Comparative Study on Blended Teaching Mode Based on Rain Class—Take Financial Management Practice in Higher Vocational College as an Example

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Abstract. Take the curriculum reform of financial management practice in higher vocational college as an example, this paper analyses students’ learning situation and teaching status through questionnaire survey and interview, develops and practices the blended teaching mode based on rain class, and compared it with the traditional teaching mode. The study finds that the teaching effect and the study achievement of class which uses blended teaching mode based on rain class is more remarkable. On the basis of teaching practice, this paper puts forward some suggestions on how to optimize the course teaching with the help of the intelligent teaching tools of rain class.

Introduction

In February 2016, the ministry of education issued the *education information priorities for 2016* [1], which guides colleges and universities to use information-based tools to reform teaching methods such as blended teaching and flipped classroom. *Education informatization 13\(^{th}\) five-year plan* also clearly points out that to promote to form a new type of education teaching mode based on information technology. Under the background of informatization, Tsinghua University introduced the rain classroom teaching software, that provides a convenient and feasible solution to reform and implementation of information-based teaching, also solve the problems in traditional classroom teaching, such as teachers always speaking and teaching, lack of interaction between teachers and students, boring teaching atmosphere in classroom, lack of learning enthusiasm and participation of students, lack of real-time evaluation and feedback of teaching. Traditional teaching resources, teaching process and teaching evaluation could be optimized by rain class platform, a combination with an efficient online and offline class realizes the real-time class interactive between teachers and students. Besides, the intelligent teaching tool of rain class covers every teaching process before, during and after class, which promotes the transformation from "teaching-centered" of teachers to "learning-centered" of student-independent learning [2].

In the case of curriculum reform and practice of the financial management practice in higher vocational college, this paper compares the traditional classroom teaching mode with blended teaching mode based on rain class, discusses how to develop rain class-based teaching mode, puts forward the problems and countermeasures for rain class-based teaching, and provides advice for improving the quality of information-based teaching.

Analysis of Learning and Teaching Situation of the Course of Financial Management and Practice in Traditional Teaching Mode

The author conducts interviews and questionnaires on the students of major of 2017 asset appraisal that are adopted the traditional teaching mode, the learning and teaching situation as follows:

There are 2 classes and 80 students majoring in asset appraisal. Preliminary courses include basic accounting, statistics and other courses. More than 70% of students considers that it is quite difficult to learn financial management practice, especially computational analysis and model involved in this course. The basic knowledge of most vocational college students, especially the mathematics
foundation might be weak, and their ability to analyze and solve problems also might be weak. From survey, 30% of students express that they are in a dilemma in the learning. Additionally, more than 80% of the students do not have the habit of preview before class, and it is difficult to fully digest the teaching content in class. If they do not consolidate in time after class, they would soon forget what they have learned. Besides, 90% of students hope to increase interaction, 63% of students think case study is a good point, and effective exercises in class benefit the digestion of knowledge, most students also want to get timely feedback after the completion of exercises. Furthermore, 85% of students think it is necessary to introduce information technology into the classroom to increase classroom vitality.

In terms of teaching situation, the course of financial management practice is compulsory for the major of accounting and finance, total 64 class hour, the course content is various, and it has high requirements for formula application, calculation and analysis. In addition to, the traditional teacher-centered mode is that the teacher injects knowledge to the students, and the students passively receive the knowledge. It is easy for the students to feel tired in class learning, for teachers, more efforts are required in explanation, the one-way transmission of the teacher and one-way absorption of the student are easily misplaced. Besides, each content is linked closely, students’ failure to timely digest the current knowledge could affect their subsequent learning, the problem is that due to the tight curriculum arrangement, there is limited time for practice and insufficient time for digestion in class. It is also difficult for teachers to timely grasp each student’s learning status in class teaching, and timely feedback in traditional class is insufficient.

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In view of the analysis of learning situation and teaching situation of traditional teaching, it is imperative to develop blended teaching mode with information-based teaching. Based on the intelligent teaching tool of rain class, the author implements the curriculum teaching reform among 110 students in 3 classes of financial management major.

**Blended Teaching Practice Based on Rain Class**

The intelligent teaching tool of rain class provides favorable conditions for the blended online and offline teaching, extending the traditional classroom teaching to the three sections "Pre-class ", " In-class " and " after-class ", as shown in fig. 1.

<table>
<thead>
<tr>
<th>Pre-class: Preparation</th>
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<tbody>
<tr>
<td>Teacher</td>
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<tr>
<td>Student</td>
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</table>

Pre-class feedback leads the teacher to adjust the teaching plan

<table>
<thead>
<tr>
<th>In-class: Teaching</th>
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<tbody>
<tr>
<td>Teacher</td>
</tr>
<tr>
<td>Student</td>
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</tbody>
</table>

In-class feedback leads the teacher to adjust the teaching plan

<table>
<thead>
<tr>
<th>After-class: Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
</tr>
<tr>
<td>Student</td>
</tr>
</tbody>
</table>

After-class feedback leads the teacher to adjust the teaching plan

Figure 1. The Pre-class, In-class and After-class Teaching Process based on the Rain Class.
In the pre-class preparation, the teacher combined with the teaching content of this section and took the relatively easy to understand knowledge as the entry point, screened MOOC, micro-course, case and other course resources, made pre-class preview materials, and pushed the pre-class learning tasks to the WeChat platform of rain class to achieve task-driven. Regarding to the teaching content of this section, teacher takes easy-to-understand knowledge into account, MOOC, micro-course video, case study and other course resources could be screened for pre-class preparation materials, which is pushed to the WeChat platform of rain class to realize task driven. For example, the content of time value of money involves a lot of formula and calculation, formula deduction and calculation are unattractive for students, however, it is better to use the daily case of money saving and drawing to explain time value of money, and this case study could guide students to self-study, which cultivates the ability of independent exploring. Additionally, students learn independently through WeChat, when in doubt, they can give online feedback and answer questions. Learning data are collected automatically and teacher could adjust the teaching plan and design timely according to the result analysis. In class, the teacher opens the rain class teaching mode, students can see PPT on the mobile phone screen directly. In the process of teaching, if students have problems, they can click the "do not understand" button on the screen to transmit the information to the teacher, in this way, teachers can pay close attention to students' learning situation in real time, and focus on explaining the problems of students' feedback [3]. Barrage also can be used to interact with and guide students and in-class quizzes are pushed online to check students' mastery of knowledge by rain class, which achieves the unity of teaching, learning and doing. At the same time, test results can be recorded to help teachers understand the learning effect of students. At the stage of after-class, teacher makes review questions based on single choice, multiple choice and objective judgment and pushes them to the students, it mainly includes basic review questions and difficult questions for ability improvement [4]. Students should complete the review task within the specified time, and according to the data, teachers can easily understand the learning effect of students, and teach according to the difficulties reflected by students.

A Comparative Study of Blended Teaching Mode based on Rain Class and Traditional Teaching Mode

The author practices blended teaching reform of "financial management practice" based on the rain class in the class of financial management major, and compared the teaching effect with that of the class of 2017 asset appraisal major with traditional teaching mode. In the research process, the traditional teaching class 1701 of asset appraisal major, which called AAM class, was selected as the referential class, the class 1701 of financial management major, which called FMM class, as the practice class, AAM class has a total of 40 students and the FMM class has a total of 38 students. A questionnaire about the teaching mode of rain class was conducted and the preliminary and final examination results of AAM class and FMM class are statistically analyzed.

Comparison between the preliminary examination results of FMM class and that of AAM class

Take the same course of financial accounting with same teacher as an example, data of test scores of two classes in this course are used to conduct the independent sample T test. The mean value of AAM class is 72.1 and the standard deviation is 5.42, while the mean value of FMM class is 73.6, and the standard deviation is 7.64, P =0.34, greater than 0.05, indicating that the initial scores of AAM class and FMM class are not statistically significant, and there is no significant difference in performance, as shown in table 1.
Comparison between the final examination results of FMM class and that of AAM class

For the course of financial management practice, author implement the traditional teaching mode and the blended teaching mode based on the rain class respectively in the two classes, two classes use the same paper for the final test, and the final results are analyzed. The mean value of AAM class is 73.18 and the standard deviation is 5.01, while the mean value of FMM class is 77.82, and the standard deviation is 6.91, \( P = 0.34 \), less than 0.05, indicating that the final scores of AAM class and FMM class are of statistical significance, and there is no significant difference in performance, as shown in table 2.

### Table 2. Final Results T Test.

<table>
<thead>
<tr>
<th>Class</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMM class</td>
<td>38</td>
<td>77.82</td>
<td>6.91</td>
<td>0.001</td>
</tr>
<tr>
<td>AAM class</td>
<td>40</td>
<td>73.18</td>
<td>5.01</td>
<td></td>
</tr>
</tbody>
</table>

The above analysis shows that the two classes with similar conditions use the traditional teaching mode and the blended teaching mode based on the rain class respectively, the integration of online and offline teaching mode with information tool can greatly improve the teaching effect and the learning performance of the class. From the teaching practice, first of all, rain class of intelligent teaching tool used in teaching not only plays the leading role of the teacher, but also fully mobilizes the enthusiasm and participation of students learning, which avoids the embarrassing situation of teachers' unilateral teaching and students' passive learning, it promotes the transformation from "teaching-centered" to "learn-centered". Secondly, the classroom atmosphere becomes more relaxed and active compared with the traditional classroom. The real-time interactive function of rain class also changes the one-way transmission into the two-way transmission of teacher-student interaction, so that students are more involved in class. Third, the push function of rain class plays an important role in promoting students' learning efficiency. Besides, pre-class preview, in-class test and practice, and after-class review can all be embedded with rich teaching resources, such as micro class, video, test paper, etc., with the help of information teaching tools, it is better to realize "learning in teaching, doing in learning ", as well as the integration of teaching, learning and testing, so as to improve students' cognitive ability. Fourth, finding the path for teaching evaluation and feedback. The rain class tracks the students' learning process, data statistics can not only help teacher’s master students’ learning situation, but also provide basis for process assessment. Furthermore, it is very helpful for teachers to design teaching content, highlight key and difficult points, and optimize teaching plans.

**Advice of Blended Teaching Mode Based on Rain Class**

**Higher requirements for resource innovation and integration ability**

Rain class is a platform providing rich teaching functions, such as pushing pre-class preview, online testing, real-time interaction, after-class review and testing, etc. In addition, it can take various
forms of presentation, such as PPT, micro class, video, MOOC, online examination paper, etc., which requires teachers to carefully prepare and select course resources that are closely related to the course content, select the simple and understandable points and integrate them into micro class or video as the pre-class preview materials. In view of teaching content, the online examination paper made by teachers should focus on the use of single choice, multiple choice, judgment and other easily quantifiable objective questions, and design interaction questions for voting, etc. After class, teachers could make summary and push exercises, it is worth noting that the selection and production of review materials should not only include common basic knowledge of the course to help students digest and consolidate in time, but also consider improving exercises to stimulate students to explore independently and cultivate their ability to solve problems.

**Teachers need to pay more attention to curriculum design and organization of teaching**

The blended teaching mode based on rain class extends the single classroom learning of traditional teaching mode to pre-class, in-class and after-class multi-class learning, which actually increases the teaching and learning process of teachers and students, and the workload of teachers will also increase. Additionally, although the intelligent teaching tools can make the course teaching more vivid and interesting, it is far from enough to rely only on the information teaching methods to improve the quality of teaching, and the efficient blended teaching based on the rain class is absolutely inseparable from the teacher's good course design and teaching organization. Excellent teaching design and organization is based on teachers' in-depth understanding of the course content, full grasp of the knowledge, key points and difficulties in each chapter, the selection of teaching content and the full understanding of students' learning situation, which is also important to improve the teaching level.

**Enhance the supervision of learning, stimulate students to study independently**

The blended teaching of rain class based on WeChat platform is inseparable from the rational use of mobile phones by students, which also puts forward requirements on how teachers guide students to use mobile phones correctly in class. When distracted and mentally tired, the purpose of students' using mobile phones is likely to deviate from the original intention of teachers' class teaching. Hence, how to distinguish between students using mobile phones to study and play mobile phones requires teachers to increase supervision and management. In addition, in-class test pushed based on rain class is taken as one of the contents of the course process assessment, data recording and analysis also provide a basis for teachers to assess students' scores, so as to stimulate students' subjective initiative and cultivate their ability of independent learning and exploration.

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