Reform and Practice of Computer Basic Course Based on Systematization of Work Process

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Abstract. In the context of the transformation and development of our school, with the background of the work process as the background, the content of the "Computer Application Foundation" course offered by all majors in the school is reconstructed and deconstructed, and the course learning is re-determined on the basis of job investigation. Situational and learning content, according to the demand-oriented, step-by-step design ideas, the teaching design of learning projects and sub-projects.

Introduction

With the globalization of the economy and the development of the network, the production methods and economic structure of the human world have also undergone profound changes. The traditional post tasks have been replaced by the typical work tasks of systematically working, which is the professional ability of highly skilled personnel. The comprehensive quality puts forward new and higher requirements. The Outline of the National Medium- and Long-Term Education Reform and Development Plan (2010-2020) clearly states that “the combination of work and study, school-enterprise cooperation and post-internship mode should be adopted in the cultivation of talents, and the scale of application, compound and skill-based personnel training should be expanded. It can be seen that the establishment of a talent training model suitable for the needs of the economic development of the times is based on the real work tasks of the enterprise, with the project teaching as the main line, reforming the curriculum model and teaching methods, and cultivating the requirements for the first line of production. The high-quality technical talents with professional ability have become the key path for the transformation of local undergraduate colleges into applied technology universities.

Thoughts on the Reform of the Course "Computer Basics" in Our University

As a pilot institution for transformation and development, starting from July 2016, the application of technology-based curriculum reform is in full swing in our school. The "Computer Basics" course makes this course quickly enter the application-oriented curriculum reform with its novelty of knowledge, the era, and the uniqueness of teaching methods and practical operations.

Course Design

According to the characteristics of applied curriculum reform, based on professional post ability, based on work process, learner-centered, project-driven as the main line, from the perspective of education and teaching rules, the overall teaching of "Computer Basics" course.

The design and unit teaching design highlight the characteristics of “application-oriented, practical practice, and ability to focus”, and focus on cultivating students' application ability. The curriculum design ideas are as follows:

Autonomous Learning Mode. In the course teaching, learners are the main body of learning activities. Self-directed learning is to control their own learning activities, including determining learning objectives, methods, plans, and scheduling learning activities. Teachers play a role in counseling and supervision throughout the learning process. Teachers and students jointly conduct
regular and irregular assessments of their activities and results. This teaching model fully mobilizes students’ enthusiasm for learning and enables students to achieve self-learning purposes. The content of self-learning is shown in Table 1:

Table 1. Self-learning Project Content.

<table>
<thead>
<tr>
<th>Carrier</th>
<th>project name</th>
<th>Knowledge point, teaching goal</th>
<th>Applicable profession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word 2010</td>
<td>Project 1: Ancient poetry typesetting</td>
<td>Font, WordArt, Paragraph Settings</td>
<td>Humanities and medicine</td>
</tr>
<tr>
<td></td>
<td>Project 2: Design of commodity posters</td>
<td>Picture editing, page setup</td>
<td>Humanities, art, medicine</td>
</tr>
<tr>
<td></td>
<td>Project 3: Personality Resume Design</td>
<td>Form creation, image processing</td>
<td>All majors in the school</td>
</tr>
<tr>
<td>Excel 2010</td>
<td>Project 4: Student Status Data Management</td>
<td>Data type entry, format setting</td>
<td>All majors in the school</td>
</tr>
<tr>
<td></td>
<td>Item 5: Analysis of the results table data</td>
<td>Function use</td>
<td>Accounting, business</td>
</tr>
<tr>
<td>Powerpoint 2010</td>
<td>Project 6: Presentation Creation</td>
<td>Animation settings, slide transitions, custom shows, etc.</td>
<td>All majors in the school</td>
</tr>
</tbody>
</table>

Table 2. Collaborative Learning Content.

<table>
<thead>
<tr>
<th>Learning Situation</th>
<th>Analysis Task</th>
<th>Design</th>
<th>Knowledge Point Decomposition</th>
<th>Task Execution Project Carrier</th>
<th>Task Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Job Search Resume Design</td>
<td>Research, Demand Analysis</td>
<td>Small Group Work, Teamwork</td>
<td>Design Cover, Insert Picture, Form Production</td>
<td>Word</td>
<td>Function Completed (Qualified); Participated In The Contest Award (Excellent)</td>
</tr>
<tr>
<td>Xi’an Peihua College Graduation Thesis Typesetting</td>
<td>Access To Data, Analysis Tasks</td>
<td>Key Points, Difficult Points, Self-Fulfillment</td>
<td>Insert Section Breaks, Style Settings, Directory Generation</td>
<td>Word</td>
<td>All Functions Are Completed (Good), Participate In The Community (Excellent)</td>
</tr>
<tr>
<td>Enterprise Employee Payroll Data Processing</td>
<td>Enterprise Visits, Research, Analysis Tasks</td>
<td>Function Statistics, Data Filtering, Subtotals</td>
<td>Excel</td>
<td>Functional Perfection, Enterprise Identification</td>
<td></td>
</tr>
<tr>
<td>Passat Auto Marketing Design</td>
<td>Research, Demand Analysis</td>
<td>Small Group Workers, Teamwork, Teacher Assistance</td>
<td>Animation Design, Page Switching, Custom Show</td>
<td>PowerPoint</td>
<td>Beautiful Picture, Team, Teacher And Enterprise</td>
</tr>
</tbody>
</table>

Collaborative Learning Mode. On the basis of mastering the basic knowledge and basic skills, the students reconstructed the teaching content according to the characteristics of the applied curriculum reform, and designed four different learning situations. Each learning situation is from the “analysis task—design plan—Knowledge point decomposition—task execution (using the
carrier)—task evaluation—task summary” and other six main lines to make the teaching process and the work process effectively merge. At the same time, the real enterprise project is included in the teaching process, so that students can truly “do the middle school” and “learn by doing” in the real enterprise environment. As shown in Table 2:

Course Implementation

**Systematic Course Teaching Mode Based On Work Process.** The curriculum reform is based on the professional position ability, based on the work process, the learner as the center, the project-driven line, and the curriculum based on the real scene. The implementation process is as follows:

- **Autonomous Learning Mode**
  - Learning method: Self-study + counseling
  - Class hour allocation: 12 hours
  - Learning content: Project 1 ~ Project 6

- **Collaborative Learning Mode**
  - After mastering the basic theories and basic skills required by the course, the students will conduct a collaborative learning model. As shown in Fig. 1:

Course Evaluation

The course adopts the whole process assessment, which is based on the usual attendance, project operation, learning situation evaluation and skill competition. The usual attendance accounts for 20% of the total score, the project test accounts for 30% of the total score, and the learning situation design accounts for 40% of the total score. 10% of the total score of the skill competition. Every project and job content is saved in Baidu Cloud Disk for verification!

Conclusion

Figure 1. Collaborative Learning Model Based on Work Process.

According to the relevant theory of "work process", using the constructivist teaching design method,
the professional ability, components and implementation steps in the work process are successfully transformed into the elements of the project course based on the work process, and the corresponding conversion relationship between the two is derived. The project teaching design strategy based on the work process is formed to supplement the theoretical research of the project curriculum design. Under the background of applied curriculum reform, the construction of computer basic courses in colleges and universities needs continuous thinking, continuous improvement and continuous improvement. The implementation of applied curriculum reform will provide a strong data foundation for the smooth implementation of the transformation and development of our school, and comprehensively carry out application-oriented curriculum reform. It will accelerate the pace of transformation and development of our school.

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References


