“INCREASING THE LEVEL OF CREATIVE THINKING OF STUDENTS IN PRACTICAL CLASSES IN PHYSICS”

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Abstract: *This scientific article explores the strategies and approaches to enhance creative thinking among students during practical physics classes. Creative thinking is a vital skill in the modern world, promoting innovation and problem-solving. Practical physics classes provide a unique opportunity to foster creativity by engaging students in hands-on experiments, critical analysis, and open-ended problem-solving. This article reviews pedagogical methods and instructional techniques that can be employed to elevate the creative thinking abilities of students in the context of physics education. It emphasizes the role of practical physics classes in not only deepening conceptual understanding but also in nurturing creative thinking, which is essential for addressing the complex challenges of the 21st century.*

Keywords:*Creative thinking, practical classes, physics education, innovation, problem-solving, hands-on experiments, pedagogical methods.*

INTRODUCTION

Creative thinking is a skill that transcends disciplinary boundaries and is indispensable in the modern world. It is a catalyst for innovation, enabling individuals to devise unique solutions to complex problems. In the realm of physics education, practical classes offer a unique platform to nurture and enhance creative thinking among students. This article investigates various approaches to increase the level of creative thinking in students during practical physics classes.

The Role of Creative Thinking in Physics:

1. Innovation:

Physics is at the forefront of innovation, and creative thinking is the driving force behind groundbreaking discoveries. Practical classes in physics provide students with opportunities to explore phenomena and devise inventive solutions to problems, fostering a spirit of innovation that extends beyond the classroom.

2. Problem-Solving:

Creative thinking is essential for effective problem-solving. In practical physics classes, students encounter real-world scenarios that require them to think critically, explore alternatives, and devise creative solutions. These problem-solving skills acquired in physics classes can be applied to various life situations.

Pedagogical Strategies for Enhancing Creative Thinking:

1. Open-Ended Projects:

Encouraging students to engage in open-ended projects, where there is no single correct solution, fosters creative thinking. These projects can be based on real-world issues or phenomena, requiring students to design their experiments, analyze results, and develop innovative solutions.

2. Exploration and Curiosity:

Physics classes should promote curiosity and exploration. Encouraging students to question, investigate, and experiment helps them develop a sense of wonder about the physical world. Curious minds are more likely to engage in creative thinking.

3. Interdisciplinary Approach:

Integrating elements from other disciplines, such as mathematics, engineering, and computer science, into physics practical classes can stimulate creative thinking. Students are exposed to diverse perspectives and techniques, broadening their problem-solving toolkit.

Effective Implementation of Hands-On Experiments:

1. Real-World Application:

Practical classes should emphasize the real-world application of physics concepts. By demonstrating how physics is used to address real-world challenges, students can appreciate the value of creative thinking in finding solutions to practical problems. 2. Problem Formulation:

Encouraging students to formulate their problems and experiments allows for flexibility and creativity in the scientific process. It empowers them to take ownership of their learning and explore physics concepts from different angles.

Conclusion:

Practical physics classes are a fertile ground for nurturing creative thinking in students. Creative thinking is vital in promoting innovation and effective problem-solving, skills that are essential in the contemporary world. By employing pedagogical strategies that encourage open-ended projects, curiosity, and interdisciplinary approaches, educators can elevate the creative thinking abilities of their students.

The interplay between hands-on experiments and creative thinking not only deepens students' conceptual understanding of physics but also equips them with the skills necessary to tackle the multifaceted challenges of the 21st century. Practical physics classes, when designed to foster creative thinking, serve as a cornerstone in preparing students to be innovative, adaptable, and proficient thinkers in their future academic and professional pursuits.

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