Study on the Construction of Total Quality Management based on Internet Educational Teaching Research Projects

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Abstract: With the development of the Internet era, universities have made major changes in teaching, management, and organizational systems, and have given higher requirements for teaching quality. Therefore, it is necessary to establish a comprehensive quality management system that is compatible with the Internet age. Combined with the developmental background and technical means of the Internet age, we will build a comprehensive management system and mechanism based on network technology, improve the quality management of teaching in colleges with the Internet, establish consciousness of service-oriented management, and promote the teaching and management concepts in colleges. This paper mainly analyzes the constructional problems in total quality management based on Internet educational teaching research projects, and proposes corresponding approaches.

Keywords: Internet; college education and teaching; total quality management; constructional approach

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Educational technology with modern information technology as the core has begun to be widely used in the educational industry, which not only promotes the development of college teaching, but also achieves lifelong learning and social education. With the widespread application of information technology, teaching concepts and methods have been continuously optimized to create a good environment for teaching and improve teaching outcomes. At the same time, total quality management is also an important means and method in the development of colleges, which plays an important role in improving the teaching philosophy and quality. However, the research and application at colleges in China in this regard are relatively scarce. With the development of the Internet, the implementation of comprehensive quality management in universities is more convenient. Therefore, colleges need to study and implement the comprehensive quality management in education and teaching projects with the help of the Internet.

1 Analysis of problems in teaching and research project management in colleges

In the process of teaching and research projects in universities, universities have been emphasizing the mobilization of enthusiasm for the participation of teachers. With the joint efforts of teachers and students throughout the school, a number of good teaching and research results have been gained, and they have been promoted, implemented and applied in the teaching and research work in universities. It plays an important role in the development of education in China. However, from the perspective of the actual application, some teaching and research projects do not serve for teaching practice. The main reason is that the current teaching and research project focuses on quantity and neglects the quality. At the same time, in the teaching and management of research project, most of the methods use interim reports and final inspections, which will inevitably lead to the disciplined supervision of the process and the low scientific nature of the research results\(^1\). In the research of teaching and projects, the
lack of attention to process supervision will inevitably lead to disciplined behaviors in the project research, or unscientific staffing and cooperation in the research process, and it is difficult to effectively implement research procedures. The research process determines the results. Such management control of the research process will inevitably lead to inefficient results, making the results unable to meet the requirements of the research.

2 Content of Total Quality Management of Educational Research Projects in Colleges

From the perspective of the current quality management of education and teaching projects in colleges, traditional management methods couldn’t meet contemporary developmental requirements. Colleges have always been accustomed to adopting target management in teaching and research project, demonstrating the project and report to the competent authority. After the project is approved and funded, the research project is contracted and managed by the principal. Too much focus on results but not on processes leads to insignificant effects. Therefore, it is necessary to reasonably introduce comprehensive quality management in accordance with the current situation of university education and teaching projects, promote the sustainable development of university education, teaching and research through total quality management, improve the quality of teaching and research, optimize the structure of teaching and research, improve the scientific nature of teaching and research work, while responding to the challenges of teaching and research project in colleges[2]. In the overall quality management of education, teaching and research, it is mainly manifested in the following aspects:

First, full participation is required in quality management. The concept of total quality management is an important guarantee for the development of teaching and research projects in China's universities. The construction of the concept of total quality management needs to be comprehensive. Designers, demonstrators, reviewers, managers, inspectors, and appraisers all need to participate in important aspects of project research. And in these processes, it is necessary to adhere to quality as the core to ensure that the quality of the project meets the domestic demand of all employees.

Second, the entire process must be guaranteed in quality management. The research process of university education and teaching projects is relatively long, and there are many processes involved. In order to do well in quality management, we must guarantee the entire process of quality management. The quality management work needs to be done from all aspects of the project design, demonstration, application, review, approval, proposal, management, mid-term report inspection, conclusion appraisal, review, promotion, etc, to achieve the expansion of all staff management.

Third, all methods and elements are contained in quality management. In the research of college education and teaching projects, there are many factors that impact on the quality of project research. In order to ensure the quality of research, multiple methods and means must be adopted to achieve the management and improvement of all factors.

3 The implementation plan of comprehensive quality management in college education and teaching projects

The management of teaching and research projects in universities needs to be combined with systematic research to form a comprehensive quality management system. During the implementation of the comprehensive quality management system, different subsystems need to be divided, including management planning, monitoring, and archive publishing subsystems.

3.1 Formulation of a comprehensive quality management plan

Develop a comprehensive quality management plan for teaching projects, do well in the implementation and feedback of the plan, and take full staff participation and management as the core of total quality management. All personnel and related processes related to the development of teaching and research projects need to be contained in the management work. To ensure the maximum efficiency of the overall quality management work, the comprehensive management of teaching and research projects should form a close loop control circuit [3].

3.2 Establish monitoring mode

In the process of a comprehensive quality management system, it is necessary to do well in the monitoring of the various links and personnel, so it is particularly
important to build a monitoring subsystem. With the enthusiasm of internal staff, all participants have awareness of quality control and monitoring, and eliminate research problems from the source. After establishing a sound internal control system, an external monitoring system needs to be developed. The quality monitoring of scientific research projects is divided into two levels, internal and external. Through the combination of internal and external controlling layers, the quality and effectiveness of the development of the project are guaranteed.

3.3 Do well in the filing of the project research

In the teaching and project research, many things such as text, images, and diagrams with value of preservation will be formed. These things are important for subsequent research and teaching development. Therefore, it is necessary to do well in preserving and archiving the data in the research process. At the same time, in order for these materials to serve more teaching and research work, they need to be released in time to provide some guidance for teaching research and provide effective basis for new project research.

4 The specific implementation of comprehensive quality management based on Internet educational teaching research projects

The implementation of the comprehensive quality management of education and research projects in colleges is difficult to achieve if traditional management methods are still adopted. Therefore, it is necessary to rely on the network and not be limited by time and space. At the same time, a teaching and research project management system based on SHH is constructed. The SHH system can be developed as a high-quality network application to ensure the completeness and functionality of the platform. According to the research on the needs of managing scientific research projects, it can be known that in the overall quality management of teaching and research projects, functional analysis includes topic release, project application, project review, project approval, project supervision, problem solving, and promotion. At the same time, from the perspective of users, it can be divided into teachers, management, experts, and secondary colleges.

(1) Functional design of a comprehensive quality management Internet system for teaching and research projects

Functional design of project release: It is mainly used to release information on notices of project approval, guidelines, progress review, position, results of project approval, process of the project development, quality feedback, and project promotion.

Functional design of project declaration: In the process of project declaration, teachers need to upload the project to the network strictly according to requirements to realize the declaring function.

Functional design of project auditing: The work of teaching and research projects in colleges is underway, and the project auditing work includes the auditing of management departments, secondary colleges and experts.

Functional design of project authorization: Use the network to confirm the project and determine whether the project is needed.

Functional design of project supervision: During the mid-term inspection of teaching and research projects, random inspections of the project need to be done to ensure the implementation of various inspections.

Functional design of project conclusion: The teaching and research project management department and experts need to do a good project evaluation based on the conclusion report, project defense, etc., and confirm whether the project can be completed.

Functional design of project promotion: Track the transformation of project research results through the network system, and do a good job of archiving the project research, providing an effective basis for subsequent research and promotion.

(2) Design of Total Quality Management Users for Teaching and Research Projects

Design of the role of the teachers. In the role setting of teachers, you can skim the content of notifications, view project information in previous years, and perform online information query on project declaration and project position.

Design of the role of management department. In the design of the role of the management department, it is necessary to combine the suggestions and reviewing results from experts and relevant reviewers to make a decision that is sufficient for problem solving and project establishment. At the same time, do well in the supervision, tracking and other services in the project application until the final promotion.

Design of the role of experts. In the process of designing the role of the experts, it is necessary to conduct a second review of the project that has
already passed the first review, and give corresponding suggestions and opinions based on the auditing results. It also includes the review of the conclusion materials and gives corresponding opinions.

Design of the role of associate colleges. Mainly responsible for the preliminary review of the teacher's project application in this department.

5 Conclusion

To sum up, enterprises and institutions have begun to focus on the implementation of comprehensive quality management, which is conducive to the improvement of internal control of enterprises. The current comprehensive quality management has also begun to be applied to the management in teaching and research projects in colleges. Through the construction of the SHH framework, Internet-based dynamic management is realized, to provide reliable information for the research and management of teaching and research projects, improve the efficiency and management of teaching and research projects in colleges, ensure the scientific nature and reliability of teaching and research project, and promote the development of intelligent teaching and project research.

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