The Practice of Curriculum Reform of Information Technology Application

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Abstract. This paper is a summary of the main contents of the research on the reform of the course of “basic information technology application”. After five years of reform and practice, an integrated information management system for teaching has been set up. We achieved the pertinence of the teaching content, the openness of the teaching mode and the advanced teaching methods. It’s proved that information quality is improved obviously.

Introduction

In the process of reforming the “Information Technology Applied Basic” curriculum reform, we continuously innovated the aspects of speeding up the concept updating, optimized the teaching content, supported the construction of conditions, improved the methods and means, and promoted the construction of the teaching staff. We improve the level of students’ information literacy continuously, and achieved remarkable results.

Extensive Research on Reform Needs

We visited 8 universities and 5 companies to conduct in-depth research by the ways of seminars, visits, field trips and questionnaires to collect the information needs of employers.

Integrated Teaching Content Related to Information Quality Training

The content before the reform only involved in the basic knowledge and method of some information processing, and it is not enough to cultivate students' information awareness, information acquisition and information processing ability. Therefore, we focused on the cultivation of information literacy and reformed the contents from the following three aspects

Integrated Existing Teaching Content

With the continuous improvement of students' computer basic skills, the teaching contents have also been optimized and integrated accordingly, and the content that students have mastered is weakened. This group of students have more prominent information technology application skills who can adapt to the job posting.

Added Contents Focusing on the Information Ability

The reform focused on training students to obtain information effectively, strength the ability to use information. We focused on increasing the information technology-related computer hardware technology, information security and other quality and content training.

Constructed a Content System Suitable for Different Objects and Levels

According to the specific circumstances of different training objects, the professional, hierarchical and modular approach, we integrated training content, improved their ability to use information to communicate and solve problems. We set different teaching objectives for various training objects,
arranged corresponding teaching contents, and set up different information quality education modules.

**Improved Teaching Methods and Means**

With the rapid promotion of social informatization, the training content are increased while the class hours dropped significantly. We find a solution to this problem by the reform of teaching methods and means.

**Perfected the Tasks in “Task-Driven” Teaching Methodology**

The previous mission system focused on the achievement of skill goals, which meant more to “imitate” for students, produce works that were the same or similar to the “finished product” required by the textbook or the teacher.

After the reform, we increased the inquiry and comprehensive tasks, implemented true task-driven pedagogy. Students learn and imitate to accumulate some basic knowledge, then create new works, their ability to innovate are cultivated in this process.

**Promoted the Use of “Self-Learning”**

We implemented open teaching mode which combined “guide” in class and “supervision” in extra-curricular. Case-based teaching are used to guide students to learn knowledge and improve their quality in class, and targeted practice to operation and develop skills.; Students self-learn in extra-curricular to complete the task, consolidate knowledge, strengthen skills and develop ability. Information textbooks compiled by other authors or ourselves are with large amount of pictures, easy to understand, very convenient to implement “autonomous learning” model in the information curriculum. That is to let students learn by themselves, develop their information quality, give them full autonomy. And then, by the teacher “after teaching”, that is, by judging, dialing, correction, induction. Students deepen their knowledge and skills. This approach takes into account students at all levels.

**Made Full Use of Informational Teaching Methods in Teaching**

By a set of micro-curriculum presents a complete curriculum knowledge system, students can visit any one of the units at any time and any place. During the learning process, relevant video materials are played timely. Teachers explain the contents in video, which increases the learning efficiency, enhances the technical connotation of knowledge points, and improves the students' practice level.

**Constructed of Teaching Guarantee Conditions**

**Set Up Training Rooms**

Since the reform in 2013, we finished the plan of supporting training rooms, open teaching information platform, teaching textbooks and information resources. We built a variety of training rooms. Till now, the information technology training center total number of units reached 600, which supported students in our school effectively for the various types of information technology practice needs.

**Upgraded the Information Management Platform Level**

Through independent development and cooperative development with software companies, we completed the upgrading and reforming of the teaching management tools of open courses, such as the open teaching system of courses, the open booking platform of information technology training centers, the monitoring system of training centers, and the open teaching management mode. Cooperated with software companies, we completed the development of open booking system for information technology training center and put it into use for 5 years, providing booking service for a
total of 300,000 people. It fully meets the information technology center open management needs, gives full play to the effectiveness of the existing information technology, effectively improves the utilization of equipment and facilities.

**Strengthened the Construction of Information Teaching Resources**

For the abstract and difficult to understand content of the course, we developed a set of information technology micro-curriculum, which presents a complete curriculum knowledge system and contains all the knowledge units to solve typical problems. The micro-curriculum demonstrates experimental process and abstract contents. In addition, we compiled two textbooks, “Information Technology Application” and “Information Technology Fundamentals”, which are complementary to the curriculum. It is published by Huazhong University of Science and Technology and selected as one of the “13th Five-Year Planning Materials for National Demonstrative Higher Vocational Education Computer Series” for the national distribution. The two books used by many colleges.

**Promoted the Construction of Teaching Staff**

After years of construction, a well-structured and good-quality “teacher and engineer” staff has completed.

**Implemented the “Tutorial System”**

The training and assessment are focused from the new teacher training. The one-on-one mentoring system was implemented for each new teacher. New teachers passed the training exam, “double base” examination and “teacher and engineer” examinations 100%.

**Cultivated the Backbone of the Teaching Team**

We strengthened the teaching and research function of the teaching group, played the collective strength, carried out regular teaching research, and significantly enhanced the teaching ability. We won the “Quality Teaching Contest” 6 times in the school; we won “Outstanding” 21 times in the teaching quality ranking of the whole school. Recently, we published 35 papers, completed 5 projects related the teaching reform.

**Expanded Teacher Training Exchange Channels**

We increased the support for teachers to participate in the training of informational knowledge and skills, participate in the course training and training, take part in the training of courses such as network technology, multimedia technology and micro-class production. Teachers acquired the relevant technologies, learned the teaching methods of vocational colleges, improved their own teaching and ability. We invited excellent resources outside the school to carry out thematic counseling in school, expanded the training of teachers training channels.

**Summary**

By exploring the feedback on their online assignments, students greatly improved their learning autonomy, enthusiasm and accomplishment.

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**References**

