

Practice and Innovation on Task-driven English Teaching Based on Flipped Classroom

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Abstract: In order to change the traditional “cramming” teaching in college English teaching mode, and bring the subjectivity of the students to full play under teachers’ leading, the paper, taking Beijing Institute of Petrochemical Technology as an example, conducts an empirical study on flipped classroom teaching of college English audio-visual course, and reflects on the problems and practice again. According to the actual English level of the students, their aptitude and learning ability, we adjust the concrete operation modes of the flipped classroom, reposition the roles between teachers and students, and carry on the classroom teaching design, reconstruct classroom dialogue assisted with other advanced teaching methods, so that “flipped classroom” can bring practical effects to college English teaching in a real sense, improving students’ comprehensive English application ability.

1. Introduction

According to the Ten-year Development Plan for Educational Informatization (2011-2020), the development of educational informatization should be guided by the innovation of educational concepts, based on the construction of high-quality educational resources and informationized learning environment, and centered on the innovation of learning methods and educational models[1]. The flipped classroom originated in the United States. Compared with the traditional classroom, it is a new teaching model oriented by innovative educational concepts, which optimizes and integrates advanced teaching resources and makes full use of modern information technology. Generally, the learning process of students is divided into two stages: knowledge reception and knowledge internalization. In traditional classroom, the process of students receiving knowledge is placed in the classroom and completed by teachers’ teaching. Students’ internalization of knowledge is done outside the classroom through homework, practice and other processes. Flipped classroom is on the contrary. Students get knowledge outside the classroom through teaching micro-videos and online classes, and interact with classmates or teachers through the network information platform, which is mainly for answering questions during self-learning before class and learning feedback after class to complete knowledge acceptance. In class, students complete homework and ask questions under the guidance of teachers, or carry out activities such as project practice, collaborative learning and in-depth discussion to realize indepth understanding and internalization of the knowledge they have learned. Flipped classroom has been welcomed by many schools in the United States, and China has begun to carry out regional trials. From the perspective of teaching process, students use teaching

video to learn after class is the first step of flipped classroom, which is also the most critical and basic step. If students can't finish the learning of teaching video on time and with high quality, they can't participate in classroom activities effectively, which makes the flipped classroom become a mere formality. Based on this, this paper tries to discuss the problems and restrictions of flipped classroom, and how to implement flipped classroom teaching in college English in a real and effective way through an example of the implementation of flipped classroom in Beijing Institute of Petrochemical Technology. It mainly includes the following aspects: Before class, students are required to master the content taught in the traditional sense during class, and complete it through network technology before class. Teachers should master the organizational strategies of some learning activities, such as problem-based learning, project-based learning, group learning, gamified learning, role playing, and so on. The teacher has changed from the delivery of teaching content to the design developer of video resources and the provider of related educational resources. Before class, teachers need to provide students with necessary resources, such as teaching videos, teaching courseware and other network resources, so that students can have a full understanding of the knowledge they have learned. When students need help, teachers provide them with necessary support through the information exchange platform. The "in-class" in flipped classroom mainly focuses on students' activities, and teachers always accompany them, thus creating favorable conditions for full communication and deep interaction between teachers and students as well as between students. On the one hand, the "student-oriented" classroom can provide students with more opportunities to internalize knowledge and output language, and students can become the main body of classroom activities. On the other hand, with the increase of face-to-face communication opportunities, teachers have more time for one-to-one guidance and communication, timely answer students' confusion, provide necessary correct guidance for students' classroom activities and knowledge internalization, improve students' learning efficiency and reduce students' learning pressure.

2. The theoretical basis

Traditional teaching emphasized the overall control and lecturing of teachers in the classroom and the leading role of "emphasizing teaching over learning" in the whole teaching process. At the beginning of the 20th century, John Dewey put forward the "child-centered" and "activity-centered" educational theories[2]. Bruner emphasized "discovery learning" based on students' independent inquiry. Its core concept was "valuing learning over teaching", which laid the foundation for the widespread popularity of the "student-centered" educational thought advocated by constructivism in the West. Teachers need to set up stepped curriculum content to form a "zone of proximal development" for students' self-learning and development according to the structure of different subjects, and guide students to go beyond the inherent way of understanding and realize the stepped cognitive advancement[3]. Both of these teaching theories have their own advantages and problems. In recent years, flipped learning, as a new classroom teaching paradigm, has attracted increasing attention in the international educational community. Its origin can be traced back to Peer Instruction, which was founded by Eric Mazur, professor of physics at Harvard University in the early 1990s. Mazur believes that traditional lecturing teaching attaches great importance to the transmission of information and imparts knowledge, while the digestion and understanding of knowledge are not effective, so he proposes the peer teaching method, which requires students to learn the course content by themselves after class, and in class, students can realize the real absorption and internalization of knowledge through interactive activities such as "questioning, thinking and answering". Although Mazur did not put forward the concept of "flipped learning", it is not difficult to find the shadow of flipped learning. However, flipped learning in the real sense started from a teaching experiment called "flipped classroom" conducted at the University of Miami in the mid-1990s[4]. As its name suggests,

Flipped Classroom is a type of classroom that takes activities that would otherwise be “taught” in class and puts them outside the classroom, while activities that would traditionally be “learned” are flipped inside the classroom. Flipped classroom is based on the “blended” learning method, and its teaching process includes two parts: pre-class micro-video teaching (including online learning through network classroom) and face-to-face teaching in class. The former is self-directed learning in the form of online learning and watching videos, but it does not ignore the inspiration, help and guidance of teachers. The latter emphasizes the guiding role of teachers, but pays more attention to how students promote the internalization of cognition and emotion through independent inquiry and group collaboration and communication under the guidance of teachers. It is necessary to carry out the two parts of teaching well and effectively achieve the predetermined teaching goal. It is not “teacher-centered” or “student-centered”, but “teacher-led” based on the existing level of students on the basis of “Blended” education thought marked by “Blended Learning”, which is a teaching mode of “teacher-led and student-subject” based on students’ current level, namely the educational thought of “combination of leading and subject”, gives full play to the enthusiasm and subjective initiative of both teachers and students, rather than the simple “student-centered” teaching model floating on the surface. Namely, we should combine the advantages of traditional teaching and learning with the advantages of E-Learning (digital or networked teaching and learning). In other words, teachers should not only give play to their leading role in inspiring, guiding and monitoring the teaching process (because teachers are generally above students in knowledge, experience and ability, and students need systematic guidance and help from teachers in learning, the dominant position of teachers cannot be replaced), but also fully reflect the initiative, enthusiasm and creativity of students as subjects in the learning process under the guidance of teachers [5], which is to promote the greater role and effect of “flipped classroom” from the perspective of establishing a new type of teacher-student relationship. Students can effectively master the progress of learning through online learning and teaching video learning, and can communicate their ideas with teachers or peers on related issues, thus gaining the initiative in learning.

3. Implementation and restrictions of flipped classroom

“Flipped Classroom” refers to the learning model in which students get new knowledge through micro-video or online classes before class, and then digest and consolidate it in class. Domestic scholars have also conducted related researches, but they mainly focus on the introduction of flipped classroom and the exploration of teaching model, etc. There are few cases that have studied flipped classroom from the empirical perspective. Therefore, from the Autumn Semester of 2021, we conducted a research on the teaching practice of “flipped classroom” in the course of “College English Audio-visual Speaking” offered by Institute of Petrochemical Technology in order to master the process, methods and precautions of effectively carrying out the teaching practice of “flipped classroom” and promote the deepening reform of classroom teaching. Self-learning online courses and micro-videos before class are the premise and foundation of classroom flipping, inquiry based activities in class are the core and soul of classroom flipping, and indepth study after class is the only way to deepen and improve knowledge and skills.

Through the implementation of flipped classroom in one semester, through the analysis of the implementation and teaching effect of the course “College English Audio-visual Speaking” flipped classroom teaching, it is found that flipped classroom has, to a certain extent, activated the classroom atmosphere and improved students’ enthusiasm and participation in English learning. It does not significantly improve students’ acquisition level and learning efficiency of knowledge and skills. By analyzing the reasons, we find that although we have implemented flipped classroom on “form”, we have not achieved true “essence” resemblance. Although the teachers spent a lot of energy to record

the video, the interactivity, interactivity and guidance did not achieve the expected effect; Although the classroom design was carried out and various classroom tasks were assigned, it failed to effectively stimulate students' interest in learning English and stimulate enlightening inquiry discussions. Although the classroom activities, but the proportion of operational tasks is high, it is difficult to cultivate high-level thinking and skills; Although we pay attention to classroom communication, we fail to create a good and positive classroom atmosphere, resulting in a mere formality of classroom communication. As for the reasons, we can find that there are various problems and shortcomings and challenges in the implementation of flipped classroom. First, students have different English foundation, and there are still great differences in English application ability. Second, teachers' ability to make pre-class micro videos needs to be improved. Moreover, the role transformation of teachers and students in the implementation of flipped classroom needs to be strengthened. In the process of implementing "flipped classroom", great challenges have also been encountered. One of the challenges is that the strong support of the networked teaching environment is the necessary guarantee for the implementation of flipped classroom. However, the networked teaching environment of our school can basically meet the needs of the self-learning of the pre-class network platform and the interactive feedback of the after-class information platform, but there is still a lot of room for improvement in ensuring the network stability and fluency required by students in the implementation of flipped classroom. Secondly, the implementation of "flipped classroom" in a larger scope will face a huge challenge: the research and development of high-quality teaching resources. Flipped classrooms require students to watch a video of the teacher before class begins. In the early days, this kind of video materials were teaching videos recorded in a traditional way, but now they have developed into micro-videos (a kind of high-quality teaching resources) that combine knowledge points with targeted exercises. It can be said that high-quality English teaching resources and micro-video production cannot meet the actual needs of flipped classroom. Finally, due to the large difference in students' English foundation, two different micro-video versions should be made according to students' different English levels: the ordinary version and the simple version. This virtually adds to the work of the production team of micro-video and online courses. The feasibility of the two versions of micro-video and online courses needs to be further practiced and proved in the implementation of English "flipped classroom".

4. Reflection and re-practice on "flipped classroom"

From the practice of flipped classroom in the Autumn Semester of 2021, the teaching practice of College English audio-visual speaking course in our school has achieved certain improvement in stimulating students' enthusiasm and learning effect in English learning. However, from the perspective of students' learning situation, the flipped teaching practice has not significantly improved the teaching effect and academic performance. The analysis shows that the main reason why the teaching practice effect has not been improved is that the teaching is only similar in superficiality rather than in spirit. In view of the current situation, we have carried out a series of thoughts and reflections on the implementation of flipped classroom. First of all, the leading role of teachers in flipped classroom teaching cannot be ignored. Although teachers no longer use the traditional teaching mode in class, they still need to control, design and supervise the arrangement of the whole teaching process, including the summary of students' problems in the learning process of micro-courses, the organization and guidance of classroom activities, and the interaction with students through the teaching platform. Flipped classroom teaching needs to strengthen teachers' overall control and play a leading role in the whole teaching process. Secondly, the implementation of flipped classroom requires tremendous support from schools in terms of information technology. In flipped classroom, computer and network technology is indispensable for teachers to make and

publish micro courses, students to watch and learn micro courses after class, and teachers to guide students to carry out personalized and collaborative learning. Schools should provide guarantee for the implementation of flipped classroom from hardware to software. In terms of hardware, for example, Wi-Fi coverage should be increased so that all students can use the network stably, so as to ensure smooth playback of micro-videos and micro-courses after class and in class. Software, such as in the campus network to provide mature and advanced teaching platform and information release platform, to ensure that teachers and students interaction unimpeded. Students are systematically trained in flipped classroom learning methods and skills, so that students can use relevant information technology to complete collaborative tasks of flipped classroom after class and adapt to this new teaching mode as soon as possible. In addition, flipped classroom will certainly cause the change of teaching evaluation method. Based on constructivism learning theory and mastery learning theory, flipped classroom advocates “student-centered” in the teaching process, emphasizing that students learn through independent exploration and group collaboration under the guidance of teachers. Teachers teach knowledge through micro-courses mainly in the form of micro-videos, and communicate and interact with students through teaching platforms and information exchange platforms, and organize and guide students to carry out collaborative exploration in class to complete the assigned task. In flipped classroom, both teachers’ teaching mode and students’ learning style have changed a lot. Therefore, traditional evaluation methods cannot measure the full effect of “teachers’ teaching” and “students’ learning” in flipped classroom [6]. The new evaluation criteria and evaluation methods will come into being, so that the implementation of flipped classroom can be objectively and effectively evaluated.

In order to improve the teaching effect of flipped classroom and have a thorough change from surface to spirit, the following aspects can be taken into consideration. The specific implementation steps are as follows. First, teachers should treat micro-videos differently when making them. For students with weak English foundation, a simplified version should be made, which is convenient for students to absorb and master in self-learning before class. At the same time, the network information platform should be used to answer questions online before and after class. In addition, a copy of the video with strong guidance and clear structure should be provided for students to understand the main content before watching the video, so that students can concentrate on the content of the video when watching the video, and guide and help students to timely review and consolidate after class. Second, teachers need to change their roles. It is necessary to transform the traditional teaching classroom mode of cramming into self-directed learning before class. In class, teachers guide students to become a learning mode of rich and diversified learning activities, such as question and answer, cooperative discussion, peer cooperation, project practice, etc. Teachers need to get out of the past cramming teaching mode which mainly imparts knowledge, respect students’ personality and cognitive and emotional needs, design inquiry activities creatively, organize classroom inquiry and discussion well, and guide students to develop themselves through dialogue, communication and cooperation. Third, repositioning the role of students and abandoning the mode of unorganized flipped classroom is the soul of flipped classroom teaching organization. Many people believe that flipped classroom is the complete reversal of extracurricular and classroom with students holding all the initiative in the classroom, while making teachers become insignificant observers in the classroom. In fact, flipped classroom is not unorganized and free learning for students, but active learning and exploration guided by well-designed classroom inquiry activities or discussion activities of teachers. The learning process and effect should be basically under the prediction and control of teachers, rather than anarchic and aimless learning. The whole process of flipped classroom teaching not only requires students to actively participate in it, that is, to consciously learn videos before class and actively explore and participate in discussions in class, but also requires teachers to play a very beneficial leading role in flipped classroom teaching, to better guide students to explore deeply and summarize

experience in class, and to overcome difficulties and sublimate knowledge after class. It can be seen that flipped classroom is not only a classroom that constructs in-depth knowledge, but also a classroom that reasonably constructs effective communication between teachers and students. Flipped classroom should not only be a simple reversal of traditional teaching forms, but also a fundamental reform of curriculum teaching structure from the perspective of respecting the law of human development. Therefore, the soul of flipped classroom is to actively guide teachers to carry out “student-centered” collaborative activity exploration mode and knowledge construction mode. Moreover, the quality of teaching micro-video needs to be improved. First of all, teaching videos should be systematically recorded with specific knowledge points as a unit. Teaching videos can be divided into multiple knowledge points according to the arrangement of teaching materials and teacher handouts, and the knowledge points can be organically integrated into a “knowledge point” system covering all knowledge points, and each knowledge point should take 7-10 minutes. Secondly, the teaching video should strive for reasonable structure, clear order, vivid image, and strong interactions. The analysis of the survey data shows that the teaching videos with reasonable structure, clear organization, vivid image and strong interaction are widely welcomed. At the same time, the video is different from the classroom teaching, teachers cannot timely perceive the students’ questions when recording the video. Therefore, in the video recording, the “appropriate pause” technique can be skillfully used to leave enough time for students to think, avoid the passive learning of students in the process of watching the video, and improve the interactive and active video learning. In addition, it is of great importance to form a new flipped classroom teaching evaluation method, and run it throughout the whole process of flipped classroom implementation. Based on constructivism learning theory and mastery learning theory, flipped classroom always advocates “student-centered” in the teaching process and emphasizes students’ learning through independent exploration and group collaboration. Both teachers’ teaching methods and students’ learning methods have changed a lot. New evaluation standards and methods are needed to evaluate the implementation of flipped classroom. During the re-practice of flipped classroom, the evaluation standard system throughout flipped classroom is particularly important. It is necessary to consider whether teachers can produce micro-courses in “flipped classroom” and “before class” according to the actual situation of students, which are consistent with the established teaching objectives and teaching content, and form positive and benign interaction with students through the teaching platform. Whether the “flipped classroom” and “in-class” teachers can organize students to form group cooperation and exploratory discussion in a good atmosphere in class, and whether students can use information technology to conduct independent exploratory learning according to the micro-courses provided by teachers, make full use of information resources, and fully display their learning results to complete the absorption and internalization of knowledge; Whether “after class” can provide good learning feedback and internalization of knowledge through the school information exchange platform, partners and teachers. Lastly, a comprehensive information technology model must be used to promote the flexibility of English teaching and the diversification of information channels. With the rise of “MOOCs”, flipped classroom has absorbed the advantages and characteristics of online open courses. It is necessary to promote the flexibility of English teaching and the diversification of information channels by means of the comprehensive information technology model. With the rise of “MOOCs”, flipped classroom has absorbed the advantages and characteristics of open online courses. In addition to emphasizing “interaction, communication, feedback” and “online learning community”, online courses also pay special attention to the extensive collection, effective use and research and development of various information resources related to teaching. Therefore, it is generally believed in the academic circle that flipped classroom is very advantageous to promote the effective utilization and research and development of teaching resources, because it is not only an ideal platform to promote the utilization of teaching resources, but also a powerful driving force to promote the further research and

development of teaching resources. This is a representative viewpoint to discuss the role and effect of “flipped classroom” from the perspective of the utilization and research and development of teaching resources. On the role and effect of “flipped classroom”, in addition to the above four popular and generally recognized views in the academic circle, there is another creative view put forward by Mr. Tao Xiping previously, which is also very worthy of our attention. This view holds that “flipped classroom” is the full embodiment of the new concept of “generated curriculum”, which is another representative view to discuss the role and effect of “flipped classroom” from the perspective of “generated curriculum”.

In the semester from February to June 2022, we overcame all kinds of drawbacks of the previous superficial flipped classroom teaching form, strictly followed the above steps summarized in the practice, made full use of online open classroom and other English teaching information channels, and implemented the new flipped classroom teaching mode again in the same teaching class. The implementation of the new teaching model of college English “flipped” classroom has enhanced the enthusiasm of students in learning English. Students’ English learning enthusiasm has been greatly improved, and their comprehensive English application ability and English activity organization ability have been greatly improved. This teaching model plays a positive role in creating a good classroom English learning atmosphere, improving learning efficiency and ensuring learning effect. With the aim of “taking the lead in listening and speaking, keeping up with reading and writing”, it focuses on improving students’ comprehensive English application ability. In addition, the implementation of the new teaching model of “flipped” classroom in college English improves students’ comprehensive English application ability and interest in learning English. The implementation of the new teaching model of college English “flipped” classroom has improved students’ comprehensive English application ability and interest in learning English. Through the construction and practice of “flipped” English classroom for one year, nearly one thousand students in the whole school have benefited. Through this new teaching and classroom mode, students have comprehensively improved their comprehensive ability of using English. During the implementation of this flipped classroom, students actively participated in various English competitions and won various awards in English competitions (including FLTRP Cup National English Writing Competition, National English Competition for College Students, and etc.).

5. Conclusion

Flipped classroom is an innovative teaching model, which subverts the inherent model of traditional teaching. It is a major breakthrough in teaching reform under the condition of modern information technology development. As educators who keep pace with the development of The Times, we should not just stay in the stage of theoretical research on flipped classroom, but should be more applied to teaching practice. It fully constructs the personalized “before class” English learning model of college English “flipped” classroom, forms the new student-centered teaching application model of college English “flipped” classroom “in class”, and embodies the “supportive and open” constructivism teaching design idea of college English “flipped” classroom. In other words, the advantages of traditional teaching and learning methods should be combined with the advantages of E-Learning (digital or networked teaching and learning methods). This change not only puts new demands on teachers’ teaching skills, but also on students’ learning abilities. Therefore, repositioning the roles of teachers and students, refining course teaching videos, and reconstructing classroom dialogue are the effective ways to ensure the implementation of flipped classroom. Teachers should not only play the leading role of inspiring, guiding and monitoring the teaching process, but also fully reflect the initiative, enthusiasm and creativity of students as the main body of the learning process, so as to effectively improve students’ comprehensive English application ability in a practical sense

and further promote the reform of college English teaching in China.

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