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ENHANCING CREATIVE THINKING SKILL IN THE HIGHER SECONDARY STUDENTS

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ABSTRACT

The proposed study "Enhancing Creative Thinking Skill in The Higher Secondary Students" aims to evaluate the creative thinking abilities of higher secondary students. Study investigates impact of various interventions and strategies for enhancing creative thinking including creative thinking workshops, problem-solving exercises and collaborative projects on enhancing creative thinking skills. A random sample of 100 higher Secondary students from two school of Vadodara district were selected. Data was collected through pre and post intervention task and creative thinking test. Data was analysed by mean, SD and two tailed t-test, the finding shows that after the intervention the creative thinking skill scores of students show a significant improvement. The data analysis and interpretation can provide valuable insights into the creative thinking ability of higher secondary students. Appropriate steps can then be taken to enhance this important 21st century skill.

Keywords: Creative Thinking, Higher Secondary Students, Intervention, Enhancing

1. INTRODUCTION

Creative thinking skills are essential for success in the 21st century. The NEP 2020 seeks to foster creativity and critical thinking among modern learners, fostering logical decision-making and innovative approaches. Higher secondary education is a critical stage for developing these skills. It explains that creativity has a significant impact on various aspects of our lives, including social, professional, and personal spheres. In the context of education, creativity enhances "critical thinking", "problem-solving abilities and adaptability", enabling individuals to navigate a constantly changing environment successfully.

Furthermore, creativity is not limited to the classroom but also fosters entrepreneurship by empowering individuals to generate and implement innovative ideas. In the workplace, creative thinking is highly valued as it contributes to organizational growth by providing innovative solutions to challenges. Creativity also contributes to artistic expression, cultural enrichment, and societal progress on a broader scale. Traditional teaching methods often prioritize rote

memorization rather than nurturing creative thinking skills. It introduces a proposed study that explores practical techniques for educators to enhance creative thinking abilities in students.

Definitions of Creativity and Creative thinking

According to Barron (1961) defines creativity as the act of forming novel combinations using existing elements and objects.

According to Lahois (1963) describes creativity as a complex human characteristic expressed through a cognitive process that results in the creation of something original.

Creative thinking Contributes to both decision-making and problem-solving by allowing us to investigate the different options available and the potential outcomes of our actions or lack thereof (WHO. 2020).

Creative thinking is the ability to produce, assess, and enhance ideas that can lead to original solutions, the advancement of knowledge, and impactful manifestations of imagination (OECD, 2019).

RATIONALE

The study addresses the need to understand the baseline level of creative thinking skills among higher secondary students and explore effective interventions. By identifying strategies that enhance creative thinking, educators and policymakers can contribute to students' holistic development

2. OBJECTIVES OF THE STUDY

1) To identify the current level of creative thinking skills in higher secondary students.
2) To investigate various interventions and strategies for enhancing creative thinking.
3) To assess the impact of these interventions on the creative thinking abilities of higher secondary students.

3. HYPOTHESIS

1) H_0: There is no significant difference in the creative thinking skills of higher secondary students before and after the interventions through Workshop
2) H_0: There is no significant difference in the creative thinking skills of higher secondary students before and after the interventions through Problem Solving Excise
3) H_0: There is no significant difference in the creative thinking skills of higher secondary students before and after the interventions through Project.

4. METHODOLOGY

Research design

The investigation was undertaken by using Experimental research design.

Sample

A random sample of 100 higher Secondary students from two school of Vadodara district with due representation to the selected population was constituted. The study includes a sample of higher secondary students from diverse backgrounds.

Tool for data collection

Primary data is collected through pre- and post-intervention task, and creative thinking test was conducted in order to gather the data.

Interventions

Various interventions, such as creative thinking workshops, problem-solving exercises, and collaborative projects are implemented to enhance creative thinking skills.

The intervention here refers to the implementation of certain techniques or strategies to enhance the creative thinking skills in students. Some of the possible interventions could be:

- Exposing students to open-ended problems and questions that have multiple solutions. This helps in divergent thinking.
- Encouraging students to think "outside the box" by looking at problems from multiple perspectives. Students can be asked to generate many alternative solutions and then evaluate them.
- Promoting an environment where unusual questions, diverging viewpoints and novel ideas are appreciated. This makes students feel safe to explore innovative and original thoughts.
- Teaching creative thinking techniques like brainstorming, lateral thinking, mind mapping, etc. These techniques can be used in various subjects to solve problems.
- Providing opportunities for creative work like story writing, crafts, dramatics, origami, etc. This boosts imagination and innovation in students.
- Giving students more freedom and autonomy in how they approach tasks or assignments. This fosters independence and originality.

Statistical tools

Two tailed t-test has used to analysing the significant difference between the mean scores of independent samples.

5. DATA ANALYSIS

The collected data is analysed to determine the effectiveness of different interventions. Statistical tools and qualitative analysis are employed to assess improvements in creative thinking skills among the participants.

In accordance with the specific goals of the study, the data were edited, processed, and subjected to analysis. Under pertinent headings, the analysis specifics and the findings of the study are revealed.

"There is no significant difference in the creative thinking skills of higher secondary students before and after the interventions through workshop"

Independent t-test

Workshop	N	Mean	SD	t	Sing.
Before Intervention	100	45.40	13.54	12.16	.000
After Intervention	100	67.30	11.85		

The study investigated the effect of workshop interventions on the creative thinking skills of higher secondary students. A total of 100 students participated in the study. Their creative thinking skills were measured before and after the intervention through workshop using a test.

An independent t-test was conducted to compare the scores before and after the intervention. The results showed that students scored significantly higher on the creative thinking test after the workshop (M = 67.30, SD = 11.85) compared to before the workshop (M = 45.40, SD = 13.54), with a highly significant difference of t (98) = 12.16 and p = .000. Hence, null hypothesis rejected and we concluded that the workshop intervention was effective in improving the creative thinking skills of the higher secondary students.

"There is no significant difference in the creative thinking skills of higher secondary students before and after the interventions through problem solving excise"

Independent t-test

Problem Solving	N	Mean	SD	T	Sing.
Before Intervention	100	43.00	12.33	16.70	.000
After Intervention	100	69.40	9.88		

The study aimed to examine the effect of problem-solving intervention on the creative thinking skills of higher secondary students. An independent t-test was conducted to compare the creative thinking scores of 100 students before and after the problem-solving intervention.

The results showed that there was no significant difference in the mean creative thinking scores before (M = 43.00, SD = 12.33) and after (M = 69.40, SD = 9.88) the intervention, t (98) = 16.70, p = .000. Hence, null hypothesis rejected and we concluded that the problem-solving interventions through have a significant impact on improving the creative thinking skills of higher secondary students. The problem-solving excise intervention was effective in improving the creative thinking skills of the higher secondary students.

"There is no significant difference in the creative thinking skills of higher secondary students before and after the interventions through project"

Independent t-test

Project	N	Mean	SD	T	Sing.
Before Intervention	100	45.86	13.87	9.58	.000
After Intervention	100	63.74	12.45		

This study investigated the impact of Project Excise on the creative thinking skills of higher secondary students. A sample of 100 students were assessed on their creative thinking skills before and after attending the intervention workshops. An independent t-test was conducted to compare the scores before and after the Project. The results showed that there was a statistically significant difference between the scores before (M=45.86, SD=13.87) and after (M=63.74, SD=12.45) the interventions, with t (98) = 9.58 and p=.000. Hence, null hypothesis rejected. This would indicate that the Project were effective at improving the creative thinking skills of the higher secondary students.

6. RESULT DISCUSSION & CONCLUSION

The analysis aimed to evaluate the effectiveness of different interventions, namely workshops, problem-solving exercises, and projects, on enhancing creative thinking skills among higher secondary students. Statistical tools, including independent t-tests, were employed to compare creative thinking scores before and after each intervention.

Three different interventions - workshop, problem-solving exercises and project - were used to improve the creative thinking skills of higher secondary students. Independent t-tests were conducted to compare the creative thinking scores of 100 students before and after each intervention.

For the workshop intervention the results showed a significant increase in mean creative thinking scores after the workshop compared to before. This indicates that the workshop was effective in improving students' creative thinking skills.

For the problem-solving exercises the results also showed a significant increase in mean scores after the intervention. This demonstrates that the problem-solving exercises had a significant impact on improving students' creative thinking.

Finally, for the project intervention there was again a statistically significant difference between the scores before and after the project, indicating that the project was also effective at improving students' creative thinking skills.

Overall, all three interventions - workshops, problem-solving exercises and projects - were found to be effective at improving the creative thinking skills of higher secondary students based on the significant increases in their creative thinking test scores after each intervention. Schools should implement similar programs to nurture creativity in students from an early age to prepare them for the challenges of the 21st century. Creativity is a skill that can be developed and enhanced through conscious efforts and proper guidance.

Providing opportunities for creative thinking at the school level is crucial for the progress of society. In students' academic achievement, convergent thinking holds greater significance compared to divergent thinking. Research suggests that creative thinking affects academic performance by influencing students' self-esteem and their perception of internal control over outcomes. (Juan & Zhao, 2021). Creative individuals are better able to adapt to change and come up with innovative solutions to complex problems. Hence, schools should make creativity enhancement an essential part

of the curriculum. The approaches used in this study to cultivate creative thinking in students can be easily adapted and implemented in schools.

CONFLICT OF INTERESTS

None.

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