

Exploration of Student-Centered Teaching Models in Colleges and Universities Under the Context of Teaching Reform

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ABSTRACT

Against the backdrop of continuous transformation and development in the field of education today, teachers are urgently required to change their traditional teaching concepts, which is crucial for adapting to the educational needs of the new era and improving the quality of education. The student-centered teaching model, which emphasizes the dominant position of students and stimulates their interest and initiative in learning, has become an important direction of education reform. This paper will explore the construction and practice of the student-centered teaching model in college and university teaching, analyze its theoretical basis, and discuss its role in improving teaching quality and cultivating students' comprehensive qualities by combining practical cases.

KEYWORDS

Student-centered; Teaching model; College and university teaching; Teaching reform

1 Introduction

The traditional teaching model in colleges and universities is teacher-centered, focusing on the imparting of knowledge and the passive acceptance of students, while ignoring the dominant position of students and their individual differences. This model makes students tend to passively accept knowledge, lacking opportunities for active participation and thinking, thus restricting the development of students' innovative thinking and individuality to a certain extent ^[1]. With the changes in society's demand for talents, this model can no longer meet the talent cultivation needs of the new era. In contrast, the student-centered teaching model emphasizes the dominant position of students, pays attention to students' learning experience and personalized development, and focuses on cultivating students' independent learning ability, innovative ability and practical ability, thus becoming an important direction of education reform.

2 Theoretical basis of the student-centered teaching model

2.1 Constructivist learning theory

Constructivist learning theory holds that learning is an active process of knowledge construction rather than passive acceptance. Through interaction with the environment, others and themselves, learners connect new knowledge with existing experiences to construct new meanings ^[2]. Learners connect new knowledge with existing knowledge and experiences through interaction with the environment, others and themselves, thereby constructing new knowledge meanings. This theory emphasizes the subjectivity, initiative and creativity of learners, and advocates that learners should conduct active exploration, discovery and construction in the learning process rather than passively accepting knowledge.

2.2 Humanistic learning theory

Humanistic learning theory emphasizes the integrity, autonomy and creativity of human beings, and holds that learning is a process of self-realization ^[3]. Humanistic learning theory focuses on learners' emotional experience and inner world, and advocates the creation of a safe and supportive learning environment to enable learners to realize their self-worth in learning. This theory emphasizes the importance of learners' emotions, attitudes and values, and holds that learners' emotional experience and inner world are important factors affecting learning effects.

2.3 Multiple intelligence theory

Multiple Intelligences Theory holds that each person has a variety of different intelligences, such as linguistic intelligence, logical-mathematical intelligence, spatial intelligence, bodily-kinesthetic intelligence, etc ^[4]. This theory emphasizes the individual differences and learning needs of learners, and advocates the adoption of diversified teaching methods to meet the learning needs of different learners and stimulate their learning interest and potential ^[5].

2.4 Self-directed learning theory

Self-directed learning theory holds that learners are the subjects of learning, who can actively control their own learning process and learn according to their own learning goals and needs ^[6]. This theory emphasizes the importance of

learners' learning motivation, learning strategies and learning resources, and advocates the cultivation of learners' self-directed learning ability to enable them to learn independently.

2.5 Cooperative learning theory

Cooperative learning theory holds that learners can better learn knowledge and skills through cooperation with others^[7]. This theory emphasizes the sociality, interactivity and cooperativeness of learners, and advocates the creation of a cooperative learning environment to enable learners to conduct cooperative learning with others and jointly complete learning tasks^[8].

3 Construction strategies of the student-centered teaching model

3.1 Changing teaching concepts

Teachers should change the teacher-centered teaching concept, establish a student-centered teaching concept, regard students as the subjects of learning, respect their individual differences and learning needs, and stimulate their learning interest and initiative^[9]. In classroom teaching, teachers should not adopt a "one-size-fits-all" teaching method, but design diversified teaching activities according to specific situations. At the same time, teachers need to pay attention to students' learning needs, understand the difficulties and doubts they encounter in the learning process, and adjust teaching contents and methods in a timely manner to meet the learning needs of different students. In addition, teachers should also encourage students to actively participate in classroom discussions and interactions, put forward inspiring questions, guide them to think from different perspectives, and cultivate their critical thinking and innovative ability. In this way, students can not only deepen their understanding and mastery of knowledge, but also exercise their expression ability and truly become the masters of learning.

3.2 Optimizing teaching design

Teachers should design teaching around students' learning goals and needs, combine teaching contents with students' life experiences, design challenging and interesting learning tasks, and guide students to actively participate in the learning process^[10]. As organizers and guides of teaching activities, teachers are responsible for carefully designing teaching according to students' learning goals and needs. They need to have a deep understanding of the curriculum standards, refine them into specific and operable teaching goals, and combine them with students' actual situations to ensure that these goals are both challenging and achievable. By guiding students to actively participate in the learning process, their learning interest can be stimulated, teaching effects can be improved, and students' all-round development can be promoted.

3.3 Adopting diversified teaching methods

Teachers should adopt a variety of teaching methods, such as case teaching, group discussion, project-based learning, etc., according to the teaching contents and students' learning characteristics to stimulate students' learning interest and potential^[11].

Case teaching is a way to combine abstract theoretical knowledge with specific practical situations^[12]. Teachers should carefully select representative and inspiring cases that are close to students' real life or future career development and can arouse students' resonance and thinking.

Group discussion is an effective method to promote students' cooperative learning and the collision of ideas. Teachers should group students reasonably according to their learning situation and personality characteristics to ensure that each group has students at different levels and with different strengths, so that they can learn from and inspire each other in discussions. In the selection of discussion topics, they should be closely related to the teaching contents and at the same time have a certain degree of openness and controversy to stimulate students' enthusiasm for discussion.

Project-based learning is a student-centered teaching method that emphasizes students' independent exploration and practical ability^[13]. Teachers should determine comprehensive and challenging project topics, integrate teaching contents into project tasks, and enable students to systematically learn and apply knowledge in the process of completing projects.

The comprehensive application of these teaching methods can meet the learning needs of different students, enable each student to find a suitable way for themselves in learning, give full play to their potential, and improve learning effects and quality.

3.4 Utilizing modern information technology

As the leaders of education and teaching, teachers should fully recognize the great potential of modern information technology. Teachers should make full use of modern information technology, such as online platforms and multimedia teaching resources, to provide students with rich learning resources and interaction opportunities, and improve students' learning efficiency and effects.

The construction and application of online platforms is an important way to expand the time and space of teaching and realize resource sharing. Through online teaching platforms, teachers can upload carefully produced courseware, teaching plans, reference materials and other learning resources, allowing students to download and learn anytime and anywhere, and at the same time facilitating real-time communication and interaction between teachers and students. The integration and application of multimedia teaching resources can make teaching contents more vivid, intuitive and colorful.

For some abstract and complex concepts and difficult knowledge points, they can be made more intuitive and easier to understand through the display of multimedia resources. Therefore, teachers should make full use of modern information technology to break the time and space limitations of traditional teaching, enrich the contents and forms of teaching, and provide students with more personalized and diversified learning support, thereby stimulating students' learning interest and initiative and improving learning efficiency and effects.

3.5 Establishing a diversified evaluation system

Teachers should construct a diversified evaluation system to promote students' all-round development. This system needs to take into account various factors such as students' learning outcomes, processes, attitudes and abilities. Specifically, the mastery of knowledge is the basis of evaluation. Teachers can comprehensively assess students' understanding and mastery of basic knowledge through tests, homework correction, classroom questioning and other means. The learning process is also important, as it can reflect students' learning strategies, thinking habits and independent learning ability, helping teachers gain a deep understanding of students' characteristics and potential, and then provide personalized guidance. To pay attention to students' learning attitudes, teachers need to exert their subjective initiative to observe students' enthusiasm and initiative in learning, their ability to overcome difficulties and their maintenance of a good attitude. At the same time, teachers should also strive to cultivate students' critical thinking, problem-solving ability, communication and cooperation ability, as well as innovative ability and comprehensive quality, laying a solid foundation for students' future development. The diversified evaluation system can more comprehensively present students' learning status, helping students clarify their own strengths and weaknesses, so as to carry out learning and improvement activities more targeted.

4 Practical cases of the student-centered teaching model

4.1 Flipped classroom

The flipped classroom is a way to invert the traditional teaching model, arranging the knowledge imparting link before class and the knowledge internalization after class ^[14]. Students conduct independent learning by watching videos, reading materials and other means before class, and conduct discussions, question-and-answer sessions and practice in class, while teachers play the role of guides and tutors. This model can effectively improve students' learning efficiency and interest, and cultivate their independent learning and cooperative learning abilities.

4.2 Project-based learning

Project-based learning is a project-oriented learning method in which students learn relevant knowledge and skills by completing a real project. Teachers decompose the project into several tasks, guide students to complete the tasks through independent learning, cooperative learning and other methods, and conduct project presentation and evaluation. This model can effectively cultivate students' practical ability, innovative ability and problem-solving ability.

4.3 Blended learning

Blended learning is a learning method that combines online learning and offline learning. Students learn basic knowledge on online learning platforms and conduct discussions, question-and-answer sessions and practice in offline classrooms. Teachers can flexibly adjust the time and content of online and offline learning according to students' learning progress and needs, so as to improve students' learning efficiency and effects.

5 Challenges and countermeasures of the student-centered teaching model

5.1 The need for teachers' professional development

Transformation of Education Concepts. In traditional college and university education, teachers mostly play the role of knowledge authorities, focusing their teaching on the imparting of knowledge. However, the student-centered teaching model requires teachers to regard students as the subjects of learning and themselves as guides, organizers and facilitators. This means that teachers need to change from the traditional "spoon-feeding" teaching concept to a concept that focuses on students' independent learning and all-round development. In curriculum design, teachers no longer simply explain knowledge according to the teaching syllabus, but design curriculum contents that can stimulate students'

active exploration based on students' interests and needs.

Improvement of Teaching Ability. This model puts forward higher requirements for teachers' teaching ability. Teachers should have excellent teaching design ability, and be able to design personalized and diversified teaching activities according to students' learning characteristics and goals. At the same time, in terms of classroom organization and management, they should be able to deal with various situations in students' independent learning and group cooperative learning, ensuring that the classroom is in order and full of vitality. In addition, teachers also need to master effective communication skills to timely understand students' learning difficulties and psychological status and provide appropriate guidance.

Investment in Interdisciplinary Literacy. With the intensification of the trend of knowledge integration, the problems and topics faced by students often involve multiple disciplinary fields. If teachers are only limited to their own professional knowledge, they will find it difficult to meet the comprehensive needs of students. Therefore, teachers must have interdisciplinary literacy, be able to integrate knowledge and methods of different disciplines, and provide comprehensive guidance for students.

5.2 Investment in teaching resource construction

The student-centered teaching model requires rich and diverse hardware facilities for support. Schools should formulate a reasonable hardware facility construction plan, improve hardware facilities in a planned and phased manner according to teaching needs and the actual situation of the school, and give priority to ensuring the update and supplement of basic teaching equipment. At the same time, they can actively seek financial support from the government, enterprises and all sectors of society, and solve the problem of insufficient funds for hardware facility construction through donations, cooperative construction and other methods.

In addition to hardware facilities, rich software resources are also an important guarantee for student-centered teaching. This includes high-quality teaching materials, teaching courseware, online learning platforms, virtual laboratory software, etc. Colleges and universities should establish a strict screening mechanism for teaching software resources, organize professionals to evaluate and screen various software resources, and select high-quality resources suitable for the actual teaching situation of the school to recommend to teachers. Teachers are encouraged to independently develop and share teaching software resources, and certain rewards and support are given to teachers who have made outstanding achievements in resource development.

The student-centered teaching model emphasizes the creation of a positive, open and interactive learning environment for students. Colleges and universities should redesign and arrange classrooms to create flexible and changeable learning spaces. They should strengthen the construction of campus culture, advocate the student-centered educational concept, and create a positive, progressive, open and inclusive learning atmosphere by holding various cultural activities, academic lectures and other events.

5.3 Reform of the teaching evaluation system

Traditional teaching evaluation is mainly teacher-centered, focusing on the evaluation of students' mastery of knowledge. However, the student-centered teaching model requires the diversification of evaluation subjects, including students' self-evaluation, mutual evaluation, as well as evaluation from parents and society. At the same time, the purpose of evaluation is not only to select and screen, but more importantly to promote students' all-round development and personality growth. The transformation of this evaluation concept requires a period of adaptation for teachers, students and parents.

The student-centered teaching model requires the evaluation content to be more comprehensive and richer, not only focusing on students' academic performance, but also paying attention to the development of students' learning process, learning methods, innovative ability, cooperative ability and other aspects. However, the current evaluation system mostly focuses on the assessment of students' knowledge memory and test-taking ability, and lacks effective methods and indicators for the evaluation of students' comprehensive quality. A diversified evaluation index system should be constructed, which includes students' academic performance, learning attitude, learning methods, practical ability, innovative spirit, team cooperation spirit and other aspects.

The effective use of evaluation results is an important part of the student-centered teaching evaluation system. However, in actual teaching, evaluation results are often simply used for student ranking or as a basis for rewards and punishments, and do not really play a guiding role in teaching improvement and student development. A feedback mechanism for evaluation results should be established to timely feedback the evaluation results to students and teachers, allowing them to understand students' learning status and their development strengths and weaknesses.

6 Integration of the student-centered teaching model

6.1 Integration with value-oriented education

Concept Alignment. Avoid rigid indoctrination; integrate value-oriented elements into student-centered design by exploring ideological connotations in discipline knowledge based on student interests.

Method Innovation. Incorporate value-oriented content into discussions and inquiry-based learning, guiding students to explore social and ethical issues.

Evaluation Inclusion. Add value-oriented indicators (e.g., social responsibility) to the evaluation system, alongside academic performance.

6.2 Integration with innovation and entrepreneurship education

Goal Coordination. Treat innovation/entrepreneurship skills as core components of student-centered education, balancing professional knowledge with innovative thinking and entrepreneurial awareness.

Curriculum Integration. Increase innovation/entrepreneurship courses, form standardized curriculum groups, and infuse innovative methods into professional teaching.

Practical Collaboration. Integrate resources to build shared platforms, partnering with enterprises and research institutions to provide diverse practical opportunities.

6.3 Connection with International Education

Concept Integration. Train teachers in international education concepts and cross-cultural communication, infusing global perspective and cultural tolerance into student-centered teaching.

Curriculum Optimization. Add international modules (e.g., cross-cultural communication) and introduce advanced international teaching materials/cases to align with global industry standards.

Communication Expansion. Establish partnerships with foreign universities for exchange programs and use online platforms to facilitate international interactions.

7 Conclusion

The student-centered teaching model is a key direction of college and university teaching reform in the new era. It can not only significantly improve the quality of teaching, but also comprehensively cultivate students' comprehensive qualities. College and university teachers should be guided by the student-centered teaching concept, actively explore and practice new teaching models, provide students with higher-quality education, and cultivate more talents who can meet the needs of social development.

About the Author

Yeqiu Liu, doctoral degree, associate professor, mainly engages in the research of pavement materials and polymer materials.

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