

# Strategies for Cultivating Creative Thinking Ability of Students Majoring in Educational Technology

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**Abstract:** Creative thinking ability refers to the ability of individuals to produce unique, novel and valuable thoughts and ideas when solving problems, creating new knowledge and coping with challenges. In today's information explosion and rapid change of society, creative thinking ability is particularly important for the development of college undergraduates. However, the traditional education model and evaluation system usually lay emphasis on knowledge transfer and memory, ignoring the necessity of cultivating students' creative thinking. Therefore, this paper aims to explore effective training strategies to promote the all-round development of creative thinking ability of college undergraduates.

**Keywords:** College education; Undergraduates; Creative thinking; Cultivation strategy

## 1. Introduction

Creative thinking ability is one of the most important qualities in contemporary college education, and it is also an important goal to cultivate undergraduates' comprehensive ability. With the rapid development of society and the explosive growth of knowledge, the traditional knowledge imparting and exam-oriented education can no longer meet the complex and changing challenges and needs of today. Facing the uncertain career environment in the future, undergraduates must have innovative consciousness and creative thinking in order to stand out in the fierce competition. How to cultivate undergraduates' creative thinking ability in college education has become an urgent topic to be discussed.

## 2. The necessity of cultivating undergraduates' creative thinking ability

### 2.1 Innovation and creativity are the driving forces of the future society

Innovation and creativity are the driving forces of the future society and will be the key forces leading mankind to greater prosperity and progress. With the continuous development of science and technology, economy and society, we are faced with unprecedented challenges and opportunities. Innovation ability can encourage students to break through the shackles of tradition, dare to try new ideas and methods, and promote the rapid development of technology, while creativity can liberate students from narrow thinking, bravely explore unknown areas, and open up new possibilities. In the future, the society needs to face complex and changeable problems, and innovation and creativity provide students with unique advantages to cope with the challenges. Only through innovation can college students be invincible in the fierce competition<sup>[1]</sup>. At the same time, innovation and creativity are also catalysts for social progress, nurturing the power to change the face of society and promote the transformation of society from tradition to modernity. In today's era of globalization, all areas of society need the spark of innovation to ignite the road ahead and solve problems such as poverty, environmental pollution and energy crisis. Only with the courage of change and continuous innovation can society develop in a fairer, greener and sustainable direction.

### 2.2 Cultivate students' curiosity and spirit of exploration

Creative thinking can cultivate students' curiosity and spirit of exploration, and stimulate their exploration of the world of knowledge and their desire for the unknown. In the process of cultivating creative thinking, students are not only told the answer, but also encouraged to ask questions and discover the answer on their own. This mode of teaching stimulates students' natural curiosity, making them not satisfied with superficial knowledge, but delve into the underlying principles and motivations. The stimulation of curiosity prompts students to actively seek new knowledge and information, to understand

the nature of things and the internal connection. At the same time, creative thinking also cultivates students' spirit of exploration. In the face of unknown areas and problems, students no longer feel afraid or limited, but dare to step out of their comfort zone and make bold attempts. They are willing to explore new methods and new modes of thinking, are not afraid of failure and setbacks, and persistently pursue the best solution to problems. The cultivation of the spirit of exploration makes students more active in study and life, and constantly pursue the renewal and progress of knowledge. The cultivation of curiosity and spirit of exploration not only enables students to have a broader vision of knowledge, but more importantly, cultivates their lifelong learning habit, which enables students to maintain continuous learning motivation after graduation and keep up with the pace of The Times<sup>[2]</sup>. In the constantly updated field of knowledge, students with creative thinking will be more likely to adapt to new needs, seize new opportunities, and make positive contributions to the progress and development of society.

### ***2.3 Cultivate students' problem-solving skills***

Cultivating students' problem-solving ability is an inevitable extension of cultivating undergraduates' creative thinking ability. By cultivating creative thinking, undergraduates can examine problems from different angles and generate new ideas, while cultivating problem solving ability allows them to put these innovative ideas into practice and find practical solutions in real situations. Such ability cultivates students' practical and applied abilities, making them more adept in facing real life and professional challenges. By combining creative thinking and problem-solving skills, undergraduates will become a new generation of energetic and innovative talents, contributing wisdom and strength to the development and progress of society in the future.

## **3. Current situation and problems of training creative thinking in college education**

### ***3.1 Education system and examination orientation***

At present, the cultivation of creative thinking in college education is restricted by the education system and assessment orientation. The traditional education system tends to pay attention to the indoctrination of knowledge and the assessment of test scores, resulting in the cultivation of creative thinking is not prominent enough in the teaching process. In order to cope with the exam pressure, students are more inclined to memorize rather than think deeply, ignoring the importance of innovative problem solving. At the same time, the assessment orientation also limits the teachers' attempts to cultivate creative thinking in teaching. Teachers may overemphasize test-taking skills, and lack the stimulation and guidance of students' creative ability. Therefore, in order to effectively cultivate undergraduates' creative thinking ability, the education system in colleges and universities needs to be reformed, placing more emphasis on students' innovative ability and comprehensive quality in the evaluation system, while providing more support and incentives for students to have more opportunities for independent development and innovative practice in the learning process.

### ***3.2 Limitations of traditional teaching methods***

Traditional teaching methods have some limitations in cultivating creative thinking ability in college education. Traditional teaching is often teacher-centered, emphasizing knowledge transfer and passive acceptance by students, and lacking the motivation to stimulate students' active thinking and innovation. This single teaching mode can hardly meet the complex and changing social needs of today, and neglects to cultivate students' ability to comprehensively apply knowledge to solve problems. At the same time, traditional teaching often places too much emphasis on standard answers and fixed solutions, limiting the development of students' independent thinking and diversified thinking. In addition, it is difficult for traditional large-class teaching to fully pay attention to the development needs of individual students and provide a personalized and innovative learning environment. Therefore, in order to effectively cultivate undergraduates' creative thinking ability, college education needs to actively introduce diversified teaching methods, such as case study, project-driven and discussion-style teaching, and encourage students to conduct independent exploration and innovative practice in an open and cooperative atmosphere<sup>[3]</sup>.

### ***3.3 The influence of learning environment***

Learning environment plays an important role in the cultivation of undergraduates' creative thinking

ability in college education. A positive and innovation-supporting learning environment can stimulate students' learning interest and motivation, and promote them to actively participate in the practice of creative thinking. An innovative learning environment should include a variety of learning resources and platforms to provide students with a wealth of information and inspiring creativity. In addition, encouraging students to cooperate with others in different fields can broaden their horizons and promote creative collision and exchange. Equally important, schools should establish a culture that tolerates fault and supports innovation, so that students can take risks, overcome failure and have the courage to innovate and practice. Teachers also play a key role in the learning environment. They should be role models for students, guide and encourage them to explore, help them overcome difficulties, and develop the habit and ability of creative thinking. By optimizing the learning environment, college education can better cultivate undergraduates' creative thinking ability and lay a solid foundation for their future development.

#### **4. Teaching methods to cultivate undergraduates' creative thinking ability**

##### ***4.1 Focus on stimulating students' interest in subjects***

In the teaching method of cultivating undergraduates' creative thinking ability, it is crucial to pay attention to stimulating students' subject interest, which is the inner motivation of students' active involvement in learning and an important basis for cultivating creative thinking. In order to stimulate students' interest in subjects, teachers can adopt the following strategies: First, teachers should fully demonstrate their love for subjects and the charm of professional knowledge in the teaching process. They can tell interesting stories, share cutting-edge research results, and show the practical application of subject knowledge, so as to attract students' attention and interest<sup>[4]</sup>. In addition, teachers can introduce vivid and interesting cases, problems or challenges so that students can start from practical problems and independently explore solutions to increase the interest and challenge of subject learning. Secondly, in order to cultivate students' creative thinking, teachers should encourage students to choose their own learning content and research direction. Give students some autonomy so that they can choose subject areas of interest for in-depth research according to their own interests and expertise. At the same time, teachers can provide a variety of learning resources and learning methods, so that students can learn according to their own preferences and learning styles, and enhance their learning initiative and enthusiasm.

##### ***4.2 Provide open question and project-driven learning opportunities***

Providing open question and project-driven learning opportunities is an important teaching method to cultivate undergraduates' creative thinking ability. Open questions not only require students to think and answer, but also require them to put forward novel viewpoints and creativity in the process of solving problems. Such a learning environment encourages students to explore and think independently, and cultivates their ability to solve complex problems and their awareness of innovation. And project-driven learning opportunities allow students to apply what they have learned in real-world scenarios to solve real problems. By participating in projects, students are required to apply subject knowledge and skills while facing uncertainties and challenges. In the project, students not only need to think creatively, but also need to work with team members to find solutions together, which helps to develop students' innovation ability, teamwork ability and problem solving ability. In summary, providing open problem and project-driven learning opportunities can stimulate students' curiosity and interest, encourage them to try and innovate, and practice creative thinking and problem solving skills. This teaching method helps cultivate undergraduates with innovative spirit and practical ability, and lays a solid foundation for their future development.

##### ***4.3 Encourage students to think and learn across disciplines***

In today's complex and changing society, many problems and challenges are no longer confined to a single discipline, but involve knowledge and skills across multiple disciplines. Therefore, cultivating students' ability to think and learn across disciplines can help them better understand the nature of problems, seek more comprehensive solutions, and promote the development of creative thinking. By encouraging interdisciplinary thinking, students can integrate knowledge and perspectives from different disciplines to form new understandings and understandings. For example, when designing smart city solutions, students need to cover knowledge from multiple disciplines such as urban planning, traffic

management and environmental science to think and solve problems from an integrated perspective. Thinking across disciplines broadens students' horizons and pushes them to look at problems from a broader perspective, resulting in more creative solutions. In addition to the thinking level, encouraging students to study across disciplines is also an effective way to cultivate creative thinking. Students can take interdisciplinary courses, participate in interdisciplinary seminars, or participate in interdisciplinary practical projects. Through interdisciplinary study, students can be exposed to the theories and methods of different disciplines, and develop the ability to comprehensively apply knowledge to solve problems. This comprehensive learning experience helps broaden students' thinking mode and improve their comprehensive analysis and innovation ability[5]. In teaching practice, teachers can encourage students to take the initiative to explore opportunities for interdisciplinary learning, provide platforms for interdisciplinary communication, and stimulate students' interest and enthusiasm for interdisciplinary learning. At the same time, schools can promote cooperation and integration among disciplines, create an environment and conditions for interdisciplinary learning, and allow students to experience the intersection and integration of different disciplines in their learning.

#### ***4.4 Stimulate students' curiosity and desire for inquiry***

Curiosity is a natural human desire for knowledge, and the desire for inquiry is the driving force for active exploration and problem solving. By stimulating students' curiosity and desire for inquiry, teachers can guide them to actively explore knowledge and think positively about problems, thereby cultivating their ability to think independently and innovate. In order to stimulate students' curiosity, teachers can design interesting and challenging learning content and activities. Opening engaging case studies, presenting compelling scientific experiments or hot topics that spark discussion can all capture students' attention and curiosity and stimulate their thirst for knowledge. At the same time, teachers can ask enlightening questions and encourage students to take the initiative to explore solutions, thereby fostering the habit of active learning. In stimulating students' desire for inquiry, teachers should encourage students to ask questions and guide them to actively seek out, analyze and evaluate information. Teachers can provide resources and guidance, but it is more important for students to participate fully and experience the joy of independent exploration and discovery. In addition, teachers should encourage students to try a variety of solutions, encourage them to face failures and challenges bravely, so as to cultivate their problem-solving courage and innovative spirit.

In order to effectively stimulate students' curiosity and desire for inquiry, teachers should create a positive learning atmosphere. Encourage students to ask questions, actively participate in discussions and share their views, and create an open and inclusive learning environment where students can feel the joy and sense of accomplishment of intellectual exploration.

#### ***4.5 Create an atmosphere for creative thinking***

Creative thinking atmosphere refers to the atmosphere and culture of innovation and creativity in the school and teaching environment. In order to create such an atmosphere, schools and teachers can take various measures. First, schools should advocate and support teachers' innovative teaching and educational research, encourage teachers to try different teaching methods and instructional designs, and encourage them to stimulate students' creative thinking and awareness of innovation in the classroom. At the same time, schools can provide teachers with opportunities for professional development and promote their educational research and teaching innovation. Secondly, schools can set up innovation practice bases and business incubators to provide students with practice opportunities and innovation platforms. Students are encouraged to participate in scientific research projects and entrepreneurial projects to cultivate their ability to solve practical problems and their awareness of innovation and entrepreneurship. In addition, schools can carry out innovative and entrepreneurial activities and competitions to stimulate students' creativity and competitiveness. Such activities can provide a stage for students to showcase their talents, while also enhancing students' interest and enthusiasm for innovation and entrepreneurship. Finally, schools and teachers should actively encourage students' innovative ideas and independent thinking, and respect students' individuality and creativity. In the classroom and school management, students should be given more autonomy and say, and encouraged to express their views and ideas. By creating an atmosphere of creative thinking, students can be inspired to innovate and cultivate their ability to think independently and solve problems, thus laying a solid foundation for their future development.

## 5. Conclusion

Creative thinking is an important quality necessary for contemporary high-quality talents, and it is of great practical significance to train students' creative thinking ability in undergraduate period. Through reasonable course design, teaching method and learning environment construction, we can effectively promote the cultivation of students' creative thinking ability. College education should be committed to providing a broader stage for students' creative potential and cultivating more creative talents for the society. It is hoped that the strategies provided in this paper can provide some reference for college education practice.

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