

Analysis of Influential Factors of Flipped Classroom to Enhance Students' Independent Learning Ability in Applied Universities



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Abstract: The flipped classroom, as an innovative teaching mode, has been widely used in applied universities, aiming to promote the improvement of students' independent learning ability. By analyzing the implementation status quo of the flipped classroom in applied universities, this paper explores the influence of teachers' roles, students' factors, and instructional design on students' independent learning ability, and based on this, proposes four strategies, including strengthening teachers' training and development, optimizing the instructional design and content arrangement, stimulating students' learning motivation and engagement, and establishing an effective feedback and support system. These strategies can effectively improve students' independent learning ability, enhance their learning motivation, promote more efficient learning outcomes, and provide more accurate and effective teaching guidance for applied universities.

Keywords: flipped classroom; applied universities; independent learning ability; teaching strategies

Introduction

The flipped classroom is an innovative teaching model that allows students to learn new knowledge independently through videos or other materials before class by reversing the traditional teaching process while focusing on discussion and practice in class as a way to deepen understanding and application. This model emphasizes student-centeredness, promotes active learning and critical thinking, and plays an important role in cultivating students' independent learning ability. Applied universities focus on combining theoretical knowledge with practical skills, aiming to cultivate students' practical ability and innovative thinking, and the implementation of the flipped classroom is even more crucial for such schools. Therefore, it is a challenge for educators to explore the strategies to effectively implement the flipped classroom and to improve its role in promoting students' independent learning ability.

1. The Current Situation of Flipped Classrooms in Applied universities

1.1. The significance of adopting flipped classrooms in applied universities

The motivation and goal of adopting the flipped classroom teaching mode in applied universities are rooted in the fundamental mission of cultivating applied and practical talents. By changing the traditional teaching process, the flipped classroom model makes the classroom more student-centered and effectively promotes students' independent learning, cooperative communication, and problem-solving abilities. This teaching strategy not only shifts the focus of learning in the classroom from the teacher's lecture to students' self-learning, but more importantly, it strengthens students' learning initiative and participation through the combination of online resources and offline interactions, and stimulates students' innovative thinking and critical thinking ability. In applied universities, the implementation of the flipped

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classroom teaching mode pays particular attention to the cultivation of students' practical and applied abilities to adapt to the rapidly changing social and economic needs. Through this mode, students, under the guidance of teachers, can not only access rich and diverse learning resources on online platforms, but also engage in more in-depth discussions and practices with their classmates in the classroom, and such interactions help students apply what they have learned in real or near-real occupational contexts and improve their ability to solve complex problems. The flipped classroom also emphasizes the development of students' self-management ability, time management ability, and information-processing abilities, which are of great value to students' later careers and lifelong learning (Wang & Feng, 2023). Therefore, the adoption of the flipped classroom in applied universities can improve teaching efficiency and learning effect, cultivate students' independent learning ability and critical thinking, and at the same time, it is also committed to letting students master application knowledge and improve practical problem-solving ability, and finally cultivate high-quality applied talents with both theoretical foundation and adaptable to the actual needs of the society.

1.2. Outlining the effects of the implementation of flipped classrooms in applied universities

The implementation of the flipped classroom teaching model in applied universities has achieved positive results. Students' weekly self-study time after class has been effectively controlled to less than 5 hours, which means that they only need to invest about 40 minutes per day for independent study, which not only ensures that students can study independently, but also avoids overburdening their other course studies. According to the results of the questionnaire survey, most of the students thought that the learning resources provided by the flipped classroom were rich and positively evaluated the teachers' arrangement of class time and content and the intensity of learning objectives in the flipped classroom. The students' feedback shows that the flipped classroom not only improves their learning

efficiency, but also enhances their deeper understanding of what they have learned, improves the relevance and personalization of learning, and promotes the development of education in the direction of greater precision and personalization. Students show positive learning attitudes in the learning process of the flipped classroom, can connect new knowledge with established knowledge or practical experience, actively participate in communication and learning activities, actively seek solutions in the face of difficulties, and regularly review and deeply explore the learning content. Through the flipped classroom, students' independent learning ability, communication, and language expression abilities, as well as analyzing and problem-solving abilities have been significantly improved. In addition, this teaching mode also stimulates students' interest in learning, and even in the face of unsatisfactory academic performance, students show a positive mindset and believe that they can achieve better results through hard work. Overall, the implementation of flipped classrooms in applied universities plays a key role in promoting the improvement of students' comprehensive ability, which strongly supports the teaching goal of applied universities to cultivate practical and application-oriented talents.

2. The Analysis of Influencing Factors Affecting Students' Independent Learning Ability in the Flipped Classroom

2.1. Student factors

In applied universities, the flipped teaching model aims to promote the improvement of students' independent learning ability. Research shows that its effect is influenced by many student factors, among which motivation, learning strategies, self-assessment, and management awareness are the key factors to improve independent learning ability. First, learning motivation plays a crucial role in the flipped classroom. Many students in applied universities show insufficient learning motivation when participating in the flipped classroom, especially in terms of intrinsic motivation. They may

be more concerned with short-term achievement than long-term learning and career development and lack awareness of the deeper value of learning. Extrinsic motivation may also be affected by the school's learning atmosphere, lack of role models, or inadequate evaluation system. Second, the lack of learning strategies is another important factor. Many students fail to effectively adopt or are not even aware of learning strategies that suit them, such as cognitive strategies and resource management strategies. They usually focus only on memorization and comprehension and neglect higher-level learning activities such as analysis, evaluation, and innovation, which limits their learning effectiveness (Li, 2023). Finally, the lack of self-assessment and management awareness is also a key barrier. Some students may not have sufficiently developed the ability to monitor and evaluate their learning progress and effectiveness, and lack the habit of making and following a study plan. In addition, deficiencies in self-management, such as a lack of self-control and an inability to overcome difficulties encountered in their studies, may also seriously affect their learning outcomes. Therefore, when implementing flipped classroom teaching in applied universities, these student factors should be fully considered and actively responded to to promote the overall development of student's independent learning ability through targeted strategies and measures. This requires not only the efforts of students themselves but also the support and guidance of teachers and educational institutions.

2.2. Teacher factors

In applied universities, the flipped classroom, as a modern teaching mode, is intended to enhance students' independent learning ability. Through the analysis and summary of the research results, it is found that its effectiveness in practice is also limited by teachers' factors. First, some teachers' understanding and acceptance of flipped classrooms is insufficient. Although the rapid development of the Internet provides new methods and tools for teaching and requires teachers to constantly seek and experiment with new teaching modes, some teachers still maintain traditional teaching concepts and lack

active exploration and practice of teaching mode innovation. This ideological limitation leads to the implementation of the flipped classroom, which can not understand and grasp its essence, thus failing to effectively use this model to enhance students' independent learning ability. Second, teachers' teaching content arrangement is not scientific and reasonable enough. In the flipped classroom, teachers need to carefully design the pre-course learning materials and classroom activities to ensure that they are organically combined and complementary. However, if teachers do not have a comprehensive grasp of the subject system or fail to take into account the actual needs and differences of students in their teaching design, it may lead to teaching content that is neither attractive to students nor conducive to their independent learning. Thirdly, the homogeneity of teaching methods is likewise an important issue. Education should be diversified and adapt to the needs of different students. If teachers still rely on a single teaching method during the implementation of the flipped classroom, it will not only reduce students' enthusiasm for learning but also affect the learning effect. Teachers should adopt diversified teaching methods according to the characteristics of the flipped classroom to stimulate students' interest in learning and promote their interactive communication, to effectively support students' independent learning. Therefore, when promoting the flipped classroom in applied universities, teachers need to continuously improve their understanding of the model, update their teaching concepts, and reasonably design their teaching content and methods to truly realize the potential of the flipped classroom in promoting students' independent learning ability.

3. Strategies for Flipped Classroom to Enhance Students' Independent Learning Ability

3.1. Strengthening teacher training and development

The teaching goals of applied universities focus on students' practical ability and applied knowledge, so the content of teacher training should be specific

and practical, aiming to enhance teachers' ability to apply the flipped classroom teaching model to better adapt to these goals. Teacher training should include the theoretical foundations and practical methods of the flipped classroom model so that teachers can fully understand the core concepts and operational processes of the flipped classroom. Teachers need to learn how to design and organize pre-class learning materials, how to effectively use class time for in-depth discussion, hands-on practice, or case studies, and how to conduct effective learning assessments after class. Training should focus on enhancing teachers' ability to utilize modern educational technology. Teachers in applied universities should be able to skillfully utilize online learning platforms, multimedia tools, interactive software, etc. These technologies not only help teachers prepare and deliver pre-course materials more efficiently but also enhance classroom interaction and student engagement (Huo, 2023). Teacher training should also emphasize the development of critical thinking and innovative teaching methods. Teachers should be encouraged to try different flipped classroom strategies and to continuously adjust their teaching methods based on student feedback and learning outcomes to achieve optimal teaching results. Applied universities should also establish a continuous professional development system to encourage experience sharing and mutual learning among teachers. Through regular seminars, workshops, and teaching observation activities, teachers can learn from each other's successful experiences, discuss the challenges and solution strategies encountered in the flipped classroom, and continuously improve their teaching ability and professionalism.

3.2. Optimize teaching design and content arrangement

In applied universities, the successful implementation of the flipped classroom model not only relies on the active participation of teachers and active learning of students but also requires the scientific optimization of teaching design and content arrangement. First of all, it is necessary to accurately

position the teaching content and students' needs, understand and analyze the students' learning foundation, interests, and future career needs, and carefully select and design the teaching content by combining it with the educational orientation of applied universities that focus on application practice (Chen, 2023). The content should not only meet the requirements of the discipline, but also stimulate students' interest in learning, and more importantly, it can be closely connected with students' future career development and improve their practical application ability. Secondly, an interactive and rich learning environment needs to be constructed, and modern information technology, such as online education platforms and social media, is utilized to create a highly interactive learning environment. In this environment, students not only have access to rich and diverse learning resources but also can interact effectively with their classmates and teachers to promote deep understanding and application of knowledge. Again, learning tasks are designed at different levels, and differentiated learning tasks are designed for students at different levels, which can challenge high-level students and guarantee the learning effect of basic-level students. The task design should focus on cultivating students' problem-solving ability and innovative thinking while encouraging students to combine what they have learned with practical problems for practical learning. Finally, to strengthen the connection between classroom and extracurricular learning, teachers should design activities that bridge classroom learning and extracurricular independent learning to ensure that students' independent learning in the classroom complements classroom teaching (An, 2021). For example, teachers can assign inquiry tasks related to classroom content in class, encourage students to deepen their learning by utilizing online resources, and then discuss and share them in class as a way to promote students' in-depth understanding and application of knowledge. Through the implementation of these strategies, applied universities can more effectively utilize the flipped classroom model to enhance students' independent

learning ability, and lay a solid foundation for students' overall development and future careers.

3.3. Stimulate students' motivation and participation in learning

In applied universities, stimulating students' learning motivation and engagement is the key to implementing the flipped classroom and enhancing students' independent learning ability. The educational focus of applied universities is to cultivate student' practical application ability, so the course content should be closely related to the industry practice, highlighting its practicality and applicability (Fu & Fu, 2020). Through case studies, site visits, lectures by industry experts, etc., the abstract theory is combined with concrete practice, so that students can see the practical application scenarios of what they have learned, thus enhancing the purpose and urgency of learning. Teachers should set learning objectives in stages according to the characteristics of the flipped classroom so that students can gradually realize the transformation from basic understanding to in-depth mastery. Clear and specific learning objectives can help students recognize the direction and focus of learning, and motivate them to reach their goals. At the same time, the establishment of reasonable incentive mechanisms, such as reward systems, point systems, or honorary titles, can further stimulate students' enthusiasm for learning and participation (Zhai & Lu, 2022). Recognizing students' learning efforts and progress through timely positive feedback can effectively enhance their learning motivation. Educators can encourage students to ask questions, discuss, and share in the classroom to form a positive learning atmosphere and increase their engagement and learning motivation. Utilizing technological tools such as online discussion platforms and interactive polls can increase the interactivity of the classroom and make students feel more engaged and involved in the learning process. The implementation of these strategies can not only stimulate students' motivation to learn but also increase their participation in the flipped classroom, thus promoting the enhancement of independent learning ability and laying a solid

foundation for their future development in the industry.

3.4. Establishing an effective feedback and support system

An effective feedback and support system helps to improve students' independent learning ability and can ensure the effective implementation of teaching activities. Such a system should be able to provide immediate, specific, and constructive feedback to students as well as feedback to teachers to help them adjust teaching strategies and content. First, clear and specific feedback mechanisms should be established for students to ensure that they receive timely and valuable feedback after completing each learning task. This feedback can be provided in an automated manner through an online platform, or it can be achieved through peer assessment or individual instruction by the teacher. Explicitly pointing out students' strengths and room for improvement, can help them recognize their learning progress and problems more clearly so that they can adjust their learning strategies in a more targeted way (Qiu, 2023). Second, teachers should regularly collect students' learning feedback to understand their satisfaction with the content, teaching methods, and learning resources, as well as the difficulties they encounter in the learning process. This information is crucial for teachers to adjust course design, and teaching methods and provide additional learning support. Again, applied universities should also establish a comprehensive learning support system, including learning advisors, online resource centers, and study groups, to provide students with multi-faceted learning support. Such a system can not only answer students' questions and provide necessary academic guidance but also encourage collaborative learning among students and joint problem-solving. By establishing such an effective feedback and support system, applied universities can provide students with a more inclusive, mutually supportive, and efficient learning environment, which greatly promotes the enhancement of students' independent learning ability, as well as the professional growth of teachers and the continuous

improvement of teaching quality.

Summary

In summary, through the strategies of strengthening teacher training, optimizing teaching content and methods, stimulating students' motivation to learn, and establishing an effective feedback support system, the flipped classroom can significantly improve students' self-directed learning ability, which will help students better adapt to the needs of future social and professional development. Future research can further explore the specific mechanism between the flipped classroom and the enhancement of students' independent learning ability, examine the implementation effect of the flipped classroom in different disciplines and different teaching environments, and explore how to optimize the flipped classroom model by combining modern information technology. The research should also focus on the impact of the flipped classroom on teachers' teaching concepts and teaching methods, as well as how to cultivate teachers' professional development in this emerging teaching mode, to provide strong support for applied universities to cultivate more high-quality applied talents.

Conflict of Interest

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

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