Research on Teaching Reform of Information System Practice Course

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Abstract. Information systems are used more and more widely, some of which are highly complex and difficult to learn. In order to improve the efficiency of learning information system and grasp the construction and use of information system as soon as possible, this paper discusses the personality cultivation, teaching mode, learning mode and assessment mode, and gives feasible teaching reform ideas, and puts forward suggestions for the further construction of curriculum.

Keywords: Information system, Practice course, Teaching mode, Teaching reform.

1   Introduction

Information system practice course is an important part of cultivating students' information literacy. The task of this course is to enable students to master the content and requirements of information system, data preparation, basic use of the system and comprehensive application of basic skills, which has an important role and significance for students to enhance information awareness and implement various applications by using information system[1].

The goal of the course is to enable students to understand the whole process of the construction and use of information systems, master the use of information systems, deepen the understanding of the status and role of information systems, and have the basic ability to use information systems to complete various tasks[2-3].

The main characteristics of students include:

Knowledge base. Students have completed the study of "Fundamentals of Computers", "Data Structures and Algorithms", "The C Programminglanguage" and other related courses, and have mastered the basic knowledge of computer composition, operating system, database and computer network, and have a certain knowledge foundation.

Cognitive ability. After the first two academic years of learning and education, students gradually have a perceptual understanding and preliminary thinking of the fu-

ture job situation, and have a certain cognition and experience of various information systems.

Learning characteristics. Understand the talent training programs and post ability standards, understand the importance of information system, and look forward to learning this course. The overall learning ability is strong, and the learning effect is good.

Advantages and disadvantages. The advantages are good foundation of arts and science and strong interest in learning, while the disadvantages are weak in systematic cognition.

This course is a practical course, which has a strong correlation with the basic information knowledge students have learned before, and has a certain theoretical foundation. In addition, students have the characteristics of "high enthusiasm", "serious attitude" and "strong interest", which is conducive to the teaching of this course in turn. Therefore, the faculty is confident that the students can grasp the course content well.

2   Personality Cultivation

The whole course carries out the content of personality training, cultivates the correct world outlook, outlook on life and values, and establishes the good social morality, the sense of responsibility and the professional spirit. Guided by the status and role of information system in practical application, the course aims to cultivate the spiritual character needed by future qualified talents. In view of different teaching contents, the course excavates ideological and political elements, integrates ideals and beliefs, scientific and innovative thinking, rigorous technical style and service consciousness into the course teaching, and realizes the cultivation of soul; Make use of class breaks and after-class spare time to deeply communicate with students, guide students to establish a correct world outlook and positive, optimistic, virtuous, self-improvement attitude. Combine the work practice of outstanding graduates to cultivate their dedication and correct values; According to the actual situation of the college, the existing problems are analyzed, so that students can establish a good sense of social morality and responsibility. Lead by example, love work, and cultivate students' professionalism with their own practical actions[4].

2.1   The Cultivation of Scientific Spirit

Through introducing the deeds of scientists to the students, let the students realize that the information system and all kinds of information equipment we use now are created by the hard work of generations of scientists, to learn their scientific spirit, good at grasping objective laws and pioneering application.

Through their deeds to guide students to develop a serious and meticulous work style and the courage to explore the scientific consciousness, and constantly improve work ability.

2.2   Character Cultivation

The cultivation of correct world outlook, outlook on life, values, good social ethics and sense of responsibility, through reviewing the deeds of advanced people, so that students can establish a correct world outlook, outlook on life, values, good social ethics and sense of responsibility. Guide students not to forget these advanced people, and learn from them, so that they become useful talents for the society and the country.

2.3   The Cultivation of Mission Responsibility and Innovative Spirit

First of all, strengthen the cultivation of innovative consciousness and stimulate their creative ability, and secondly, cultivate students' teamwork spirit and encourage them to burst out more inspiration and ideas in collective cooperation. In addition, it provides a practical platform for students to explore diversified innovative thinking through practice, so as to improve their innovative ability.

3   The Teaching Mode of Combining Virtuality and Reality, Class and After-Class

3.1   The Teaching Mode Combining Virtuality and Reality

We use a virtual machine approach to the course practice. A virtual machine is an analog computer system that can simulate different operating systems and configurations. The advantages of using virtual machine in class mainly include improving students' learning interest and enthusiasm, enhancing students' practical ability and hands-on ability, improving teaching quality and efficiency, promoting interdisciplinary innovation, and expanding teaching forms and contents.

To sum up, the advantages of using virtual machines in class are reflected in many aspects, which not only improves the learning experience and effect of students, but also promotes the innovation of teaching methods and the effective use of educational resources[5].

3.2   The Teaching Mode of Combining Class and After-Class

Because the class hours of this kind of course are very tight, some students may be difficult to complete on time, so a variety of ways are adopted to ensure the learning effect. First, teaching materials are sent to students in advance, so that students are familiar with the teaching content in advance; The second is to coordinate the support unit to provide convenience for students to practice after class and complete the unfinished tasks in time; The third is timely counseling and answering questions to ensure that every student can keep up with the progress requirements[6].

4   Examination and Evaluation

This course adopts a combination of formative and final assessment. Formative assessment is divided into three stages, accounting for 60% of the total score, accounting for 40%, 30% and 30% respectively. The assessment method of combining virtual and real is adopted, and comprehensive evaluation is made according to the completion of the homework. The final assessment includes the comprehensive application of information system assessment and defense, accounting for 40% of the total score.

4.1   Grade Assessment Method

Formative assessment usually takes a group assessment, 3-5 people in a group, cooperate with each other to complete the assessment content (according to the completion of the task in the group, the individual score is differentiated), according to needs can also be assessed separately. The score is divided into four grades: correct and fast completion (excellent), basically correct and fast completion (good), basically correct and delayed completion (medium), and incomplete (unqualified).

The final assessment is divided into two parts: comprehensive application assessment and defense. The comprehensive application assessment focuses on the actual operation of information system application. According to the teaching content of each topic, the defense part focuses on the comprehensive assessment of basic knowledge, the working mechanism of information system, the construction and application methods and steps of information system.

4.2   Score Analysis

For example, the performance statistics of each stage of a class are shown in Table 1. The distribution of results is shown in Figure 1.

Table 1. Score statistics of each stage.

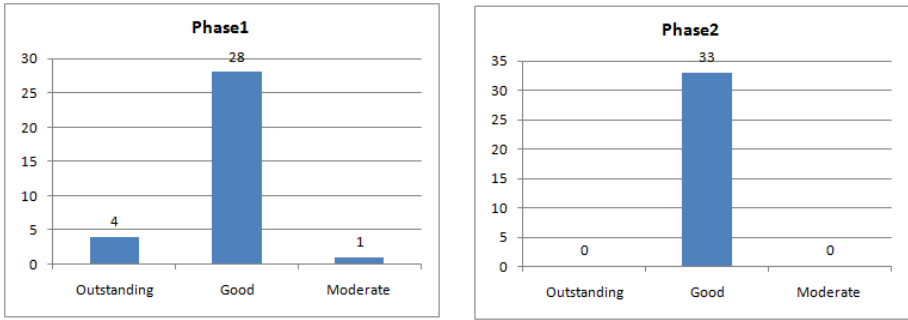| Stage	Outstanding	Good	Moderate	Highest score	Lowest score	Average score	Definition
Phase 1	4	28	1	94	78.5	85.8	12.1%
Phase 2	0	33	0	89.5	82	86.3	0%
Phase 3	12	21	0	95	81	89.4	36.4%
Examine	9	24	0	95	85	88.3	27.3%

Fig. 1. The distribution of results for Phase 1 and Phase 2.

The distribution of results for Phase3 and Examine is shown in Figure 2.
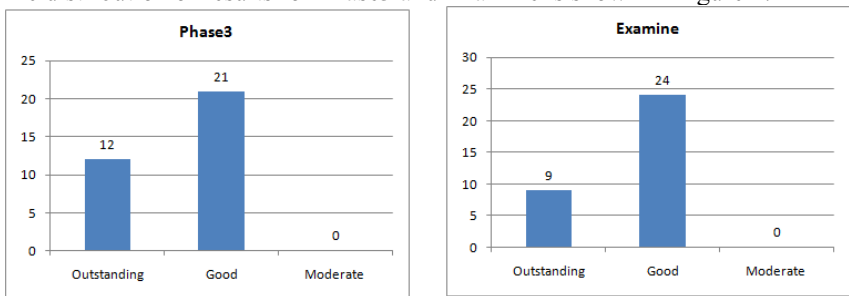

Fig. 2. The distribution of results for Phase3 and Examine.

According to the students' answers, the results of formative and final assessment are analyzed as follows:

Formative assessment of Stage 1: Stage 1 is mainly about system installation, focusing on allowing students to master the operation process. Students are required to record the operation process as a unit of the group, and the group leader evaluates the students in the group. Finally, the teacher makes a comprehensive score according to the process record and the group leader evaluation, which can urge students to pay attention to the operation process and the score is objective and fair. The score distribution of this stage is: 4 students between 90 and 100, 28 students between 80 and 89, and 1 student between 70 and 79, which conforms to the normal distribution, with a pass rate of 100% and an excellent rate of 12.1%. From the perspective of process records, most of the group records are serious and detailed, and the leader's evaluation is objective and fair, achieving the expected effect.

Stage 2 formative assessment, Stage 2 is mainly the basic operation of the system, the teacher sets the questions, the students operate and record, and finally the comprehensive score. The distribution of results in this stage is between 80 and 89, there are 33 people, indicating that the assessment differentiation of this stage is not high, and it needs to be strengthened in the future.

Stage 3 formative assessment, Stage 3 is mainly the system application, the teacher sets the questions, the students operate and record, and finally the comprehen-

sivescore. The score distribution of this stage is: 12 students between 90 and 100, 21 students between 80 and 89, in line with the normal distribution, pass rate of 100%, excellent rate of 36.4%. Judging from the examination results, most of the students answered the questions seriously, the teachers scored objectively and fairly, and achieved the expected results.

Comprehensive application of the final assessment information system: This part is set by the teaching group, the students are assessed in groups, the teachers conduct on-site inspection and record the completion, and finally, the summary score. The score distribution of this stage is: 9 students between 90 and 100, 24 students between 80 and 89, in line with the normal distribution, pass rate of 100%, excellent rate of 27.3%. Judging from the assessment records, the teachers' evaluation is objective and fair, and the expected results are achieved.

4.3   Brief Summary

To sum up, the assessment process is well controlled, the record is detailed, the score is objective and fair, and the overall difficulty is medium. The total score distribution of this class is as follows: there are 3 students between 90 and 100, 30 students between 80 and 89, conforming to the normal distribution, the pass rate is 100%, the excellent rate is 9.1%, the highest score is 92.6, the lowest score is 84.0, and the average score is 87.2. Generally speaking, the master of all aspects of this course is good, and the overall score reflects the real learning level of students objectively.The results of each stage well reflect the learning situation of the students, but there are still problems such as poor differentiation of results in some links and weak summarizing and refining ability of some students, which should be further improved in the future teaching and assessment process.

5   Next Step Thinking

The information system is constantly developing and improving, and the version is updated quickly, so the teaching content should also be changed accordingly, and the actual needs should be continuously optimized and adjusted in the actual teaching process to adapt to the development of the information system and the requirements of course teaching.

Expand teaching methods to improve teaching effect. Comprehensive use of teaching method, task-driven method, discussion method, practice method, individual tutoring method, independent learning method and other teaching methods to strengthen students' hands-on ability. In addition, students are guided to make full use of open online courses to expand their knowledge and strengthen their learning effect.

Further highlight the "student-centered" teaching mode. Through the introduction of small competitions, role play and other interactive links, let students really become the protagonist of the class; Adopt the learning group system and the open teaching mode of cooperative inquiry, and create the learning atmosphere of mutual assistance, cooperation and sharing. Actively explore personalized, cooperative and complemen-

tary teaching mode to enlivens the learning atmosphere, enhances the autonomy of learning, and comprehensively improves the overall learning level.

6   Conclusions

The practical course of information system plays a very important role in cultivating students' ability of using information. It is necessary to explore the teaching methods of this kind of course constantly in order to improve the teaching effect. In this paper, the curriculum ideology and politics into each teaching phase, imperceptibly make students form a correct world outlook, life outlook and values. In addition, the combination of virtual and real teaching method is adopted to facilitate students' iterative practice. Finally, in the aspect of assessment, the combination of process assessment and final assessment is adopted to strengthen students' mastery of each process.

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