Application Research of Blending Teaching Mode in Virtualization Technology Course

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Abstract. A new blending teaching design model based on network platform is proposed. Firstly, the existing problems of virtualization technology course are outlined; Secondly, a teaching design framework of blending teaching is put forward based on the network platform and the each layer of the framework is described; finally, the teaching model is applied to the virtualization technology course. The implementation of blending teaching is summarized and analyzed. The results show that the proposed blending teaching model can play the main role of students and improve teaching quality.

Introduction

The blending teaching advocates that the advantages of traditional teaching and the advantages of digital teaching should be combined to get better teaching effect [1-3]. Based on the network platform, it is of practical significance to carry out blending teaching in higher vocational colleges. Firstly, teachers can to build courses according to the teaching contents and the characteristics of students in the network platform to enrich classroom teaching, improve teaching quality. Secondly, the development of mixed teaching can also change the learning methods of vocational students, and promote students' interest in learning and comprehensive competitiveness. Through the combination of online education and traditional education, students can expand their vision, mobilize the enthusiasm and initiative of students, optimize the teaching process, improve classroom efficiency.

In this paper, the network teaching and the traditional classroom education are to integrated effectively. A "leading and subject" teaching model is designed by using various of teaching media means and it is applied to virtualization technology course. The teaching mode is improved continuously according to the teaching effect in order to achieve the purpose of improving the teaching level and teaching quality.

Virtualization Technology Teaching Situation

“Virtualization Technology” course is fit for the high-grade students of computer network specialty who have a certain basic network. This course involves a lot of theoretical knowledge and it is not easy to understand. The Teaching Situation of the Virtualization Technology is as follows:

(1) Teaching content emphasizes on technical skills and ignores theoretical knowledge

The theoretical knowledge of the course is little narrated. The students need finish a large number of experiments and ignore the theoretical knowledge, which is not conducive to the expansion of student knowledge.

(2) Subjective role of students in teaching is not played.

At present, the class teaching of virtualization technology mainly teachers to teach and operate the main demonstration, students are only passive recipients, not out of the traditional teacher-centered...
indoctrination teaching mode, cannot play the main role of the students and cannot mobilize the learning initiative of students.

(3) The teaching mode ignores to culture the ability of students’ self-learning, innovation, collaboration

The classroom teaching time only ensures that teachers teach basic knowledge. The exchange of discussion between teachers and students is less and the problems students meet cannot be solved in time. This is easy to weaken the enthusiasm of students learning.

(4) The assessment mode can’t promote teaching and learning better.

The assessment mode focuses on the summative assessment of students ‘final examination, which cannot arouse the students' interest and enthusiasm in learning. At the same time, the teachers can not know the mastery degree of students for the course content.

Summary of Network Platform

The network platform is composed of course guidance, class teaching, Micro class, course notification, students' results, vote investigation, library sharing, online testing, forum, course homework. The platform is shown in Figure 1.

The course guidance is composed of course introduce, teaching syllabus, teaching calendar, teaching environment, teaching teams. The students can know the main content of the course, evaluation mode, teaching progress though the part.

Class teaching includes the main content designed by teachers according to teaching syllabus, distancing teaching video, experimental operation video and unit exercises.

Course homework is designed according to the course content. The teachers can comment and guide the homework of students. The part includes the homework status query, assigning homework, downloading achievement. The teachers can grasp the students’ learning of some chapters.
Online testing is composed of on-line test system and on-line examination system, as shown figure 2 and figure 3. The system can increase the exercises of students and know that the students grasp the degree of course content.

Figure 2. On-line Examination System.

Figure 3. On-line Practice System.
The forum module includes the creation of modules, plate name, plate description. The teachers can design the contents of the forum according to the content of the teaching content. This part can expand the students’ vision.

The Micro-class shows the emphasis and difficulty of the course to facilitate students to master the knowledge. Micro-class is composed of general situation, guidance, reference, students’ general situation, query. The general situation is composed of average progress and learning situation; The students’ general situation is composed of student number, name, learning progress, learning status. The students may ask questions and the teachers answer these questions in the module.

The students’ results includes management task and score statistics. The management task is composed of task name, task introduction, task weight distribution and references.

**Blending Teaching Design Model**

In order to achieve the best teaching results, the proposed the framework of blending teaching combines the network platform with classroom teaching. The teaching process is divided into four stages: pre-class stage, the middle of course Stage, the end of course stage and after class. The functions and teaching tasks of four stages are different. The framework of the blending teaching design is shown Figure 4 for the mixed teaching curriculum design framework.

Figure 4. The Framework of the Blending Teaching Design.

In the pre-class stage, students need to use the network resources to preview in accordance with the content required by teachers and to complete some work tasks and some basic experiments. The middle of class stage refers to the stage of classroom implementation, which is an important stage in the blending teaching mode. At the end of the course, the whole class is summarized and the network platform is used to arrange the homework. After completion of the course, the evaluation of teaching process and the assessment of the course is necessary. The assessment of the course includes classroom evaluation, online self-test, online learning evaluation. The assessment method combines
formative evaluation with final evaluation which can examine the situation of students' comprehensive learning and test the effect of using blending teaching.

**Application of the Blending Teaching Design**

In order to test the effectiveness of the model, the model is applied to virtualization technology course. The usage summary of network platform is shown in Table 1, the comparison of the final examination results for the using the network platform and not using the network platform is shown in Table 2.

**Table 1 Summary of Using Network Platform.**

<table>
<thead>
<tr>
<th>Network Platform Options</th>
<th>Terms</th>
<th>Number</th>
<th>Micro-class (finish rate)</th>
<th>pre-class work (finish rate)</th>
<th>Course homework (finish rate)</th>
<th>Online testing(pre-class ) (finish rate)</th>
<th>Online testing (the middle of class) (finish rate)</th>
<th>Forum topics</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The First term</td>
<td>80</td>
<td>80%</td>
<td>67%</td>
<td>90%</td>
<td>67%</td>
<td>95%</td>
<td>12</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td>The Second term</td>
<td>160</td>
<td>89%</td>
<td>78%</td>
<td>91%</td>
<td>78%</td>
<td>96%</td>
<td>12</td>
<td>1700</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2. Final Examination Analysis of Experimental Class and Non-Experimental Class.**

<table>
<thead>
<tr>
<th>Class</th>
<th>average grades</th>
<th>Pass rate</th>
<th>excellence rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90-100</td>
<td>80-89</td>
<td>70-79</td>
</tr>
<tr>
<td>Experimental Class</td>
<td>75.4</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Non-Experimental Class</td>
<td>62.3</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

**Summary**

The paper researches the application of the blending teaching mode and method. The blending teaching design mode based on the network platform is proposed which includes four stages. The requirements of every stage are different for teachers and students in order to play the leading role of teachers and subjective role of students in teaching. The presented teaching design mode is applied to the Virtualization Technology Course. The experimental results proves the teaching model is fit for the computer courses.

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**References**

