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ROLE OF SCIENTIFIC TEMPERAMENT IN RESOURCES CONSERVATION

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Abstract:

With its spiritual background and fearless search for truth, Indian thought has developed Scientific temperament on the basis of solidarity and divinity of everything living and also free and cooperative development of individuals and species, as compared to the Western world where Science is yet to bring real temper to create harmony and higher stages of human growth. Scientific temperament is a way of life - an individual and social process of thinking and acting – using scientific methods, which may include questioning, observing physical reality, testing, hypothesizing, analyzing, and communicating. Such an attitude of scientific temperament leads one to critically think about everything around and find ways for best and optimal uses of resources. This paper examines the possibilities of a few ways of conservation of some components of environment such as water and electricity as discussed by some B.Ed. students. The topic of conservation of water and electricity were given to them for group discussion. Both of these resources are limited, hence their conservation is important.

Keywords: *Scientific temperament, resources, conservation*

Introduction:

According to the constitution of India, development of scientific temperament is in fundamental duties of every Indian citizen. Science has given us vast knowledge, and has brought us immense power. But it is man who uses that knowledge and man who exercises that power. Science is neither good nor evil. But man is a moral being, and on his choice depends the course of science and the future destiny of humanity. Indian thought has developed scientific temperament on the basis of solidarity and divinity of everything living and also free and cooperative development of individuals and species, with its spiritual background and fearless search for truth as compared to the Western world.Scientific temperament should be strengthened and diffused widely in our society. In some sense, Scientific Temperament can be equated to application of the scientific method based on logic and evidence. The role of teacher in inculcating scientific temper in

students includes developing sense of curiosity and questioning, developing capacity of reasoning and thinking and bring students out of superstition by reasoning and experimentation.

Definitions:

Scientific Temperament: Scientific temper describes an attitude which involves the application of logic, Discussion, argument and analysis

Resources: A **resource** is a source or supply from which benefit is produced. Typically resources are materials, energy, services, staff, knowledge, or other assets that are transformed to produce benefit and in the process may be consumed or made unavailable. Benefits of resource utilization may include increased wealth, meeting needs or wants, proper functioning of a system, or enhanced well-being. From a human perspective a natural resource is anything obtained from the environmentto satisfy human needs and wants. From a broader biological or ecological perspective a resource satisfies the needs of a living organism. In the context of present paper, the meaning of resource is a source such as water and electricity that comforts and satisfies the human needs.

Conservation:

A source of supply, support, or aid, especially one that can be readily drawn upon when needed. It also means preserving, guarding, or protecting; making wise use

Objectives:

The main objectives of this piece of work were as follows-

- To observe modalities followed by each group during group discussion
- To identify the unique points discussed and presented
- To look for creative or novel ideas of conservation of the resources through discussion

Methodology:

All B.Ed students 54 in number were divided into two groups-Group A and Group B. There were 27 students in each group. They were asked to select one member as a group leader. Two group leaders then were asked to pick up a slip of paper having topic of discussion on it. Accordingly Group A

had water as a topic for group discussion and Group B had Electricity as a topic for group discussion. Each group was given the same time that is thirty minutes for discussion. Each group was asked to record all the points discussed on a piece of paper. They were then presented to all. The group leaders were asked to monitor their own group for time management, healthy discussion and recording the points emerged. Each group was asked to have a focus on conservation of the given resource.

Observation:

The researchers observed that the groups followed all instructions clearly and presented the points emerged in discussion systematically. These points were as presented below-

Time Management: Each group leader monitored that the time allocated was managed properly. Each leader also confirmed that all the members of a group were participating. Each member's views were properly listened to. Recording of points was done simultaneously.

Presentation: Presentation of each group was okay; however, group A was found to be more organized. Their views presented were based on proper questioning, their own experiences, analyzing and logical reasoning. All the elements essential for scientific temperament were seen in this group. Group A was heterogeneous as some were from science background, some from arts stream and some from commerce side. In group B the members were fairly homogenous as most of them were from science faculty.

Argumentation: Group A was better in arguing while convincing the points to other members of the group as compared to group B.

Reasoning and explanation: The reasoning, thinking and explanation of the natural phenomena were of more scientific nature in case of group A.

Results and Discussion:

The results and discussion here is based not on, "How" but on, "What" aspect of the task given. Their examples and explanation were based on their own experiences. Hence each groups' findings have been presented in the following paragraphs-

Group A

The group advanced following points about conservation of water as a resource material-

- People from village background are of the opinion that water stored in a pot becomes stale by the following day. So it should be thrown and should be replaced by fresh one. Even in cities some families are habituated to do the same. But we as students having studied science up to secondary level at least feel that the more we use stored water, the more it gets aerated by the container we use to take it out of pot. Such aerated water tastes better and is rich in oxygen content. So it should not be thrown, rather it should be used, till it gets finished up. Water never gets staled.
- At public places when people drink water with the help of glass, they wash the glass first and then drink water. Such washing of glass every time leads to sufficient wastage of water. That becomes mis- use of water. What people should do is they should not touch the glass to their lips; instead they should quench thirst by throwing it to their throat.
- In cities the people use plenty of water for car wash. It is also wastage. The washers should take little water in bucket and then use it with mop/duster for car wash. Also for cleaning interior, they should use sweeping rather than hose pipe.
- After washing the clothes, water should not be drained out. It should be used to clean courtyard or for watering the plants.
- The smokers should not flush away the residuals of cigarette in toilet bowl. In a way they should make use of dust bins and thus conserve water other wise to be used for flushing.

Group B

The group advanced following points about conservation of electricity as a resource material-

- In public places, the last person leaving out the room should check to switch off lights and fans/coolers/AC instead of leaving them unattended.

- Electrical devices that need boost up or starting time should not be switched off again and again as every time they will consume more amount of electricity than the one used up while they are on.
- The traditional electric bulbs should be replaced by CFL. (Now CFL also is to be replaced by LED)
- Devices with speed regulators should be used with optimum and not maximum speed.
- People should try to make use of solar energy as much as possible.

Both the groups also mentioned other conventional methods of conservation. However, only five of them have been presented here as mentioned above.

From these presentations it was found that these students were aware of resources, their optimum utility and their conservation.

The objective-wise findings have been recorded as follows-

Objective: To observe modalities followed by each group during group discussion

The modalities followed by each group during discussion indicated that members of both the groups discussed the issue at hands scientifically as they were reporting their observations and experiences with the topic at hand. They were also able to understand and analyze the situation/s and the ways to control the same.

Objective: To identify the unique points discussed and presented

The members of each group were discussing the issues and points at hand with proper understanding, listening to others' views and advance their own points. The members were also able to communicate their own views amicably. The recording and group presentation was also to the mark.

Objective: To look for creative or novel ideas of conservation of the resources through discussion

The idea of preserving water at public places, for car wash, for cleaning was innovative. This was possible through understanding, discussion, analysis of situation and discussion for supporting points etc. These gave the

researchers an impression that the groups presented novel ideas for conservation of resources considering the background of knowledge and experiences they have.

Conclusion:

From their own observations, members' discussion and reporting, the researchers could conclude that -

- The B.Ed. students learnt about how group discussions are to be conducted.
- How resources around us are scarce and hence costlier and how they are to be cared.
- The judicial use of these resources would help us conserve them such that at times of need, they could be made available.

Suggestions:

From the observations of the activity the researchers would like to make some suggestions as indicated below-

- To create open mindedness among students, Teacher should use problem solving method. By organizing science clubs in which the student study more about different scientists and their discoveries, thus leading to better understanding that science is for the benefit of man and not merely for destruction.
- Teacher should create capacity of application in students.
- The students should develop scientific approach.
- They should also develop a capacity to change previous conclusions. Scientific temperament would also help developing creativity.

To close finally, and as indicated by Jawaharlal Nehru it could be said that the scientific temperament goes beyond objectivity and fosters creativity and progress. For this the curriculum needs to be reframed, the teachers need to be specially trained and students should be opportune to make use of situation. This is not only to foster scientific temperament but also to assist them to solve problems in future life.

References:

- Best, John, and Kahn V. James (2012): *Research in Education,10th ed,* New Delhi Prentice Hall of India Pvt.Ltd.
- Woolfolk, Anita. (2004): *Educational Psychology,* 9thed, Boston.

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