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Evaluating the Impact of (WASH) Program on Education in the New Juaben North Municipal of Ghana: Evidence from SDA College Demonstration Basic Schools

Francis Justice Kwesi Agbofa
Department of Social Sciences, Seventh-Day Adventist College of Education, Asokore Koforidua, Ghana

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Corresponding Author:
Francis Justice Kwesi Agbofa

ABSTRACT

The study assessed the causes of inefficiencies in the WASH programme at the Demonstration Basic Schools in the New Juaben North Municipal Assembly; examined the effects of the inefficiencies on the learners at the schools, and suggested appropriate strategies to improve the WASH programme. The researcher employed a qualitative approach to achieve these objectives. The population included headteachers, teachers and learners for the study. The study used purposive sampling technique to select 8 participants. This comprised three head teachers, two teachers and three learners from the school. The findings of the study showed that challenges that confront the WASH programme at the schools were inadequate water supply, poor sanitation and hygiene systems, lack of adequate handwashing points, unclean and not properly maintained toilets, lack of quality toilet facilities, lack of menstrual hygiene management (MHM), inadequate sanitary materials, and unhygienic toilet conditions. It is recommended that the government and authorities should improve the WASH system in the school. Moreover, adequate WASH facilities should be provided considering the various guidelines for WASH to ensure that facilities are adequate, sufficient, accessible, and safe for use by learners. Also, the Ghana Education Service should infuse sanitation education into the new or existing curriculum.

KEYWORDS: Water, Sanitation, Hygiene, School

I. INTRODUCTION

Better sanitation and hygiene are expected to improve the livelihood and well-being of human beings (Atuahene, 2010). Improved water supply and sanitation ultimately contribute towards nation-building and development by enhancing the health status of the citizens and thus, their economic productivity (Atuahene, 2010). However, a lack of sustained, effective, and safe services is a common experience for many developing countries around the world (United Nations International Children's Emergency Fund [UNICEF], 2012). This has resulted in a high prevalence of water and sanitation-related diseases, causing many people in developing countries, to fall sick or even die (UNICEF, 2012). Improved hygiene practices are essential in curbing water and sanitation-related diseases (Arthur, 2014). To Olukanni, such diseases can be reduced if school children are exposed to improved water and sanitation facilities (Olukanni, 2013).

In the establishment of schools, children have the right to basic facilities such as toilets, safe drinking water, clean surroundings and basic information on hygiene (UNICEF, 2006). The provision of safe water, sanitation and hygiene in schools has therefore been established to improve health, boost educational achievement, and promote gender equity, which consequently has a positive impact on society (Olukanni, 2013). However, about 2.6 billion homes (people) in Africa and Asia lack access to basic water, sanitation and hygiene (WASH) facilities (UNICEF, 2011). Schools WASH have not been given the needed attention in most African countries (Olukanni, 2013).

In Ghana, WASH facilities are absent in most schools (Tetteh, 2016; Atuahene, 2010). Efforts have been made by Non-Governmental Organisations (NGOs) and institutions of government to increase schools access to safe water supply and sustainable sanitation by supporting the providing improved water sources and sanitation facilities in schools (Tetteh, 2016; Atuahene, 2010).

When WASH facilities are absent or are badly used or maintained, schools become a risky place 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. Water, sanitation and hygiene are

also associated with school attendance and performance especially for girls (UNICEF, 1998 & 2006; WHO and UNICEF, 2010). It is therefore important that schools are equipped with proper facilities. Advancing WASH programmes in public secondary schools could lead to the attainment of other MDGs in terms of health, education and economic development (WHO, 2010; Adam et al., 2009; UN, 2011). When knowledge is supported by enabling and reinforcing factors, desirable changes would occur in the school setting and subsequently be transferred to the community. A school child educated about the benefits of sanitation and good hygiene behaviour is a conduit for carrying messages far beyond the school walls to bring lasting improvement to community hygienic practices. This stresses the importance of involving schools in WASH programmes. Schools play an important role in children's health and well-being. Schools can be a place to develop useful life skills on health and hygiene.

The mere provision of facilities does not make them sustainable or ensure the desired impact. However, it is the use of the facilities that provide health benefits. The focus should therefore be on effective education and the use of effective facilities. Children are future parents and the hygiene behaviours learnt and practised at a young age are likely to be applied in the rest of their lives (UNICEF, 1998). UNICEF (2011) argues that in over 1,300 Ghanaian schools, about one million pupils use water from contaminated sources or walk long distances to fetch clean water from safer sources. It is against this background that this study is designed to evaluate the impact of the water, sanitation and hygiene systems (wash) programmes on school outcomes.

II. PROBLEM STATEMENT

Good standards of WASH are important in schools as they contribute to achieving the objectives of schooling. However, observation of public basic schools in the New Juaben North Municipal Assembly suggests that WASH facilities are inadequate and the few ones available are in poor condition. This is evident as most pupils urinate around toilet facilities and others queue to use latrines and urinal facilities. Also, hand washing facilities are unavailable for pupils. Arthur (2014) argues that, recently, accelerated enrolment has not been matched by the corresponding acceleration of water supply, sanitation and hygiene facilities in schools in Ghana. As such, the development of school buildings has focused on classrooms and has not adequately considered the WASH facilities in the schools (Anderson, 2011; Arthur 2014; Tetteh, 2016). Toilet to pupil ratios are lower in schools in Ghana and most of the existing facilities have deteriorated beyond repair or maintenance (Arthur, 2014). According to UNICEF (2012), this situation creates unhygienic conditions in school environments which leads to increasingly poor health of students and also affects school activities including attendance and learning outcomes. Equally, sanitation coverage is still low with several schools lacking proper toilet facilities hence the sewage is untreated and contaminates the environment wholly (Mbilima, 2008).

According to the National Water and Sanitation Council (2012), the responsibility for school WASH in Ghana is fragmented with a lot of organizations and government organs having different parts to play in the implementation process without clear roles. Since a good WASH will help reduce health problems and also contribute to achieving the objectives of learning, it is an important issue that deserves attention. There appears to be little or no research conducted to evaluate the impact of the water, sanitation and hygiene systems (WASH) programme in public basic schools in the New Juaben North Municipal Assembly. It is this knowledge gap that has given the researcher the impetus to conduct a study to evaluate the impact of the water, sanitation and hygiene systems (WASH) programme in SDA College Demonstration Basic Schools in the New Juaben North Municipality.

III. OBJECTIVES

The study sought to;

1. Assess the impact of the (WASH) programme on proper sanitation in SDA College Demonstration Basic Schools in the New Juaben North Municipal Assembly.
2. Examine the effects of (WASH) programme on the promotion of good hygiene in SDA College Demonstration Basic schools in the New Juaben North Municipal Assembly.
3. Investigate the challenges and suggest appropriate strategies to improve (WASH) programmes in SDA College Demonstration Basic Schools in the New Juaben North Municipal Assembly.

IV. METHODOLOGY

A. Profile of studied schools

The Seventh–Day Adventist College of Education Demonstration Basic School is located at Asokore within New Juaben North Municipal Assembly of Ghana. The school established in 1963, is made up of a cluster of three streams of schools within the same compound; SDA Demonstration 'A', SDA Demonstration 'B', and SDA Demonstration 'C'. The schools have three different head teachers with a total teachers' population of sixty-three. The schools have two thousand and four hundred students enrolled for all three streams

It comprises 3 streams of schools located within the same compound but under different heads or leaderships. The schools forming the cluster include the SDA College Demonstration Basic 'A', Basic 'B', and Basic 'C' schools.

B. Research Design

The researcher employed the case study research design to get wider and in-depth information to evaluate the impact of the water, sanitation and hygiene systems (WASH) programme in SDA College of Education Demonstration Basic Schools in the New Juaben North Municipal Assembly. The case study research design allowed the researcher to gain an in-depth understanding of the situation and the meanings from the persons involved. The interest rested in the process rather than outcomes, in context rather than a specific variable, and discovery rather than confirmation. As such, insights gleaned from the case study can directly influence policy, practice and future research (Merriam, 2015).

The choice of a case study design was made after Yin (2013), according to whom has expressed that the purpose for a case study is to explain, explore, and/or to describe. Case studies explain a causal link, depict the chosen intervention, show change, and allow for meta-evaluation (Yin, 2013). Merriam (2015) asserted that the single defining characteristic about a case study is its "bounded system" that allows the researcher to "fence in" what is going to be studied.

The researcher employed a qualitative method of study to assess the accessibility, availability, functionality, sufficiency, and quality of WASH facilities at the SDA College Demonstration Basic Schools in the New Juaben North Municipal Assembly of Ghana. Qualitative methodology was chosen for this study because, it allowed the researcher to probe beneath the surface, facts by asking why a phenomenon occurs; it proceeded further to advance the emancipation of the subject. The adoption was also based on Gergen's (2003) posit that qualitative research views knowledge as socially constructed through the interaction of people with one another and the physical world.

C. Population and sample size

The target population for the study consisted of all the learners, headteachers and learners of the SDA College Demonstration Basic Schools. The sample size for the study consisted of 8 participants drawn from the Demonstration Basic Schools such that each unit within the School had at least a representation in the study.

D. Sampling technique

The purposive sampling technique was used to select participants for the study. According to Patton (2014), purposive sampling provides rich and knowledgeable information. Kuranchie (2016) defined purposive sampling as the process of selecting special people who are suitable to participate in a study based on the respondents' knowledge on the issue under investigation. Cohen, Manion and Morrison (2012) described purposive sampling as a feature of qualitative research where researchers deliberately choose subjects to be included in a study based on their judgment of the type of possession of particular characteristics needed. Purposive sampling allowed the researcher to select participants based on specific criteria. This method was chosen because it is much easier to administer and also because the sample size for the study was relatively small. The purposive sampling technique was also adopted to ensure that there is a fair representation of all segments of the population in the study, especially in respect of gender. Purposive sampling is chosen because it improves the accuracy and the representativeness of the result by reducing bias. The eight (8) respondents included three (3) students from the three Basic schools comprising of two (2) boys and one (1) girl, three (3) headteachers and two (2) teachers from the staff within the school.

E. Research instrument and data analysis

Based on ethical issues, the researcher sought permission and explained the purpose of the study to the respondents before the study was carried out in the school. Data was collected using interviews. There are several instruments which the researcher could have used to collect data for the study. However, the primary instrument used in the study was an interview guide due to the nature of the research and the data required. According to Abawi (2013), the use of interviews in research can be tiresome for large numbers of participants. Also, it is more personal, as compared to questionnaires, which allows researchers to have higher response rates. Abawi (2013) further suggests that interview allows researchers to have more control over the order and flow of questions. The interview questions or items were in line with the various objectives formulated to guide the study.

Each participant for the study was interviewed separately and a session lasted about 20 minutes. The questions were constructed with the epistemological assumption that knowledge is socially constructed by members of a given society interacting with each other. In this tradition, both the researcher and the research participants are actively constructing the social world and through interviews, they can give authentic insights about their experiences regarding the implications of the WASH program on the academic performance of students of the SDA College Demonstration Basic Schools. The interview questions were semi-structured and open-ended and therefore allowed for the research participants to provide their insights on the subjects of the study.

The data analysis consisted of detailed readings of the transcribed interviews with the participants. The transcription sheets were shared with the respondents to enable them to peruse the document to confirm if they represented exactly the information they shared during the interview. This was carried out to familiarize the researcher with the data and to execute the categorization of the data (Miles & Huberman, 1994.) During this process in vivo and

created codes were developed from the data, followed by the categorization of the codes into themes that presented the different responses to the interview questions. The themes that emerged from the data included the following: availability of water; sanitation (availability and states of toilet facilities, and condition of toilet facilities); and cleanliness.

V. RESULTS AND DISCUSSION

A. Access to Potable Water

But (2014) postulates that the adequacy of water supply is an integral part of a WASH programme and plays a vital role in the attainment of its objectives. Unfortunately, the SDA College Demonstration Basic Schools where the study was conducted lacked a regular flow of water through their taps. Students are often tasked to carry buckets of water from nearby wells and standpipes to school every morning, which is a difficult thing to do. Some respondents reiterated this during the interview:

3rd participant

> *There is no pipe-borne water on our school premises. We do not even have a borehole here. We carry water every morning from 'poly tanks' at the College's halls of residence to our school premises. When you do not bring the water, the teachers will punish you.*

The 2nd and 5th participants shared the same observation respectively as:

2nd participant:

> *We carry water every day to school so that we can have water to wash our hands whenever we visit the toilet.*

5th participant

> *There is an irregular flow of water through the tap in the College community. At times water does not flow through the taps for one week. When it happens that way we walk for a long distance in search of water. This has been affecting our studies.*

The challenge of unavailability of water was shared by all 8 participants of the study. This finding corroborates the outcome of the study conducted by UNICEF (2012) which indicated that 43% of schools had no water facilities. Schools with available water (37.9%) had their supply from pipes (36.4%) and boreholes (63.6%). Another finding by Olukami (2013) on the essence of water to WASH in Nigeria revealed that only 20% of schools in Southern Nigeria had water thus rendering inadequacy with accessibility to water.

Hand hygiene is a significant method to reduce WASH-related diseases among school children by 26% (Assefa & Kumie 2014). Considering the non-availability of water on the premises of the school implies that children including female learners will struggle to efficiently carry out the WASH requirements. This could result in absenteeism and the spread of infections among learners.

B. Condition of Toilet Facilities

Improved toilet sanitation positively impacts health and school attendance (Moe & Rheingans, 2006). Although the studied schools have toilet facilities within the premises, these toilets were observed as unclean and have not been properly maintained. The participants expressed this in their responses to the interview questions:

1st respondent

> *For the school's toilet, the least said about it, the better. I must admit that it is not good and it even poses danger to the learners. As a result, some learners even practice open defecation.*

2nd respondent

> *The toilet is bad. The boys come to spy on us when we go there.*

8th respondent

> *The school's toilet is bad. There is a big population of learners on this premises and the toilet facility is not in a good condition.*

4th respondent

> *The school's toilet is very bad. We do not use it often.*

Koopman (1978) mentioned that unhygienic toilet conditions particularly faeces on the bowl was related to increased diarrhoea prevalence. It is therefore essential that adequate toilet facilities are provided for schools within the cluster. Most of the toilets observed in the school lacked waste bins to collect toilet papers, and some with waste bins were cracked. It was observed that toilet facilities have leaking roofs with faecal matter and urine on the floors. These lapses were unearthed during the interviews. This was found to be the result of poor monitoring by the schools' management and sanitation personnel from the Local Government Authority at the Municipal Assembly. Poor education on how to use the toilet facilities, lack of frequent cleaning, and illegal usage by non-student residents in the community were also marked as antecedents.

C. Allocation of Toilets

Twenty-five (25) girls to one (1) drop-hole and fifty (50) boys to one (1) drop-hole is recommended by UNICEF. Despite this recommendation, the demonstration basic school flouted this standard. This placed pressure on the facilities, making management and maintenance difficult. The respondents gave these expressions to establish the situation as they have observed it.

1st respondent

> *The school's toilet is embarrassing. There is no water there. We have asked that it should be fixed but it has not been fixed.*

8th respondent

> *The school's toilet is in bad condition. It is hardly seen clean. It is difficult to breathe when you are there.*

Though schools had gender-segregated toilets it was disclosed that the toilet facilities designated to female students were well maintained than those for males. This suggests that the female students were better informed in matters of hygiene. Karon et al. (2017) observed that interventions geared towards improving WASH in schools' increase student's communication about hygiene; improve interventions geared towards improving WASH in schools'; and increase student's communication about hygiene; improve students' knowledge of WASH; increase handwashing after defecation; and reduced open defecation at school.

D. Cleanliness

The lack of adequate handwashing units at the SDA College Demonstration Basic Schools and the non-observance of handwashing will mean that students and teachers are susceptible to WASH-related diseases. Grover et al. (2018) revealed that the provision of handwashing facilities potentially improves handwashing with soap among school children. Assefa and Kumie (2014) in their study in northern Ethiopia found that handwashing with soap protects children from diarrhoea and lower respiratory infections which are the two most pediatric killers. It further reduces the occurrence of communicable diseases, child morbidity and mortality in developing countries. In this study, it was found that several students at the SDA College Demonstration Basic Schools lack in-depth knowledge of the importance of frequent hand washing.

Also, it has been established that the schools do not engage in any sanitation-related activity. This may be attributed to the lack of handwashing facilities, as Assefa and Kumie (2014) reported that, the absence of handwashing facilities in schools negatively influenced handwashing behaviours.

The 6th and 7th respondents to this study in confirmation stated that:

6th respondent:

> *We don't wash our hands because we don't have an adequate water supply on campus*

7th respondent:

> *We do not wash our hands regularly and when we do, we wash without soap. We hardly use one.*

The lack of MHM and sanitary materials showed that no deliberate support was given to female students, especially those who had experienced their menarche. This undermined female students' privacy and dignity and fueled female absenteeism as some of the female students either stayed away from schools or left school to wash and change their sanitary material during menstruation. Interestingly, a study in Ghana by Montgomery et al. (2012) which preceded this study concluded that the provision of sanitary materials (sanitary pads) coupled with puberty education significantly increased school attendance. However, the studied schools in this research lacked such materials, just as observed here. This hinders proper personal and public hygiene at school.

VI. CONCLUSION

To ensure a convenient environment for learning and to improve school attendance and academic performance, WASH in schools must be a focal point for everyone. The WASH situation at the SDA College Demonstration Basic Schools is generally poor. Toilet facilities are unkempt. The schools lacked potable water, hand washing facilities, menstrual hygiene facilities and sanitary materials, well-segregated gender-based toilets, and proper waste management and disposal facilities. Some of the WASH facilities were unfriendly and inaccessible to younger and disabled students.

Based on these findings, the following recommendations have been drawn. First, WASH facilities should be improved by the government through the Ministry of Education, the Local Government and or school authorities in the schools. WASH facilities should also be provided or constructed considering the various guidelines for WASH to ensure that facilities are adequate, sufficient, accessible, and safe for use by learners. The Ghana Education Service should infuse sanitation education into the new or existing curriculum.

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