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IMPACT OF THE PROVISION OF SAFE DRINKING WATER ON SCHOOL PERFORMANCE IN STA. ANASTACIA ELEMENTARY SCHOOL

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ABSTRACT

This paper aims to achieve health and learning outcomes through a sustainable school-based potable water supply and sanitation in Sta. Anastacia Elementary School to prevent diseases and to acquire high learning outcomes of learners. This has been done due to limited number of faucets that hinder the learners to achieve health and positive learning that consequently impede their ability to stay in school and improve their academic performance. In depth interview among learners, teachers and stakeholders and focal group discussion underwent using semi – formative discussion format employing open – ended question about safe potable water facility were conducted in gathering data. Testing/Investigating of water in school was done by MWDO. The researchers come up with a sustainable plan at the end of the investigation to have continuous program in installing drinking facilities through implementing sustainable school – based potable water supply. Promoting the awareness of a safe potable drinking water in school will contribute to the attainment of high academic performance and prevent diseases related to inadequate access of safe water.

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Context and Rationale

The provision of water at schools is one of the highly effective practices in increasing access and learning outcomes. Promotion of correct hygiene and sanitation practices among school children and a clean environment in and around school will keep learners safe and healthy and have been associated with improved cognitive abilities. However, there are some instances that hinder to provide an accessible potable water in schools such as the source may need repair, may provide insufficient and unsafe water in an appropriate location. Due to earnest desire to bring out the best in our learners I have come with this action research the "Impact of the Provision of Safe Drinking Water on School Performance in Sta. Anastacia Elementary School". Our school is the gateway to Batangas. It caters two barangays, namely: Sta. Anastacia and San Rafael. It is also surrounded by different industrial parks that have contributed to the increase number of learners in our school. The school personnel had made efforts to put up safe water facility. However, some development efforts, combined with the rising demands of the ever-increasing population, have caused damage to the water resources. In addition, the insufficient number of water facility that could serve potable water has become a hindrance. I believe that the children will achieve more when their needs and wants are met. Safe water and sanitation is especially linked to young children's chances to successful school completion and healthy growth.

Access to clean drinking water in schools is vital to increasing consumption since learners spend a large portion of their day at school. Without clean, accessible water, learners become dehydrated. This impairs their ability to learn and to do well in class situations. Facts

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show when a school lacks clean water, school attendance declines. On the other hand, the school is struggling to make water facilities accessible. The need for potable supply of drinking water associated to hygiene and sanitation challenges the health and learning outcomes among Sta. Anastacia Elementary School learners, teachers and stakeholders. There are 8 faucets in the school that serve 1,475 learners, 44 teachers and stakeholders for water supply. The limited numbers of faucets hinder the learners to achieve health and positive learning due to sickness that consequently impede their ability to stay in school.

Cognizant to DepEd Order 10, 8.2016, which implies policy and guidelines for the comprehensive water sanitation and hygiene in schools, I built this research that could suffice the need for safe drinking water. This is designed to achieve learning and health outcomes and improve school attendance through a comprehensive, sustainable and scalable school-based water hygiene and sanitation.

INNOVATION INTERVENTION AND STRATEGIES

Our school is looking forward to have a potable safe water to drink. For 1,475 pupils and 44 teaching personnel, there is only one accessible water facility to accommodate the demand of potable water that contributes to the poor health condition of the learners. The continuous increase of population in our school is one of the major reasons why I have come up with this research. Children are most vulnerable to the effects of unsafe drinking water. It contributes to chronic problems like dehydration, stunted growth, frequent diarrhoea and other infections that they can't focused in school that may lead to drop out. The existing

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situation should be the starting point of having a better drinking facilities and improving the access to safe drinking facilities.

In realizing the need to address water access and the demand on drinking water facility, providing additional water drinking facility is highly recommended in our school. Providing better water and fresh drinking water in all learners, teachers and stakeholders in school reduces hygiene-related diseases and can help to uplift the quality of education. Thus, putting up an additional potable water facility will supply 1475 learners, and 44 teachers, including the stakeholders. Ensuring compliance with this action will be a school-wide responsibility. I want to develop an implementation plan that includes participation from facility planning and maintenance, teachers, parents and school administration. Providing water to learners is very important. Potable safe drinking water interventions are frequently implemented to reduce infectious disease and to improve nutrition outcomes in learners that may lead to attainment of high academic performance among learners.

Different strategies are implemented to achieve an accessible water supply in school. First is by assessing water supply demand at the school through observing current water use, examining the condition of existing facilities, and interviewing teachers, stakeholders and learners on current water use and desired water use. The second is identifying appropriate water supply technologies that will help to determine which water supply technologies are most appropriate. The most common water technologies are piped water and rainwater harvesting. The third is identifying an appropriate water treatment technology. Some kind of treatment will be necessary if the water supplied is contaminated so the water that will be

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used for drinking and food preparation must be treated. The recommended options for water treatment in school are boiling or filtering of water, solar disinfection, and chemical disinfection. Lastly, designing the most appropriate technical solutions if the water assessment has been completed and appropriate water supply and technologies have been identified. A carefully –planned and implemented strategy were done for installing potable drinking water facilities in school. Nevertheless, it is important to be realistic about what can be achieved by learners and teachers for having a clean water.

RESEARCH QUESTIONS

This action research described the Impact of the Provision of Safe Drinking Water on School Performance in Sta. Anastacia Elementary School.

Specifically, it answered the following questions:

1. What is the current condition of the drinking facilities at Sta. Anastacia Elementary School?

2. How does it affect the performance of the learners?

3. What are the interventions implemented to improve the drinking facilities of school?

4. What sustainable plan can be proposed to improve the potable drinking water facilities at Sta. Anastacia Elementary School?

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DISCUSSION OF RESULTS

The following are the results and the analysis of the study in proper order that they asked in the Research Questions.

Table 1

Ratio of Free Drinking Facility to Learners and Teachers

Number of Drinking Facility	*Number of Learners*	*Number of Teaching Personnel*
1	1,475	40

From Table 1, there is one (1) free drinking facility to one thousand four hundred seventy-five learners (1,475) and forty (40) teachers. Based from the data the current condition of the drinking water facilities at Sta. Anastacia Elementary School is quite alarming because of the continuous growing of population; one drinking facility is not enough to suffice the needs of learners. Old drinking facilities in school are deteriorating and needs repair.

Table 2

Number of Absentees Due to Sickness

Months (2018)	U.T.I *Urinary Tract Infection*	Diarrhea	Fever
March	134	255	243
April	123	165	135
May	83	96	75
June	67	76	108
July	242	254	223
August	211	241	224
TOTAL	860	1,087	1,005

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The table shows the number of absentees from March to August 2022 excluding June and July. The data gathered from excuse letters from the parents and sf2 of teachers. This shows the total of absenteeism due to Urinary Tract Infection (UTI) is 860, absenteeism due to diarrhoea 1,087 and absenteeism due to fever was 1,005.

Data shows that the most number of absenteeism of learners was due to diarrhoea. Research showed that the main source of disease is the unsafe drinking water facility. Water and education are also linked in school absence. Without healthy clean water, learners will be constantly sick and missing in school, thus putting them further behind so their performance is affected by an increase of absenteeism and decrease in cognitive potential due to inadequate access of potable water facility in school. The moment that the learners drink unsafe water, they may tend to suffer diarrheal diseases.

Table 3

Interventions to Improve Drinking Facility

Implementation of Interventions	Overall WM	Verbal Interpretation	Rank
1.Rainwater Harvesting	1.54	least implemented	6
2.Piped water from water supply	3.07	moderate implemented	1
3. Water filtration	2.71	least implemented	2
4.Boiling of Water	2.66	moderate implemented	3
5.Chemical Disinfection	2.05	less implemented	4
6. Solar Disinfection	2.42	less implemented	5

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Arbitrary Scale	Verbal Interpretation
4.25 – 5.00	Very high implemented
3.45 – 4.24	High implemented
2.65 – 3.44	Moderate implemented
1.85 – 2.64	Less implemented
1.00 – 1.84	Least implemented

Table 3 shows level of effective implementation of different interventions for the improvement of potable drinking water facility in school. It indicates that among the interventions gathered, the highest rank which is moderately implemented is Piped water from water supply while the lowest rank which is least implemented is rainwater harvesting.

Proposed Sustainable Plan to Improve Potable Safe Drinking Water Facility

A. Prepare and Assess the Project WINS (Water Intake Needs to be Safe)

1. **Assessing water supply demand at the school.**
2. **Identify appropriate water supply technologies.**
3. **Identifying an appropriate water treatment technology.**
4. **Designing the most appropriate technical solution.**

B. Develop an Action Plan for Project WINS (Water Intake Needs to be Safe)

1. **Prioritize the areas to be improved and developed in installation of safe drinking water facility in school.**
2. **Emphasize the objectives of proposed sustainable plan for project WINS.**
3. **Develop strategies and initiatives for sustainability plan for the project.**

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4. **Identify the people responsible in attaining specific solution for installing the project WINS.**

C. Take Action

1. **Implementation of proposed Action Plan for installation of potable safe drinking water.**
2. **Coordinates with MWDO for monthly checking /testing of water facility.**
3. **Integration of the importance of safe drinking water for health and safety in all learning areas.**

This chart shows the sustainability plan for installation of potable drinking safe water at Sta. Anastacia Elementary School to make the project WINS (Water Intake Needs to be Safe) to be implemented and successful.

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ACTION PLAN

Proposed Action Plan for Installation of Potable Safe Drinking Water Facility

AREA	OBJECTIVES	STRATEGIES	TIME FRAME	PEOPLE RESPONSIBLE
Health and Safety Outcomes for Learners and Teachers	To improve learner's safe potable drinking facilities in schools	Conducts testing of water sample	Year Round	MWDO Teachers School Heads
School Academic Performance	To achieve high learning outcomes through a sustainable School-based potable water supply	Assessment Tool -Diagnostic Test -Pre Test -Post test -Periodical Test	Year Round	School Heads Teachers Learners
Disease Prevention	To prevent diseases cause by drinking unsafe water	Monitoring of Attendance Physical Examination Test	Year Round	School Nurse Teachers
Increase Attendance	To lessen the number of absenteeism among learners	Monitoring of attendance, SF2 and excuse letters from learners signed by parents	Year Round	Teachers Guidance Counselor Principal

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