

Reform of Flipping Classroom Teaching Model of "Computerized Accounting" from the Perspective of Mobile Internet

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Abstract - In the era of mobile Internet, the teaching of courses has undergone important and even fundamental changes. Taking the course of "Computerized Accounting" as the research object, this paper explores the reform of the teaching mode of flipping classroom and the research and application of mobile Internet technology, establishes the perfect teaching resources of "flipping classroom" micro-course, and designs the mode of "self-learning task sheet" to effectively guide the pre-class link of flipping classroom, strengthen the devise of classroom teaching mode, realize the teaching cohesion of the whole course, and form a new teaching method with the basic characteristics of "integration of curriculum teaching activities". This paper puts forward the classroom estimate mode of implementing hierarchical assessment, evaluates the effect of research and practice, gains the teaching design and course case of "flipping classroom" based on the mobile internet, effectively improves students' self-learning ability, creates a relaxed and happy efficient classroom, and thus improves the classroom effect and teaching quality.

Key words: mobile internet; computerized accounting; flipped classroom; mobile devices

I INTRODUCTION

The rapid development of information technology has brought about a new situation of global networking and digitalization. The education sector has also undergone tremendous changes [1]. Based on the new form, new resources and new mode of micro lesson, MOOC and flipped classroom under the background of "Internet +", the "interconnected +" will rebuild the original knowledge system, and the traditional campus wall has been broken, and the inherent lesson and the teaching mode is facing great challenges.

The Ten-Year Development Plan of Education Informatization (2011-2020) clearly points out that mobile learning, hybrid learning and personalized learning have become the important features of education development in the new era. The trend of mobile devices entering classroom is irresistible [2]. With the current teaching mode and classroom situation, students' user groups have been greatly affected, and their thinking and behavior patterns have taken place a fundamental change [3]. The traditional teaching modes are

evidently unable to meet the needs of today's students.

Meanwhile, the rapid development of mobile Internet and the popularization of related intelligent devices also provide a good opportunity for the innovation of teaching mode [4]. Effective reform of teaching methods, taking full account of the habits and interests of the learning subjects, provides a variety of ways for the development of education to enter a new era. Making full use of mobile Internet can realize more flexible teaching methods. More advanced teaching methods maximize the time and space of teachers and students.

In this sense, exploring the application of mobile Internet in the reform of teaching mode has become an urgent problem to be solved in the current teaching reform [5].

II CURRENT RESEARCH SITUATION AT HOME AND ABROAD

In the perspective of mobile internet, the learning style of higher vocational students has undergone a qualitative change [6]. As educators, we must attach importance to the current education method. As a teaching design method, flipping classroom has provided a targeted solution. It has become a hot issue in the research and practice of scholars and educators at home and abroad [7]. Its core idea is to follow the initiative of classroom, and hand the control right to the students.

Scholars and educational practitioners agree that the implementation of the new teaching mode of "flipping classroom" can play a positive role and influence on classroom teaching and teaching effect.

The concept of flipped classroom teaching mode, also called as "reversed classroom" was first proposed by American scholar [8]. In 2000, Professors Maureen Lage and Glenn Plattand Michael Treglia of Miami University used this mode in the course of "introductory economics" first by flipping the teaching, but did not explicitly put forward the term of "flip the classroom".

In 2007, the chemistry teacher Jonathan Bergmannand Aaron Sams of Colorado, United States, has implemented a "flipped classroom" teaching mode, and promoted this pattern in American schools to be widely used in education. With the development and popularization of Internet, method of

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flipping the classroom gradually caused controversy in the United States, but also known as a popular form of teaching.

Overseas scholars have conducted in-depth theoretical research on "flip classroom", and began to apply it to teaching practice according to different stages, different majors and different types of courses. After a certain period of "flip classroom" practice, Microsoft spreadsheet course of Merritt Business School of Brigham Young University has achieved good teaching results.

Domestic scholars began to carry out practical research combined with the curriculum [9]. By searching the keywords of "flip classroom" on HowNet, more than 21,000 documents were retrieved. From 2015 to 2018, the peak period of publication of research results showed an increasing trend year by year. The research mainly concentrates on the design of mobile learning platform. For example, Zhang Hui and others put forward the relationship between flip classroom, public course teaching and learning terminal platform in the paper, studied their internal relationship, constructed a functional model of public course mobile learning platform based on flip classroom, and applied the model to real teaching combined with practical courses [10]. Wang Xiaogen put forward the flip classroom model with APP as the main tool, and most of these studies focus on the exploration of resource software [11]. At present, the research on the flipped classroom mainly focuses on the teaching mode and the related research of the flipped classroom supported by information technology [12].

However, there are few studies on the application practice of flipped classroom in specific courses and the design of mobile learning in flipped classroom. Moreover, the existing research neglects the design and research on the stage of knowledge transfer before class. The key is the design and connection of pre-class, in-class and after-class activities, so as to improve the teaching quality.

III THOUGHTS ON REFORM

With the help of Hunan famous teachers' space classes and the curriculum resources of Computerized Accounting, we carry out the reform and practical research of the flip classroom teaching mode based on mobile internet, adopt the mode of designing "self-learning task sheet" to effectively guide the pre-class links of the flip classroom, so that students can flip the classroom according to the requirements, and strengthen the design of classroom teaching mode in class. Do a good job in the whole course of teaching design and convergence, so as to form a new teaching method with the basic characteristics of "the integration of the whole set of teaching activities", to improve the quality of teaching, carry out practical research and effect evaluation, and eventually form a whole set of practical teaching mode and program, which is capable to be popularized and applied in other colleges and universities.

IV REFORM CONTENT AND INNOVATION

A. Contents of Reforming

The reform work mainly centers on the course of Computerized Accounting. Through the research and practice

of the flipping classroom teaching mode, this paper summarizes the necessary conditions for the implementation of the flipping classroom in the mobile Internet era, the learner's self-learning task list, the flipping classroom application mode, the production and development of the learning resource bank, as well as the flipping classroom evaluation methods and strategies. Through the way of lesson observation, face-to-face guidance, lecture attendance and class evaluation, the pilot teachers are guided in an all-round way, which mainly includes the following aspects:

1) Task the course of Computerized Accounting.

Firstly, through enterprise research, combined with the implementation of computerized accounting enterprises in the work, we can fully understand the requirements of the current accounting positions for the operation skills of computerized accounting software, and considering the actual job needs, we can comprehensively decompose and refine the course of computerized accounting.

The whole learning content is divided into 13 tasks, including concretely software installation and login, system management, basic settings, general ledger initialization, general ledger routine business processing, general ledger cashier management, final ledger processing, financial statements, wage business processing, fixed assets business processing, purchasing and payable business processing, sales and receivable business processing, etc. Exercise tasks are designed accordingly to help students to clarify the learning objectives and accomplish the tasks. Every job is combined with each other, from simplicity to difficulty, and gradually deepening step by step, so as to improve students' interest in learning and employment skills, familiar with business processes.

TABLE I. BREAKING-DOWN OF THE TASKS FOR COMPUTERIZED ACCOUNTING

Task.	Contents	Hours
1	Software installation and login	2
2	System Management	2
3	Basic Settings	4
4	Initialization of General Account	4
5	General Account Daily Business Processing	6
6	General Account Cashier Management	4
7	Final Processing of General Accounts	4
8	Financial Statement System	6
9	Wage Business Processing	6
10	Fixed Assets Business Processing	6
11	Purchasing and Payable Business Processing	6
12	Sales and Receivable Business Processing	6
13	Comprehensive assessment	4

2) The design and application of "self-learning task sheet" for students based on mobile internet.

In the teaching design of "flip classroom", teachers design

the "learning task list" involved in each task individually. The "learning task list" is usually designed for 2-6 class hours, which is a guide to help students clarify the content, objectives and methods of autonomous learning before class.

Under the guidance of "learning task list", with the famous teacher's classroom space as the carrier, students complete extracurricular autonomous learning mode after the effectively usage of learning platform, mobile terminals (computers, cell phones, learning machines, etc.), and fully use the way of Internet + teacher's space classroom to realize the reform of teaching methods.

For the theoretical knowledge of the single section of the course, we should use mobile phones to teach in time, especially for those abstract descriptions. Usually, we use courseware or virtual software to simulate the operation process. If there are problems, we can correct them in time, which saves time and cost, improves the proficiency of skill mastery, and effectively transforms mobile phones into learning workers. It has further trained the students' ability of self-learning.

3) Carry out the teaching of the "five-step principle" in the flip classroom.

With the help of famous teachers' space, learning resources are stored on the platform first, and students are guided to use space classes to learn by themselves in advance.

Make full use of the "five-step principle" and arrange 90 minutes reasonably in the course. First, the teacher talks for 15 minutes while doing the tasks according to the requirements of each task book at the same time. Then the students practice for 30 minutes on the way teacher taught. In the process of doing the exercises, the teacher instructs and helps the students to solve the problems. In the middle of the course, there is a 10-minute break, and the teacher will explain the difficulties, theoretical points and supplementary knowledge points for 20 minutes. The students will do another 20 minutes, that is, pass the process assessment (intercepting the grading image). The students who have passed the operation exercise can be judged to be qualified for the task assessment. Other students who have not passed this link can get specific scores according to the results given by the scoring system. In the last five minutes, students can upload the results of their tasks.

Through this method, students' information retrieval ability and teaching efficiency are improved visibly, and students' ability of autonomous learning is exercised effectively, and their understanding of new technology and new things is increased greatly.

4) Forming "flip classroom" teaching design and examples based on mobile internet.

Students use extra-curricular time to study independently according to the "self-learning task sheet" and their own learning plan. Through the teacher's precise instructional design, they consider every link and the questions they need to ask.

In the classroom, through the timely guidance of teachers, students can give full play to the main role of the classroom. Teachers need to observe and teach carefully so that the

designed problems and the topics of discussing can arouse students' enthusiasm for active participation. The difficulties and doubts raised by students should be narrated and explained in a focused way.

By discussing how to enhance the efficiency of students' learning process of "absorption and internalization", we can achieve the effect of improving classroom effect and teaching quality. Make full use of the mobile Internet to solve the bottleneck in the current classroom, create a relaxed and happy efficient classroom, and form a "flip classroom" teaching mode, teaching design and typical teaching cases.

5) The construction of teaching resources of "flip classroom" micro-course based on mobile internet.

Combining with the construction of "Computerized Accounting" in Hunan Province's famous teachers' space class, this paper explores the establishment of teaching application micro-curriculum resource bank to support "flipped classroom" mobile learning [13]. Through the University City Cloud Space Platform, teachers are able to build a professional practice teaching environment and create space courses, breaking all the limitation of time and space, the boundaries between enterprises and schools, teachers and vocational teaching experts, students and the groups.

Combining work with study by means of informationization, using task-based instructional guidance to construct open space courses, setting up task submission column, online examination, consulting and answering issues, learning navigation, etc [14]., and establishing full coverage of micro-courses, question bank, case, animation and interactive resources are all proved to be available to ensure the accomplishment of students studying.

Building an online examination platform for students to test their learning effect of theoretical knowledge and deepen their impression, and getting more practical resources and teaching cases from the space classroom, studying the learning environment supporting mobile terminal learning, and establishing a ubiquitous learning atmosphere are also helpful and necessary for the reform of the teaching mode.

6) The problems and Countermeasures of flipping classroom teaching mode based on mobile Internet in the implementation process.

In the specific implementation process of the flip classroom teaching mode, it is inevitable that some students may not adapt to it, thus the problem of incorrect learning attitude will arise. There may also be teaching efficiency problems in flipped classrooms. In order to solve these problems, we need to find appropriate solutions to rectify the bias, establish a dynamic monitoring mechanism, and solve all kinds of problems in the process of implementation in a timely manner.

7) Reform the evaluation model of "flip classroom" in the age of mobile internet.

Students are evaluated in all directions, at different levels and in different tasks by means of hierarchical, process and classified assessment. For excellent students, top-level assessment can be adopted, with the task being 1-13; for students with general learning ability, the assessment task is

1-8, which can be completed according to the actual situation of each student, and the specific assessment method is usually achievement. The combination of assessment, process

assessment, hierarchical assessment, online assessment and other modes ultimately forms a scientific evaluation index and evaluates the implementation effect.

TABLE II. STUDENT COURSE COMPREHENSIVE ACHIEVEMENT SHEET

Name	Student ID	Student Assessment Achievements						Total score
		Usually Inspect (20%)		Process Evaluation (30%)	Final Examination (50%)			
		Attendance (50%)	Interacting (50%)	Process Task (100%)	Basic Skill (60%)	Advanced Skill (20%)	Excellent Skill (20%)	
***	***							

B. Innovations

Innovating the teaching mode of Accounting Computerization from the perspective of mobile internet, so that the relevant courses of accounting specialty can fully consider the use and construction of information resources, platforms and tools in the future teaching process, think forward about the information-based teaching reform of accounting specialty, change the role of traditional teachers, and construct a teacher-led, student-centered, mobile or information-based course. Teaching tools as the main carrier of a new learning and teaching model.

In the era of mobile interconnection, a new mode of self-learning, cooperative learning and inquiry learning is developed in combination with the famous teachers' space classroom. At the same time, modern teaching theory is used as guidance to improve teachers' information literacy, so that teachers and students can grow together, create efficient classroom and improve teaching quality.

C. Effectiveness of the reform

Through the reform of classroom teaching mode, some remarkable results have been achieved. One is to speed up the pace of teachers' usage of information-based teaching methods. In the process of reform and construction, in order to renew the concept of using information means for curriculum teachers and improve the level of using information means, with the support of schools, teachers were organized to carry out special training on space construction and micro-course production, and on this basis, they participated in the training of all kinds of information technology application abilities at all levels to enhance the engineering staff.

The second is to achieve the integration of teaching and learning through interactive teaching method. In the course of teaching, students' initiative and interest in learning can be improved through micro-lessons, animation and online communication. On the other hand, by trying new online learning methods, teachers can be prepared to grasp students' learning dynamics, accurately grasp the existing problems, and timely adjust the teaching progress, so as to realize the integration of teaching and learning in the true sense.

Third, we have trained young backbone teachers. At the beginning of the reform, a curriculum construction team was set up, of which the members went to domestic and foreign enterprises to conduct market research. During the winter vacation, they worked together to build resources and

constantly consummate their teaching means and methods.

Under the impetus of curriculum reform and construction, team members' information-based teaching ability has progressed rapidly, and won the second prize and the third prize in provincial information-based teaching competition. A large number of backbone teachers have been trained, and young teachers have grown steadily.

V CONCLUSION

Starting from the influence of mobile Internet on traditional teaching mode, this paper makes an in-depth discussion on how to use mobile Internet to improve learning efficiency and innovative teaching mode both inside and outside the classroom. According to the research practice of the course "Computerized Accounting", by choosing pilot classes and comparative classes, various data before and after the teaching reform are collected and compared.

From the comparative results, it can be seen that this study has effectively promoted the teaching reform and brought into full play the educational role of modern information technology. The specific research significance and research value are as follows:

First, students' knowledge has been greatly improved, especially in the aspects of learning autonomy, convenience and diversity of learning methods, so as to improve the efficiency of learning inside and outside the classroom, subvert the traditional classroom teaching methods, greatly improve the enthusiasm and enthusiasm of students, and students can learn at anytime and anywhere without the limitation of time and space.

Secondly, students need only one mobile phone or other electronic devices to access online educational resources at anytime, which realizes the sharing of high-quality educational resources in a real sense, enhances the creativity of students' practical skills and self-searching learning methods, and effectively opens the microcirculation channels of mutual learning and credit recognition, so as to serve more students, and teachers put more energy into teaching quality improvement.

Thirdly, in the era of mobile internet, the concept of flipping classroom teaching is introduced into information-based teaching, which has a certain foresight and strong practical significance, and plays a good demonstration role in teaching reform. The research results have been effectively promoted

and applied among other colleges through the Internet, which greatly promotes the cultivation of innovative talents and education progress in information technology research.

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