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## Teaching reform exploration based on the survey about the current situation of modern educational technology

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### ABSTRACT

As mentioned in National Medium- and Long-Term Plan for Education Reform and Development (2010-2020) published by Ministry of Education in 2010, there is a need to strengthen the exploitation and application of high-quality educational resources as well as the application of information technology<sup>[1]</sup>. As a required course of normal students closely associated with practice and students, Modern Educational Technology is supposed to be linked with technology and teaching design. According to the development situation of foreign educational technologies remarks and the suggestions for the general course of Modern Educational Technology in domestic institutions of higher education, attention is paid to analyzing the problems of this course in our university, as well as to exploring the teaching reform in combination with the development situation of other universities and the actual condition of our university.

### KEYWORDS

Educational technology; Teaching reform; Survey.



## INTRODUCTION

In 1965, Gordon Moore came up with Moore's law: the development speed of information technology doubles in 18 months; as a subject that applies technology to education, educational technology will have a profound influence on education in the walk of its development. The emergence and prevalence of computer as well as its rapid entry into teaching media industry play a significant role in education. The prevalence of network has brought e-learning into existence, and meanwhile, the development of WAP has also given rise to M-learning and U-learning. On the whole, what the development of technology brings is the change in educational forms and methods. Thus, the understanding of the development dynamics of educational technology can contribute to the improvements in general course of *Modern Educational Technology* in our university in the trend of course reform.

## CURRENT SITUATION OF MODERN EDUCATIONAL TECHNOLOGY

### Literature research approach

#### Literature research

According to Bradford's Literature Scattering law, in a subject, most of the fundamental literature is published in the core journals that are relatively few in number. This can be proved by the statistical analysis on a small number of core journals that have a huge influence.<sup>[2]</sup> From the perspective of technology, the articles involving such words as modern educational technology, educational technology (works of CNKI and modern educational technology), development and trend come out late. Therefore, energy is hereby devoted to the literature research in 2013 and 2014.

#### Website survey

In accordance with the 2014-2015 competitiveness rankings of educational technology specialty revealed by Research Center for China Science Evaluation, Wuhan University, the top five universities are constituted by Southwest University (key university directly under Ministry of Education) and Chongqing Normal University (provincial-level key university) in southwest China, as well as the universities establishing the national top-quality course of *Modern Educational Technology* (including Zhejiang Normal University, Shaanxi University, and South China Normal University).

#### Interview survey

An interview with sister universities and some relevant colleges are conducted by various means such as face-to-face communication, e-mail, and instant messenger.

### Current situation

#### The united states

Among the top 10 hot issues of EDUCAUSE in 2014, three are: (1) take advantage of the combination of information technology with teaching; (2) integrate varieties of technologies into a teaching process to present flexible solutions; and (3) domestic flipped classroom.

#### Taiwan

In American top educational technology journals, the articles of Taiwan educational technology top the list of publication in number<sup>[4]</sup>. In 2013, Summer School, Education College, Peking University has delivered a lecture on U-learning, which has provoked a positive response. According to the *Analysis on the Research Strength and Hotspot of Taiwan Educational Technologies-based on the Study about the International Journal Publication in the Field of Taiwan Educational Technologies* implemented by Chen Yunhong et al., a survey on Taiwan educational technology is conducted. In the survey, the research orientation covers learning environment, learning style, learning tool, and learning theory (mainly the concept map). What relates to the general course of *Modern Educational Technology* is the learning environment, which refers to the construction of the learning platform based on network technology and learning theory, as well as the study on the M-learning and U-learning in the category of learning styles.

#### Domestic colleges

## SUMMARY

In combination with the development orientation of foreign educational technology, attention is paid to researching the course development of *Modern Technology Education* in domestic universities from following aspects: the improvements

in course teaching quality based on multi-media network technology (cloud technology, web 2.0 technology, etc), the attempt to make use of flipped classroom, the combination with other subjects, and the blended learning mode relying on platform.

**TABLE 1 : The research orientations of the top five professionally competitive universities**

Universities	Rankings	Research orientation
East China Normal University	1	a. Studies on e-textbook and e-schoolbag; b. New media, future classroom, cloud technology, big data, the development of post-MOOC era, etc. c. The course teaching reform of <i>Modern Educational Technology</i> under the three-dimensional structure of "Profession-Quality-Practice".
South China Normal University	2	a. Faculty construction (university-level general course of <i>Online Learning and Blended Learning</i> ; faculty construction); b. Technology-based studies (Study on university's blended learning mode combining the self-learning environment construction of the basic computer educational course with teaching method innovation and mobile technology support in cloud + client mode); c. Study on the teaching reform practice of the M-learning mode of the general course- <i>Modern Educational Technology</i> .
Nanjing Normal University	3	The design study on the integration of <i>Educational Technology Ability Standards for Elementary and Middle Schools Teachers</i> into the course system of <i>Modern Educational Technology</i> in accordance with the reform of the <i>Standards</i> .
Northeast Normal University	4	Course integration ( <i>Modern Educational Technology</i> under the framework of TPACK: pedagogical content knowledge of integrated technologies)
Central China Normal University	5	a. Suggestions for top-quality course <sup>[6]</sup> . b. Technology-based practice (flipped classroom, e-whiteboard, etc)

**TABLE 2 : The course of *Modern Educational Technology* in Southwest China**

University	Contents
Southwest University	The published practical training textbooks; teaching form with module as unit and platform as support
Chongqing University	General course: The course restructuring of <i>Modern Educational Technology Application</i> under teacher's education course standards. The design and implementation of online teaching platform based on resource-based learning-case study on online course of <i>Modern Educational Technology Application</i>

**TABLE 3 : National top-quality course of *Modern Technology Education***

University	Content
Shaanxi Normal University	Homepage; Course Learning; Tutoring Resource; Media Learning; Discussion and Exchange; Software Downloading; Information Subscription; Excellent Homework, Login Users 4; Message to Teacher; Continued Learning; Learning Record; Learning Notes; Homework Uploading; Homework Grading; Terminology Dictionary; Information Modification Characteristics: abundant resources; high utilization ratio; course design based on course platform Website: <a href="http://edutech.snnu.edu.cn/index.asp">http://edutech.snnu.edu.cn/index.asp</a>
Zhejiang Normal University	Homepage; Course Textbook; Teaching Resources; Teaching Video; Virtual Experiment; Experimental Guidance; Interactive Space; Message Characteristics: virtual experiment and assessment; online test Website: <a href="http://course.zjnu.cn/met/">http://course.zjnu.cn/met/</a>
South China Normal University	Course Introduction; Self-learning; Expert Guidance; Practice Activity; Homework; Course BBS; Online Test; Course Resources Characteristics: learning assistant; self-learning module; mobile learning; teaching video; online test; outstanding homework (with comments) Website: <a href="http://jpkc.gdou.com/jyjs/Home/Index">http://jpkc.gdou.com/jyjs/Home/Index</a>

### **The course teaching contents have yet to be optimized and adjusted purposefully**

The students taking this general course usually vary from each other in computer skills and professional knowledge. If the teaching contents are difficult for different majors to learn, students will have no interest in learning, whereas if the students have a good grounding in their specialty and feel it is easy to understand the contents, they will divert their attention to internet surfing. In fact, some projects are only intended to teach technologies, as result of which it is difficult to combine the technologies with practical application. Additionally, in most of teaching activities, teachers usually perform in the same way without changing the teaching contents and modes, no matter whether they teach junior college students or undergraduate students from the classes of liberal arts or science. Obviously, this is not an appropriate teaching method. Instead, the course teaching contents should be positioned accurately from a macro perspective according to the training targets of the departments and schools in our university as well as the needs of different majors. Currently, there are varieties of textbooks for *Modern Educational Technology*, but few of them are suitable for the general course of normal university.

### **Simple teaching modes and assessment methods**

Due to a large number of students and a limited number of teachers, the general course of *Modern Educational Technology* is usually given in front of a group of students. This teaching mode has not broken the barriers of traditional teaching means and methods, thus severely affecting the teaching effects. In this study, teaching effect should be one of the focuses. However, while discussing the theory of improving teaching effects, some teachers neglect the use of appropriate teaching methods and the teaching effects.

### **The severely outdated technologies**

Up to now, the plan of new practical training center has not been put into practice yet, and besides, the former experimental center is basically shut down, because the aging equipment, the low computing speed, the early software version, the occasional breakdown of the electronic classroom exert a negative influence on the teaching.

### **The indifferent attitude of the leaders causes the result that the team cannot play their role**

Educational technology has long been an auxiliary product for a varieties of reasons. For instance, it is a secondary subject of education, and its teachers are young juniors compared with those of other subjects (due to the limited application projects). There are a minority of teachers for this course. Since this course relates to educational technology and teachers' understanding of educational technologies is impacted due to their individual teaching activities or other jobs, teachers usually give a brief introduction to the contents with which they are unfamiliar according to their knowledge of educational technology but focus attention on the contents at which they excel. As a consequence, there usually are numbers of focuses in the teaching of a course.

## **SUGGESTIONS FOR TEACHING REFORM**

### **Reinforce resource integration and team power**

Leader's attention, the increase in investment, the improvements in teacher's initiative, and the implementation of varieties of activities are required to build the team cohesion naturally, then producing a positive effect.

The experimental guidance for our university should be provided and the educational skills for each specialty should be slightly adjusted in teaching activity.

In the university, there is a need to offer relevant training courses of Microsoft Office to enhance the faculty's courseware making ability and operating skills, the computer skills of the senior teachers, and the courseware making ability of the young and middle-aged teachers.

### **Update of teaching contents<sup>[8]</sup>**

As is known, there is a huge difference between Office 2010 and Office 2003. In consideration of this, the latest computer ranking examination should resort to Office 2010. Course update involves the update of software media technology, as well as the emergence, the timely research, and the reasonable use of new teaching methods and thoughts.

### **Evaluation diversification**

Energy should be devoted to adjusting the evaluation about the general course of *Modern Educational Technology* as well as to diversifying the evaluation about the integration of theory with the practice, such as teacher assessment + team's mutual evaluation + student's self-evaluation, and the voting of outstanding works.

### **Address the problems of teacher's inability to provide sufficient guidance and the poor communication between teachers and students**

Modern Educational Technology is the general course oriented to the normal students of senior classes, often facing the problems such as a large number of classes and students, and the lack of teachers. To a certain degree, the small-sized class is beneficial to the elimination of these problems. At the same time, the recording of teaching micro-video is helpful for

the students achieving poor academic performance. In this way, the problems of guidance and self-learning can be resolved basically.

#### **Attract the participation of more team members**

It is necessary to create more opportunities of team cooperation on purpose, such as PS homework, the making of animated short film, and micro-course recording, with a view to involving students in the learning activities effectively in the form of group.

#### **The combination of multiple technologies and teaching optimization**

Any type of new technology will show some advantages and disadvantages in practice. For example, the flipped classroom, cloud technology and network-based blended learning can help to improve students' self-learning ability and computer skills. Likewise, the advantages of traditional face-to-face teaching cannot be denied either, and, it is supposed to be exploited properly at any time.

To sum up, the reform and practice of *Modern Educational Technology* should be implemented from the perspective of flipped classroom by dint of multiple technologies. Firstly, flipped classroom can remove the difference in computer skills. Secondly, multi-media optimization principle can be brought into play based on multiple technologies. For instance, cloud technology can guarantee that students can still get access to school network despite leaving school; FTP can guarantee the uploading of student's works and resource downloading speed, as well as protect the copyright. Thirdly, evaluation diversification can contribute to student's engagement and initiative. Fourthly, small-sized class can improve teacher's guidance quality and their communication with students.

### **REFERENCES**

- [1] National Medium- and Long-Term Plan for Education Reform and Development (2010-2020). [http://www.gov.cn/jrzq/2010-07/29/content\\_1667143.htm](http://www.gov.cn/jrzq/2010-07/29/content_1667143.htm).
- [2] Pan Jixin, Cheng Lulu; Analysis on the Citation of the Articles Published in E-education Research in Recent 4 Years. *E-education Research*, **10**, 46-49 (2010).
- [3] Competitiveness Rankings of Educational Technology Specialty in China's Undergraduate Education. (2014-2015).
- [4] Chen Yunhong et al; Analysis on the Research Strength and Hotspot of Taiwan Educational Technologies-based on the Study about the International Journal Publication in the Field of Taiwan Educational Technologies, **6**, 66-77 (2014).
- [5] Summer School, Education College, Peking University. <http://ei.pku.edu.cn/summer2014/>. (2014).
- [6] Liang Ronghui. Comparative Study on the Establishment Situation of the General Course of Educational Technology in 10 Universities-Research Results based on Online Survey. *China Education Information*. **13**, 28-31 (2013).
- [7] Zhang Xining et al; Study on the Teaching Reform Practice of the General Course of Modern Educational Technology. *Education and Vocation*, **3**, 132-133 (2013).
- [8] Zhu Zhiting; *Modern Educational Technology-Entry into Information Education*. Beijing: Higher Education Press.