

The Exploration of Maker Teaching Method in the Teaching of Multimedia Courseware Making

Ying ZHOU

LinYi University, ShanDong, China

Abstract. Being the embodiment and general way of Maker education in classroom teaching, the Maker teaching method is based on such views as “learning means to create new things through intelligence”, and characterized by creative, designable, handing ability and sharing. The general process consists of several steps, including putting forward innovative project according the situation or questions, designing the completing path, completing the project through study and practice, organizing people to share, then final perfection. Based on teaching cases, here I will make a study and exploration on the practice of Maker Teaching Method in Maker Education.

Key Words. Maker education; Maker teaching method; the teaching of multimedia courseware making

Introduction

In the context that new technology and internet are developing, now we have entered the era of internet education, which is people-oriented and innovation-emphasized. The Ministry of Education points out in Several Problems on Cultivation of Innovative Talents that, talents training should adapt to the development of economic society, such orientations should be emphasized, and we must try our best to explore a new way of cultivating innovative talents from the close integration of education and economic, social demand. The cultivation of innovative talents is not only the mission of school, but also the common expectation of society, employers are attaching greater importance to student 's ability to operate

practically, which reflects the urgent social demand for innovative talents. As the employer of preschool teachers, the kindergarten realizes that, the modernization of educational measures is an important condition for preschool education reform, while the renovation of educational concepts is the key to reform. Preschool teachers in new era should cultivate their innovative consciousness, take good advantage of information technology, apply it into preschool education, and enjoy the information technology superiority we get from practice.

1. Analysis on Problems Existed in Making of Multimedia Courseware

Normal college has opened an important course, namely The Making of Multimedia Courseware, particularly for students majored in preschool

education. The course is set to firstly adapt preschool teachers to the demand of computer-aided instruction, help preschool teachers to design multimedia courseware that will accord with the teaching demand of kindergarten and the law of students' learning, so as to increase the effectiveness of teaching. Secondly, the aim is to cultivate innovative talents in information technology so as to meet the demand of kindergarten. While because of imperfect training conditions and preschool teachers' incomplete knowledge system, which has resulted that the teachers' curriculum design is far from reality, as a result, the development of innovative capacity has been restrained.

The issues highlighted in traditional teaching practice are mainly reflected in the following aspects.

1.1 Learning the tool software in isolation, failing to accomplish the integration

The teaching of multimedia courseware making focus mainly on the learning of various kind of material handling software, too much importance has been attached to the applying learning of tool software, while this will easily lead students into wrong direction, they tend to neglect the value meaning of learning is to apply tools to practice, to solve real problems comprehensively. However, the participation of various kind of software is essential in the process of preschool courseware making, the loss of comprehensive ability in operating software usually cause students' failure in achieving good ideas. Although some students may show much more creativity in operating certain tool software, unfortunately, their creativity has not been given full play to.

1.2 Failing to protrude student subjectivity, lacking ample practical space and creativity room

The teaching methods that are commonly adopted in school curriculums, such as demonstration teaching method, task-based approach, cannot arouse students' interest in learning or enthusiasm. Such teaching

methods will limit students' learning to a certain space or a certain period of time, will impede their taking good advantage of current tools to gain much more resources from internet, also, it fails to be the embodiment of student subjectivity or the student-centered teaching ideas.

1.3 Teacher' s role as traditional knowledge imparter still existing

According to fixed curriculum criteria, referring to the same teaching plan, teachers impart fixed knowledge to students in class. Once students raised questions beyond textbooks, teachers even cannot give proper directions or answers.

1.4 Failing to make innovative courseware or attract interest of young children

Lacking necessary teaching experiences, students majored in preschool education cannot take the need and characteristics of kindergarten teaching activity into full consideration, they are making the courseware for the courseware's sake. Such courseware fails to take creativity and practicality into account, fails to combine fun and practicality skillfully, certainly it is hard to arouse students' enthusiasm to take part in.

2. Maker education in Classroom Teaching, the Maker Teaching Method

The flourish of global Maker movement has offered a new opportunity for the innovation and reform of education [1]. Being a new education mode, Maker education absorbs information technology, hold the teaching concept of "open and innovative, study and experience", adopts "learning from creation" as major learning method, and aims to cultivate innovative talents in various fields. The core ideas behind Maker education are "learning by doing" "pleasure education" "metasynthetic wisdom" "constructionism". [2] Maker education, being a kind of problem-based education, usually point directly to the resolution of problems, lead students to detect realistic problems, lead students to seek creative solutions and turn it into reality through hard work.

The Maker teaching method is the embodiment and general way of Maker education in classroom teaching, it holds such teaching view as “learning means to create new things through intelligence”, starts with students’ interests, and creates interactive and cooperative space for students’ creation. [3] However, it should be clear that greater importance should be attached to cultivate the innovative consciousness of students.

According to Professor Jiahou Li(Shanghai Normal University), in his lecture, *The Changes of Time and the Rise of Maker Teaching Method* , he put forward five major steps of Maker teaching method in teaching practices , namely Idea, Design, Maker, Share and Evaluate.

3. The Application of Maker Teaching Method

In the teaching of multimedia courseware making, the Maker teaching method can be applied not only to a single lesson, but also to a unit or even to the whole volume of textbook. During the practice, the applied class hours is determined by the difficulty of innovative project and the cognitive level of students. Now let’s take the example of project named *The making of demonstrating courseware*, to talk about the application of Maker teaching method in class.

3.1 The class teaching design about The making of demonstrating courseware

Here I choose the *The making of demonstrating courseware* as the teaching topic. *Demonstrating courseware* is made on the base of teaching goals, and is made from the proper organization of teaching contents. It can be used widely in the story time and cognitive activities of kindergarten, and help to enhance the cognitive ability of young children enormously.

3.1.1 Teaching goal

- 1) To learn about the basic knowledge of multimedia software like PowerPoint, Authorware or Flash, and the operation skills of one of them.
- 2) Be able to make the *demonstrating courseware*

by using one of above software.

- 3) Cultivate creative consciousness and ability with multimedia software.

3.1.2 Teaching analysis

- 1). Analysis on teaching objects

Senior students majored in preschool education in normal colleges has furthered their thinking development to a new high, they are independent, creative, can think logically to some extent, and have clear planning capacity and clear-defined objectives in learning; with the development of their autonomy, they can choose the learning contents independently, remarkable progress in their thinking activities can be seen; besides, with strong study consciousness, students can get to learn contents they are interested rather actively.

- 2). Analysis on learning contents

For Maker education, supported by rich teaching materials from internet, the contents of it comes from the actual need of kindergarten teaching, choice will be given to students, so they can determine the contents and topics they are interested in. Instead of telling students how to use educational resources, the Maker education is aimed to motivate students to take good advantage of educational resources, to do what they want to do, they are interested in, or things they already have some vision. As long as it will motivate students to act, to learn by doing, then step by step, turn the idea into reality.

3.2 The analysis on the teaching implementation of The making of demonstrating courseware

I choose to implement the class teaching design of *The making of demonstrating courseware*, in the meanwhile, I refine and complete it constantly. After the class, students prefer to utilize the internet resource to make the kindergarten courseware, so as to enjoy the true fun of learning.

3.2.1 Idea

To cultivate employability, students had better take up internship at kindergarten frequently. During the

course of internship, students can have direct access to the real kindergarten teaching activities. Through investigating the kindergarten they interned, students can get a profound knowledge about when and where the courseware is needed, what kind of courseware is needed, and furthermore to pay more attention to the use of demonstrating courseware. Thus students can detect the merits and faults of other kindergarten teachers' courseware, which in turn will motivate students to take active part in the courseware making.

3.2.2 Design

Students had better be divided into different groups, then through intercommunication, different groups share their ideas, determine proper topics after discussion, furthermore, to make overall plan and design, take the material handling software needed during the process into account, and develop the rough steps of learning software and making courseware.

3.2.3 Maker

This stage consists of two steps. The first step is to reserve skills. Students can study relative tool software with reference to the teaching resource recommended by teachers, or master the basic operations of tool software through internet resource independently. In this way, students will gain the initiative in study. The second step is to implement students' ideas. How to monitor students' learning process is the most difficulty in this step, it demands teachers to observe students carefully and make corresponding record. More time and space is needed in Maker learning, so the completion status of task and the making status of works are determined mainly by students' self-control and their interest in the topic, this is also the theme of Maker teaching method.

3.2.4 Share

Share and perfection are values of Maker teaching method, the Maker teaching method is a course that people are sharing and perfecting continuously, are studying, summarizing and practicing continuously.

The sharing process also has its general steps: first of all, why should I share or why not; secondly, how to share, and what about the result; thirdly, the problems I encountered and the solutions I came up with; fourth, what do you think I should do.

After students completed their courseware, kindergarten teachers should be the first to give suggestions. Then, teachers can check students regularly in class teaching, give them opportunities to stimulate teaching on the platform. Only through practical exercises can students understand whether their courseware is suitable for the class, or if there have any things that can be improved. Students can also upload their courseware to network, or share it to the twitter, circle of friends, video space and so on. This way, the creative works would spread through sharing.

3.2.5 Evaluate

The evaluations of Maker teaching, which focus not only on the learning results of students, but also on the learning process of them, are made by specialists, scholars, kindergarten teachers, the learner himself (herself), his classmates and teachers.

3.3 Summary

After completing the teaching design of The making of demonstrating courseware, I interviewed several students that have participated in the Maker teaching randomly. Majority of students have high enthusiasm to participate in, and show increase in liking of the course after their participation in the whole teaching process, some students even generate ideas of making courseware that is suitable for the kindergarten teaching. Unlike other curriculums, in the class of Maker teaching, students take up much of the class time and can make full use of free time, their creative passion has been motivated. Furthermore, educational resource from network also provides choice in learning materials for them; besides, the class has given students right to choose the topics they are interested in. Through the feedback of teaching effects, I find that the Maker teaching method brings about many positive effects on class teaching, for

instance, it contributes to construct new study atmosphere, to increase students' enthusiasm in study and creation.

4. Summary

Being part of educational reform and innovation, Maker education has began to bring changes to the traditional teaching and learning. Maker education encourages creativity and innovation, it guide students to utilize new digital technology to design, to make, to share and to study without the limitations of time and space. Maker education will also improve and optimize itself continuously, and play its specific role in promoting students' comprehensive ability, which is based on the communication skill, collaborative ability, problem-solving ability and

innovative capacity [4].

As the course to cultivate the creative ability of students majored in preschool education, the teaching of multimedia courseware making should keep up with the trend, change the traditional concept of isolated operating skills teaching on tool software. Teachers should equip themselves with abundant, multi-disciplinary knowledge, so as to support students' continuous innovation consciousness and their increasing learning enthusiasm. Meanwhile, school should be able to supply students with enough learning resource and fertile learning environment, to support students' increasingly high innovative ability and practical ability, so as to ensure that more innovative talents suitable for the social development will be provided to the employers.

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