

# Construction of Teaching Quality Monitoring System based on New Engineering Goals

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**Abstract—** The primary constraint on the quality of university education is the curriculum. In-depth research on curriculum management is currently still very lacking and neglected by researchers. In order to better implement the university information professional talent training model from the micro level and improve the quality of education and teaching, the internal teaching quality monitoring in universities should start from the curriculum, jump out of the teaching quality monitoring model which is limited to the teaching routine management only, draw on the theory of curriculum theory and curriculum management, implement the information construction to the talent training quality monitoring system, and focus on the new quality concept and curriculum concept as the lead. The construction of the best monitoring of teaching quality, laying the management foundation for the training of application-oriented innovative talents.

**Keywords—** *course management; teaching quality monitoring; new engineering*

## I. INTRODUCTION

The primary factor constraining the quality of university education is the curriculum. However, in current educational research, curriculum theory was not really established as central to the theory of higher education until the 1980s. However, in-depth studies of curriculum management are still sorely lacking and have been neglected by researchers. The focus of school management is on the implementation activities of the teachers, which are commonly referred to as "instructional management"; Western pedagogical theories are broader, and the study of curriculum theory involves not only the process of implementing the developed curriculum content (curriculum implementation), but also the implementation of the curriculum. The process of generating curriculum content (curriculum development). This narrow and wide change indicates that the main body of curriculum research in China's educational theory - the process of curriculum development is cut off. In order to better implement the talent cultivation model of universities and colleges from the microscopic level and improve the quality of education and teaching, the internal teaching quality monitoring of universities should start from the curriculum, jump out of the teaching quality monitoring model which is only limited to the routine management of teaching, learn from the theory of

curriculum and curriculum management, implement the information construction of the talent cultivation quality monitoring system, take the new view of quality and curriculum as a guide, and focus on the internal teaching quality of universities. The construction of monitoring lays the management foundation for the development of applied and innovative talents.

## II. BLENDED MANAGEMENT-BASED COURSE MANAGEMENT MODEL

Curriculum management in higher education can be divided into three levels: the development of individual courses, the development of training programmes and the development of curricula on a college or school basis. Each level of curriculum development activity consists of the curriculum developer and the development process, so each level of curriculum management can be divided into the management of the curriculum developer and the management of the curriculum development process. This hierarchical management method is a very common model used today, which is more precise and is a very typical precise course management. However, the disadvantage of precise course management is that it is too rigid and inflexible. To achieve the purpose of truly precise management, it is more difficult to develop it only by conventional linear, simple thinking, through functional management and hierarchical management.

For the lack of precision management, modern management has developed a "hybrid management" theory, this management theory applied to the field of curriculum, resulting in a "hybrid course management". It refers to the course managers to fuzzy thinking and fuzzy theory as a guide, in the affirmation of the complexity of the object, based on fuzzy, using fuzzy theory and fuzzy mathematical model, the course selection, course implementation, course evaluation and course research, analysis, decision-making, evaluation and regulation of a new scientific course management model. At the same time, the whole process of course management throughout the hybrid management thinking, technology and methods, which requires some mechanisms to support.

## III. PRACTICAL STRATEGIES FOR MONITORING TEACHING QUALITY WITHIN UNIVERSITIES

Based on the hybrid course management model, the internal teaching quality monitoring and micro-level teaching reform practice should start from the course construction, we start from the course, out of the

teaching quality monitoring model which is only limited to the teaching routine management, learn from the course theory and the theory of course management, implement the standardized construction for the quality of talent training, and take the new quality concept and course concept as a guide, focus on the internal teaching quality of universities. Construction of monitoring.

#### A. Curriculum development

1. Focusing on the shift from pedagogical to curricular awareness

Let all the teaching staff understand that the quality of teaching is related to the school's education and teaching philosophy and methods, training objectives, curriculum, conditions, teaching management system, teaching equipment, and other factors, and take the pursuit of teaching quality as a kind of culture, a belief and a value of the school.

2. Shift from an emphasis on traditional management of teaching routines to a focus on curriculum innovation

College curriculum management activities are composed of a series of curriculum decisions. From the monitoring and evaluation of human resources training objectives, the monitoring and evaluation of human resources training program design, the monitoring and evaluation of curriculum development, the monitoring and evaluation of curriculum implementation, the monitoring and evaluation of teachers' teaching ability, and the monitoring and evaluation of students' learning quality and human resources training results, schools should form a school-based curriculum development and curriculum management strategy to improve the efficiency and quality of curriculum development.

3. Shift from single-teacher management to multi-course management.

In recent years, on the basis of cooperation with Zhejiang University Netstar Technology Co., Ltd. to cultivate applied talents, we have established joint training and practice bases and strengthened the management of practical teaching in practical semesters, so as to make the professional courses play their due role in cultivating high-quality engineering talents.

We make full use of the advantages of the international cooperation of Zhejiang University of Science and Technology with German University of Applied Sciences and University of Southern Queensland, Australia since 1985, and learn from their experience in the establishment and implementation of practical teaching system, so that the content of practical teaching and experimental equipment can track the development of disciplines and courses in a timely manner and keep up with the forefront of technological development, thus further promoting teaching reform and advancing the level of experimental teaching of disciplines.

#### B. Quality standards and teaching management regulations at all levels of education

According to the university's goal of cultivating "high-quality applied talents with practical ability, innovative spirit and international literacy", we will review and formulate (revise) professional construction, curriculum construction, textbook construction, teacher team construction, laboratory construction, practice base construction, students' extracurricular scientific and technological activities, teaching content and teaching methods. Quality standards for the reform of means and teaching management are implemented in all aspects of teaching. In formulating (and revising) quality standards, guidance will be provided on the basis of the characteristics of different types of disciplines and majors.

In accordance with the requirement of building a high level applied university with distinctive characteristics, the teaching management rules and regulations at the school level will be reviewed and formulated (revised). Each faculty should make its own implementation rules according to the relevant documents of the university.

(c) Establishing a mechanism for evaluating teaching management. The evaluation of teaching management will focus on the setup and staffing of teaching management institutions, the implementation of policies and regulations, the management and operation of teaching laboratories, and the satisfaction of teachers and students with teaching management. In principle, it will be conducted once a year, usually at the end of the first semester of each semester.

#### C. Macro-monitoring of teaching quality

Statistical data and analysis of the working status of higher education. According to the requirements of the Ministry of Education and the provincial education department on the statistics of the teaching work status of the university, the statistics and publication system of the university's teaching work status data will be established in accordance with the actual situation of the university. In January every year, the statistics of the teaching work status of the last academic year will be analyzed and grasped on the basis of which the macro operation status of our university's teaching work will be analyzed and grasped to provide a basis for the decision-making of teaching management.

Graduate employment situation analysis and tracking survey. Every year, the university publishes a white paper on employment, and takes such methods as holding seminars for graduates, visiting employers and distributing questionnaires to collect the quality evaluation of graduates by students and employers and the self-evaluation of graduates. Organic combination of talent training and social needs.

Conducting the evaluation of undergraduate teaching work in second-level colleges. Formulate (revise) an evaluation system for undergraduate teaching in second-level colleges, according to which some colleges (departments) will be selected for

evaluation every year, and the evaluation will be conducted once during the tenure of each leadership team. The guiding ideology of "promoting improvement through evaluation, promoting construction through evaluation, promoting management through evaluation, combining evaluation and construction, and focusing on construction" will be implemented in earnest. Through evaluation, all colleges (departments) will be encouraged to adhere to the correct guiding ideology of school running, communicate with each other, promote each other, strengthen teaching infrastructure, optimize teaching management, deepen teaching reform, and continuously improve the quality of teaching.

#### *D. Daily monitoring of teaching quality*

Stage inspection of teaching work. The beginning of the period: to inspect the implementation of the teaching plan, teaching arrangement, teachers' report, preparation for teaching, students' registration and teaching order, etc.; the middle of the period: to inspect the teaching operation in the first half of the semester, by means of faculty-level supervision, teaching materials inspection, teachers' and students' symposiums, etc.; to summarize the teaching work in the middle of the period and implement corrective measures for existing problems. The final teaching inspection: focus on checking the assessment arrangement of each teaching link, carrying out examination inspection, examination paper quality (examination paper marking, analysis), statistical analysis of students' results, etc.

#### IV. INFORMATION CONSTRUCTION

To attach importance to the construction of the information technology of the teaching quality monitoring system, the primary condition for the construction of the information technology of the teaching quality monitoring system is the importance and support of the decision-making level of the university; to establish and improve the rules and regulations related to the information technology of the teaching quality monitoring system.

According to the actual situation of colleges and universities, systematically research and formulate teaching quality monitoring rules and regulations that are standardized, strict, operable and adaptable to the needs of informationization, so as to truly realize the standardization and proceduralization of teaching management; to make the planning and design of the teaching quality monitoring system, not only to learn and study the achievements of domestic colleges and universities in this regard, but also to learn from the

successful experience of our university in running international cooperative schools; to update the hardware of the teaching management system. Equipment, with the rapid development of network technology, high-speed network gradually into the university, teaching management information exchange more and more smoothly. At present, the teaching management system hardware equipment is relatively backward, which not only restricts the development of the system itself, but also affects the enthusiasm of teaching management personnel in applying the information system, thus leading to the poor flow of information resources and low management efficiency. Therefore, colleges and universities should increase investment and gradually update the hardware conditions of teaching management.

#### V. CONCLUSIONS AND OUTLOOK

In short, the internal teaching quality monitoring of higher education institutions based on curriculum management is a complex system project, and the practice of teaching quality monitoring in our university is only an exploration based on certain curriculum theories. Of course, curriculum management itself is a complex concept. Curriculum and teaching are the centre of school education management and are closely related to each other. The fuzzy curriculum management also tends to evolve into culture-based management, so the issue of curriculum theory involved in the teaching reform of higher education institutions is not only the difficulty and focus of higher education, but also the hotspot of China's education sector, which needs in-depth theoretical research and practical exploration by administrators, scholars and teachers.

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