Original Paper

Research on the Application of "Flipped Classroom" in Accounting Based on "Rain Classroom"

Qianqian Chen[1]

[1] School of Accountancy, Beijing Wuzi University, Beijing, 101149, China

Abstract

With the development of information technology and modernization, the limitations of the traditional teaching mode of "teacher teaching-students listen" are becoming more and more obvious, which is mainly manifested in the low motivation of students in class, insufficient time for students to devote to class, and the quality and effect of teaching in general. In this context, this project is based on the non-accounting majors in Beijing Wuzi University, relying on the platform of "Rain Classroom", to build a "flipped classroom" of accounting based on "Rain Classroom", which combines online and offline teaching, builds a friendly interactive relationship between teaching and learning, and fully mobilizes students' motivation to improve the quality and effect of teaching, so as to provide a certain reference for improving the informatization and upgrading level of higher education.

Keywords

"Rain Classroom", "Flipped Classroom", teaching interaction

1. Introduction

With the development of technologies such as big data, information technology and the Internet, Internet-based teaching platforms such as MOOC, microcourses and "rain classrooms" have emerged, and the degree of informatization of education has continued to increase. The Ministry of Education pointed out in the Ten-Year Development Plan for Education Informatization (2011-2020) that great importance must be attached to the revolutionary impact of information technology on the development of education. General Secretary Xi Jinping, in the report of the 19th Party Congress, emphasized the need to speed up the modernization of education and realize the connotative development of higher education. In this context, informatization and modernization of education have become the development trend of higher education and a necessary means to improve the quality and level of higher education. Nowadays, in order to cope with the new crown epidemic, colleges and universities

have adopted online teaching mode, superstar, "rain classroom", Tencent classroom and other rapid development, the corresponding information technology continues to improve, but at the same time there are certain problems, such as purely online teaching can not get the feedback of students listening to the class and listening to the class status, the teacher's class lack of interaction with the screen, class The "flipped classroom" is a new approach to teaching and learning. The "flipped classroom" can combine online and offline teaching, enhance teacher-student interaction, mobilize students' enthusiasm, and effectively solve this problem.

In our school, accounting is a course that mainly teaches accounting and supervision, which is characterized by many knowledge points, great difficulty and long teaching time. At this stage, we mainly adopt the teaching mode of "classroom teaching and homework after class", in which the teacher mainly gives lectures and the students mainly passively accept knowledge. Students lack the process of actively exploring knowledge, have insufficient understanding of some knowledge points, the whole learning process is more difficult, and students' learning enthusiasm is not high. Compared with the traditional teaching mode, the application of Internet and education informatization technology can effectively improve students' motivation and participation, and then improve the teaching effect of the classroom (Zhao et al., 2017). The "rain classroom" platform is jointly developed by Tsinghua University and Xuedang Online, which integrates information technology into PPT and WeChat, and organically combines "before class - during class - after class" to maximize student motivation and teaching effect. The "flipped classroom" is a teaching mode that has been widely studied in recent years, which breaks the traditional mode of teachers' classroom lectures, records teaching videos for students to learn before class, and mainly focuses on class discussions, thus combining online teaching with face-to-face teaching and building a friendly interactive relationship between teaching and learning.

In this context, combined with the characteristics of our students and accounting courses, this project proposes a "flipped classroom" teaching model for accounting based on "Rain Classroom", which is a teaching platform that establishes a benign interactive relationship between teaching and learning, and fully mobilizes students' motivation to improve the quality and effectiveness of teaching.

Theoretically, first, we have constructed a teaching model of "flipped classroom" in accounting based on "Rain Classroom", and applied the platform of "Rain Classroom" to flipped teaching, which theoretically expands the research framework of "flipped classroom" and enriches the teaching resources of "flipped classroom" before and after class. The application of "Rain Classroom" platform to flipped classroom theoretically expands the research framework of "flipped classroom" and enriches the teaching resources of "flipped classroom" before and after class. Second, the teaching mode of "flipped classroom" based on "rain classroom" theoretically belongs to the hybrid teaching mode, and the research of this project enriches the teaching strategies, teaching methods and evaluation system under the hybrid teaching mode, utilizes the platform of "rain classroom" and adopts the teaching method of "flipped classroom". This project enriches the teaching strategies, teaching methods and

176

evaluation system under the hybrid teaching mode, utilizes the platform of "Rain Classroom" and adopts the information technology to integrate video, WeChat, PPT and so on into the "Flipped Classroom", which is an innovation of the hybrid teaching mode.

In practice, first of all, it increases students' interest and motivation in learning. Under the accounting "flipped classroom" teaching mode based on "rain classroom", videos, animations and mind maps are recorded for students to learn before and review after the course, and students will feel a sense of novelty about these forms, which in turn will increase their interest in learning. In addition, timely questions and evaluation buttons are set up on the platform so that students can ask questions at any time, which will greatly increase students' motivation to learn. Second, to improve the quality and effectiveness of teaching. Based on the "rain classroom" accounting "flipped classroom" teaching mode, breaking the traditional teaching mode of teachers' classroom lectures and students' out-of-class practice, and closely combine "before class - in class - after class". Closely integrated, emphasizing the network learning before class and review in class, while the class mainly focuses on the discussion of difficult topics, which can improve students' understanding of difficult topics, strengthen their memory, timely preparation and review, and thus improve the quality of teaching and teaching effect. Third, it promotes the positive interaction between teaching and learning. Under the accounting "flipped classroom" teaching mode based on "rain classroom", students can raise questions, submit assignments and evaluate the effect at any time on the "rain classroom" platform of the mobile phone, and teachers can raise questions, submit assignments and evaluate the effect at any time on the "rain classroom" platform, and teachers can answer questions, review assignments and check students' evaluation in a timely manner on the "rain classroom" platform to improve teaching and learning, which truly realizes "teaching on the move" and enables teachers and students to communicate in a timely manner and promotes the positive interaction between teaching and learning.

The "flipped classroom" originated in the United States and first appeared in primary and secondary schools, which is a teaching mode of "transferring knowledge before class and digesting and absorbing it in class", and has been gradually applied in colleges and universities due to its good teaching effect (Zhu et al., 2013; Zhang et al., 2015). At present, the research on "flipped classroom" at home and abroad mainly focuses on the following three aspects: first, the research on the design of the teaching mode of "flipped classroom", mostly based on microcourses, MOOC, WeChat and other platforms, so that students can watch the video and course materials before class, and students can learn by themselves in class through tutoring and discussion. In counseling and discussion, students' self-learning is the main focus, and teachers' counseling is the main focus (Fan et al., 2015; Zeng et al., 2015). Second, the research on the teaching effect of "flipped classroom", scholars mostly adopt the form of case study to study the teaching effect of "flipped classroom", and establish a teaching quality evaluation system specifically for "flipped classroom" (Zheng et al., 2015; Zeng et al., 2015). Scholars mostly use case studies to study the teaching effect of "flipped classroom" and establish a teaching quality evaluation system specifically for "flipped classroom" (Zheng et al., 2016; Che et al., 2017).

177

Third, the research on the differences between "flipped classroom" in China and the United States, "flipped classroom" originated in the United States, due to the cultural differences between China and the United States, there are differences in the application effect of "flipped classroom", scholars have studied and concluded that the construction of a localized "flipped classroom" is the best way to build a localized "flipped classroom". Scholars believe that it is crucial to build a localized "flipped classroom" teaching mode (Zhu et al., 2015; Yang et al., 2014).

"Rain Classroom" is a highly informatized teaching platform jointly developed by Tsinghua University and Xuedang Online, which was officially launched in 2016.Scholars have conducted relatively few studies on "Rain Classroom", with the only studies focusing on the application of the platform, exploring how to use the platform and the possible impact of the platform on the effectiveness of teaching and learning (Li et al., 2017; Xu, 2016).

From the above, it can be seen that scholars have studied more on "flipped classroom" and less on "rain classroom". In fact, there is a natural genetic connection between the two, and "rain classroom" is a strong technical support, easy to operate and mobile teaching platform, which can improve the teaching effect of "flipped classroom", and it is of great theoretical and practical value to study the combination of the two.

2. Feasibility Analysis of "Rain Classroom" to Support "Flipped Classroom" Teaching in Accounting

Accounting course is an important basic course in our school, with much content and long teaching time, and the traditional mode of "teacher teaching-student learning" at the current stage, according to the analysis of the results in the academic year of 2016, the average passing rate of our students in accounting course is 78%, which is not high compared with the passing rate of other economics and management courses. The average pass rate of our students in accounting courses is 78%, which is not high compared with other business and management courses. According to the students' feedback, most of them feel that the course contents are many and difficult, and the preparation for the examination is under great pressure. Combined with this situation, it is necessary to carry out the reform of teaching mode, based on the "Rain Classroom" teaching platform, focusing on students' independent learning before class and review after class, and mainly focusing on the discussion and explanation of difficult points in class. In addition, "Rain Classroom" platform is jointly developed by Tsinghua University and Xuedang, with high technical content, simple operation and easy to use. The "flipped classroom" teaching mode of accounting based on "Rain Classroom" is suitable for our students and feasible in theory and practice.

During the implementation of the specific project, the feasibility of this project was studied in the form of distributing research questionnaires, using the 2017 Business Administration 1 and 2 classes as an example. The concrete implementation is as follows:

First, some students were interviewed in the form of sampling, in order to ensure the reliability and

178

validity of the interviews, students with 5 and 8 on the end of the school number were extracted for interviews, and a total of 11 students were extracted for interviews in the two classes, and the catalog of interviews is as follows:

(1) Do you think the course "Accounting" is important?

(2) Do you know the program "Rain Classroom"?

(3) Have you ever used "Rain Classroom" to listen to a class?

(4) Did you know about "Accounting" before? What do you think about the difficulty of this course?

(5) What kind of class format do you want for non-specialized courses?

(6) Are you familiar with "flipped classroom"?

In the process of interviewing, the "back-to-back" form was adopted, that is, each student was interviewed individually. After interviewing the students, the summary is as follows: because it is not a professional course, students generally pay less attention to the course "Accounting", 7 students think that this course is not so important; 11 students said that they have a very shallow understanding of accounting, think that accounting is to do accounting, and there is a phenomenon of blind self-confidence, they all think that accounting should not be difficult, belong to the "memorization" type of courses; 11 students said that accounting should not be difficult, belong to the "memorization" type of courses. They thought that accounting should not be difficult and belonged to the "memorization" category; 11 students said that they had never heard of "Rain Classroom" and had never used this software, and expressed confidence in using "Rain Classroom" software in class. All 11 students said that they had never heard of "Rain Classroom" and had never used this software, and expressed some curiosity about using "Rain Classroom" in class; 11 students subconsciously thought that the class format of non-specialized courses should be the traditional "teacher teaching-student listening" mode, and they had never learned about "flipped classroom", but they were also interested in "flipped classroom". However, all of them also expressed great interest in the flipped classroom. Through the interviews, it was concluded that the students were interested in "flipped classroom" in accounting based on "rainy classroom", and the project was feasible.

Second, to further analyze the feasibility of "flipped classroom" in accounting based on "Rain Classroom", a questionnaire was distributed to the students of Business Administration 1 and 2 classes in 2017.The feasibility of "flipped classroom" in accounting based on "Rain Classroom". The research questionnaire questions are mainly as follows:

(1) Do you think "Accounting" is an important course?

A. Not important B. Fairly important C. Quite important D. Important E. Very important

(2) Do you think the course "Accounting" is difficult?

A. Not difficult B. Average C. Fairly difficult D. Difficult E. Very difficult

(3) Will you study and review the content of the previous class in advance?

A. No B. Yes

(4) Are you familiar with the Rain Classroom program?

179

A. Unfamiliar B. Generally C. Pretty Familiar D. Familiar E. Very Familiar

(5) Are you looking forward to the new teaching mode of combining online and offline?

A. Not looking forward B. Generally C. Rather looking forward D. Looking forward E. Very looking forward

(6) Do you hope to get a high score on the final paper exam of the "Accounting" course?

A. A. No B. Fair C. Rather expect D. Expect E. Very expect

(7) Do you want to get a high score on the regular grade in the accounting course?

A. No B. Fair C. Rather hopeful D. Hopeful E. Very hopeful

(8) Do you like the interactive format of the class?

A. Don't like it B. Generally like it C. Fairly like it D. Like it E. Very much like it

Similarly, in order to ensure the credibility and validity of this project research, in the research process, the anonymous way, on the 17th grade business administration class all the students to conduct the research, the results of the research are as follows: 89% of the students think that "accounting" the importance of this course is general, which may be related to the non-business administration of the major courses; 90% of the students think that "accounting" is a difficult course, which is consistent with the actual situation, for non-accounting students, "accounting" is a difficult course; 40% of the students said that they would not study in advance to review the course. "The fact that 40% of the students said that they would not study the course content in advance indicates that non-accounting majors are not highly motivated to study accounting. Ninety-eight percent of the students are not familiar with "Rain Classroom", which means that the students in the business administration class basically don't know the software of "Rain Classroom"; 60% of the students said that they are looking forward to the new teaching mode of combining online and offline, and 38% of the students said that they are very much looking forward to the new teaching mode of combining online and offline, which means that the students are generally burned out from the traditional teaching mode and are looking forward to innovative teaching modes. Teaching mode; 99% of the students said they very much hope that "accounting" course final paper examination to get a high score, 95% of the students said they very much hope that "accounting" usual results to get a high score, which shows that the students of business majors are very concerned about the course results, they all want to get a good score. This shows that business majors are very concerned about course grades and hope to get good grades. 58% of the students said that they prefer more interaction in class, and 40% of the students said that they prefer more interaction in class in general, which shows that most of the business majors hope to have more interaction in class to improve the teaching effect. From the above research results, "accounting" course for non-accounting students, for them the course is difficult, and they want to get better grades, the traditional teaching mode of the course is difficult to get higher average scores, and students also want to change the teaching mode, online and offline combination, to increase the interaction between teachers and students. Students also want to change the teaching mode by combining online and offline and increase the interaction between teachers and students. The software "Rain Classroom" can realize

180

the above. The software "Rain Classroom" can realize the teaching effect of combining online and offline, fully mobilize students' enthusiasm, and realize "flipped classroom". Therefore, from the research results, "Rain Classroom" is feasible to support "flipped classroom" in accounting.

3. The Construction of Accounting "Flipped Classroom" Teaching Mode Based on "Rain Classroom"

The "flipped classroom" emphasizes the creation of an information-based collaborative learning environment for students, giving full play to students' initiative, while the teacher mainly plays a guiding role. This project is based on the "rain classroom" accounting "flipped classroom" teaching model, that is, the use of "rain classroom" as a teaching platform, from the pre-course, during the class and after the class in three stages to build a "flipped classroom" teaching model, under which the teacher is mainly a guide. The "flipped classroom" teaching mode, in which teachers are the guides and solvers of students' learning, and students are the protagonists of learning. The details are shown in Figure 1 below:
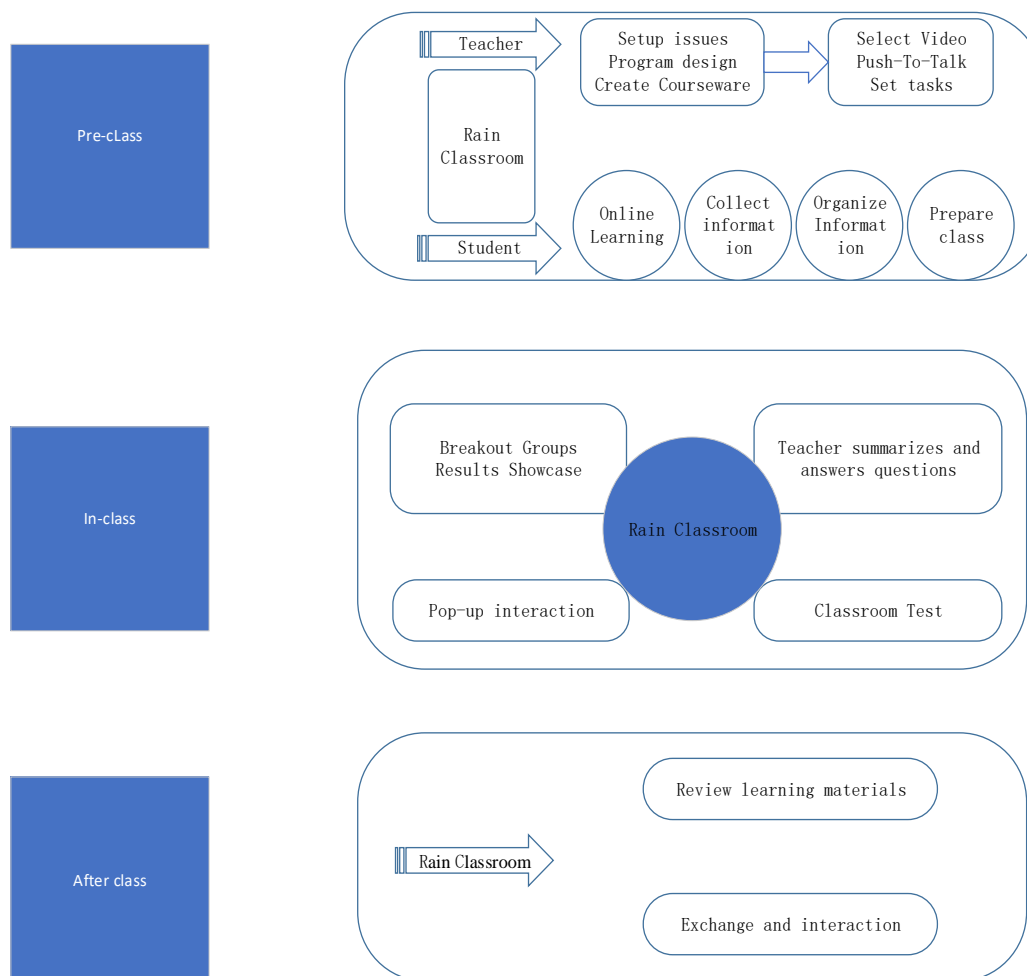

Figure 1. Accounting "Flipped Classroom" Teaching Model Based on "Rain Classroom"

In this mode, before the class, the teacher creates courseware, pushes voice, pushes video, and assigns tasks on the "Rain Classroom" platform, and the students collect and organize information according to the tasks assigned by the teacher, learn the video, voice, and courseware pushed by the teacher, and if they don't understand any questions, the teacher will answer them anytime on the platform. In the classroom, the "Rain Classroom" platform is combined with real-life teaching, students can discuss in groups, and at the same time, they can send pop-ups and questions on the "Rain Classroom" platform, and the teacher will answer them at any time online or offline, and they can also do the accompanying exercises or quizzes, thus realizing the positive interaction between online and offline teaching. After the lesson, students can review the learning materials in the mobile client on the "rain classroom" platform, and communicate and interact with the teacher. Throughout the teaching process, teachers and students continuously interact with each other in the mobile client, and problems are found and solved in a timely manner, so as to maximize teaching efficiency and teaching effect.

In the specific implementation process, this project takes the most difficult chapter in the "Accounting" course, Chapter 5, "Accounting for Major Economic Operations of Manufacturing Enterprises" as an example to illustrate the "flipped classroom" teaching model of accounting based on "Rain Classroom". "As an example, we will illustrate the "flipped classroom" teaching mode of accounting based on "Rain Classroom". The specific implementation steps are as follows:

First, in the pre-class stage, since the first four chapters have been taught, students have been introduced to the basic principles of accounting, basic elements, accounting equations, accounting fundamentals, accounts and double-entry bookkeeping and other basic content, students already have a macroscopic understanding of "accounting", and at the end of the class to complete the classic examples of the task. After random testing, it was found that most students had a good understanding of the first four chapters, and had the basis to study chapter five on their own. In the study of Chapter V, Section V "accounting for the product sales process," before the students of the first four sections of Chapter V content of the major business processes of manufacturing enterprises, manufacturing enterprises to raise funds for accounting, accounting for the process of procurement of materials for manufacturing enterprises, manufacturing enterprises to supply the process of accounting for the content of a better understanding of the content of the study, but also for the study of "accounting for the product sales process. "Product sales process accounting" laid a good foundation. Using the "rain classroom" software, the PPT, electronic handouts, teaching materials, pre-class exercises, etc. of Section V "Product Sales Process Accounting" will be posted on the "rain classroom" platform. Download product sales videos from the Internet and post them on the Rain Classroom platform. Post pre-class assignments on the Rain Classroom platform in the form of text or voice, with the following assignments: self-help online reading of course materials, class materials, pre-class exercises, etc., and record the pre-class assignments. The tasks are as follows: self-help online reading of course materials, class materials, pre-class exercises, related videos, etc., and record the difficulties and problems encountered in pre-class study, organize related materials, information and problems in small groups,

182

and form a report PPT to prepare for class. It is worth mentioning that during the whole class, the class is divided into 8 groups of 6-7 students each, which is convenient for the students to do discussion and study, and to form the usual grades in the form of group evaluation. In this process, teachers and students can use the platform of "Rain Classroom", where students can post any confusion they encounter in the discussion process, and teachers can answer students' questions and confusion at any time to inspire them before class.

Second, in the middle of the class, the traditional teaching mode of teachers giving lectures and students listening to them was completely broken, and the "rain classroom" platform was used to conduct group discussions, result presentations, pop-up interactions, class tests, teacher guidance and summarization. The specific implementation is as follows: because in the pre-class stage, students have fully read the course-related materials, courseware, etc., students are equivalent to have studied on their own, in the pre-class stage, but also the use of group online and offline discussion, timely guidance and answer students' questions, so in the middle stage of teaching, will be used in the form of student-centered, teacher-supplemented teaching. According to the previous grouping, respectively, the representatives of the group members of each group will go to the stage to show their tasks completed in the pre-class stage, and the students will be grouped into groups to teach the corresponding knowledge points of the group, and in the process of teaching each group of students, the students of other groups will ask questions to the students of the group and discuss them, so as to solve the difficult knowledge points one by one. In this process, there are some knowledge points that students do not understand thoroughly enough, the teacher began to guide students to broaden their minds, guide students to further in-depth discussion of difficult issues, and finally solve the difficult knowledge points. In the process of student group discussion and presentation, the teacher will "rain classroom" software projected on the computer, students can mobile phone "rain classroom" APP pop-up interaction, in order to enhance the interest and enthusiasm of students. After each group of students have finished the presentation and discussion, the teacher will summarize and expand to further enhance students' knowledge and understanding of the knowledge points. After the group discussion is completed, a 15-minute classroom quiz is given. The questions of the classroom quiz are recorded in the "Rain Classroom" platform in advance, and through the classroom quiz, students are further pushed to consolidate the difficult points and key points of this lesson. Throughout the lesson, the students were the main actors, and the teacher guided the students to learn and master the knowledge points independently, with active discussions among the students and obvious teacher-student interactions in the classroom. In this lesson, one of the most impressive discussion is about "the difference between the main business income and other business income" discussion, students to pop-up form on the computer to show a variety of real-life examples, to distinguish between the judgment belongs to the main business income or other business income, in the process of discussion, students will produce different opinions, Even produce arguments, the teacher began to guide, from the perspective of accounting standards to explain the accounting content of the main business income and other business

183

income, to broaden the students' thinking, and finally the students mastered this knowledge point. Compared with the traditional "teacher lecture - students listen to the lesson" mode, this teaching mode classroom atmosphere is active, students have a deep understanding of the knowledge, students have a deep impression of the difficult points, the overall teaching effect has been greatly improved. In the last five minutes of the lesson, the teacher summarizes and refines the lesson, briefly evaluates the performance of each group of students and answers their questions to further consolidate the effect of classroom teaching.

Third, at the end of the class, teachers and students use the Rain Classroom platform to review and exchange ideas. After the pre-class and in-class stages, students have a deep understanding of the knowledge points in this class and have formed a complete knowledge framework in their brains. However, for non-accounting students who have little exposure to accounting in general, the knowledge points are easily confused and disorganized, so timely review and exchange of post-class discussion is especially important. Students can review the PPT, lecture notes, videos and other teaching materials of this course on the "Rain Classroom" platform after class, review all the knowledge points of this course and summarize themselves in time. At the same time, in the "Rain Classroom" platform, students and students, students and teachers can communicate and interact with each other, ask questions, answer questions to further consolidate knowledge, and at the same time can promote the feelings between teachers and students, students and teachers. It can be seen that in the after-school stage, it is still a student-oriented and teacher-supported form of teaching, which gives full play to the enthusiasm and mobility of students.

After the above three steps, the complete "rain classroom" is based on the accounting "flipped classroom" teaching mode, can be seen, the whole process relies entirely on the "rain classroom" platform to realize the classroom teaching of the "flip", from the past "teacher-oriented, student-assisted" to "student-oriented, student-centered, teacher-assisted", fully mobilized the enthusiasm of students, so that students continue to think about the process, to the knowledge of the layers peeled off, and to deepen the knowledge and understanding of knowledge, so as to ultimately improve the effectiveness of teaching.

4. Effectiveness and Evaluation of Accounting "Flipped Classroom" Teaching Mode Based on Rain Classroom

In this paper, the practical application of accounting "flipped classroom" teaching mode based on "rain classroom" is carried out for the students of 2017 grade business class. Before each class, the teacher pushes the courseware, tasks, videos, animations and other materials to the mobile terminal of "rain classroom", and the students study according to their own time, and the teacher controls the students' learning progress on the mobile terminal and gives them questions and answers and advice; in the classroom of each class, it adopts the forms of seminars, exchanges, exercises and reviews. At the same time, you can also send pop-ups, likes, comments, etc., in the "Rain Classroom" platform; at the end of

each lesson, students independently review, and can "Report Teacher" board in the "Rain Classroom" to the After each lesson, students can review on their own and leave messages to teachers in the "Report Teacher" section of "Rain Classroom".

This paper adopts the following two methods to test the application effect of the "flipped classroom" teaching mode of accounting based on "rain classroom", one is to conduct a comparative analysis of the final examination results, comparing the difference between the results of students under the traditional teaching method and the teaching mode; the other is to design a research questionnaire for students to fill out, in order to comprehensively understand the students' recognition and acceptance of the teaching mode. To design a questionnaire for students to fill out in order to comprehensively understand the students' recognition, acceptance and effect of the teaching mode. According to the application effect of the "flipped classroom" teaching mode of accounting based on "rain classroom", the advantages and disadvantages of the mode are further analyzed in combination with the students' grades and the results of the questionnaire survey, so as to make a comprehensive and reasonable evaluation.

After practice, the average scores of accounting final grades and usual grades of students in 2017 business class are higher than those of other classes, especially the final paper grades, compared with other non-accounting majors, the average scores of final grades of students in 2017 business class are 10% higher, which shows that the students have a deeper understanding of knowledge points and a deeper mastery of difficult points under this teaching mode, which initially indicates that the application of the "flipped classroom" teaching model in accounting based on "rain classroom" has a good effect. This shows that students' understanding of knowledge points is deeper and their mastery of difficult points is deeper under this teaching mode, which initially indicates that the application of "flipped classroom" teaching mode in accounting based on "rain classroom" has a good effect. In order to further verify the application effect, this project designed a research questionnaire, which was filled out anonymously by the students of the 2017 business administration class, in order to comprehensively understand the students' recognition, acceptance and effect of this new teaching mode. The main questions of the research questionnaire are as follows:

(1) Do you think you have mastered the basic knowledge of the accounting course?

A. Not mastered B. Basically mastered C. Mastered

(2) After practicing, do you like this "flipped classroom" teaching method?

A. No B. Generally, C. Favorably

(3) If you were to take the "Accounting" course again, what kind of teaching format would you like to use?

A. The traditional teaching mode where the teacher teaches and the students listen.

B. The "flipped classroom" teaching mode based on "rain classroom".

(4) Do you think it is difficult to pass the final exam of the accounting course?

A. No difficulty B. Average C. Difficult

(5) Do you have a strong interest in "Accounting" through this semester's study?

A. Yes B. No

(6) Are you satisfied with your grades during the flipped classroom process?

A. Dissatisfied B. Average C. Satisfied

Similarly, in order to ensure the credibility and validity of this project research, in the research process, the anonymous way, on the 17th grade business management class of all students to conduct research, the results of the research are as follows: 50 percent of the students believe that they have basically mastered the basic knowledge of "accounting", 43 percent of the students believe that they have mastered the basic knowledge of "accounting", indicating that the overall effectiveness of the class is better. "Forty-three percent of the students felt that they had mastered the basic knowledge of accounting, indicating that the course was effective overall. Seventy percent of the students said they liked the "flipped classroom" teaching mode of accounting based on "rain classroom", and only 6% of the students said they didn't like the teaching mode, which shows that the teaching mode has a high acceptance among the students. Seventy-two percent of the students said that if they were to take "Accounting" again, they would still want to adopt the "flipped classroom" teaching mode based on "Rainy Classroom", which indicates that this teaching mode is recognized by the majority of the students. This shows that the teaching mode is recognized by most students. Seventy-eight percent of the students felt that they had no difficulty in passing the final examination, and 84% of the students were satisfied with their regular grades, which shows that the teaching mode is effective overall and the students are confident in their knowledge through learning. In addition, the research found that 74% of students through this semester's study, "accounting" has a strong interest, non-accounting students can make "accounting" this kind of difficult course to produce a strong interest, indicating that the teaching mode This shows that the teaching model is effective and worth popularizing.

From a comprehensive point of view, the teaching effect, acceptance and recognition of accounting "flipped classroom" teaching mode based on "rain classroom" are relatively good, and it can enhance the interest and enthusiasm of non-accounting majors in learning accounting and mobilize students' enthusiasm for learning.

5. Conclusion

From a comprehensive point of view, the teaching effect, acceptance and recognition of accounting "flipped classroom" teaching mode based on "rain classroom" are relatively good, and it can enhance non-accounting students' interest and enthusiasm in learning "accounting" and mobilize their enthusiasm for learning. It can enhance the interest and enthusiasm of non-accounting students in learning "accounting" and mobilize their learning enthusiasm. However, in the process of concrete implementation, some difficulties and problems have actually appeared. The difficulties and problems are mainly in the following three aspects: first, hardware implementation difficulties, due to the network and other technical reasons, in the course of teaching, there will be a "rain classroom" lag

186

phenomenon, affecting the effectiveness of teaching; second, individual students have an aversion to the teaching mode, due to student-led, students throughout the course of self-study and learning than the traditional teaching mode, the students' commitment to learning. Second, some students are averse to the teaching mode, because it is student-led, the students' self-study throughout the course is a bit more than the traditional teaching mode, and some students feel that it is a "waste of time", and they are emotionally averse to it; Thirdly, teachers have a long time to prepare, and teachers have to upload all kinds of materials and videos to the Rain Classroom platform in time, and they have to make sure that they have enough time to answer students' questions and interact with them on the platform, so it can be said that they basically maintain a 24-hour online service, which not only demands teachers' time, but also demands their technical requirements for operating software.

On the whole, however, these three problems can be overcome or dealt with. In response to the first problem, the classroom lagged, you can temporarily not use the "rain classroom", or restart and then use it again; in response to the second problem, the individual student's antipathy, you can communicate with students face to face in the classroom to guide students; in response to the second problem, individual students are averse to it, and can be guided through face-to-face exchanges with students after class to realize that college students should focus on learning and enhance their independent learning ability, so as to comprehensively improve their overall ability; In response to the third problem, it is true that the first time we use "Rain Classroom" to conduct "flipped classroom" teaching, we need to prepare a lot of materials and spend a long time on it. However, this is a one-time process, and the prepared materials can be used for teaching in the following years, and with the promotion of application time, teachers will become more and more familiar with the operation of the platform, which will greatly improve the efficiency and effectiveness of teaching.

Funding

References

Bishop, J., & Verleger, M. A. (2013, June). The flipped classroom: A survey of the research. In *2013 ASEE Annual Conference & Exposition* (pp. 23-1200).

Akçayır, G., & Akçayır, M. (2018). The flipped classroom: A review of its advantages and challenges. *Computers & Education*, *126*, 334-345. https://doi.org/10.1016/j.compedu.2018.07.021

Herreid, C. F., & Schiller, N. A. (2013). Case studies and the flipped classroom. *Journal of college science teaching*, *42*(5), 62-66.

Tucker, B. (2012). The flipped classroom. *Education next*, *12*(1), 82-83.

Senali, M. G., Iranmanesh, M., Ghobakhloo, M., Gengatharen, D., Tseng, M. L., & Nilsashi, M. (2022). Flipped classroom in business and entrepreneurship education: A systematic review and future

research agenda. *The International Journal of Management Education*, *20*(1), 100614. https://doi.org/10.1016/j.ijme.2022.100614

Jia, C., Hew, K. F., Jiahui, D., & Liuyufeng, L. (2023). Towards a fully online flipped classroom model to support student learning outcomes and engagement: A 2-year design-based study. *The Internet and Higher Education*, *56*, 100878. https://doi.org/10.1016/j.iheduc.2022.100878

Huang, A. Y., Lu, O. H., & Yang, S. J. (2023). Effects of artificial Intelligence–Enabled personalized recommendations on learners' learning engagement, motivation, and outcomes in a flipped classroom. *Computers & Education*, *194*, 104684. https://doi.org/10.1016/j.compedu.2022.104684

Aidoo, B., Macdonald, M. A., Vesterinen, V. M., Pétursdóttir, S., & Gísladóttir, B. (2022). Transforming teaching with ICT using the flipped classroom approach: Dealing with COVID-19 pandemic. *Education Sciences*, *12*(6), 421. https://doi.org/10.3390/educsci12060421

Förster, M., Maur, A., Weiser, C., & Winkel, K. (2022). Pre-class video watching fosters achievement and knowledge retention in a flipped classroom. *Computers & Education*, *179*, 104399. https://doi.org/10.1016/j.compedu.2021.104399

Quadir, B., Yang, J. C., & Wang, W. (2022). Factors influencing the acquisition of English skills in an English learning environment using Rain Classroom. *Interactive Learning Environments*, 1-19. https://doi.org/10.1080/10494820.2022.2075015

Li, X., Li, Y., Li, X., Chen, X., Yang, G., & Yang, L. (2022). Comparison of case-based learning combined with Rain Classroom teaching and traditional method in complete denture course for undergraduate interns. *BMC Medical Education*, *22*(1), 1-8. https://doi.org/10.1186/s12909-022-03678-z

Yu, Z., & Yu, L. (2022). Identifying tertiary students' perception of usabilities of Rain Classroom. *Technology, Knowledge and Learning*, *27*(4), 1215-1235. https://doi.org/10.1007/s10758-021-09524-3