session Topic:** Post-Intervention Stage.

**Duration:** 40 minutes

**Session Procedure:**

After introducing pupils to the picking sticks and the waste bins to manage the excessive littering on the school environment, the same one week observation was carried out to monitor if there was a change of behavior in pupils' attitude towards littering. Pupils became conscious of the waste bins and made sure they dumped all their waste in them. They also adapted to the method of using the picking sticks to collect waste around their classroom after breaks and closing. Their attitudes to sanitational activities also improved.

Pupils became ambassadors for good sanitational hygiene after realizing that they could create improvised materials to control waste.

## 5. Recycling Empty Water Sachets into Raincoats to Enhance Punctuality to School during Rainy Seasons among BS 6 Pupils of Assin Bereku Presby Primary



**Figure 2:** Model raincoat to be used  
(Source: Google images)

### 5.1 Recycling

This is the process of converting waste materials into new materials and objects. It is an alternative to convert waste disposal that can save material and help lower greenhouse gas emission. Zelezny (2000) sees the benefits of recycling as follows:

- Recycling saves resources: when we recycle, used materials are converted into new products, reducing the need to consume natural resources. It helps conserve important raw materials and protects natural habitats for the future.
- Recycling saves energy: using recycled materials in the manufacturing process uses considerably less energy than required for producing new products from raw materials even when comparing all associated costs including transport etc.
- Recycling helps protect the environment: recycling reduces the need for extracting, refining and processing raw materials. As recycling saves energy, it also reduces greenhouse gas emission which helps tackle climate change.
- Recycling has been a major priority for waste management: not only does recycling help save valuable landfill space; it also helps protect the health of the environment.

### 5.2 Essence of Recycling Empty Water Sachets

Empty water sachets constitute about 94% of litter accumulated in schools in Ghana. Because our sources of water are not reliable and health-enhancing, all Ghanaians have resorted to drinking water, perceived to be purified and stored beautifully in sachets. This has seen the explosion of 'pure water' manufacturing companies in Ghana, making sachet water the number one priority in Ghana and the preference among school children. However disappointing, there has been no step taken by these manufacturing

companies to ensure the safe disposal of the empty sachets by providing litter bins to especially schools. This has given rise to the indiscriminate littering of these empty water sachets on the school compound, making school authorities a headache to battle with.

Empty pure water sachets can be recycled through industrial processes and through improvised method.

## **Week One - Day 1**

### **Session 1**

**Session Topic:** Sanitation

**Duration:** 35 minutes

#### **Sessions procedure:**

A thorough discussion on sanitation was held as follows

- 1) Sanitation is keeping our homes, surroundings and communities clean.
- 2) Improving environmental sanitation is beneficial to the health of both households and across communities.
- 3) A clean and healthy environment can attract investment and trade to the urban cities.
- 4) Embarking on a clean environment provides services critical in meeting the need of the growing population.
- 5) Poor sanitation causes diseases or reduces the life span of the people.

## **Week One - Day 2**

### **Session 2**

**Session Topic:** Littering

**Duration:** 35 minutes

#### **Sessions procedure:**

- 1) A simple definition of littering was provided as the careless, incorrect disposal of minor amounts of waste.
- 2) Pupils were made to understand that discarding items like plastic containers, napkins, bags, tissue, take-away food packages and snack, ice cream and toffee wrappers, on parks, roads, paths, stores other public buildings seriously damages the environment.
- 3) The discussion was then brought to the school environment and pupils mentioned areas where they litter most often. Places like the school park, the school compound, the classrooms, on the way home were mentioned.
- 4) Pupils were then put into groups to discuss the categories of litter and arrange them in terms of their frequency.
- 5) Fortunately, all groups had empty water sachets as their highest percentage of litter.
- 6) The last activity was to talk about why pupils litter carelessly in schools. It was concluded that indiscipline, lack of education and lack of equipment for disposal are the causes of littering in schools.

- 7) The class decided that during break over and closing, they would go round and gather all empty water sachets from the areas earlier on discussed.

### **Week One - Day 3**

#### **Session 3**

**Session Topic:** Recycling

**Duration:** 35 minutes

#### **Sessions procedure:**

- 1) This day's lesson saw pupils discussing about ways in which the empty water sachets could be put into proper use.
- 2) The only thing pupils could think of was the nursery bags. It was told pupils that empty water sachets can be used as window coverings, table covers, pencils and school bags, some even use them to build houses and boats.
- 3) The concept of recycling was discussed as the process of converting waste materials into new material and objects.
- 4) The benefits of recycling were also discussed as follows: saves resources, saves energy, helps protect the environment and protects the health of the environment. It was announced to pupils that they were going to turn empty water sachets into raincoats.

### **Week Two - Day 1**

#### **Session 4**

**Session Topic:** Flooding in the School

**Duration:** 35 minutes

#### **Session's procedure:**

- 1) Pupils were told to mention what happens in school when it rained. Their answers included, flooding, absenteeism, lateness, lesson times used for clean- up exercises.
- 2) The class also talked about the major causes of the flooding in the school as filth-choked gutters because the teachers and the seniors sometimes had to pass through the rains and remove the filth from the gutters to allow the water to run-off. They observed that whenever that was done, the flooding diminishes.
- 3) Through discussion, pupils were made to appreciate why there was the need to recycle empty water sachets. It was understood that recycling empty water sachet into rain coats helps in minimizing litter and enhancing punctuality and regularity during rainy season as the raincoats help pupils to come to school during rainy season.
- 4) The benefits of the raincoats were discussed under the following points:
  - a) it makes children warm during rainy season;
  - b) it protects school children from rain;
  - c) it helps them to be punctual to school during rainy season;

- d) it makes them dry because they tend to shiver when the cold rain water seeps through their skin.
- 5) The processes the class will follow to turn empty water sachets into rain coats through improvised method were outlined to pupils as:
  - a) selecting the littered pure water sachets,
  - b) washing them properly,
  - c) cutting the edges of the pure water sachet, and
  - d) sewing them together to make them big for measuring into raincoat specimen and sewing.

## **Week Two - Day 2**

### **Session 5**

**Session Topic:** Selecting littered empty water sachets

**Duration:** 35 minutes

#### **Sessions procedure:**

- 1) It was then time for each pupil to bring their collected empty water sachets. These were brought and pupils were made to select the strong ones, those without holes, those not so dirty and old. Since there was a huge collection of the item, pupils spent the whole time for the selection. Pupils were told to bring washing bowls/buckets and pairs of scissors to school the next day.

## **Week Two - Day 3**

### **Session 6**

**Session Topic:** Preparing the Empty Water Sachets

**Duration:** 35 minutes

#### **Sessions Procedure:**

- 1) Buckets and bowls of clean soapy water and rinsing water were made ready.
- 2) Pupils took turns washing and rinsing the water sachets.
- 3) They then used the pairs of scissors to cut them open and washed them again, this time for drying.
- 4) When they were dry, pupils were made to arrange them nicely and pack them carefully at the sewing room for the next day's activity.
- 5) Each pupil was to get at least 120 pieces of the split sachets. The pupils counted them in 20s and arranged them into the sewing rooms.
- 6) They were told to bring needles and threads for sewing the next day.

## **4.3.6 Week - Three Day 1**

### **Session 7**

**Session Topic:** Involving BDT Teachers for Directions and Instructions on the Processes

**Duration:** 35 minutes

#### **Sessions procedure:**

- 1) The three BDT teachers all came to help in this activity.

- 2) They instructed and directed pupils on the process to follow.
  - a) first pupils were guided to stitch the sachets together in a particular pattern using what they termed back stitches.
  - b) after sewing about fifty, the BDT teachers went round to measure until each pupil sewed three yards.
  - c) the teachers then used hand sewing machines to run over the hand-stitched areas to make the stitches stronger and more permanent.
- 3) It was surprising to see some parents coming to the school with their sewing machines to help because as a surprise, the head-teacher had held a secret emergency meeting with them to offer their assistance.
- 4) Though the pupils were made to go home after the 35 minutes, the BDT teachers and the seamstress parents used an hour and a half to complete.
- 5) The yarns were completed and stored in the sewing rooms.
- 6) The seamstresses pledged their support the next day so they left their machines in the school.
- 7) It was a good collaborative work which yielded immediate and effective results.

### **Week Three - Day 2**

#### **Lesson 8**

**Lesson topic:** Putting Pupils' Measurements into Raincoat Specimen

**Duration:** 35 minutes

#### **Lesson procedure:**

- 1) By 7:30 A.M. many of the parents had already come to the school.
- 2) As and when the pupils reported, they were made to go to the sewing rooms for their measurements to be taken.
- 3) By 8:30 A.M., all the pupils had their measurements taken and so the process did not interrupt judicious use of instructional hours.
- 4) In the sewing room, the BDT teachers and the seamstresses were putting the measurements into raincoat specimens and sewing.
- 5) The 15 seamstresses and 3 teachers did a commendable job by finishing all 21 raincoats at exactly 10 minutes past two.
- 6) The 35 minutes for the intervention session was used to try on the raincoats by the pupils.
- 7) The SHEP coordinator was invited to observe what had gone on and the head-teacher organized an enhanced lunch for the seamstresses as a thank-you token.

### **Week Three - Day 3**

#### **Lesson 9**

**Lesson topic:** Using the Rain Coats on Pilot Basis

**Duration:** 35 minutes

#### **Lesson procedure:**

- 1) On this day, the pupils were asked to use the raincoats on pilot basis for a week.

- 2) They took them home and brought them to school each day whether rain or shine.
- 3) Pupils took delight in the use of the raincoats and for that week, attendance improved and there was high environmental sanitation as the other classes were also told to gather all empty water sachets from the school compound.
- 4) Again the SHEP coordinator provided a big basket for the collection of the item so pupils gradually declined from littering the school with empty water sachets so that all other classes can have their own rain coats.

## **6. Turning Decomposed Waste into Organic Manure and Empty Water Sachets to Nursery Bags for Good Sanitation Among JHS 2 Pupils Of Fosco Demonstration Basic School.**

The main objective of the study was to examine the causes of poor environmental sanitation among JHS 2 pupils of FOSCO Demonstration JHS. Census and purposive sampling procedure were used to select all 68 pupils of FOSCO Demonstration JHS. Out of the total number, 33 were girls representing 49 % and 35 were boys, representing 51%. The study identified that the causes of poor environmental sanitation among the pupils are lack of waste bins 32%, no strict measures to check it 18% lack of education, 21% common practice in the nation 29%.

Strategies to overcome poor environmental sanitation among the pupils were using decomposed waste as organic manure and empty water sachets as nursery bags, considered to be the most important strategies to reduce poor environmental sanitation.

The conclusion that can be drawn from the present study is that when students are actively involved in interventional strategies to manage waste, it has a positive impact on them which serves as an off-putting measure in waste reduction.

### **Week One - Day 1**

#### **Session 1**

**Intervention Focus:** Collecting Organic Manure from Decomposed Waste

**Intervention Tools:** shovels, garden forks, pick axes, containers for carrying, toiletries/sanitizers.

**Duration: 40 minutes:**

#### **Intervention Procedure:**

- 1) Just after closing, all the pupils in the class changed into intervention attires.
- 2) The activity to be undertaken was extensively discussed with all questions answered. Pupils were positively psyched for the activity.
- 3) Intervention tools were made ready and together we all marched to the rubbish dump.
- 4) Both males and females were made to do equal tasks with some gathering the manure into the containers and other carrying them to the nursery site.
- 5) The activity was done quietly as pupils knew the effects of inhaling bad breath.



- 6) With the researcher and one other female student-teacher actively involved in the collecting and carrying, about 95% of the pupils showed positive attitude towards the work. The 5% left found everything wrong with having to get involved in that filthy exercise.
- 7) However, their comments and withdrawal did not have any negative influence on the others.
- 8) Within 40 minutes, the work was successfully done. Student- teachers ensured all pupils washed their hands with soap and water, changed into their uniforms and applied sanitizers.
- 9) Student-teacher showed appreciation for pupils' compliance and all parted for their various homes.

### **Week One - Day 2**

#### **Session 2**

**Intervention Focus:** Preparing empty water sachets for nursery bags

**Intervention Tools:** a pair of scissors/ blades, dust pans and empty tins, thick black rubber covering.

**Duration: 30 minutes**

#### **Intervention Procedure:**

- 1) The big plastic bucket was emptied and the rubber wastes were picked out.
- 2) Those considered useful were placed at one side, the others sent to a public Zoom Lion waste bin.
- 3) Pupils were put into 3 mixed gender groupings and in their outfits and tools, the first group shaped the edges of the rubbers with the pairs of scissors and blades, the second group filled them with the black soil organic waste and the third group arranged them nicely at the nursery site.
- 4) Then the thick black rubber covering was used to cover the whole structure to generate heat and to prevent stray animals from entering.
- 5) They were reminded to bring the seeds they had been told to dry for two weeks to school the next day and they left for home.

### **Week One - Day 3**

#### **Session 3**

**Intervention Focus:** Preparing Seeds for planting

**Intervention Tools:** flat trays, seeds.

**Duration: 60 minutes:**

#### **Intervention Procedure:**

- 1) The activity for the day was discussed in class.
- 2) The pupils put on their gloves and took along the seeds they brought and the flat trays.
- 3) The seeds were all spread on the trays and the bad ones removed.

- 4) Researcher took advantage of the hot sun rays to dry the seeds thoroughly for uniformity. During the same period, pupils used the pointed sticks to create holes in the manure filled nursery bags and watered them. In an hour's time, the seeds were packed and stored for the next day.

## **Week Two - Day 1**

### **Lesson 4**

**Intervention Focus:** Planting the Seeds

**Intervention Tools:** sticks, seeds.

**Duration:** 60 minutes:

**Intervention Procedure:**

- 1) Researcher first made pupils to read out/discuss the observations made so far on the intervention procedures.
- 2) Many students volunteered to do so. A whole class discussion on the strengths and challenges of each intervention was also discussed. Some questions on why the seeds had to be dried before planting and why they were not to be planted directly but in nursery bags were asked. These two questions especially caught the researcher unawares.
- 3) He however threw it back to the pupils to make researches on them and bring the feedback the next day.
- 4) There was a detailed discussion on the number of seeds to be planted and it was settled on three for at least one survival to germinate if the conditions are not favorable.
- 5) The nursery bags were labeled by the seeds to be planted in them. There were pawpaw seeds, sweet apple seeds, water melon seeds, pear seeds and guava seeds.
- 6) Two students were given 2 rows of 10 nursery bags to plant the seeds with pawpaw seeds having eight additional bags.
- 7) Then it was time for the planting. Student 1 drops in the three seeds, for student 2 to cover it with the pointed stick. Because the manure was moist, there was no need watering it.

## **Week Two - Day 2**

### **Lesson 5**

**Intervention Focus:** Regular Watering and germination

**Intervention Tools:** watering cans.

**Duration:** 30 minutes:

**Intervention Procedure:**

- 1) This day was a Friday. No new activity was done except for watering the seeds but because it had rained the whole of the morning, the intervention period was used to talk about the need to observe good environmental sanitation.

- 2) It was discussed that flooding, increased mortality rate, diseases, breeding of mosquitoes and houseflies, snakes and scorpions are all as a result of poor environmental sanitation.
- 3) If solid wastes are continuously dropped into gutters and in the bushes, they tend to block waterways which result in flooding during heavy downpours. They also serve as hiding and breeding places for dangerous animals which might cause harm to us at the least exposure.
- 4) Rubber and plastic wastes for example do not decompose as such they can stay in the soil for years depleting the minerals needed for plant growth which result the influx of famine.
- 5) The government is therefore impelled to spend huge sums of money to manage waste in the nation instead of using it for developmental purposes. Precious lives and property are lost during flooding and so much money is spent on accessing health facilities. We can therefore make it a habit to put waste at designated places, recycle some, weed and sweep around our houses fortnightly, use pesticides and insecticides every month on bushes around the houses, involve ourselves in communal labor to silt gutters and choked pathways for free flow of water after rains to mention but a few.
- 6) The researcher instituted a weekly award scheme to be given to pupils who practice good environmental sanitation as a follow up strategy after the intervention.
- 7) Selected pupils who live around the school were charged to visit the site on Saturday and Sunday to observe any development. On Sunday morning we were alerted of five green leaves springing from the pawpaw bags.

### **Week Two - Day 3**

#### **Lesson 6**

**Intervention Focus:** Removing the Thick Black Rubber Covering and Applying the Conditions Necessary for Growing

**Intervention Tools:** spades, cutlasses garden forks etc.

**Duration:** 30 minutes

#### **Intervention Procedure:**

- 1) The pupils, with the usual readiness, got ready for the task of the day. The thick black rubber was removed for the plants to have some sunshine.
- 2) Then we moved into the school garden and cleared the weeds. Beds were raised and holes created at designated places. Manure was put into each hole and pesticides were sprayed on the plants in the garden.
- 3) The preparation in the garden was left overnight.

### **Week Three - Day 1**

#### **Lesson 7**

**Intervention Focus:** Transplanting into the School Garden

**Intervention Tools:** hoes, spades, garden forks

**Duration:** 30 minutes:

**Intervention Procedure:**

- 1) It was time for transplanting into the school garden. Precaution was taken to remove the nursery bags with the loamy soil still attached to the roots and then put into the holes.
- 2) Enough soil covered the whole and the plants were watered.
- 3) Pupils as usual washed their hands, changed into their uniforms and parted for their various homes.

### **Week Three - Day 2**

#### **Lesson 8**

**Intervention Focus:** Permanently Discarding Empty Water Sachets

**Intervention Tools:** spades, brooms, dust pans

**Duration:** 30 minutes:

**Intervention Procedure:**

- 1) The almost destroyed nursery bags had to be permanently discarded. They were packed into big waste bins and carried to the municipal waste cite to be permanently destroyed with acids.
- 2) Then the big rubber waste bags were hanged behind each classroom on the JHS block purposely for plastic. Then a garden bin was also placed nearby for other waste which can easily be decomposed.
- 3) Pupils were educated on their use and how they will help reduce littering on the compound. The pupils were so happy and shouted for joy.

## **7. Conclusion**

After introducing pupils to the picking sticks, waste bins, recycling, nursery bags and manure to manage the littering on the school environment, the same period of observation used for the pre-intervention was carried out to monitor if there has been a change of behavior in pupils' attitude towards littering. In school 1, pupils became conscious of the waste bins and made sure they dumped all their waste in them. They also adapted to the method of using the picking sticks and their attitudes to sanitational activities also improved. Pupils became ambassadors for good sanitational hygiene after realizing that they could create improvised materials to control waste. School 2, recorded that the improvement in punctuality and regularity for the three weeks under observation testified that the pupils really had a strong urge to come to school but for the lack of raincoats, the absenteeism was recorded. It was observed in school 3 that pupils did not find it difficult putting plastic wastes into the waste bags and other decomposable

wastes into the garden bin for use as manure. It was disappointing to see that after the first week, some pupils still filtered the compound to be collected during the breaks. The period under observation did not chalk a 100% change of attitude.

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