

Effectiveness of Strategies to Facilitate Water Management among the Students of Grade VII

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Abstract: *As we are aware by now that water is a precious natural resource for sustaining life and the environment. Effective and sustainable management of water resources is vital for ensuring sustainable development. In view of the vital need of water for human and animal life, for maintaining ecological balance and for economic and developmental activities of all kinds, and considering its increasing scarcity, the planning and the need for management of water resources and its optimal, economical and equitable use has become a matter of the utmost urgency. Water is mainly used for various purposes like drinking, cleaning, washing, in factories, for agriculture, etc. where it is seen that maximum usage of water is done by the humans for the domestic purposes and therefore, it becomes the need for managing water resources to carry out further living. Water conservation is very important considering the rate at which it is used. In this study, the research questions that guided the research are as follows: (i) What is the level of awareness among the students regarding water management? (ii) What are the general practices used by students for managing water? (iii) Which unsustainable practices can be replaced to promote water management?.*

Keywords: sustainable management of water resources

I. INTRODUCTION

1.1 Meaning and Importance of Water Management

Water management is the control and movement of water resources to minimize damage to life and property and to maximize efficient beneficial use. It is the activity of planning, developing, distributing and optimum use of water resources

under defined water policies and regulations. Successful management of any resources requires accurate knowledge of the resource available, the uses to which it may be put, the competing demands for the resource, measures and processes to evaluate the significance and worth of competing demands and mechanisms to translate policy decisions into actions on the ground.

Water is an essential resource for all life on the planet. Of the water resources on Earth only three percent of it is fresh and two-thirds of the freshwater is locked up in ice caps and glaciers. Of the remaining one percent, a fifth is in remote, inaccessible areas and much seasonal rainfall in monsoonal deluges and floods cannot easily be used. At present, only about 0.08 percent of all the world's freshwater is exploited by mankind.

There is an ever increasing demand for drinking as it is the basic necessity for survival. Besides this, it is also used for many other purposes like cleaning, washing, bathing and in factories. In order to have proper access to water for domestic needs, water conservation and water resources management issues have come to the fore and have been acknowledged by world and unilateral development and natural resources organizations and bodies. To be sure, the importance of water has been recognized and their more equitable distribution to all segments of the world population has been emphasized.

1.2 Water Wasters

- Leaving the tap open: You waste gallons of clean, usable water when you keep the tap running unnecessarily. Personal hygiene (brushing your teeth, washing your face, shaving) and kitchen chores like hand-washing dishes and cleaning the kitchen. Always turn off the tap when it's not in use, and soak dishes and pans to cut down on wash time and water usage.

- Long Showers: Taking long showers wastes five to 10 gallons of water as there is continuity of flowing water. You can invest in a low-flow shower head, aim for quick showers or simply bathe using a bucket and pail. A water-efficient shower head can help save nearly 750 gallons of water a month.
- Lawn Sprinklers: In the garden, lawn sprinklers are used to water the plants. Lawn sprinklers consume 265 gallons (1,000 liters) an hour. However, if you use a simple bucket and sponge to scrub the car, it will not just get your car clean, but will also give you some good exercise while saving water.
- Washing Cars: While washing our cars, we use a pipe to do so, which wastes a lot of water. A home car wash can go through 80 to 140 gallons (300 to 530 liters) of water, whereas a wash at one of its garages will take about 30 to 45 gallons (115 to 170 liters).
- Leaky Faucets: Not all leaks are easy to spot. Even if a faucet isn't dripping, there may be leaks around the base of the spout, which can be caused by a cracked or worn-out O-ring. Check under the sink too, where loose connections to the water supply and drain can cause leaks in less noticeable places. Leaks of all kinds account for at least 10 percent of household water waste. So, take a little time to track down the hidden leaks in your house.

1.3 Need of the study

The need of the hour is to educate tomorrow's leaders about water conservation. When children are trained to save and use water economically, they can help to reduce water wastage now and in the future. They will be able to do more daily activities with less amount of water, and these good habits will become a way of life for them. The present research tackles and highlights the wrong usage of water by the school going children of National English School, ICSE in the area of Virar and provides them with the methods, technique, and initiatives that are implemented in the appropriate usage of water. This research aims to provide guidelines to facilitate the students to manage water responsibly.

1.4 Objectives of the Research

Every research has some objectives. In general, research objectives describe what we expect to achieve through the study. Research objectives can serve to guide the activities of research. The objectives of this research are:

- (i) To study the level of awareness among the students regarding water management.
- (ii) To find the water management practices used by the students.
- (iii) To encourage students to replace habits of wasting water with that of responsible use of water.

1.5 Sample chosen for the research:

Sample of the research is an important aspect of any study. The sample for the research was a convenience sample. Convenience sampling is a type of sampling in which people are chosen simply because they are convenient sources of data for researchers. The sample in this study consisted of 13 participants. Since all were from the same class they all belonged to the age group of between 12 to 14 years of age.

Locale of research

The sample for the research was chosen from the National English School, ICSE in the area of Virar. This is a semi urban area wherein people utilize many sources of water. There are many water bodies like ponds, lakes, wells, creeks and Pelhar dam in the vicinity. Here people use the water from these for their daily use. Much of the water found in these water bodies is salty water which is not drinkable. The water received by the BMC is scarce and people struggle to manage this drinking water. All these factors were kept in mind while planning the research activities of the present study.

The present Action Research is in the form of an Experimental Study. In this case the design is a one group Pre-Test, Post –Test Type of Design and is schematically depicted as, O1 X O2 Where, O1 is the administration of a tool designed to ascertain the water management practices followed by the participants prior to the action, X stands for the programme designed to generate awareness regarding practices for Water Management, O2 is the administration of a tool to ascertain the water management practices followed by the participants post action done by the researcher.

Tool used for the present Research

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In this action research the researcher has used a checklist to gather data regarding water management practices followed by participants. The rating scale had 10 statements and each statement could be responded to on a five point scale with options as not at all, rarely, sometimes, often, very often. Ten open ended questions were included. To prepare this tool, the researcher posted some questions on a collaborative chat group created by the guide. Other student- researchers also posted questions. These were examined by the guide and suggestions were offered. The collaboration helped the researcher to identify significant questions and thus finalize the tool.

II. METHODOLOGY OF THE RESEARCH

An action research makes use of a plan of action. This plan has to be systematically drawn so that it ensures smooth working during the implementation stage.

Plan of Action

1. Administering the tool to ascertain water management practices used by students and their awareness regarding water management.

At the beginning, the students were informed that the teacher shall be conducting a test for them in the form of a checklist where they were instructed to tick the option to the given statements with honesty. The teacher distributed the pre-test tool to all the students and asked them to fill in the given details on the tool/checklist which was provided to them. Once all the details were filled, the teacher instructed the students about the statements and the options provided. After the instructions, students were given a few minutes to answer the checklist. Also during the test, the teacher cleared out doubts of the students who had difficulty in understanding and answering certain statements. The pre-test tools were collected once the time was up and then a short session on water management was conducted.

Any research study involves analysis of the data. This helps to draw meaningful inferences. In this action research pre action data was collected through a tool which included a rating scale of 10 statements. The post action data was in the form of a post-test to find how the inputs have helped the participants to make lifestyle changes.

Interpretation of the data

Before the students were taught strategies for water management the average score was 32.76 and after the action, the average score was 39.23. Percent increase in the Water Management skills is 06.47% There is a moderate change in the water management skills of the students. From the bar graph we can clearly see that the post test score is higher than the pretest for all the sample units. The percentage increase in water management is 06.47% which means there is considerably low change in the water management skills of the students.

III. CONCLUSIONS OF THE STUDY

The action research on awareness regarding water management has left the researcher with some valuable insights. A gist of these is provided below:-

IV. FINDINGS

According to the students, water wasters made students waste a lot of water unnecessarily every day. Had they been careful in their usage of water, they would have saved a lot of water.

V. SUGGESTION

The researcher feels that the children spend much of their time at home. Hence, the following programmes could be carried out at home to help them manage water in a better way.

1. Involve the children in the decision-making
2. Make them aware of the water supply
3. Teach them not to waste water
4. Talk to them about saving rainwater
5. Take them for a tree planting drive

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