

Discussion on Updating and Innovative Thinking Mode of Higher Vocational Computer Teaching

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Abstract: With the development of Chinese economy and the progress of science and technology, computer Internet technology has been widely applied, and the educational field also increasingly pays more attention to the computer teaching. Higher vocational college is an important constituent of China's education system. The principal goal of higher vocational education is to cultivate high-quality applied talents suitable for social requirements. In recent years, the status of computer teaching in higher vocational education system is improving gradually, however, traditional education mode cannot satisfy students' basic learning needs. Therefore, teachers are required to actively establish computer teaching mode suitable for higher vocational students, continuously innovate teaching thinking, improve teaching quality and lay a solid foundation for the future development of higher vocational students.

At present, the nation attach great importance to the education work, and higher vocational education also receives wide attention from all walks of life. The main goal of higher vocational college is to help students grasp solid computer basic knowledge, constantly enhance their application ability and individual comprehensive quality, satisfy basic requirements of computer talents in the society, and promote the development of Chinese economy. In actual teaching of higher vocational college, there are problems of the insufficient teaching staff and students' insufficient enthusiasm of learning. The teaching content of many colleges and universities seriously is separated from the reality, resulting in the great difficulty in students' employment. Therefore, it is necessary for teachers to actively implement the innovation of teaching thinking, carry out brand new teaching mode, improve students' computer ability and help students obtain greater development.

1. Problems in Current Computer Teaching in Higher Vocational College

1.1 The lack of insufficient teaching staff and practices

Different from other disciplines, for computer teaching, practice occupies a great position in computer learning and accounts for large proportion in computer courses. At present, many higher vocational colleges still adopt traditional cramming teaching mode in implementing computer teaching, where, teacher is the core in class, and students passively accept knowledge, which cannot meet the basic requirement of computer talents in modern society [1]. Many teachers pay less attention to the practice of computer teaching, students' innovation ability cultivation is seriously insufficient, many students cannot grasp enough professional knowledge after learning, and their comprehensive quality cannot be effectively improved. In most higher vocational colleges, the teaching concept is backward, the teaching investment is deficient, the computer teaching hardware equipment is poor without matching practical teaching system, and the overall environment of students' learning is poor, which has an impact on the teaching quality to a certain extent. At the same time, constrained by objective school-running conditions, the ideological concept, comprehensive quality and overall quantity of higher vocational colleges shall be strengthened. In terms of only paying attention to theoretical teaching and ignoring practical exercise, teachers are also required to actively innovate their teaching concepts and solve the problem of theory being separated from social needs.

1.2 The unreasonable teaching design and the lack of students' interest in learning

In the times with the rapid development of informational computer technology, many higher vocational colleges still do not attach importance to computer teaching with less overall investment, which cannot meet the requirement of computer talents from the society. In terms of computer teaching goal, higher vocational colleges fail to stress the cultivation of students' sustainable development, innovation ability, practical ability and the application feature of knowledge structure, which deviates from the requirements from enterprises in the society. Many higher vocational colleges still adopt the teaching plan used many years before, the teaching content is single and backward, seriously separated from current hi-tech technological industries, advanced concepts and innovation was not integrated in teaching process, and students cannot be employed rapidly [2]. Meanwhile, with the increasing investment from the nation in education cause, many higher vocational colleges began to expand enrollment. The demand for hi-tech talents and computer talents from the society is great, so many students choose to learn computer major. In order to meet students' needs, many higher vocational colleges lower the barrier for enrollment. In learning computer, due to students' insufficient learning ability, the lack of good learning habit, and the difficulty in computer knowledge, students' interests in learning gradually decrease. In the continuously updating of information technology, students' knowledge learnt in higher vocational colleges cannot satisfy the requirement of times.

2. The Content Updating of Computer Teaching in Higher Vocational College

2.1 To conduct a reform on teaching objectives and teaching methods

The principle goal of higher vocational education is to help students grasp enough application skills. The curriculum contents set up shall make full use of social requirements and students' realities, guided by practice, add the teaching of hardware and software resources, and enhance students' practical ability of computer knowledge, so that students can rapidly adapt to the development of computer technology based on knowledge learnt from higher vocational college, be integrated into the work environment of enterprises and achieve their comprehensive development. At the same time, higher vocational teachers are required to actively update their teaching concepts, adhere to the student-centered classroom teaching, help students learn correct learning methods of computer knowledge in explaining theoretical knowledge, enhance students' ability of discovering problems and analyzing problems, focus on cultivating students' ability of independent learning and solving problems, and help students from innovation awareness to become excellent talents suitable for social requirements in the new era [3].

2.2 To improve the quality of higher vocational teachers

Computer teaching is strongly scientific, innovative and practical. The main goal of computer teaching in higher vocational college is to transfer excellent talents for the society. Therefore, teachers shall strengthen the learning, based on in-depth understanding of information technology, form unique opinion on computer teaching content, enhance their own theoretical level, constantly enrich computer teaching experience, strengthen their ability of judgment and forecasting, update with the times, fully master the development changes of computer technology, and enrich teaching resources, so that students can grasp the latest computer technology in higher vocational college, learn to solve various problems with creative thinking, and achieve basic teaching objectives of higher vocational college.

2.3 To update the content of teaching materials

The computer information technology develops rapidly, so the content of computer teaching materials shall be timely updated, according to the retard and macroscopic computer teaching, so as to meet social basic requirements of technological talents. At present, the investment from national related departments in higher vocational education is insufficient, so computer teaching materials in many higher vocational colleges are constrained. Thus, related colleges shall establish professional

department of computer technology updating, strengthen the construction of hardware infrastructure, keep pace with the times, constantly adjust teaching content of computer, realize the integration of theory and social practice, and ensure that students can learn the latest knowledge.

3. The Innovative Thinking Mode of Computer Teaching in Higher Vocational College

3.1 EQ education mode

Guided by students' future employment, higher vocational education pays attention to the cultivation of professional technology. In traditional teaching mode, teachers focus on the explaining of theoretical knowledge, and ignore the improvement of students' comprehensive quality. Many students learn basic knowledge, however, they fail to cooperate with others and form good individual habits. Thus, it is necessary to add EQ education in higher vocational computer teaching to help students achieve overall improvement of comprehensive quality [4].

In explaining *Database Development Technology*, teachers adopt the mode of group cooperation competition to evaluate students' credits according to their performance. This credits and the grades of final exam will be considered as the final grade in this semester.

Table 1 Teaching design of *Database Development Technology*

Test	Operation	Credits	Objective
Introduction to basic concepts	Students give the answer to teacher's question in a short period of time, and the top three groups obtain credits.	The first group 30 The second group 20 The third group 10	To examine students' mastering of basic concepts.
Object oriented modeling	Preemptive answer. The first group with correct answer obtain credits. Credits are taken off for wrong answers.	The first group 50 The second group 30 The third group 10	To consolidate theoretical knowledge and solve existing problems.
UML concept modeling	Each group completes UML design in allowed time, and the top three groups giving correct answers obtain credits.	The first group 50 The second group 30 The third group 10	To train students' design of object-oriented model and ensure that they understand object-oriented model and UML.
XML/WEB/DB presentation	The presentation theme of each group is decided by drawing lots, the presenter is decided by group discussion, and the credits are decided by scores given by teachers and other groups.	The scoring standard of students is the same with teachers. The first group 40 The second group 30 The third group 20 The fourth group 10	To train students' ability of searching and selecting materials and the ability of presentation, and cultivate students' critical spirit.
Object type and practical exercise of trigger	Each group submits answer in allowed time and obtain credits if answer is correct.	The first group 40 The second group 30 The third group 20 The fourth group 10	To help students deeply understand product knowledge in practice and learn programming method.
Conceptual model	Each group discusses and designs conceptual model. Each group is divided into two parts to formulate different schemes to be adopted. The group whose scheme is adopted obtain credits.	The winning group 20	To help students grasp the concept of model, and enhance their ability of solving problems and negotiation skills.

This innovative teaching mode can significantly enhance students' enthusiasm, train students' comprehensive abilities in various aspects, firmly grasp basic knowledge, improve the application ability, realize the comprehensive improvement of individuals' comprehensive quality, and lay a solid foundation for future development.

3.2 Task-driven teaching mode

Task-driven teaching mode refers to the process of teachers assigning teaching task or project content, and students completing recognition by independent research with the theoretical knowledge and various resources mastered by themselves. Task-driven teaching mode can give fully play to the subject status of students, significantly enhance students' participation in classroom teaching, help students develop good learning habits through actively participating in classroom teaching, and firmly grasp computer knowledge, which promotes the growth and development of students in the future.

In learning relevant contents of Excel, the adoption of task-driven teaching mode can achieve better teaching effects. Excel is the commonly used office software in future work, which is boring in higher vocational computer teaching. Many operations of Excel involve mathematical knowledge, so many students cannot keep pace with teachers' teaching program because of their weak learning basis, and the contents of value is relatively complex. Thus, teachers shall actively innovate teaching method, and adopt task-driven teaching mode, so as to help students accurately grasp teaching knowledge and achieve comprehensive improvement in easy classroom environment [5].

In teaching, teachers design the teaching situation of singer competition, and guide students to learn Excel through judge scoring.

Table 2 Excel learning task

Task	To grasp the basic definition, format and actual application of functions
Function type	<ol style="list-style-type: none"> 1. SUM function to calculate the sum of singer scores 2. Max/min function to calculate the lowest and highest score 3. rank function to calculate singer ranking 4. count function to calculate the effective number of judges 5. average function to calculate the average score of singers

In specific teaching, teachers shall fully understand students' actual situation, and guide students to be actively involved in classroom teaching. After assigning tasks, teachers shall divide the task into different sub-tasks and assign those to students at different levels. In daily teaching, teachers shall actively know students' basic characteristics, including interests and hobbies, knowledge structure and so on, guarantee the feasibility of teaching resources, teaching platform and teaching method, detail computer knowledge points, ensure the practicality of task, and improve students' motivation of solving task. Each task shall be corresponding to specific knowledge point so that students can solidly grasp basic knowledge in completing task, and achieve the seamless connection between old and new knowledge. In assigning task, teachers shall teach students in accordance of their aptitude, and assign tasks with different difficulties according to their abilities to ensure that all students can improve themselves comprehensively.

In task-driven teaching mode, teachers shall create reasonable teaching situations to enhance their interests in learning. For instance, in explaining Excel, teachers build teaching situations by the variety show, *I am a Singer*, according to Excel function, ranking singers by removing the highest and lowest score, which meets students' interests and hobbies and improve the appeal of classroom teaching. Teachers can integrate knowledge points and task situation, guide students to calculate the total score of singers and rank, which can significantly enhance students' interests in learning.

The core of task-driven teaching mode is students' practice. Therefore, teachers shall actively guide, grasp the overall progress of classroom teaching, organize teaching order, guide students' divergent thinking, and encourage students to actively think in the face of problems and solve problems by searching materials and group discussion. For instance, when explaining complex rank

function, teachers can organize students to discuss the reasonable selection way of parameters and obtain final conclusions. In students' discussion, teachers shall observe carefully, conclude various problems faced by students and explain to students unifiedly.

After completing the teaching, teachers are required to help students comb knowledge, focus on explaining difficult problems, strengthen students' impression and improve their cognition. Besides, teachers can organize students to give speech in the stage, and analyze their learning experience. In this way, students can know their deficiencies and improve the weakness by learning from other people. When explaining Excel function, teachers also shall help students differentiate the functions, and understand the role of these functions in real life, to lay a solid foundation for future application.

The last teaching part is the conclusion given by teachers, to explain various mistakes appeared in learning, make them clear of the causes, and give evaluation on students' accomplishment of tasks to help students build up the confidence of learning computer, grasp correct learning method and achieve the overall improvement of their comprehensive quality.

4. Conclusion

Higher vocational college is the important base for China to cultivate application-oriented talents. At present, computer technology is widely applied in various industries and fields and the requirement for computer talents from the society is rapidly increasing. Therefore, higher vocational college shall actively transform computer teaching mode, vigorously promote the innovation of teaching method, through task-driven and EQ education, enhance students' comprehensive ability, strengthen the enthusiasm of learning and guarantee teaching quality. Teachers themselves shall constantly learn research, grasp more new technologies, enrich teaching content, update teaching materials, ensure that students can learn the latest computer knowledge, fully understand actual characteristics and learning requirements, guarantee the effectiveness of classroom teaching, and realize the comprehensive improvement of teaching quality.

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