

The Research and Practice of Differential Teaching Method in Computer Basic Course

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Abstract: Aiming at the problem of "teaching effect" in the teaching of "computer foundation" course in Application-oriented Colleges and universities, this paper studies and analyzes the factors such as the characteristics of students, the limitation of class hours and the teaching environment, subdivides the knowledge points of course contents, refines the core operation skills, uses the knowledge point test function of 5Y learning platform, adopts the differentiated teaching method based on process monitoring, and strengthens the practical operation training of students, timely tutor problems and supervise progress, and give full play to the initiative of students in the process of skill training. The teaching practice shows that the difference teaching method based on process monitoring can obviously improve the teaching effect.

Keywords Teaching practice; 5Y learning platform; differentiated teaching; training process monitoring

INTRODUCTION

Computer foundation is a compulsory course of general education for all majors of undergraduate course, and a basic course for learning other computer related courses [1]. The application-oriented undergraduate course "computer foundation" mainly includes five parts: basic knowledge, operating system and network use, word processing, data processing, presentation design [2], the purpose of which is to let students master certain basic computer knowledge, understand computer system, form calculation thinking, and learn basic operation of computer. Be able to use the network and obtain information through the computer, and be able to use the computer for word processing, data processing, presentation design, etc. Through a large number of experimental training, students are trained to use computers to solve practical problems.

On the basis of fully studying and understanding the teaching contents and objectives of computer basic course, aiming at the problem of "teaching effect" existing in the teaching of computer basic course in Application-oriented Colleges and universities, this paper analyzes and researches the characteristics of students, the limitation of class hours, the teaching environment and other factors, subdivides the knowledge points of course contents, and refines the core operation skills. Using the knowledge point test function of 5Y learning platform [3], adopting the differentiated teaching method based on process monitoring, strengthening the practical operation training of students, timely tutor problems

and supervise progress, giving full play to the initiative of students in the process of skill training, and achieving better teaching effect.

ANALYSIS OF FACTORS AFFECTING TEACHING EFFECT

Analysis of students' characteristics

The course of computer foundation is taught to freshmen. Due to various reasons (regional, family economic conditions, etc.), there are great differences in students' understanding of basic concepts and knowledge of computer and Internet in middle school [4]. According to the pre class survey, about 10% of the students had the ability to operate the computer operating system skillfully, including using mouse operation, keyboard operation, and information input in Chinese and English. Most of the students have been exposed to computer operation through a variety of ways (information technology class, Internet bar, home computer), understand some noun concepts, and can use the mouse and keyboard, but they are not proficient. There are a few students who have not been exposed to computer operation or related basic concepts and knowledge, so they belong to "0 basis".

Analysis of teaching environment

The teaching environment of computer foundation course is mostly laboratory teaching based on campus network. Each person has a connected computer, installed win7 Chinese operating system, Chinese word processing, table processing, presentation design and other software. In recent years, colleges and

universities in Guangdong Province generally use 5Y learning platform to provide students with online learning, video online viewing, online testing of knowledge points, unit testing and other operational training capabilities of the main knowledge points of basic computer courses, and timely give the evaluation results [5]. At the same time, the training results of students' knowledge points are saved according to the account. For teachers, 5Y learning platform can provide real-time statistics, browsing, analysis, comparison and other functions of students' learning and training, which is convenient for teachers to monitor students' training process and master knowledge points.

Analysis of teaching methods

The newly revised teaching plan stipulates that the teaching hours of computer foundation course are 32 class hours. Because the class hours are reduced but the content of the course is not reduced, teachers must update teaching methods, complete teaching tasks, achieve teaching objectives and achieve good teaching results. In the specific teaching process, the author abandons the traditional method of "unified explanation", adopts the differentiated teaching method based on process monitoring with the support of 5Y learning platform, with students' independent learning training as the main part and teachers' individualized guidance and answer as the auxiliary part, highlights the monitoring and supervision role of teachers in the teaching process, and gives full play to students' own initiative.

COURSE CONTENT REFINEMENT

In order to facilitate the organization and implementation of teaching activities, the teacher refines the course content, realizes the connection between the course content and the knowledge points of the 5Y learning platform, so as to arrange the teaching calendar reasonably and provide the practical training progress guide based on the 5Y learning platform for students.

Another important purpose of refining the content of the course is to extract the core operation skills of the course, explain and demonstrate them uniformly before class, guide the students to master the basic operation quickly, form the operation mode, and avoid wasting training time. For Windows 7 operating system, the training operation outline composed of basic operation (desktop, window, taskbar, etc.), common operation (view, selection, file, clipboard and other operations of computer and explorer) and advanced operation (device management, control panel, etc.) is extracted [6]. Guide students to quickly master the common operations of the system, such as single selection, continuous multiple selection, discontinuous multiple selection of objects, selection,

copy and paste of clipboard, etc.; for "0 basic" students, in addition to requiring students to quickly read the basic concepts and basic knowledge, specially supplement the mouse operation and keyboard operation content, and highlight the problem of Chinese and English symbols and text input and editing. For word, Excel, PPT software, find out the common and different points of their interface and operation, guide students to understand and quickly grasp.

TEACHING IMPLEMENTATION (DIFFERENTIATED TEACHING BASED ON PROCESS MONITORING)

According to the teaching plan and the arrangement of class hours, the teaching task of computer foundation course is mainly completed through the following ways. First of all, with the refined course content as the main line, through the "course description", introduce the contents, objectives, tasks, requirements, course monitoring, assessment and performance evaluation methods of the course for students, so that students can understand the whole picture of the course in the first class. On this basis, according to the progress of students' training, the teacher explains the supplementary content in advance, which plays a leading and prompting role and avoids students wasting time. Secondly, based on the 5Y learning platform, students' independent training is highlighted, and unit knowledge point test is completed according to the schedule. Teachers no longer explain every lesson, but give the time to students to complete the operation training task independently. Third, teachers can check the knowledge points of students in different classes through the statistical browsing function of 5Y learning platform, monitor the training process of students, and find out the knowledge points in time. Before class, show the ranking of training progress to all students, name and praise the students who have completed many knowledge points, and put forward requirements and special guidance for the students who have lagged behind, find individual students to talk alone, understand the situation, and give specific suggestions and requirements. For knowledge points with many problems, unified explanation and operation demonstration are required, and students are required to complete the knowledge point test on the spot. Fourthly, to organize the computer simulation test, all students are required to master the operation process and method of the simulation test system, so as to avoid the problems of "no operation" during the real test.

ANALYSIS OF TEACHING EFFECT

On the one hand, 147 students from three teaching classes participated in the final examination of the

course of computer foundation. After the examination of the 5Y learning platform examination system, 9 students scored above 95 points, including 1 person with a full score of 100 points, 30 people with a score of 90 points or above, 116 students passed the examination, and only one student failed the examination. See Table 1 for the specific statistical analysis.

Table 1. Statistical table of final examination results of Computer Foundation

Score segmentation	>=95	>=90	>=80	>=70	>=60	<60	Total
Class 2	1	4	28	17	0	0	50
Class 3	4	5	31	7	2	0	49
Class 4	4	12	24	6	1	1	48
Total	9	30	83	30	3	1	147
Proportion	6%	14%	56%	20%	2%	1%	100%

On the other hand, from the score line chart (Fig. 1, Fig. 2, Fig. 3), it can be seen that there is a good fit between the experimental, final and general evaluation scores of class 3 and class 4, which reflects that the experimental training can basically guarantee the completion of teaching tasks and achieve better teaching effect. Individual students with poor experimental training results also suffer from the impact of examination results. The experimental result of class 2 is a little lower than that of the final exam, the main reason is that the course of the class is arranged on Thursday, which is the last class to carry out experimental training in a week, and the data extraction of experimental results is extracted by three classes at the same time, that is to say, the results of the last experimental training of class 2 students are not superimposed in the experimental results.

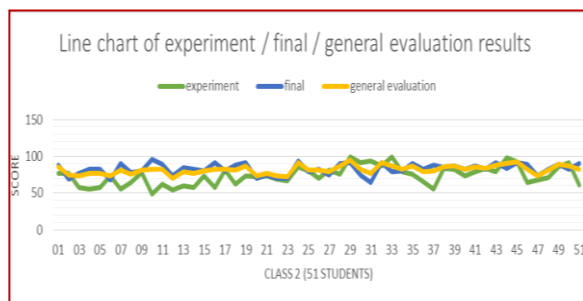


Figure 1 Line chart of experiment / final / general evaluation results (class 2)

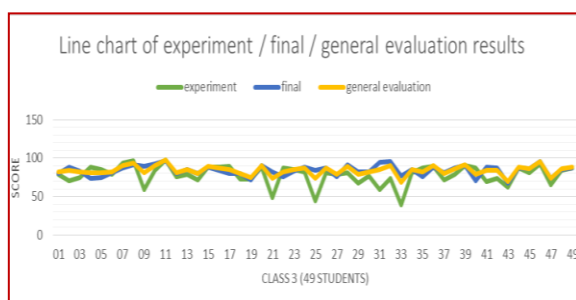


Figure 2 Line chart of experiment / final / general evaluation results (class 3)

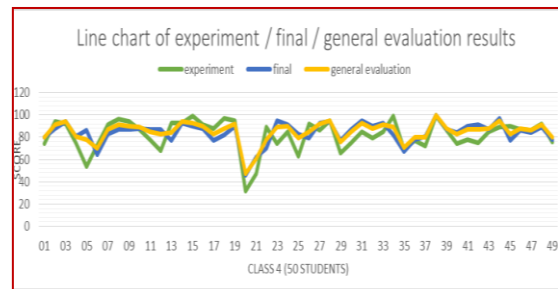


Figure 3 Line chart of experiment / final / general evaluation results (class 4)

CONCLUSION

The core of the differentiated teaching method based on process monitoring is that teachers refine, pre arrange and explain the teaching content, and play an organizational and guiding role. Its foundation is to use 5Y learning platform to strengthen the practical operation training of students. The key is to use the 5Y learning platform to timely monitor the training process and knowledge points of students, explain the knowledge points of problems in a unified way, and carry out individualized communication with students whose progress of knowledge point test is lagging behind, so as to grasp the actual situation of students, and provide targeted guidance and solve problems. Teaching practice proves the practicability and effectiveness of the method.

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