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Psychological Impact of a New Teaching Method on Students' Academic Achievement: An Experimental Study

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Abstract: ***In the field of education, the use of various teaching methods to enhance students' academic achievement is increasing. It is important to examine whether new teaching methods are more effective than traditional methods in influencing students' psychological, intellectual, and academic development. The objective of the present study was to examine the psychological impact of a new teaching method on students' academic achievement. A sample of 30 students from Grade 10 was selected, and they were given special training for 15 days. An achievement test prepared by the researchers was used to measure students' academic performance. Statistical analysis included Mean, Standard Deviation (SD), Independent Samples t-test, and Cohen's d effect size. The findings revealed that the new teaching method resulted in a statistically significant improvement in students' academic scores ($t(28) = 3.20$, $p < 0.01$). The effect size (Cohen's $d = 0.90$) indicated a large practical impact. The mean score of the experimental group (Mean = 60) was higher than that of the control group (Mean = 50), demonstrating the effectiveness of the new method. The study concludes that new teaching methods are beneficial for students' academic progress. Teachers should incorporate such methods to enhance students' knowledge, understanding, and psychological development. This study provides useful guidance for future research in education and educational psychology.***

Keywords: New Teaching Method, Academic Achievement, Psychological Impact, Grade 10 Students, Training Program, Independent t-test, Cohen's d, Effect Size

I. INTRODUCTION

In the field of education, various teaching methods are increasingly being used to improve students' academic achievement. From a psychological perspective, systematic training and effective teaching methods play a crucial role in the learning process. It is necessary to examine how new teaching methods influence students' mental and intellectual development compared to traditional methods. The present study aims to investigate the psychological impact of a new teaching method on students' academic achievement. A 15-day special training program was implemented to determine whether it improves students' knowledge and understanding.

II. REVIEW OF RELATED LITERATURE

Several educational psychologists have emphasized that teaching methods influence students' cognitive, emotional, and social development (Santrock, 2011). Cohen (1988) highlighted the importance of effect size in understanding the practical significance of statistical differences. Slavin (2018) stated that training programs and innovative teaching methods enhance student motivation and learning quality. Therefore, integrating modern techniques and methods into education is essential.

III. SIGNIFICANCE OF THE STUDY

Understanding the psychological impact of teaching methods is essential for improving educational quality. This study helps in identifying effective teaching strategies for enhancing students' academic progress and provides guidance for teachers in designing training programs.

IV. RESEARCH GAP

Although many studies have been conducted on teaching methods, limited research has been carried out in Marathi medium contexts on Grade 10 students after a 15-day training program. Furthermore, studies measuring impact using effect size are limited.

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V. METHODOLOGY

A. Objectives

1) To measure the impact of the new teaching method on academic achievement of Grade 10 students.
2) To examine differences in academic scores after a 15-day training program.
3) To analyze the practical significance of results using effect size.

B. Hypotheses

H0: The new teaching method has no significant psychological impact on students' academic achievement.
H1: The new teaching method has a significant psychological impact on students' academic achievement.

C. Rationale of the Study

To improve students' academic performance, it is necessary to explore more effective teaching methods. This study contributes to positive psychological changes in education.

D. Sample

1) Total Students: 30
2) Class: Grade 10
3) Sampling Technique: Convenience Sampling

E. Variables

1) Independent Variable: New Teaching Method
2) Dependent Variable: Academic Achievement

F. Operational Definitions

New Teaching Method: A 15-day special training program incorporating principles of educational psychology.
Academic Achievement: Scores obtained by students in the achievement test.

G. Tool

An achievement test prepared by the researchers, consisting of curriculum-based questions.

VI. RESEARCH DESIGN

An experimental research design was used. Students were divided into two groups:

1) Control Group: Traditional teaching method
2) Experimental Group: New teaching method

VII. TRAINING PROGRAM

The experimental group received 15 days of training using psychologically effective teaching methods.

VIII. STATISTICAL ANALYSIS

1) Mean and Standard Deviation were calculated.
2) Independent Samples t-test was used to compare groups.
3) Cohen's d was calculated to determine effect size.

IX. RESULTS

Group	Mean	SD	n
Control Group	50	10	15
Experimental Group	60	12	15

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Independent Samples t-test:
$t(28) = 3.20$, $p < 0.01$
Cohen's $d = 0.90$ (Large Effect)
The experimental group scored significantly higher than the control group.

X. DISCUSSION

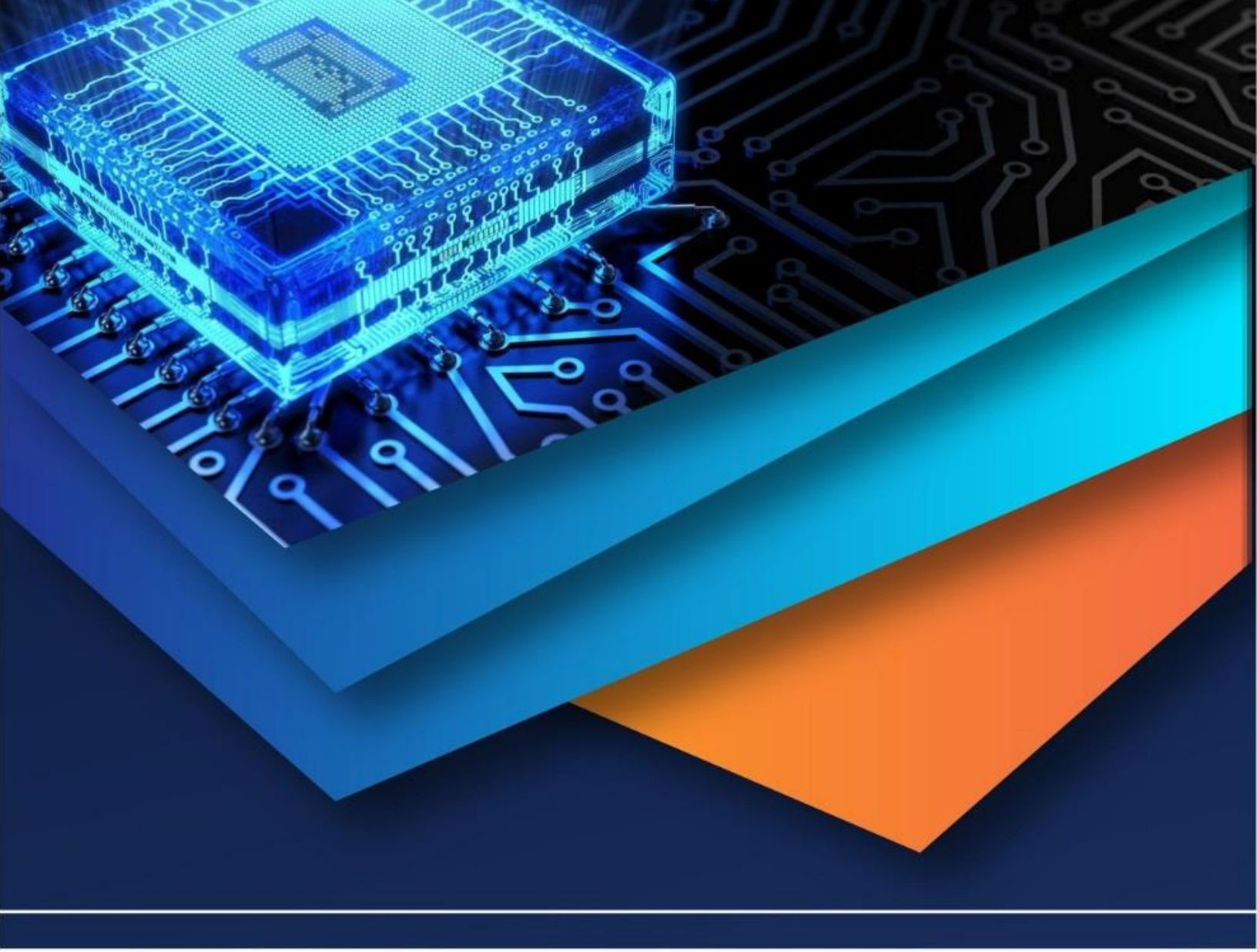
The findings indicate that the new teaching method significantly improved students' academic achievement. Based on the effect size, the difference is not only statistically significant but also practically meaningful. Therefore, innovative teaching methods are psychologically beneficial.

XI. CONCLUSION

The new teaching method is effective in improving students' academic achievement. The 15-day training program had a significant psychological impact. Increased implementation of such methods can enhance educational quality.

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