

Research on the Application and Effect of Innovative Teaching Methods in College Student Education



Meng Ma^{*1,2}, Wei Liu^{1,2}, Ruirui Zhang^{1,3}, Weiwei Xie^{1,4} & Qing Qin^{1,5}

¹De La Salle University-Dasmarinas, Philippines

²School of Foreign Studies, Suzhou University, China

³Business School of Suzhou University, China

⁴Suzhou University Office, China

⁵School of Music, Suzhou University, China

Abstract: With the rapid development of society and the rapid updating of knowledge, traditional teaching models can no longer meet the needs of college students. Therefore, this study aims to explore the application and effectiveness of innovative teaching methods in college student education. Research has shown that innovative teaching methods can stimulate students' active learning ability, cultivate innovative thinking and problem-solving abilities, and have a positive impact on their development. This study proposes implementation strategies and suggestions for innovative teaching methods in university education, and the implementation strategies for innovative teaching methods in university student education provide reference for university teachers and education managers.

Keywords: innovative teaching methods; university student education; active learning; innovative thinking; problem-solving ability

1. Introduction

With the continuous progress of technology and the rapid development of knowledge, higher education is facing new challenges. "Choosing and applying appropriate teaching methods and means in teaching is crucial for students' creative learning." (Li, 2006) Traditional teaching methods have certain shortcomings in stimulating students' interest in learning, cultivating their innovation ability, and problem-solving ability. Therefore, exploring and applying innovative teaching methods has become an important task in the reform of higher education.

2. Definition and Characteristics of Innovative Teaching Methods

2.1. Definition of innovative teaching methods

"Social innovation will be the main driving force for development in the 21st century, assuming the role that technological innovation (and industrial development) played in the 20th century." (Mancini, 2016) Innovative teaching methods refer to the use of innovative strategies and means in the education and teaching process to promote students' learning and development. It breaks through traditional teaching methods and focuses on cultivating students' creativity, critical thinking, collaborative ability, and problem-solving ability. Innovative teaching methods emphasize students' active participation and autonomous learning, by creating a learning environment that adapts to students' needs and real-life situations, stimulating students' interest and motivation, and cultivating their comprehensive qualities and abilities.

Corresponding Author: Meng Ma
De La Salle University-Dasmarinas, Philippines; School of Foreign Studies, Suzhou University, China
Email: 14943318@qq.com
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2.2. Education supervision departments attach great importance to educational reform and innovation and advocate innovative teaching methods

The education regulatory department attaches great importance to educational reform and innovation, and actively advocates the implementation of innovative teaching methods. Innovative teaching methods have the following characteristics:

2.2.1. Student led

Innovative teaching methods emphasize students' active participation and self-directed learning, cultivating students' interest and motivation in learning. The role of a teacher is transformed into a mentor and guide for students, stimulating their learning potential through guidance, stimulation, and guidance.

2.2.2. Activity of student participation

Innovative teaching methods focus on students' practice and experience, introduce rich student activities, emphasize teacher-student interaction, and encourage students to actively participate. For example, problem-solving, project practice, and collaborative learning can encourage students to actively participate and gain opportunities for in-depth learning through practice and interaction.

2.2.3. Diversity and flexibility

Innovative teaching methods emphasize the diversity of individual differences and learning styles among different students, allowing for flexible adjustment of teaching strategies and methods. Teachers can choose suitable innovative teaching methods based on different subject content, student characteristics, and teaching objectives.

2.2.4. Integrating technology and learning situations

"Situational" is a concept detached from "Situational Sociology". As a branch of sociology, "Situational Sociology" began with the publication of "Behavioral Patterns and Situations" by American sociologist William Thomas in 1927. It refers to the study of various behaviors that arise from the interaction between people and different

socio-cultural environments. (Du, 2018) Innovative teaching methods actively integrate educational technology and innovative learning scenarios, such as utilizing multimedia teaching, online resources, and virtual experiments to provide a more interactive and personalized learning experience.

2.2.5. Emphasis on the cultivation of thinking ability

Innovative teaching methods focus on cultivating students' innovative thinking, critical thinking, and problem-solving abilities. By encouraging students to explore, think independently, and analyze problems, guide them to form unique perspectives and solutions.

These characteristics help stimulate students' interest in learning, improve their learning outcomes, and cultivate their innovation and problem-solving abilities. The education regulatory department supports and promotes innovative practices in the field of education, providing a wide range of opportunities and resources for teachers and students, and promoting the development of education reform.

3. Case Study on the Application of 3 Innovative Teaching Methods in College Student Education

3.1. Project based learning

Project based learning is a teaching method centered around projects. The method of converting textbooks into different topics for teaching has been adopted by many schools and teachers, some of which are based on the overall arrangement of schools and departments, and some are self exploration by some teachers. (Xiong & Li, 2011) In this approach, students apply their knowledge and skills to solve problems by participating in real-world projects. For example, a certain university has established a social practice project that requires students to collaborate in a team to complete a community environmental improvement plan. Through this project, students not only learned practical skills, but also developed the ability to collaborate in teams and solve problems.

3.2. Case teaching

Case teaching refers to introducing real or

virtual cases into the teaching process, analyzing and discussing cases to stimulate students' thinking and problem-solving abilities. For example, in a business management course, teachers can introduce a real business case, and students can analyze and discuss the case, understand business management theory, and think about potential problems in actual operation.

3.3. Reverse classroom

Reverse classroom refers to transferring traditional classroom teaching content to extracurricular learning and engaging in in-depth discussions and interactions in the classroom. Students learn independently through reading, video, and other forms before class, and then answer questions and discuss in class. This method can improve students' participation and learning effectiveness. For example, in a computer programming course, students learn basic programming knowledge through an online teaching platform before class, and then work with teachers and classmates to solve practical programming problems in class.

4. The Impact of Innovative Teaching Methods on Student Education

The traditional teaching content and form of ideological and political courses in universities are relatively fixed, with relatively slow updates. The content related to current affairs and politics cannot be supplemented in a timely manner, making it difficult to meet the learning needs of students (Liu, 2022).

4.1. Cultivating students' active learning ability

Innovative teaching methods focus on stimulating students' interest and motivation in learning, allowing them to participate in the exploration and construction of knowledge. Through project-based learning, problem-based learning, and other methods, students are encouraged to actively think, ask questions, and master the skills of self-directed learning. The cultivation of this active learning ability enables students to independently acquire knowledge, continuously learn and solve

problems, and prepare for their future learning and work.

4.2. Cultivating students' innovative thinking ability

Innovative teaching emphasizes stimulating students' creative thinking and encouraging them to engage in innovative exploration during the learning process. Through open-ended questions, collaborative learning, and practical activities, students have the opportunity to think independently, propose independent perspectives, and find innovative solutions. The cultivation of this innovative thinking ability not only improves students' problem-solving ability, but also cultivates their creative thinking and entrepreneurial spirit, enabling them to be more innovative when facing complex problems.

4.3. Developing students' problem-solving abilities

In innovative teaching, students are encouraged to actively face problems and solve them through collaborative exploration, independent thinking, and practice. This problem-solving experience will help students cultivate critical thinking, logical thinking, and analytical abilities, enabling them to flexibly respond to various challenges and difficulties, and find practical and feasible solutions. The cultivation of problem-solving ability is not only beneficial for learning, but also provides valuable ability support for students to face challenges in various fields in the future.

5. The Implementation Strategy of 5 Innovative Teaching Methods in College Student Education

The implementation strategies of innovative teaching methods in college student education mainly include changing the role of teachers, forming a cooperative learning atmosphere, and creating a positive learning environment.

5.1. Transformation of teacher's role

The transformation of teacher roles is the key to implementing innovative teaching methods. Traditionally, teachers are usually knowledge imparters and authoritative figures, while in innovative teaching, teachers should play more of the

roles of mentors and guides. They should shift from simply imparting knowledge to being guides that stimulate students' thinking, cultivate critical thinking, and problem-solving abilities. Teachers should encourage students to think and explore independently, and provide appropriate guidance and support when needed.

5.2. Forming a collaborative learning atmosphere

Forming a collaborative learning atmosphere is one of the important strategies for innovative teaching methods. By utilizing new media technology, creating a learning and communication platform between teachers and students can also break the limitations of time and space, allowing teachers and students to engage in ideological and academic exchanges anytime, anywhere, and engage in collaborative learning. (Liu, 2022) Collaborative learning can stimulate students' willingness to participate, promote ideological exchange and interaction. Teachers can organize activities such as project-based learning, group discussions, and collaborative tasks, allowing students to collaborate and solve problems together. Through collaborative learning, students can share their own ideas and insights, think about problems from different perspectives, and cultivate teamwork spirit and communication skills.

5.3. Creating a positive learning environment

Creating a positive learning environment is the key to implementing innovative teaching methods. A positive learning environment should include factors that encourage and support students' learning motivation and interests. Teachers can enhance the attractiveness of learning by creating creative and stimulating learning scenarios, utilizing multimedia technology and interactive tools. In this context, university teaching is increasingly emphasizing keeping up with the development of the times, adjusting and changing traditional teaching models, actively promoting the construction of educational informatization, and carrying out blended teaching. (Li & Bai, 2021) In addition, teachers should also listen to students' needs and feedback, and adjust teaching strategies and methods in a timely manner

to ensure that students fully develop their potential in a positive and comfortable learning environment.

The implementation of the above strategies helps to improve the learning quality and ability development of college students. Under the guidance of innovative teaching methods, teachers and students actively participate in and promote the process of educational reform, laying a solid foundation for cultivating high-quality talents with innovative and creative abilities.

6. Evaluation and Effectiveness of Innovative Teaching Methods

The evaluation and effectiveness of innovative teaching methods are mainly reflected in the improvement of academic performance, the improvement of students' comprehensive quality, and the promotion of students' career development.

6.1. Improvement of students' academic performance

Innovative teaching methods can effectively improve students' academic performance. By adopting interesting, interactive, and practical teaching methods, students' interest and motivation in learning are stimulated, and their understanding and mastery of knowledge are improved. Innovative teaching methods focus on cultivating students' thinking, critical thinking, and problem-solving abilities, enabling them to better cope with exams and academic tasks, thereby achieving academic goals.

6.2. Improvement of students' comprehensive quality

Innovative teaching methods can improve students' comprehensive qualities. Innovative teaching methods focus on cultivating students' comprehensive qualities such as self-learning ability, cooperation ability, communication ability, and innovation ability. Through project-based learning, teamwork, and practical activities, students can not only acquire subject knowledge, but also develop the ability to solve practical problems and adapt to social needs. These comprehensive qualities will have a positive impact on students' lifelong development

and help them become more successful in their future work and life.

6.3. Promotion of student career development

Innovative teaching methods can also promote students' career development. The demand for talents in modern society is not only for mastering knowledge, but also for possessing comprehensive qualities such as innovative thinking, problem-solving ability, and teamwork spirit. By cultivating innovative teaching methods, students can enhance their professional competitiveness and better adapt to the requirements of future work. In addition, innovative teaching methods focus on cultivating students' entrepreneurial spirit and innovative awareness, providing favorable conditions for their future career development in entrepreneurship or innovation fields.

Overall, the evaluation and effectiveness of innovative teaching methods is a multidimensional issue that requires comprehensive consideration of changes in students' learning outcomes, practical ability development, and teachers' teaching ability improvement. Through continuous reflection, improvement, and research, the implementation effect of innovative teaching methods can be continuously improved, providing better teaching quality and student development support for higher education.

7. Summary and Suggestions

7.1. Summary

After China's higher education entered the era of popularization, as Professor Martin Trow pointed out, some "students who enter the stage of higher education, their cultural level, shared knowledge, and reading and writing abilities are decreasing", "unprepared, and less fond of reading than before", thus "causing many problems". The challenge posed by teaching new students with diverse tendencies and academic potential to universities naturally increases the difficulty of innovative teaching methods for teachers, resulting in a lack of suitable student foundations for innovative teaching methods. (Yao, 2009) Innovative teaching methods have had a

positive impact on student education. It can enhance students' interest in learning, enhance their understanding, personalize learning, cultivate innovative thinking, and improve their overall quality. Innovative teaching methods lay a solid foundation for students' personal development and career success through the cultivation of active learning ability, innovative thinking ability, and problem-solving ability. In order to better implement innovative teaching methods, it is recommended to encourage the transformation of teacher roles, create a collaborative learning atmosphere, create a positive learning environment, and regularly evaluate and adjust teaching methods in higher education. By effectively implementing innovative teaching methods and adopting corresponding strategies and measures, students' learning experience and outcomes can be further improved, laying a solid foundation for their personal development and future career success.

7.2. Suggestions

Suggestion: In order to effectively implement innovative teaching methods, the following are some suggestions:

(1) Transformation of teacher roles: Teachers should transform from traditional knowledge imparters to student guides and mentors, encourage students to think independently and actively explore, and focus on cultivating students' self-learning and critical thinking abilities.

(2) Create a positive learning environment: Teachers should create a positive learning environment, including setting interesting and challenging learning tasks, utilizing various teaching resources and technical means to stimulate students' interest and participation in learning.

(3) Promoting cooperative learning: Encourage cooperative learning between students and teacher-student interaction in teaching. The advantage of this teaching method is that it can achieve consistency, harmony, and unity between teachers' "teaching" and students' "learning". It can not only stimulate students' initiative in learning and thinking, but also play the essential role of teachers

in preaching, teaching, and problem-solving. The teaching effect is intuitive and visible. (Wang, 2022) At the same time, students' teamwork, communication and collaboration abilities, and problem-solving abilities can be cultivated through group discussions, team projects, and other means.

(4) Regular evaluation and improvement: Timely evaluate students' feedback and achievements on innovative teaching methods, continuously adjust and improve teaching strategies based on the evaluation results, and ensure their continuous effectiveness.

Through the above suggestions, innovative teaching methods can be better implemented, improving students' learning experience and outcomes, and laying a solid foundation for their comprehensive quality development and career success.

Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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