



A Study on the Effectiveness of Dramatic Teaching methods in Enhancing the Science Achievement of Secondary School Students

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Abstract

The present study was conducted to examine the effectiveness of the Dramatic Teaching Method in enhancing the science achievement of secondary school students. The objectives of the study were to assess students' science achievement before the implementation of the Dramatic Teaching Method, to implement the method in science teaching, and to compare the pre-test and post-test scores of the students. An experimental research method with a one-group pre-test-post-test design was adopted for the study.

The population consisted of all Grade IX (9th Standard) students studying in secondary schools of Shirpur Tehsil. A purposive sampling technique was used to select a sample of 50 students. A researcher-developed Science Achievement Test based on the Grade IX Science textbook, carrying 50 marks, was used as the research instrument. The Dramatic Teaching Method served as the experimental treatment. The collected data were analyzed using Mean, Standard Deviation, and the paired sample *t*-test.

The findings revealed that the mean score of the students increased from 23.96 in the pre-test to 29.63 in the post-test. The obtained *t* value (6.99) was greater than the table *t* value (2.00) at the 0.05 level of significance. Therefore, the null hypothesis was rejected, indicating a significant difference between the pre-test and post-test scores.

The study concluded that the Dramatic Teaching Method was effective in improving the science achievement of secondary school students. The findings suggest that science teachers should adopt learner-centred, activity-based, and technology-supported instructional strategies, including dramatization and AI-assisted teaching tools, to make science learning more engaging and effective.

Introduction

Science is one of the most important subjects in the school curriculum because it helps students understand the natural world and develop scientific knowledge, critical thinking, problem-solving, and decision-making skills. Effective science education not only improves academic achievement but also prepares students to apply scientific concepts in their daily lives. Therefore, the quality of science teaching plays a vital role in achieving educational objectives. In many classrooms, science is still taught mainly through the traditional lecture method, where students remain passive listeners. Such an approach may reduce students' interest, participation, creativity, and conceptual understanding. To overcome these limitations, teachers need to adopt innovative, learner-centred, and activity-based teaching methods that actively involve students in the learning process.

The Dramatic Teaching Method is an innovative instructional approach that uses role play, dramatization, dialogue, and classroom activities to present scientific concepts in an interesting and meaningful way. This method encourages students to participate actively, improves communication and collaboration, enhances understanding of abstract concepts, and increases motivation towards learning science. By engaging students in real-life situations and interactive experiences, the Dramatic Teaching Method helps make science learning more enjoyable and effective.

Considering the importance of innovative teaching strategies, the present study was undertaken to examine the effectiveness of the Dramatic Teaching Method in enhancing the science achievement of secondary school students. The study compares students' achievement before and after the implementation of the Dramatic Teaching Method to determine its impact on science learning. The findings of the study are expected to provide useful guidance for science teachers in adopting more effective, learner-centred, and technology-supported teaching practices to improve students' academic achievement.

Statement of the Problem

To Study the Effectiveness of Dramatic Teaching methods in Enhancing the Science Achievement of Secondary School Students.

Objectives

To assess the level of science achievement among secondary school students before the implementation of the Dramatic Teaching Method.

To implement the Dramatic Teaching Method in teaching science to secondary school students.

To compare the pre-test and post-test scores of secondary school students to determine the effect of the Dramatic Teaching Method on their science achievement.

Hypothesis

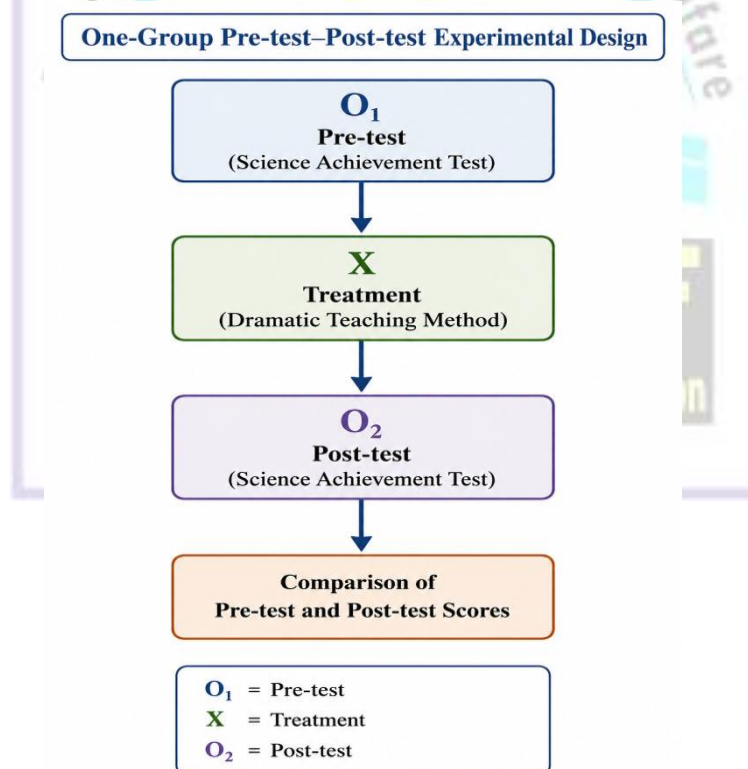
There is no significant difference between the mean pre-test and post-test scores of secondary school students in science achievement after the implementation of the Dramatic Teaching Method.

Research Methodology

Research Method: The present study employed an experimental research method to examine the effectiveness of the Dramatic Teaching Method on students' science achievement.

Population and Sample: The population of the study consisted of all 9th Std. students enrolled in secondary schools in Shirpur Tehsil. A purposive sampling technique was used to select the participants. The final sample comprised Fifty 9th Std. students.

Research Design: The study followed a one-group pre-test–post-test experimental design.



Research Tools-

Science Achievement Test: The primary research instrument used in the present study was a Science Achievement Test developed by the researcher based on the Grade IX (9th Standard) Science textbook. The test consisted of items covering the prescribed science content and carried a maximum score of 50 marks. It was administered as both the pre-test and the post-test to measure students' science achievement before and after the intervention.

Dramatic Teaching Method: The Dramatic Teaching Method served as the experimental intervention in the study. The researcher implemented this teaching method while teaching selected science topics to the students with the objective of enhancing their science achievement. The effectiveness of the method was evaluated by comparing the students' pre-test and post-test scores.

Statistical Tools for Data Analysis

In the present study, the following statistical tools were used for the analysis and interpretation of the collected data:

Mean (M): The mean was used to determine the average scores of students' science achievement in the pre-test and post-test after the implementation of the Dramatic Teaching Method.

Standard Deviation (SD): The standard deviation was used to measure the variability and dispersion of the students' science achievement scores around the mean.

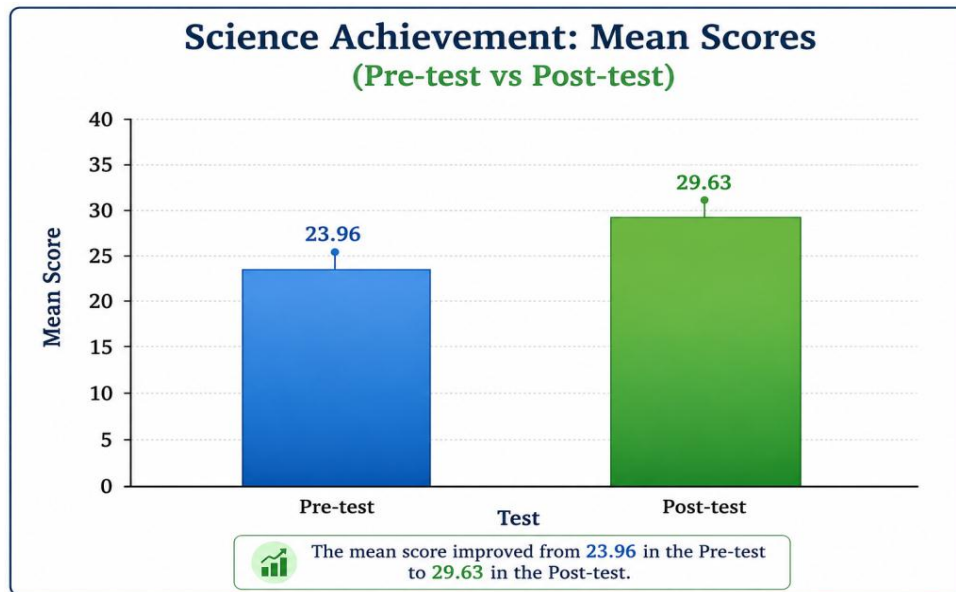
't' Test: The paired sample 't' test was employed to determine whether there was a statistically significant difference between the pre-test and post-test mean scores of students' science achievement after the implementation of the Dramatic Teaching Method.

Data Analysis and Interpretation

There is no significant difference between the mean pre-test and post-test scores of secondary school students in science achievement after the implementation of the Dramatic Teaching Method.

Table no. 01

Science Achievement	No.	Mean	SD	Table 't' value	Obtained 't' Value	Accepted/ Rejected
Pre-test	50	23.96	4.12	2.00	6.99	Rejected
Post-test	50	29.63	3.98			



Analysis and Interpretation-

Table 1 shows that the mean score of the students in the pre-test was 23.96 with a standard deviation of 4.12, whereas the mean score in the post-test increased to 29.63 with a standard deviation of 3.98.

The calculated 't' value (6.99) is greater than the critical table 't' value (2.00) at $df = 98$ and the 0.05 level of significance. Therefore, the null hypothesis is rejected.

The findings reveal a statistically significant difference between the pre-test and post-test mean scores of secondary school students' science achievement following the implementation of the Dramatic Teaching Method.

Since the post-test mean score (29.63) is higher than the pre-test mean score (23.96), it can be concluded that the Dramatic Teaching Method was effective in improving the science achievement of secondary school students.

Finding

There is significant difference between the mean pre-test and post-test scores of secondary school students in science achievement after the implementation of the Dramatic Teaching Method. (The Dramatic Teaching Method was effective in improving the science achievement of secondary school students.)

Discussion

The findings of the study indicate that the Dramatic Teaching Method significantly improved the science achievement of secondary school students. The higher post-test mean score compared to the pre-test mean score shows that this method enhanced students' understanding and interest in learning science. Therefore, teachers should not depend only on the traditional

lecture method. They are encouraged to use learner-centred approaches such as dramatization, role play, experiments, group activities, and AI-supported teaching tools to make science learning more interactive, effective, and engaging.

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