

Students' Class Participation and Creative Thinking: Basis for Class Engagement Framework

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Abstract: The research fields of classroom participation (emotional participation, cognitive participation) and creative thinking (Risk, Curiosity, Imagine, Challenge) lay a foundation for improving students' learning efficiency and creativity level, enhance the depth of students' emotional and cognitive participation in class participation, and improve the development efficiency of students' creativity. Improved the academic performance of students at the EAST University of Heilongjiang Province, China, to generate teaching input and help students develop their ability to participate in class and creative thinking. A total of 600 students were randomly selected in this study, and the collected data were analyzed by descriptive correlation design and social science statistical package (SPSS). The results showed that the respondents were 18-20 years old, mainly female (64.2%), Sophomore (67.0), cognitive participation (2.936), emotional participation (3.03), and Risk (2.897). Curiosity (2.887), Imagine (2.94) and Challenge (2.961). The study concludes that the improvement of the level of emotional and cognitive participation of college students can effectively promote the improvement of students' creative thinking ability, including Risk, Curiosity, Imagine and Challenge, and ultimately promote the academic performance of college students. In order to enable college students to better develop their ability of participating in class and creative thinking, teachers should take relevant measures in teaching. For example, in order to cultivate creative thinking in class, teachers can establish a positive atmosphere, encourage participation, and provide diversified resources. They should ask thought-provoking questions, promote teamwork, and provide specific feedback. Creating time and space for exploration, encouraging curiosity and teaching creative thinking tools are essential. Students should have the ability to question and explore different points of view and enhance critical thinking. Ultimately, these strategies help students develop innovative skills, broaden their horizons, and become confident, adaptable thinkers.

Keywords: Classroom Participation; Creative Thinking; Frame.

1. Introduction

In modern education, the cultivation of students' classroom participation and creative thinking has become the consensus of the educational circle. Education is not only about the transfer of knowledge, but also about the process of stimulating students' potential, cultivating their independent thinking ability and cultivating innovative thinking. Therefore, building a framework designed to promote student participation in the classroom and stimulate creative thinking is important for creating a positive and interactive learning environment and preparing students for future competitiveness.

Classroom participation is not only about students actively answering questions or interacting with classmates in class, but also a reflection of learning attitude and participation. An actively engaged student tends to be more focused on class content and more willing to share their ideas and insights with others, thus facilitating the sharing and exchange of information. Creative thinking is the core competence that thrives in this process of information sharing. By leading students to ask new questions, think of multiple solutions, and encourage them to think outside the traditional box, schools can produce creative and innovative people. Therefore, combining classroom participation with creative thinking can not only improve students' thinking activity, but also cultivate their innovative awareness and problem-solving ability.

Designing an effective framework for classroom participation and creative thinking requires a combination of factors. First of all, teachers play a key role in the classroom. They should create a friendly, inclusive and encouraging

learning atmosphere where students are encouraged to express their views, thereby increasing their level of classroom participation and creative thinking. Secondly, the design of problems and tasks is also crucial. Thought-provoking questions and inspiring tasks can stimulate students' thinking and creativity, leading them to think about multiple solutions and foster creative thinking. In addition, a variety of learning resources and materials are essential. Teachers can provide books, articles, audio-visual materials, etc., to broaden students' knowledge horizons, stimulate their imagination and creative consciousness.

In short, students' classroom participation and creative thinking are important foundations for building a dynamic and innovative educational environment. Through an effective framework, schools can guide students to actively participate in the classroom, stimulate their creative potential, and cultivate future talents with independent thinking and innovative abilities. This not only contributes to the growth of individual students, but also injects continuous innovation into the development of society.

2. Background of the Study

Since 1999, China has expanded the enrollment of college students, making the development of higher education on the road of connotative development. The scale of higher education development is huge, and the contradiction between education funding and university hardware facilities has become increasingly prominent. The lack of teachers and education funds leads to boring classroom education and low student participation. However, the higher education talents produced in this educational environment are mainly test-

oriented talents, lacking in creative thinking. This has had a serious negative impact on the development of Chinese education. As the leading hormone of national development, education is of great value and significance to national rejuvenation and social progress. Functional government departments are gradually realizing that the development of high-quality education is still an important path for national development. Therefore, they advocate continuously adapting to and improving the quality of university talents through educational reform. Talent cultivation and quality assurance have always been the core elements of the development of higher education. As far as China's current education development is concerned, the country has issued relevant education policies one after another, and has made unremitting efforts to implement a developmental education environment that fosters morals and cultivates people. The classroom of college students is an important channel for cultivating talents. Therefore, emphasizing classroom quality and teaching curriculum construction is the basis for promoting high-quality education. However, looking at the current classroom, we found that the level of classroom participation of college students is very low. However, the cultivation of their innovative ability has been neglected.

College students' participation in classroom teaching is an important guarantee for improving the quality of classroom education, and it is also an important means of cultivating students' personal qualities. Classroom participation is the process in which students' mental and physical attention is focused on the classroom learning process, and it is an important basis for ensuring students' effective learning. There is an old Chinese saying that goes, "If the foundation is not firm, the earth will shake and the mountains will shake." Therefore, the level of classroom participation is an important guarantee for determining learning outcomes, and it is also an important basis for cultivating students' creative thinking knowledge. Creative thinking is a creative and complex way of exploring the unknown. This is a creative thinking with its own characteristics. It is the dialectical unity of diffuse thinking and concentrated thinking, the organic combination of creative imagination and realistic orientation, and the unity of opposites between abstract thinking and spiritual thinking. Creative thinking refers to active creative thinking. Through creative thinking, we can not only suggest the nature and laws of objective things, but also produce novel, unique and socially meaningful thinking results on this basis, opening up new areas of human knowledge. Cultivating and improving personal quality has been gradually included in the national education development strategy. The level of classroom participation of college students is an important basis for promoting personal development, and the cultivation of personal quality also requires the results and quality of classroom participation. Improving classroom participation is an important basis for ensuring the development of college students' knowledge learning and innovative literacy. Therefore, the teaching and learning of college students' active participation and independent thinking in the classroom is still the reform content that needs to be interpreted at this stage. Only high-level classroom participation can actively guide the accumulation of knowledge of college students, help universities cultivate team spirit and the theory of mutual help and love, and is also an important basis for promoting the development of college students' personal qualities. Therefore, the level of classroom participation is the basis for capacity building and the

development of creative thinking, and it is also a bridge to ensure the quality of higher education. At present, the participation of college students in class is low, and the cultivation of creative thinking in personal quality is insufficient. However, we do not have sufficient evidence to explain whether there is a significant relationship between the two.

This study provides important theoretical support and practical evidence for college students' classroom teaching and creative thinking through the quantitative research on college students' classroom participation and creative thinking ability, as well as the data analysis of the internal relationship between the two.

I am a teacher at the School of Art and Design of the East University of Heilongjiang. In my teaching work, I found that students generally lack creative thinking, which leads to unsatisfactory teaching results. Therefore, I want to explore how to improve students' creative thinking and whether the formation of creative thinking is related to course participation. There are relationships. This study selects the characteristics of classroom participation and creative thinking of freshmen and sophomores in the East University Of Heilongjiang in the course of design course learning, and locates the research in freshmen and sophomores of the School of Art and Design. The number of students in the East University Of Heilongjiang is 19,000, including 1,700 students from the School of Art and Design, 400 freshmen and 400 sophomores. This paper selects 300 freshmen and 300 sophomores as the research objects.

I have worked in the East University Of Heilongjiang for two years, and I am mainly responsible for the sketch courses, font design courses, decorative painting courses, and decorative pattern courses for freshman and sophomore students. These courses are the basic courses of design courses, which need to guide students to build creative thinking. However, during the course, it was found that the students' participation was not good, and the works lacked creativity and novelty, which resulted in weak homework effects and did not achieve the expected results.

3. Statement of the Problem

The study aims to determine the relationship of class participation and creative thinking in order to propose a class engagement framework that shall enhance creativity among students.

Specifically, the study shall seek answer to the following questions:

1. What is the profile of the respondents in terms of:
 - 1.1 age;
 - 1.2 sex;
 - 1.3 grade level
- 2 What is the assessment of the respondents on their class participation, in terms of:
 - 2.1 cognitive participation; and
 - 2.2 emotional participation?
3. What is the assessment of the respondents on their creative thinking, in terms of:
 - 3.1 Risk dimension;
 - 3.2 Curiosity dimension;
 - 3.3 Imagination dimension;
 - 3.4 Challenging dimension;
4. Is there a significant difference between the assessment of the respondents on their class participation when grouped according to profile?

5. Is there a significant difference between the assessment of the respondent on their creative thinking when grouped according to profile?

6. Is there a significant relationship between the assessment of the respondents on class participation and creative thinking?

7. How do teachers involved their students in class to develop creative thinking?

8. Based on the results of the study, what class engagement framework may be proposed?

4. Research Framework

The research framework of the study is encapsulated in Figure 1.

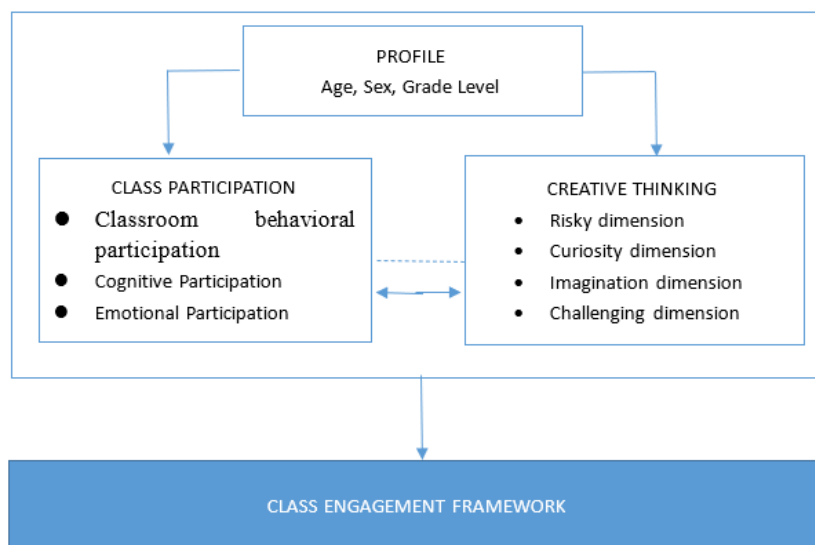


Figure 1. Research Paradigm

The relationship between classroom participation and creative thinking is the central focus of this study. It should examine different aspects of classroom participation, including: cognitive and emotional engagement and components of creative thinking, namely: risky dimension, curiosity dimension, imagination dimension and challenging dimension. These aspects are then compared and related to come up with a framework for classroom engagement that facilitates the development of students' creative thinking.

Hypotheses

H1 There is no significant difference between the assessment of the respondents on their class participation when grouped according to profile.

H2 There is no significant difference between the assessment of the respondent on their creative thinking when grouped according to profile.

H3 There is no significant relationship between the assessment of the respondents on class participation and creative thinking.

4.1. Research Design

This study adopted a quantitative research method. Specifically, he employs a descriptive-difference-correlation research design, which is appropriate because it refers to the college student profile variable. The research will be designed to evaluate the classroom participation status and creative thinking development status of freshmen and sophomores in the East University Of Heilongjiang, China, and the evaluation results will be used as a reference for behavioral plans. Survey methodology A modified questionnaire will be used as a tool to collect participant information. A descriptive design was considered the most appropriate design to use in this study as it was the broadest and most inclusive tool compared to other survey methods. In the context of this study, the researchers aimed to describe the two elements of the participants' classroom participation and creative thinking in the process of teaching and learning, and to understand from

the research the correlation between students' pedagogy, classroom participation and creative thinking development, to provide guidance for teaching and learning.

4.2. Research Instruments

This study was carried out using two research instruments. One is the questionnaire star survey website, which is a website in China that focuses on information research and summary. Its website is <https://www.wjx.cn/>. research information. The second is the spss software. We collect and count the data obtained in the research, import them into the spss software, and then conduct correlation analysis on the data. The research results provide important data support for the research.

Questionnaire 1 is "College Students' Creative Thinking Development Evaluation Scale"

Questionnaire 2 is the "Evaluation Scale for Classroom Participation of College Students"

According to the given procedure, the content of the questionnaire for the evaluation of the development of creative thinking of college students is verified:

The original item set developed was reviewed for content by 5 mathematics teachers. This process aims to solicit some suggestions from the reviewers to improve the content of the questionnaire. This was also done to ensure the adequacy and adequacy of survey items to measure student satisfaction with physical education programs.

The results of the initial review of the tool are used as a basis for improving its content. Specifically, the comments and suggestions of 5 reviewers were considered when refining the tool.

Validate the improved version of the tool. Five mathematics experts rated the degree of relevance of each item on a scale of 1 to 4, with 1 being not relevant and 4 being very relevant.

Analysis of expert scores for each item indicator using the Content Validation Index (CVI) method (Lynn, 1986). Expert

ratings were recorded such that 'relevant' and 'very relevant' items were considered 'relevant'. Items rated "somewhat relevant" and "not relevant" were recorded as "not relevant". Based on the recorded ratings, the I-CVI and S-CVI are calculated. I-CVI represents the CVI of an individual item, while S-CVI reflects the overall CVI of the tool. Calculated as follows:

I-CVI is used to determine items to retain, modify, and reject based on the following ratios.

4.3. Data Gathering Procedure

The researchers will request the President's approval to collect the relevant data required for the study. With the approval of the president, the researchers will coordinate with the teachers and students of the East University of Heilongjiang. Researchers will manage the questionnaire through the Questionnaire Star website (<https://www.wjx.cn/>) For students and teacher participants. Frequency, percentage, weighted average, t-test and one-way analysis of variance (ANOVA) will be used to collate, analyze and explain the responses of participants in the questionnaire.

5. Output of the Study

This chapter discusses the summative findings, conclusions, and recommendations. The purpose of this study is to determine the effect between classroom participation and creative thinking of college students, and to produce positive effects of teaching, to help students develop classroom participation and creative thinking ability. Specifically, it tries to answer the following questions:

1.The Profile Of The Respondents

1.1 Age

The participants were mainly 18–20 years.

1.2 Sex

The participants were mainly female born and female born surplus male born.

1.3Grade Level

The students who filled out the questionnaire were mainly sophomore students.

2. The Assessment Of The Respondents On Their Class Participation

2.1 Cognitive participation

Participants' cognitive participation was evaluated highly, which was determined by the mean score of cognitive participation and so on. This suggests that participants had a very high level of cognitive participation in the classroom, a phenomenon that contributes to learning acquisition.

2.2 Emotional participation

Participants' emotional participation was high, which is the mean score of emotional cognitive participation determinate. The high level of emotional participation indicates how much participants are emotionally involved in the course, helping to stimulate participants' interest in the course.

3 The Assessment Of The Respondents On Their Creative Thinking

3.1Risk dimension

According to the average score of the participants, the assessment level of the risk dimension is high, indicating that the risk level of the participants' creative thinking is high. It inspires people to explore the unknown, break through the traditional restrictions, and bring novel and unique ideas and solutions.

3.2 Curiosity dimension

According to the average score of the participants, the

evaluation level of the curiosity dimension is high, indicating that the level of curiosity in the participants' creative thinking is high. It stimulates the desire to explore new fields and find new solutions, and promotes the development of creative thinking and innovation ability

3.3 Imagination dimension

According to the average score of the participants, the imagination dimension was high, indicating participant creation

The level of imagination in sexual thinking is high, which expands the boundaries of thinking, stimulates the emergence of ideas, and promotes the generation of innovative and unique solutions.

3.4 Challenge dimension

According to the average score of the participants, the evaluation level of the challenge dimension is high, indicating that the challenge level of the participants' creative thinking is high. It inspires the courage to go beyond the traditional thinking mode, and promotes the improvement of the ability to try new methods and solve complex problems.

4.Current status of difference in class participation when grouped according to personal data

Based on sex and grade, there was no significant difference in the assessment level of classroom participation, but with age, there was a very significant difference in the level of classroom participation, and the smaller the age, the higher the level of classroom participation.

5.Did respondents differ significantly in their assessment of their creative thinking when grouped by personal data?

Based on sex and grade, there was no significant difference in the assessment level of creative thinking of subjects, while by age, there was a very significant difference in the level of creative thinking, the smaller the age, the higher the level of creative thinking.

6.A significant relationship between the visitors' assessment of classroom engagement and creative thinking

The results show that there is a significant positive correlation between the assessment of participants' classroom participation and creative thinking, that is, the higher the level of participants' classroom participation, the higher the level of creative thinking. Therefore, in terms of curriculum design and arrangement, students can actively promote their creative thinking level by improving students' level of classroom participation.

Based on the study results, the following conclusions are drawn from the study results:

The study has found that there is a great demand and teacher education in the field of pedagogy. In the classroom observation, we noticed that more students usually participate in the classroom with problems, especially in the cognitive areas, such as: emotional participation, cognitive participation. This hinders their ability to receive and enrich their education.

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