

Volume 1 Issue 1 June 2024

ISSN:_____



**JOURNAL OF PEDAGOGICAL INSIGHTS
& TECHNOLOGICAL ADVANCEMENTS**

A PEER REVIEWED BI-ANNUAL ACADEMIC JOURNAL



PUBLISHED BY
M.I. TRAINING COLLEGE
PONNANI, MALAPPURAM, KERALA
www.mitc.ac.in

Title of the Journal:

Journal of Pedagogical Insights & Technological Advancements

ISSN:

____/____

Frequency:

*Bi-annual
June & January*

Publisher:

*M.I. Training College
Ponnani
Malappuram
Kerala*

Journal Website:

<https://jpita.mitc.ac.in>

Contact:

*Mobile: 8907162762
Email: principal@mitc.ac.in*

About the Journal

The *Journal of Pedagogical Insights & Technological Advancements* (JPITA) is a bi-annual, peer-reviewed academic publication dedicated to advancing research and knowledge in the fields of pedagogy and educational technology. JPITA provides a platform for educators, researchers, and academic professionals to explore innovative approaches, best practices, and cutting-edge developments that shape contemporary education.

The journal focuses on a broad spectrum of topics, including:

- **Pedagogical Research:** Exploring effective teaching methodologies, learning theories, and classroom management strategies that enhance student engagement and learning outcomes.
- **Technological Advancements in Education:** Analyzing the integration of emerging technologies, such as digital learning tools, AI in education, and the role of e-learning platforms in transforming traditional educational models.
- **Academic Innovations:** Highlighting new instructional designs, curriculum innovations, and interdisciplinary approaches that contribute to more adaptive and dynamic learning environments.
- **Educational Policy and Leadership:** Examining the impact of policy reforms, leadership strategies, and institutional changes on teaching and learning.
- **Learning Environments:** Studying how physical and virtual environments influence cognitive, social, and emotional learning.

Each issue of JPITA aims to provide cutting-edge insights into the latest trends and developments, bridging the gap between theory and practice. It welcomes contributions from scholars across the globe who are committed to driving forward the evolution of education in the 21st century.

JPITA is an essential resource for educators, school leaders, policymakers, and education technology developers seeking to stay informed about emerging trends and research in pedagogy and technological advancements.

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Editorial Note

It is with great enthusiasm and a deep sense of accomplishment that we present the inaugural issue of the *Journal of Pedagogical Insights & Technological Advancements* (J-PITA). This issue represents the collective efforts and dedication of our faculty members, who have not only contributed significant research but have also worked tirelessly to ensure the journal's successful launch.

In this first edition, we delve into critical areas of educational research, covering a broad spectrum of topics that address both current trends and challenges within the academic community. From the impact of gender on self-confidence and aggressive behavior to the exploration of goal orientation among commerce students, this issue is a testament to the diverse and dynamic research culture we cultivate at MITC.

The contributions in this issue include:

- **Silva P.** explores the goal orientation among higher secondary commerce students, bringing into focus how gender may play a role in their academic pursuits and career ambitions.
- **Ameen Farook U.K.** examines the impact of gender on self-confidence among secondary school students, particularly within Malappuram District, providing valuable insights for educators to develop more supportive environments.
- **Sabitha T.** investigates the relationship between critical thinking skills and achievement in Physics among higher secondary students in Thrissur District, offering a unique perspective on the academic success factors in STEM education.
- **Sheheena A.M.** analyzes self-esteem at the secondary school level, a foundational aspect of student development that shapes future academic and social interactions.
- **Muhamed Shareef N.M.** addresses students' commitment to democratic values, a crucial component of building informed and responsible citizens for the future.

- **Dr. Ramitha Rahman P.A.** brings forward a study on aggressive behavior among ninth standard students, highlighting the influence of gender and locale, and its implications for school climate and student well-being.

Each of these papers contributes to our understanding of the complex dynamics in education, presenting findings that are both insightful and actionable. It is our hope that this journal will not only serve as a platform for knowledge dissemination but also spark new ideas, collaborations, and innovations in pedagogy.

We extend our heartfelt gratitude to our esteemed authors and the dedicated editorial team for their unwavering commitment to academic excellence. We also express our sincere appreciation to our readers, whose interest and support will be instrumental in shaping the future trajectory of J-PITA.

As we embark on this exciting journey, we invite you to join us in advancing the field of education and to contribute to the conversations that will shape the future of teaching and learning.

Dr. Naseerali M.K.

Editor-in-Chief

Principal, M.I. Training College, Ponnani

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Citation:**APA:**

Sabitha, T. (2024). Relationship between critical thinking skill and achievement in physics among higher secondary school students in Thrissur district. *Journal of Pedagogical Insights & Technological Advancements*, 1(1), 16–23. Retrieved from <https://jpita.mitc.ac.in/2024/08/30/relationship-between-critical-thinking-skill-and-achievement-in-physics-among-higher-secondary-school-students-in-thrissur-district-by-sabitha-t/>

MLA:

Sabitha, T. "Relationship Between Critical Thinking Skill and Achievement in Physics among Higher Secondary School Students in Thrissur District." *Journal of Pedagogical Insights & Technological Advancements*, vol. 1, no. 1, 2024, pp. 16–23, <https://jpita.mitc.ac.in/2024/08/30/relationship-between-critical-thinking-skill-and-achievement-in-physics-among-higher-secondary-school-students-in-thrissur-district-by-sabitha-t/>.

Relationship Between Critical Thinking Skill and Achievement in Physics among Higher Secondary School Students in Thrissur District

Sabitha T.
Guest Lecturer
M.I. Training College, Ponnani

Abstract

This study reveals that the Relationship between Critical Thinking Skill and Achievement in Physics among Higher Secondary School Students. Sample of this study consists of 600 higher secondary school students in Thrissur district. The result of the study found out that there is a positive relationship between Critical Thinking Skill and Achievement in Physics among Higher Secondary School Students in Thrissur District.

Introduction

In today's classroom, critical thinking is an essential and significant subject. Teaching kids to think critically is something that interests all instructors. It is commonly acknowledged that critical thinking, or the capacity for purposeful, self-regulating judgement, is a necessary

talent for the information age. The majority of educators concur that one of the best objectives of formal education is teaching students how to think critically. This involves considering significant issues in academic fields like science, math, and history as well as the social, political, and ethical transformations that occur in day-to-day living in a multifaceted and progressively more complicated world.

The study of the smallest subatomic particles to the biggest galaxies in the universe, physics, the science of matter and energy, explores concepts of space, time, matter, energy, and radiation. It forms the foundation of the physical sciences. Physics has a huge impact on modern society in many different ways. Recent advances in areas like laser optics, miniature electronics, nuclear energy, and medical instruments are just a few examples.

In astronomy, the concepts of physics are used to the study of planets, stars, galaxies, and other celestial objects that are visible through telescopes. All material systems have some of the characteristics covered in physics classes, such as energy conservation. In physics, these characteristics are frequently referred to as laws. Within the natural sciences category, which also includes chemistry and biology, physics is a fundamental discipline.

Need and Significance of the Study

Physics is a global endeavour. This is essential to the advancement of humanity in the future. All nations should support physics education and research because it is a fascinating intellectual journey that inspires youth and broadens our understanding of the natural world. The fundamental knowledge produced by physics is essential for the next technological breakthroughs that will power the world's economies. Physics is a necessary subject in the

curriculum for all of these reasons. every system and that of a sophisticated civilization.

However, we now know better and are conscious of the fact that ghosts or anything similar do not exist .It is a phobia that has become ingrained in people's thoughts. We currently reside in the era.

Objectives of the Study

The following objectives are used for the study

1. To find out significant difference in the mean scores of critical thinking skill for the sub sample classified on the basis of gender.
2. To find out the significant difference in the mean scores of achievements in physics for the sub sample classified on the basis of gender.
3. To find out the relationship between Critical Thinking Skill and Achievement in Physics among higher secondary school students for the total sample and the sub samples.

Hypotheses of the Study

1. There is no significant difference in the mean scores of Critical Thinking Skill for the subsample classified on the basis of gender.
2. There is no significant difference in the mean scores of Achievement in Physics for the subsample classified on the basis of gender.
3. There is no significant relationship between Critical Thinking Skill and Achievement in Physics for the total sample and the subsamples.

Methodology

Method

The present study was intended to measure the Critical Thinking Skill and Achievement in physics among higher secondary school students. Normative survey method was adopted as the appropriated mean for gathering the data essential for the study.

Population

Population of the present study is the higher secondary school students in Thrissur district.

Sample

The present investigation was conducted on a sample of 300 students of higher secondary school students drawn from the Thrissur district of Kerala state .Due representation will be given to gender.

Variables of the Study

The circumstances or traits that the researcher modifies, regulates, or observes are known as variables. There are many different kinds of variables, and independent and dependent variables are two crucial kinds.

Independent Variables

Gender of the students, Critical Thinking Skill.

Dependent Variables

In the present study dependent variable is Achievement Score in Physics.

Tools employed for the Collection of data

The tools used in this study for the collection of data are given below.

- General data sheet
- Critical thinking skill scale designed by Anila B Nair and Sabitha T (2014)
- Achievement Score in physics

Statistical Analysis of Data

Analysis based on first objective

Comparison of critical thinking skill on the basis on gender

Table 1

Difference between the Mean Scores of Critical Thinking Skill of Male and Female Students

Variable	Sample	N	Mean	S.D	t	Level of
Critical thinking skill	Boys	123	131.27	17.692	0.38	significance
	Girls	177	130.53	14.598		

From the table, the arithmetic mean of critical thinking skill of boys and girls are found to be 131.27 and 130.53 and their standard deviations are 17.692 and 14.598 respectively. The calculated t value is 0.38 which is less than the table value 1.96 at 0.05 level of significance. so there is no significant difference in critical thinking skill between boys and girls. So, the null hypothesis that, “there is no significant difference in critical thinking skill for the sub sample classified on the basis of gender” is accepted.

Analysis based on second objective
Comparison on achievement score in physics of higher secondary school students
Table 2

Details on Achievement Score in Physics on the Basis of Gender

Variable	Sample	N	Mean	S.D	t	Level of significance
Achievement score in physics	Boys	123	41.52	17.960	4.1	p>2.58
	Girls	177	49.98	16.170		

From the table, the arithmetic mean of an achievement score in physics of boys and girls are 41.52 and 49.98 respectively. The standard deviations are 17.960 and 16.170 respectively. The calculated t value is 4.1 is greater than the table value 2.58 at 0.01 level of significance. So, there is significant difference exist in achievement score in physics between boys and girls at 0.01 level of significance. Therefore, the null hypothesis “there is no significant difference in achievement in physics for the subsample classified on the basis of gender “is rejected.

Analysis based on third objective

The investigator used statistical technique of Karl Pearson’s product moment coefficient of correlation to find out the relationship. Given below are the results of correlation analysis used in the study to find out the relationship between critical thinking skill and achievement in physics for the total sample and sub sample.

Table 3

Details on Relationship between Critical Thinking Skill and Achievement in Physics on the Total Sample

Variable	N	'r' value	able value	Level of significance
Critical thinking Skill and achievement in physics	300	0.166	0.148	0.01

From the table, the coefficient of correlation between the Variable critical thinking skill and achievement in physics is found to be 0.166. The calculated 'r' value 0.166 is greater than the table value 0.148 at 0.01 level of significance. Thus, there is a significant negligible relationship between critical thinking skill and achievement in physics.

Conclusion

The result revealed that there is a positive correlation existed between Critical Thinking Skill and Achievement in Physics among higher secondary school students.

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