Research on computer basic teaching in Higher Vocational Education under the background of flipped classroom

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Abstract-In recent years, flipped classroom appears more and more in the teaching process. Flipped classroom can also be called inverted classroom, which gives students the decision-making power of learning and improves the efficiency of classroom. This paper will elaborate and analyze the current situation of computer technology course teaching in Colleges and universities and the application of flipped classroom in teaching. This paper discusses the problems existing in the teaching process of computer technology and education course and how to solve the problems effectively with flipped classroom, so as to promote the improvement of students' performance and teaching level.

1. Introduction
With the development of the times and technology, the flipped classroom model appears. With the development of Internet technology, this mode has more and more advantages, especially in the basic computer teaching in higher vocational colleges.

2. Flipped classroom
2.1 Concept
Another name of flipped classroom is reverse classroom. As the name implies, it is quite different from traditional classroom. Through the transfer of learning initiative and the re adjustment of learning time to achieve a new mode of efficient learning, students can more systematically master the knowledge. Another big difference between flipped classroom and traditional teaching lies in the time and place of learning. We all know that traditional teaching can only be carried out by teachers, but flipped classroom can learn anytime and anywhere. By recording videos of teaching contents, students can learn repeatedly. One to one teaching can also be realized in flipped classroom, and often has better effect.

2.2 Advantage
Flipped classroom is very different from traditional classroom. It doesn't need face-to-face learning between students and teachers. Instead, the teacher records learning videos. Students can watch them repeatedly at any time. In class, they can check and make up for the deficiencies according to what they have learned and discussed with the teacher. This kind of education mode is not only novel, but also coincides with the direction of education reform in our country. It respects the physical and mental development of students, the laws of education, and the differences of students, so as to provide them with appropriate education.
2.2.1 Break through the time and space limit
The traditional classroom teaching effect is not good enough, part of the reason is that there are time and space constraints, students and teachers only in a specific time and place together to achieve teaching. Although we have been emphasizing the reform of classroom teaching, many educators are constantly improving their teaching ability, trying new teaching methods, teaching methods and making the teaching content more novel, but we seldom pay attention to the importance of teaching time. Flipped learning can break through the limitation of time and space. The content of classroom teaching is replaced by teaching video. The valuable time in class can be used to explore interaction and deep learning. Students can also adjust according to their own learning methods and learning habits to find the most suitable state to achieve the best learning effect.

2.2.2 Flexible response, more independent learning
Traditional classroom teaching requires students to be 100% committed, and there is a fixed time and place. However, college students are usually busy, because in addition to learning, they also need to complete a lot of extra-curricular activities, such as volunteer service, various competitions, performances, and some student union work. When the time collides, they have to make a choice, Most of the time, even if they give up some extracurricular activities, the learning efficiency in the classroom is not high, they need to have the opportunity to make up for the knowledge they missed or did not learn well. In this way, the significance of flipped classroom is more obvious, because students can freely arrange their time, learn in advance, and make up lessons, make the most of their time and improve themselves from different dimensions.

2.2.3 More effective resource allocation
Each student's learning ability is different, and their mastery of knowledge is also different. In the traditional classroom, the students with the best scores and the brightest say that they are concerned and favored by the teacher. They can actively respond to the teacher's problems and have a more in-depth interaction with the teacher. However, there are some students who have difficulties in learning. They are always passive in listening and can not keep up with the old The speed of teachers and the vicious cycle over time make it more difficult for these students to learn. However, flipped classroom can pause and replay, allowing students who do not understand for a while to listen to it twice or even many times. In the classroom, teachers also have more time to take care of each student and have more time to help students with learning difficulties.

2.2.4 Personalized learning, we are not the same
We have always known and acknowledged that each student's learning ability and interest are different, but the traditional teaching process can not carry out hierarchical teaching to students. However, flipped classroom can achieve this goal. Each student can learn according to his own learning habits and speed. Fast students can have time to master more difficult contents. Slow learners also have more opportunities to communicate with teachers and get help.

2.2.5 Change tradition, interactive learning is more effective
Flipped classroom will release the decision-making power of learning and teachers from the platform. Since then, many teachers who have implemented flipped classroom have said that they have more time to get along with students for one-on-one communication, and can also answer questions for students who have questions. They are no longer standing on the podium performing alone, but a group of people interacting around the theme, so learning is more efficient.
3. Problems in the teaching of computer basic course

3.1 Curriculum and professional needs do not match
Every major in the university has its own curriculum system, because each major has different characteristics and needs, but the professional courses in higher vocational colleges will have defects in this respect. Their teaching plans do not have clear objectives, nor do they reflect the requirements of the times and the characteristics of the specialty. Especially for the basic computer courses, they are organically integrated with the professional courses. The merger is not in place. Now is an information age, computer application exists in the construction and development of every industry. Many positions in the market require students to master basic computer knowledge. However, due to the school curriculum, many students have not learned the corresponding knowledge and skills, nor can they meet the needs of the post. Therefore, for students, to ensure their development in the future social life, for colleges and universities, to ensure the usefulness of their own talents, talent training plan should reflect the key position of computer technology synthesis, realize the organic integration of professional courses and computer basic courses, and improve the employability of students.

3.2 The teaching content needs to be updated
With the continuous progress of the times, in today's information age, the development of Internet technology is changing with each passing day, and the teaching materials of basic computer courses should also be constantly updated. For some majors, the effectiveness of teaching materials is not obvious, but for computer related majors, the latest theory and technology can not be reflected in the text. Moreover, under the influence of computers and smart phones, students now have a basic understanding of the basic operation of computers, and the traditional teaching textbooks have been unable to meet their learning needs. Therefore, higher vocational colleges should pay attention to this problem, increase the investment in multimedia application, increase the frequency of changing teaching materials, and keep pace with the times. We should cultivate talents suitable for the society.

3.3 The assessment mechanism needs to be improved
In school, the test of students' mastery of knowledge is the examination. For some college students and vocational college students, they only focus on the knowledge within the scope of examination, but they do not have a comprehensive understanding and understanding of the teaching content, and there is no systematic sorting and learning. Moreover, the assessment of students in Colleges and universities is generally one or several examinations to evaluate the learning results, but it does not take into account the particularity of the computer course. Students not only master the knowledge in the textbook, but also apply computer technology to practice. At the same time, it is unscientific to determine the final score in one stroke. It is a mistake for students to master knowledge. We need a more comprehensive comprehensive inspection system, so as to investigate the comprehensive quality of students.

3.4 The teaching method needs to be innovated
Although the rapid development and popularization of network technology, most of the students have mastered some computer knowledge before university, but because of the regional differences in education, students from different regions will show different abilities, and teachers will encounter some difficulties in teaching. In addition to the different abilities of students, different majors have different standards for mastering computer technology. Students of different majors naturally have different degrees of mastering computer technology. Therefore, teachers can not teach in accordance with the average level. For students with higher professional needs, they can appropriately reduce the difficulty, but for those who require less, it can appropriately reduce the burden of students, which is conducive to the improvement of the overall teaching level. One of the most important reasons for the problems in the teaching of basic computer courses lies in the lack of innovative courage in Colleges and universities, which have been copying and pasting the past
achievements without forming a new knowledge system, unable to adapt to the new situation and unable to improve the teaching efficiency for a long time.

4. From the flipped classroom to explore solutions

4.1 High quality teaching resources
To a large extent, the teaching effect is affected by the quality of lesson resources, especially as a teaching method often used in flipped classroom, the quality of teaching video is very important, which can directly and effectively transfer the teaching content. However, for higher vocational colleges, it is no longer guided by entrance examination, but oriented by employment. And the teaching of computer basic courses should also have more high-quality teaching resources. We can carry out professional construction and teaching reform from our own, and we can also cooperate with external enterprises to develop a better talent training plan and curriculum system. At the same time, we should make good use of all available resources and further optimize teaching resources.

4.2 Network teaching process
Nowadays, with the continuous development of computer technology, the course of computer technology should make good use of the network for teaching, because of the difference between knowledge and other subjects, the teacher's explanation in class can not make students fully understand the teaching content, so the network is needed. The intervention of network can make teachers' teaching and students' learning easier, increase the interaction time between teachers and students, and improve teaching efficiency.

4.3 Students' learning autonomy
The purpose of teaching is for the development of students. As the main body of the learning process, if the students do not cooperate, any teaching method can not achieve the purpose of teaching. Even if the flipped classroom has so many advantages, if students do not have a strong sense of autonomous learning and self-discipline, they will not be able to make good use of the teaching video and achieve the teaching effect. Therefore, to realize the flipped classroom, the first thing is to improve the students' awareness of autonomous learning.

5. Specific implementation process

5.1 Sufficient preparation before teaching
In order to make full and effective use of students' time, teachers should upload the teaching resources to the network teaching platform before class for students to preview. Because the core of flipped classroom is teaching video, teachers should put more energy into the production of teaching video, first of all, to sort out ideas, and then explain each knowledge point in detail, at the same time, we should also pay attention to the carding of knowledge framework. The length of the video is also an important factor. In order to ensure that students can effectively absorb the teaching content, the length of the video should be controlled within eight to ten minutes. At the same time, it can also increase some novel elements to attract students' interest and stimulate their desire for learning.

5.2 Targeted in Teaching
In classroom teaching, the main task of teachers is no longer to tell the content of knowledge, but to explain and analyze the problems encountered by students after watching the learning video, which is conducive to the improvement of teaching efficiency. Every year, students can spontaneously form a study group to discuss and learn, so as to improve their thinking ability, exploration ability and expression ability. After the discussion, the problems that have not been solved should be summarized and explained by the teacher.

In addition to answering questions, the teacher can also assign some tasks to encourage students to complete and improve their ability of unity and cooperation, and then evaluate the results, give appreciation and affirmation to the
excellent places, and directly put forward the places that need to be worked hard, and give corresponding solutions, expecting students to perform better next time.

5.3 Reflection summary after teaching
Classroom teaching knowledge, a part of the whole teaching process, should review the teaching content after class, deepen and consolidate the knowledge learned in the classroom, and at the same time, use extra-curricular time to supplement the deficiency of teaching content. For teachers, the problems raised or reflected by students in class need to be summarized, and then uploaded to the network teaching platform and students. In addition to review, students should also complete some homework, the specific content can include the knowledge of the previous section, as well as the relevant content of the next section, which can be reasonably expanded, and can also be organically integrated with the relevant knowledge, so that students can integrate.

6. Epilogue
Flipped classroom subverts the traditional teaching mode, so that students can cooperate independently, and teachers and students can interact in multiple ways. Computer basic teaching is of great significance. It is necessary to promote the integration of computer basic and professional courses, and to improve students' computer technology ability from all aspects. The combination of flipped classroom and basic computer teaching can make the teaching more efficient, the teaching process more interesting and the students more active. Flipped classroom is of great significance. When it is combined with basic computer teaching, it has more powerful vitality.

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