



Development of a Package on Environmental Sensitivity for Minimizing Misapprehensions towards Eco-Sensitive Zones among Secondary School Students

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ABSTRACT

Environmental conservation has become a critical global priority, and eco-sensitive zones (ESZs) play a vital role in protecting biodiversity and maintaining ecological balance. However, misconceptions and lack of awareness about these zones among the younger generation often lead to negative attitudes and resistance towards conservation efforts. The present study focuses on the development of an educational package on environmental sensitivity aimed at minimizing misapprehensions towards eco-sensitive zones among secondary school students.

Education is the process of instruction aimed at all round development of students. It wipes out ignorance and improves moral values in individuals (Anderson and Hidi, 1988). Environmental sensitivity is the ability to be aware of and understand the environment, including ecosystems, and to recognize the impact of human actions on the natural world. It plays a crucial role in removing ignorance about ecosystems by fostering a deeper connection and appreciation for the environment.

. Environmental sensitivity is being prepared to make real attempts against ecological problems. Development of the environmental sensitivity in individual can be possible through hovering the level consciousness and raising the level of awareness can be conceivable through environmental education.

Ecologically Sensitive Zones (ESZ) are the areas designated to protect the biodiversity and conservation of natural habitats for specific species. Wetlands and sacred groves are often included in protected areas due to their ecological and cultural significance. Wetlands play a critical role in maintaining

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many natural cycles and supporting a wide range of biodiversity. It purifies and replenishes our water, and provides the fish and rice that feed billions.

Misapprehension is a failure to understand something, or an understanding or belief about something that is not correct. Students usually develop misconceptions as a result of their own interpretations or from some contradictory explanations in school or out of school environments in early periods of their school years. Many students to have misapprehensions or misconceptions about eco-sensitive zones. Addressing these misapprehensions requires effective environmental education that provides accurate and comprehensive information about Eco-Sensitive Zones.

Hence present study is an effort in this direction to provide an insight into errors and misconceptions held by the students of the secondary school level. The focus of the present study is to find out the various misapprehensions towards Eco-Sensitive Zones such as Wetlands and Sacred Groves with a purpose to identify errors and misconception about it and minimizing it.

OBJECTIVES OF THE STUDY

- ❖ To develop a package on Environmental Sensitivity for minimizing Misapprehensions towards Eco-Sensitive Zones among Secondary School Students.
- ❖ To find out the effectiveness of the Package on Environmental Sensitivity for minimizing the Misapprehensions towards Eco-Sensitive Zones among Secondary School Students.

HYPOTHESES OF THE STUDY

- ❖ The secondary school students have Misapprehensions towards Eco-Sensitive Zones.
- ❖ The developed instructional package is effective for minimizing misapprehensions towards Eco-Sensitive Zones among Secondary School Students.

METHODOLOGY

In the present study, experimental method is used.

POPULATION

In the present study, whole Secondary School Students following Kerala State Syllabus were taken as the population.

SAMPLE SELECTED FOR THE STUDY



The sample comprises of 40 students from secondary school level following Kerala State Syllabus in Kollam District.

STATISTICAL TECHNIQUES USED FOR THE STUDY

- Arithmetic Mean
- Standard Deviation
- Paired sample t-test

ANALYSIS AND INTERPRETATION

Descriptive statistics for pretest and post-test Scores on Misapprehensions towards Eco-Sensitive Zones among Secondary School Students

Table (a) *Pre-Test scores on Misapprehensions towards Eco-Sensitive Zones among Secondary School Students.*

Group	Number of students	Mean	Median	Mode	Standard Deviation
Experimental	40	9.575	9.5000	9.00	2.480

From table (a), it's observed that the pre-test results of the experimental group showed a mean score of 9.575, with a median of 9.5 and a mode of 9, indicating that most students scored around this level. The standard deviation of 2.480 reflects moderate variation in scores. Overall, the findings suggest that students had a generally low level of understanding and notable misapprehensions regarding Eco-Sensitive Zones such as wetlands and sacred groves.

Descriptive statistics for post-test scores on Misapprehensions towards Eco-Sensitive Zones Among Secondary School Students

Table (b) *Post-Test scores on Misapprehensions towards Eco-Sensitive Zones among Secondary School Students.*

Group	Number of students	Mean	Median	Mode	Standard Deviation
Experimental	40	25.500	26.000	27.00	2.592

From table (b), it can be seen that the post-test results of the experimental group showed a high mean score of 25.5, with a median of 26 and a mode of 27, indicating that most students performed at a higher level.

The standard deviation of 2.592 reflects moderate variation in scores. Overall, the findings suggest a significant improvement in students' understanding and a reduction in misapprehensions regarding Eco-Sensitive Zones such as wetlands and sacred groves.

Test of significance difference between the pretest and post-test mean scores on Misapprehension towards Eco-Sensitive Zones among Secondary School Students

Table (c)

Test of significance for difference between the mean pretest and post-test scores on misapprehension towards eco-sensitive zones among Secondary School Students.

Test	Number of samples	Mean	Standard deviation	t-value	Degrees of freedom	P value	Result
Pre- Test	40	9.575	2.480	24.395	39	0.000	Significant
Post- Test	40	25.500	2.592				

The tale (c) shows that, the obtained 't' value (24.395) is greater than the table value (2.023) at the 0.05 level of significance, indicating a significant difference between pre-test and post-test mean scores.

The higher post-test mean score (M = 25.500) compared to the pre-test mean score



($M = 9.575$) shows improved student performance. This suggests that the developed instructional package was effective in reducing misapprehensions towards Eco-Sensitive Zones among secondary school students.

MAJOR FINDINGS OF THE STUDY

The major findings that emerged from the present study are the following:

Findings based on the Mean value and Standard Deviation of the pretest scores

1. The pre-test results revealed that the majority of students obtained a low mean score (Mean = 9.575; SD = 2.480).
2. The low mean value indicates that most students had significant misapprehensions regarding Eco-Sensitive Zones.
3. Misconceptions were particularly evident in areas related to wetlands and sacred groves.
4. These findings suggest that students had inadequate understanding and incorrect perceptions about Eco-Sensitive Zones prior to the intervention.

Findings based on the effectiveness of Package on Environmental Sensitivity for minimizing Misapprehensions towards Eco-Sensitive Zones among Secondary School Students

The findings based on the effectiveness of Package on Environmental Sensitivity for minimizing Misapprehensions towards Eco-Sensitive Zones among Secondary School Students were given below:

Analysis of the test of significance for difference between the mean pretest and post-test scores on Misapprehension towards Eco-Sensitive Zones of Experimental Group.

1. The second objective of the study was to determine the effectiveness of the Environmental Sensitivity Package in minimizing misapprehensions towards Eco-Sensitive Zones among secondary school students.
2. The data were analysed using a paired sample t-test to compare pre-test and post-test scores.
3. The obtained 't' value (24.395) was significantly higher than the table value (2.023) at the 0.05 level of significance.
4. This indicates that there is a statistically significant difference between the pre-test and post-test mean scores of the experimental group.
5. The post-test mean score ($M = 25.500$) was considerably higher than the pre-test mean score ($M = 9.575$).
6. The higher post-test scores show that students performed much better after the intervention.



7. The results clearly indicate that the developed instructional package was effective in reducing misapprehensions towards Eco-Sensitive Zones.
8. Therefore, it can be concluded that the Environmental Sensitivity Package had a positive impact on students' understanding and helped minimize their misconceptions.

SCOPE OF THE STUDY

Misapprehension on Eco-Sensitive areas occur among students because each student has different ideas, knowledge levels and experiences of different phenomena. Sensitivity refers to developing relations with the world and the events and developing responsibility about them. Individual live in an environment of which they are inseparable part. Therefore, individual should have relation to their environment and be sensitive to each ingredient of the environment. Therefore, it's very significant that awareness of students about sensitivity values should be improved. Misunderstanding and misconceptions about Eco-Sensitive Zones or areas particularly Sacred groves and Wetlands in the mind of coming generations need to be removed. This package is an effective road map for enhancing the environmental sensitivity among students and thereby making them realize and understand the need and responsibility to save Eco-Sensitive Zones.

This study also proved that the Instructional Package on Environmental Sensitivity is more effective in minimizing Misapprehensions towards Eco-Sensitive zones among Secondary School Students. So, the similar instructional package can be used for raise awareness about the significance of Eco-Sensitive Zones in preserving biodiversity, maintaining ecological balance, and safeguarding delicate ecosystems. The findings of the study have relevant implication in the field of education as well as our society.

- ❖ The major contribution of the study is the Development of a Package on Environmental Sensitivity for minimizing Misapprehensions towards Eco-Sensitive Zones among Secondary School Students.
- ❖ It is evident from the analysis, the package on Environmental Sensitivity it can be effectively used for minimizing Misapprehensions towards Eco-Sensitive Zones such as Wetlands and Sacred Groves.
- ❖ The outcomes of the study can contribute to the broader field of Environmental Education Research, providing insights into effective strategies for minimizing misconceptions and promoting Environmental Sensitivity among Secondary School Students.
- ❖ The present study likely extends to interdisciplinary learning, as students explore various subjects like biology, geography, ecology, and social studies through the lens of Eco-Sensitive Zones. This holistic approach can foster a comprehensive understanding of the interconnectedness between the environment and different aspects of human life.



- ❖ This study also proved that innovative techniques will enhance the effectiveness of teaching process which will help the teachers to teach contents in their own ways.
- ❖ The curriculum framers can bring provision for extra community activities and practical classes for students to make them more committed towards the society.
- ❖ The study's findings can potentially lead to the integration of Eco-Sensitive Zone topics like Wetlands and Sacred Groves into the Secondary School Curriculum, fostering a more comprehensive and environmentally conscious education for students.
- ❖ The study's implications extend to societal and political spheres as students become more knowledgeable advocates for sound environmental policies and regulations.
- ❖ Teachers can utilize this package as a tool to create dynamic and stimulating learning environments, encouraging students to think critically and actively participate in discussions related to Environmental Education.
- ❖ The accurate knowledge gained through the instructional package can encourage responsible ecotourism and recreational activities around eco-sensitive zones. This can lead to a boost in local economies while ensuring the protection of these areas.

CONCLUSION

The study concludes that the developed Environmental Sensitivity Package was effective in minimizing misapprehensions towards Eco-Sensitive Zones among secondary school students. The significant improvement in post-test scores indicates that the learner-cantered and interactive approach of the package successfully enhanced students' understanding, particularly regarding wetlands and sacred groves. The intervention played a crucial role in correcting misconceptions and promoting environmental awareness, thereby fostering a more informed and environmentally responsible student community.

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