

The Construction of Experimental Teaching Informatization System—Take Experimental Teaching Centre for Media and Communication Studies of Zhejiang Normal University as an Example

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Abstract. The functional definition of experimental teaching informatization was discussed, and then constructs an experimental teaching informatization system which is based on three roles demands, three dimensions as core and contains three aspects of informatization.

Keywords: Experimental teaching; Informatization; Information management; Teaching support; Teaching evaluation;

1. Introduction

Experimental teaching as part of teaching activities plays an important role in quality development and capacity-building of college student. The quality is directly related to personnel training level. According to “the notice of construction and assessment of the Experimental Teaching Demonstration Centre” (2005, documents of ministry of education), network experimental teaching and laboratory management information platform must be created to assisted online instruction and intelligent management. Informatization becomes one of the main content of the experimental teaching demonstration centre construction. The core frame is the informatization of experimental teaching which gradually accelerated at present, but loosely structured and stressing on management ignoring teaching. As a construction department of national experimental teaching demonstration centre, experimental teaching centre for media and communication studies (hereinafter Information Experimental Centre) in Zhejiang Normal University makes great efforts on experimental teaching informatization. Adhering to its experimental teaching model, experimental teaching, innovative practice and application expanding, an experimental teaching information system including teaching information management, teaching support and teaching evaluation will be built, aims to found integration experimental platform for students’ practical abilities and innovative ability.

2. System of experimental teaching informatization

2.1 Definition

Informationize of experimental teaching is one of the prerequisites for innovative experiments. However, laboratory’s informatization in many universities appears to be relatively weak and homogeneous in function. Experimental teaching management, experimental teaching support and its evaluation separated from each other, management and teaching departments “fragmented”, and result in large number of experimental teaching platforms. The participants in the experimental teaching have to cope with the different teaching-support system requirements. This informatization turns into a burden. Furthermore, lack of information technology resources, the low level of information management and focusing on the

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management of the experimental teaching rather than teaching support has become increasingly prominent. The ultimate goal of the laboratory construction services for the experimental teaching. Nevertheless, absence of supporting teaching, experimental teaching has lost its essential meaning. It is necessary to achieve a specific definition for experimental teaching informatization. It should be on the basis networked of experimental teaching function, expanding the application of experimental teaching in the online teaching, have comprehensive, networked, intelligent management, and seek expanding for teaching methods and evaluation methods, forming integrated experimental teaching system.

2.2 Framework

Experimental information managers, teachers and students are three roles involved in experimental teaching process. Based on their actual needs, three dimensions as experimental management, teaching support, teaching evaluation, and three aspects of informatization as education, technology and resources, the framework of the experimental teaching informatization system is divided into three sub-systems: information management system, teaching support system and evaluation system. As shown in Figure 1.

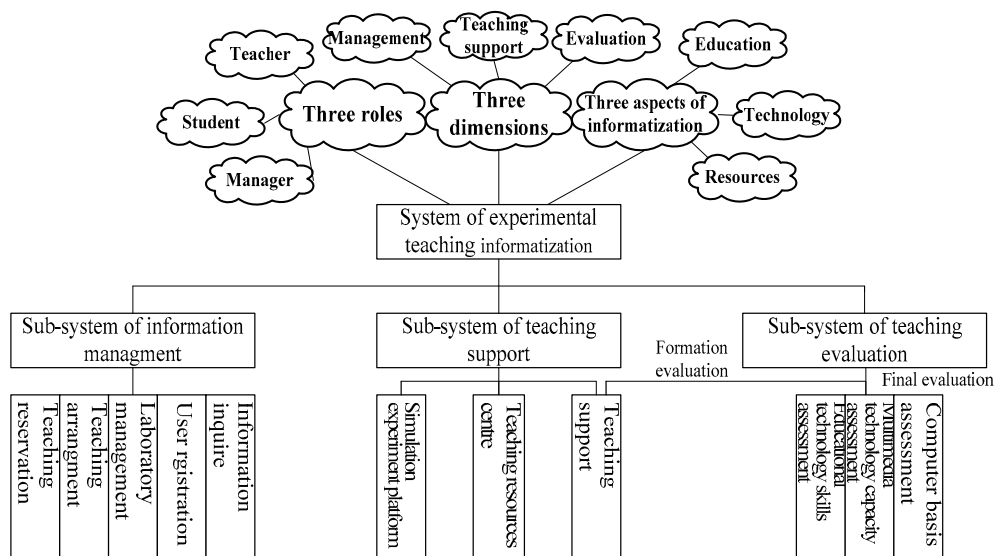


Figure 1 the framework of experimental teaching informatization system

Three roles have specific demands on experimental teaching, such as manager needs an intelligent management system, teacher requires a platform supporting for their teaching, and student wants space to communicate with teacher more instant. Experimental teaching information management, teaching support and teaching evaluation, this three dimensions group up the entire experimental teaching, they are also three sub-systems of experimental teaching informatization. Besides, in accordance with essence of informatization, experimental teaching informatization contains three aspects that is technology, resources and education. From technology aspect, the informatization is the use of IT to process experimental teaching, digital, networked and intelligent. From resources aspect, informatization is the process of develop, store and use of information in large-scale making maximize using of resources as ultimate goal, widely shared and efficient use. From educational aspect, informatization pursuits for educational informatization which facilitate knowledge transfer from educators to learners, using modern teaching theory and information technology.

In brief, the system considering of three roles demands, contains three dimensions information management, teaching support and teaching evaluation as sub-systems, uses of IT from three aspects as technology, resources and education.

2.3 Three sub-systems

2.3.1 Information management system

To be the guarantee of experimental teaching activities, information management system (IMS) manages the whole process of experimental teaching. Information Experiment Centre assumes quite a lot of operational teaching programs and public service tasks, besides traditional. Such tasks often randomly and

difficult all one-time attendance with school Course Scheduling System, which limited to theoretical teaching process, some needed continuity teaching.

The Centre has developed a WEB-based laboratory teaching information management system to solve above problems. Through the optimization of teaching arrangement mode, not only to ensure flexible arrange courses, but also complete flow of laboratory open network reservation.

2.3.2 Experimental teaching support

In order to give better support of experimental teaching and maximum sharing of teaching resources, the Centre has established a simulation platform, teaching resource centre and experimental teaching support system, based on experimental teaching needs and professional characteristics of courses.

- **The simulation platform**

Online simulating environment reduces the cost of resources and makes progress of teaching effect represents the future orientation of experimental teaching model. The Centre promotes more simulation experiments according to characteristics of information dissemination experiment. 14 virtual experimental projects about three categories, as conventional audio-visual media, digital audio-visual media and multimedia educational software have been applied and more such experiments have on schedule.

- **The teaching resources centre**

The Centre establishes a few of online teaching resources library, providing a large number of images, video material and other resources for students. That plays a full part in the extension of quality teaching resources and improves efficiency of using. At present, there have total of 33 categories, 435 small classes, and the number has more than 78,000.

- **The experimental teaching support system**

According to the characteristics of the experimental teaching, the Centre developed an experimental teaching support network platform. It provides more convenient approach for experimental teaching activities, such as assign homework, curriculum resources for teacher. Student can share resources, submit report and participate online discuss. A space is also given for interacting between teacher and student. Course materials and course work that required completed recording in the system, not only records progress of the experimental course dynamically and also recorded the footsteps of students continuous growing.

2.3.3 Experimental teaching evaluation

Different from evaluation of theory teaching, experimental teaching evaluation that indispensable link to teaching quality and efficiency test requires a special experimental environment. The Centre has been committed to the study of the experimental teaching evaluation system, such as educational technology skills assessment, multimedia technology capacity assessment, and computer basis assessment.

It is deserve to mention that teaching evaluation system is not a separate, unique system to determine student's learning outcomes, but as a reference. In final assessment, teacher can also combined with student's work, speeches, etc, in experimental teaching support system to make a comprehensive judgment. The judgment integrated advantages of formation evaluation and final evaluation. It also reflects three sub-system of experimental teaching informatization system is a separate but closely linked organic. The analysis of the evaluation results also can fix the problems in the experimental teaching and experimental teaching process.

3. The implementation and effectiveness

The Centre has already specifically set up an information technology development team to speed up informatization process. As a result, a relatively complete experimental teaching information platform was established. Centre portal website as the entrance, the platform integrated laboratory teaching information management system, experimental teaching support systems, and digital imaging teaching resources sub-platform.

3.1 Optimize resource allocation, promote experimental teaching reform

Experimental teaching not only has the basic characteristics of all teaching activities, but also particular for its "experimental". Its reform success or failure has a significant impact on school's core competitiveness.

The rapid develop of IT both network and computer technology supply mass recourses and technology support for the reform. So proper use of IT can solve problems produce in complex experimental teaching activity, such as IMS. Though IMS, the unite arrangement of teaching activity makes efficient use of laboratory. Since 2008, more than 40 million class hours of teaching and service complete per year. Until the end of 2011, curriculum resources on teaching support platform has reached 940G.

3.2 Student-Oriented, improve personnel training quality

Experimental Teaching Centre adheres to the method of "integration, multi-level, opening", and insisted on server for students in order to cultivate their innovative spirit and practical ability. Since the implementation of IT, the Centre simplifies the use procedures of laboratories and equipments that greatly enhance the students' enthusiasm and equipment utilization; the establishment of online simulation platform enables students previewing and reviewing experiment in a virtual lab which ease the shortage of laboratory equipment; using of information technology platform to carry out the experimental teaching, students can study at any time, any place, and choose any content; through establishment of student's research and innovation funds, open experimental project, the research study credits and organized innovative practical projects and participate in events such as multimedia design competition to encourage students to engage in research and innovation experiment.

In recent years, the students' practical abilities, scientific and technological innovation are fully reflected in a variety of practical activities and internal and external academic competition. With guidance and support of the Centre, students in the National Challenge Cup Collegiate Business Plan Competition, the National Graphic Design Competition, Environmental Art Design Contest, National Students DV Competition received more than 20 awards of all levels. In previous The College Students' Multimedia Design Works Contest Zhejiang Province obtain first prize of 43 items, second prize of 61, and 39 of third prize. Various competitions cultivate students 'innovative awareness, stimulate competition, and promote team spirit played a positive role to improve the students' information literacy and information dissemination skills.

4. Summary

Informatization construction is an important method of sharing resources, also a good way to improve the students' innovation and practical ability. The experimental teaching of information technology building has achieved a certain success, but how to promote information platform integration and follow-up construction is still at an exploratory stage and need to further study in order to gradually form a better, in-depth information platform.

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