Research on Application of "Flipped Class" Model in Teacher Education

Dan Dan Wei[1, a *], Le Xing Qiu[2, b]

1 Education College,Jiangxi Science and Technology Normal University,Nanchang,China

2 Educational Technology Center ,Nan Chang Army College, Nanchang, China

[a]qlxwdd@163.com, [b]qlx98@tom.com

Keywords: Information Technology; Flipped Class; Teaching Model

Abstract. Teacher, as a profession, has its own specialty. To make teachers have strong professional, the quality of teacher education is the key. The teaching mode called "flip class" is beneficial to the development of the teachers' theory quality and technological literacy. If we bring it into the teacher education curriculum teaching, it'll promote teachers' professional specialization development.

Introduction

The important place in the field of education science paradigm has come up since the 1970s, starting by exploring general education laws to seek education significance of contextualization, teaching profession more show its unique properties. Teachers as a professional career, professional characteristics of teachers show in guiding students to learn knowledge to students' education at the same time, and need the ability of educational understanding. [1] In terms of teaching, teachers should not only "know learning what", but also "know why".

However, the author found that the current of all kinds of normal game and young teachers teaching skills in the game have such a common problem: both pre-service teachers and in-service teachers, when teaching they mainly relies on imitation, groped in common sense, experience and example , apparently lack of theoretical accomplishment, scientific basis and professional judgment, [2] pre-service teachers in the study of teacher professional theory knowledge at the same time, need to develop teachers' practical knowledge, need to prepare for qualified teachers. This requires a set of matching of curriculum, assessment, teaching system and school culture. [3]

Flipped Class Model (FCM) and Feasibility of the Introduction into Teacher Education Curriculum

FCM is a prevalent model in the education of primary and secondary school at home and abroad in the past two years, and it is based on knowledge and knowledge internalization reverse arrangement, changing the roles between teachers and students, changing traditional teaching and the use of Class time to plan, and implementing the innovation of traditional teaching mode. [4]The basic idea is that turn the traditional learning process over and let learners in extracurricular time to complete for knowledge and the concept of autonomous learning. Classroom is turned into a place for interaction between teachers and students, and is mainly used for answer and discussion, so as to achieve better teaching effect. [5]FCM in the concrete embodiment of teaching are as follows:

Teaching Methods: autonomous learning, inquiry-based learning, project-based learning

Teaching Structure: autonomous learning + classroom before class problem

Specific Approach: class teaching video + class discussion

Teaching Environment: information technology and active learning for learners construct individualized collaborative learning environment

Applying the "Flipped class-room" model in the teaching of teacher education curriculum is conducive to improve the current situation of the current teachers' education. "Flipped class-room"

needs teachers and students have the modern education concept and information technology, and have the high theory accomplishment and information literacy.

To play the role of the modern education technology curriculum in teacher education, modern education technology curriculum needs to make the advanced education concept and information technology apply in the teaching of modern education technology, letting the pre-service teachers and first-line teachers feel the teachers' professional knowledge and skills of teaching effect personally, and develop practical knowledge. At the same time, let them have the theory in education teaching literacy, scientific basis and professional judgment, so the introduction of the FCM is a good choice.

"Modern Education Technology" Curriculum Introduce Flipped Class Model

The ability of Instructional Technology is a significant part of teachers' professional quality. The training of future teachers' pre service education technology ability is the important content of the professional development of teachers. And the Modern Educational Technology teaching in practice to achieve the goal of ideal, as follows: the disconnection between the theory and Practice, teaching method (model) old, etc. Pre- service teachers in educational technology course to deepen the understanding of the concept of modern education, directly led to the lack of initiative and enthusiasm of the students.

According to the characteristics of "flipped class", we are guided by the theory of teaching system design. The Modern Educational Technology "flipped class" teaching, extend to the classroom after class, use "Extracurricular Autonomous Learning and classroom discussion" form, the specific practices are as follows:

On the Basis of Curriculum Objectives, Select the Appropriate Content of Flipped Class. The basic direction of the curriculum target guiding teaching, determines the expected results after learning of students to accept the course. Flipped class use problem solving, project teaching. "Flipped class" curriculum design is based on problem, using the form of thematic units. Therefore, we will of course modern education technology content of the unique design, according to the above objectives of this course curriculum module, make the students through various thematic learning, understanding the use of educational technology in teaching, to the professional development of teachers highly thinking of teacher knowledge preparation. The specific learning theme:(1)an overview of educational technology;(2)the design and implementation of information technology teaching;(3)teaching resources (multimedia courseware, network curriculum design and development);(4)teachers professional development under information technology environment. This part of subject knowledge to students in extracurricular self-study, problem research. As is shown in table 1.

Table 1 "flipped class" course teaching design

Course content (modular theme unit)		Research problem-Independent research-Collaborative learning-exchange Achievements- Feedback assessment	
		Autonomous learning design before class Theoretical study-Put forward questions	Classroom discussion and communication design Question- inquiry -project practice
Educational Technology Overview	Technical concept of education Development of educational technology and development trends Educational Technology Application in Education Value, status and role of educational technology in education	Micro video learning put forward questions	Question inquiry
Teaching system design for information (key)	Information instructional design concept, model, case (object: curriculum, classroom, resources) The learner characteristic analysis, goal design, content design, strategy design, media design, design evaluation	Micro video learning Ask questions	Question inquiry The project practice: design courses, classroom, resources
Design and development of teaching resources,	The application of information technology The design of multimedia courseware, script writing, development tools, work case Network curriculum design, development tools, work case	Micro video learning Ask questions	The project practice: development of resources
the professional development of teachers under Information Environment	The role of teachers under Information Environment The professional development of Teachers The connotation of teacher professional development under the environment of information	Micro video learning Ask questions	The project practice: lessons, lectures

After determining unit according to the theme, theme relates to the theoretical knowledge and practical knowledge to further divide the learning module. Because the teacher education needs to focus on the development of practice and knowledge of this, we designed the corresponding practical project in the subject of studying, try to let the students find the existence of their own cognitive deficits and the capacity gap between the practice of the project, and then drive students with problem-solving attitude into the teacher education in the classroom. As a result, pre service teacher education students to learn knowledge and willing to learn. Practice of the project are: (1) the design and development of unit courses; (2) the design and development of curriculum resources; (3) the curriculum teaching design; (4) the curriculum classroom simulation teaching. This part of the practice of learning is mainly in the classroom, let the student carry on project based learning.

According to the Contents, Design and Implementation "Flipped Class". Pre-course resources design is net resource for micro class. "Flipped class" advocate knowledge for teaching and learning video, watch video learning before class. Micro teaching and the current popular is based on the video as the main carrier, which recorded the wonderful teachers and carried around a point or teaching link in the process of teaching and learning classroom education in the whole process. The core content is the classroom teaching video (lesson fragment), but also includes teaching design, teaching material associated with the theme of the courseware, teaching reflection, practice tests and student feedback, the teacher's comment and other supplementary teaching resources. Teachers take the curriculum of teacher education, which use the network teaching platform of existing school, the development of micro teaching resources, planning students regularly autonomous learning theoretical knowledge.

Video module includes: a. Educational technology and teacher professional development (including the interpretation of the concept of analytic, teachers' educational technology ability development and trend, standard); b. The instructional design (including concept analysis: what to teach, how to teach, why to teach, integration, information technology and curriculum teaching, use case analysis); c. The resource design (including the design of multimedia courseware, network curriculum design, the use of case teaching, analysis); d. The simulation of the class (class, lecture); e. The course and diagnosis.

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Pre-reading activities based on the network platform for learning narrative. Submit questions, discussion. The turnover in the classroom, technical tools and information resources is the foundation of students. Personalized learning environment (such as learning environment, occupation, social development of learning and other support activities) to create can enable students to become self-motivated learners, independent learning control powerful. Students are able to self-organize inquiry learning through teaching guidance and technical tools. Using the platform of social software Blog, BBS online submit questions, discussion.

The Classroom Activities and Environmental Design

Modern educational technology in class teaching can be designed as a project based learning activity. Students in the "learning", the first encounter a real education situation in question, and then with a problem, enter practice project. The completion of the project requires students to explore cooperation, dialogue and cooperation. Students need to constantly interact with the "theme" of knowledge in the complete process of project. Generation to complete the construction of knowledge, meaning, make learning have become the natural. Learning projects in the three practice as an example, the following specific implementation strategy:

Design and Development of Courses. The project mainly through the case teaching and learning tasks, achieve the information instructional design ability of normal student and curriculum design and development skills. The implementation of the project through three main tasks. The first is the preliminary analysis, including the education values, considering the curriculum structure type, reference standard, determine the course expected learning outcomes, drawing the outline, determine the location of the students. The second is to develop curriculum development program, including the teaching unit establishment, organization, teaching. The third is the evaluation and correction, course assessment is based on certain curriculum values or objectives. By systematically collecting relevant course information, data, analysis, collation, implementation process and results of curriculum plan, curriculum value, provide reliable information for curriculum design.

Design and Development of Course Resources. The project mainly include the design and production of teaching courseware, design and fabrication of micro resources, teaching resources of the network course design and development. The application relates to the network teaching platform of the corresponding software, multimedia courseware, multimedia production software.

Simulation Teaching Curriculum and Instructional Design. The first is to write the curriculum teaching design, system design method for normal students teaching system design theory of writing curriculum teaching design. Simulation teaching topics within a unit practice project curriculum development curriculum content range. The second is the implementation of classroom simulation teaching, the teacher asks students according to scheme which designed by the task one, implement the classroom simulated teaching twice, which strengthen teachers' practical skills, including language expression ability, organization ability, classroom teaching ability; Third is a science course lectures, teaching evaluation and teaching simulation, the teacher asked students to accomplish teaching, teaching evaluation and simulation training of lesson under the guidance of teachers.

Curriculum Evaluation Design

The purpose of public education technology teaching is to enable students to establish a modern educational concepts and ideas, the ability to master information technology, integrate information technology and curriculum effectively, to teaching optimization. During "Flipped class" teaching learners can achieve authenticity evaluation (electronic portfolio assessment), process evaluation, to enable students to self-assessment, peer assessment. Curriculum evaluation, speaker teachers and students shared curriculum assessment mission to become the main responsibility for learning evaluation.

Summary

In flipping classroom, information technology and learning activities build a personalized collaborative learning environment for learners, contribute to the formation of new learning culture. A "flipped class"

teaching mode in the teaching process promotes independent learning, active exploration. Some scholars believe that the information in the national education development process, the flipping classroom teaching model will have some impact on our teaching.

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