Research on the Improvement Path of College Online Teaching Quality based on TQM Theory

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Abstract. The gradual development of online teaching has become an important field of personnel training in universities, strengthening the quality of online teaching has become a new task for the development of higher education in our country. In view of the challenges faced by online teaching in universities in quality assurance, quality control and quality management, based on the requirements of applying TQM theory to online teaching in universities in an all-round, whole process and full participation, starting from establishing online teaching quality assurance mechanism, optimizing online teaching quality control system and improving online teaching quality supervision measures, the quality of online teaching in universities is effectively improved.[1] Help our country higher education cause reform and development.

1 Feasibility analysis of applying TQM theory to online teaching quality management in universities

1.1 Overview of TQM theory

Total Quality Management (TQM) is a quality management model that focuses on quality, takes full participation as the basis, and achieves long-term success through customer satisfaction and benefits for all members of the organization and society. The core idea of TQM theory is to take quality as the center, to meet customer needs as the basic starting point, to emphasize the systematic point of view as the guidance for all-round comprehensive management, pay attention to the whole process of affecting quality, highlight the important role of all staff participation in quality management, and continuously improve product quality. The conceptual framework of total quality management includes quality assurance, quality control, quality management and so on.[2] Its basic requirements can be summarized as all-round guarantee, whole-process control and whole-staff participation in management, that is, quality improvement requires all-round hardware equipment and objective elements to provide guarantee, quality control should run through the whole process from beginning to end and all aspects of the entire system, and quality management needs the joint participation of every employee at all levels of the organization. And continuous and endless improvement of quality. Therefore, the total quality management theory, as a complete quality management system and scientific management technology, is conducive to the establishment of a systematic, dynamic, personalized and characteristic quality management mechanism, so that the entire production process is in a controllable state, to achieve sustainable management and development.

1.2 Significance of TQM theory applied to the improvement of online teaching quality

TQM theory is of great significance to the improvement of online teaching quality in universities. First, TQM theory is beneficial to improving the quality of online teaching. At present, many universities lack perfect online teaching quality assurance mechanism, the main reason is that they fail to take quality assurance measures for the multi-directional factors that affect the quality of online teaching. TQM theory is an important means to ensure and improve the quality of products or services. A set of practical and effective quality assurance mechanism is constructed by using the all-round guarantee thought of TQM theory. On the one hand, the quality of online teaching is fully guaranteed. On the other hand, it is helpful to build a complete online teaching infrastructure to ensure the improvement and development of online teaching quality. Second, TQM theory can help control the quality of online teaching. Although the traditional online teaching quality control mode focuses on process control and sets up many key links or measures, it lacks the assistance of system theory and is more a collection application of conventional practices. The whole process quality control system of TQM theory emphasizes the idea of people-oriented and continuous improvement, so that the whole online teaching process is in a controllable state. 3Universities are required to continuously improve the quality according to the changing needs of students,
emphasize continuous innovation, improvement and change, play a long-term role, and help effectively improve the quality of online teaching.[3] Third, TQM theory helps to supervise the quality of online teaching. TQM theory pays more attention to the teacher-student orientation, and emphasizes the construction of quality supervision mechanism involving universities, teachers, parents and other subjects. All staff, teachers and students have important responsibility for the improvement of online teaching quality. Relying on TQM theory, full participation management model can provide new ideas for guiding the improvement of online teaching quality.

2 The new challenges to improve the quality of online teaching in universities

2.1. Quality assurance dilemma

For the quality assurance of college teaching, the development of online teaching is both an opportunity and a challenge.[4] One is the virtualization challenge of online teaching environment. On the one hand, the classroom environment has changed from face-to-face teaching between teachers and students in the same classroom to online video communication.[5] On the other hand, the institutional environment is becoming virtual with the change of teaching mode. All system and management activities will be carried out on the virtual network platform, based on the digital teaching feedback generated by the online teaching background. Second, the continuous upgrading of teachers' network literacy challenges. The introduction of online teaching mode brings a new upgrade of college teaching from form to method, and many teachers will face the test of network literacy. Network literacy includes not only network technology, but also network consciousness and network thinking. In the new era, only by keeping up with the pace of The Times and improving network literacy can improve the quality and build a new model of higher education teaching. Third, students lack the challenge of independent learning ability. Due to the secret characteristics of the network, students can listen to lectures in an environment that is too familiar and relaxed, and the learning effect is poor, the learning interest is not high, and the learning attitude is not correct.[6]

2.2 Quality control dilemma

Quality control of online teaching in universities refers to that relevant teaching management departments find the deficiencies in the process of online teaching in time, find out the reasons, and take corresponding measures by collecting, analyzing and sorting out all aspects of online teaching. At present, the quality control of online teaching is faced with many problems. First, the main position of students in teaching is weakened.[7] More online teaching activities are carried out in the form of "lectures", with theoretical explanation as the main teaching approach and relatively fixed teaching content. Teachers only pay attention to their own teaching rhythm, ignore students' learning needs and future development needs, and lack the mechanism of online teaching mode controlled by motivation dimension. At the same time, the participation rate of students in teaching activities is reduced, and the laws of student development and education are ignored, which is not conducive to the quality control of online teaching mode. Second, the lack of reflective mechanism in online teaching. Excellent teaching quality depends on continuous reflection and exploration, teaching reflection is to give full attention and feedback to the past and ongoing teaching activities, so that it can be continuously improved, perfected and developed. Online teaching mode should continuously improve the teaching level, meet the diversified needs of students, and continuously improve the teaching quality.

2.3 Quality management dilemma

College online teaching quality management mainly includes online teaching evaluation, online teaching supervision and so on. At present, online teaching quality management has the following difficulties. First, the main body of online teaching evaluation is single. At present, the online teaching evaluation of universities mainly consists of four parts: leadership evaluation, peer evaluation, teacher self-evaluation and student evaluation. Due to the difficulty, complicated procedure and limited resources in the implementation of leadership evaluation and peer evaluation, college online teaching evaluation is mainly based on student evaluation. However, the professional degree of students' evaluation is not enough, the evaluation results are too subjective, lack of science, objectivity and comprehensiveness, and can not truly reflect the teaching quality. Second, the difficulty of online teaching supervision is upgraded. The complexity of supervision work has increased, the lack of unified and reasonable supervision standards, and the judgment of teaching effect only based on online teaching time, teaching materials submission and other standards is too one-sided. At the same time, the supervision of online teaching is not enough, the boundaries of rights and responsibilities of personnel in various departments are not clear, and there is no clear division of labor and cooperation system, which makes the management of online teaching loose, unable to achieve effective quality management and meet quality requirements.

3 New requirements for improving the quality of online teaching in universities based on TQM theory

3.1. The quality of online teaching should be fully guaranteed

All-round guarantee of online teaching quality refers to the comprehensive management and improvement of various factors that directly or indirectly affect online
teaching quality, so as to ensure the improvement of online teaching quality in universities. The quality assurance of online teaching in universities mainly includes three aspects: the first aspect is the online teaching environment, which mainly includes the teaching equipment environment and system environment. The second aspect is the preparation of online teaching, which mainly includes the network literacy composed of network technology, network consciousness and network thinking. The third dimension is students' online learning, which mainly includes learning motivation, learning attitude and learning interest. TQM theory requires universities to guarantee the quality of online teaching in an all-round way, to construct, manage and supervise the factors that affect online teaching.[8]

3.2 The quality of online teaching should be controlled throughout the whole process

From the perspective of the whole process, the formation and development of any product or service quality is a complete process, and the whole process control system has two core concepts: one is customer-centric. Customer satisfaction theory emphasizes that quality improvement is embodied in the satisfaction of customer needs. By meeting the explicit needs of customers and exploring the hidden needs of the future, we can achieve the guidance of customer needs and ensure the durability of benefits. The second is continuous improvement. In order to make all aspects of quality, including technical, management and human factors, always under control, it is necessary to establish error correction and early warning mechanisms, so as to achieve the purpose of continuous quality improvement. Therefore, the continuous improvement of online teaching quality requires universities in two aspects. First, student-centered, universities are required to understand and master the needs of students in the process of online learning, and make clear the subjective status of students in the process of online teaching. Second, insist on continuous improvement and enhancement of online teaching quality. Universities should take the initiative to adapt to the changes in students' needs, constantly adjust their goals and quality standards, drive development with innovation.

3.3 All staff are required to participate in the management of online teaching quality

TQM theory holds that all employees are responsible for quality, should establish quality awareness, and actively participate in quality management. The realization of the quality goal depends on the cooperation of the management and front-line employees. Full participation in management reflects the humanism of enterprise management, and requires teams at all levels to achieve mutual cooperation and supervision, so as to promote the formation of team spirit and common management consciousness. All the staff and students in the university are the main body of online teaching and management activities. Teaching quality improvement is not only the responsibility of principals and leaders at all levels, staff of all departments, all teachers and students have the responsibility to participate in the monitoring of teaching quality and ensure the improvement of teaching quality. All teachers, students and staff should participate in, care for and support the teaching quality work. Full participation in online teaching management requires two aspects of work. First, online teaching evaluation needs the participation of all staff. Second, the supervision and management of online teaching is the common responsibility of all teachers and students, and all staff need to participate in online teaching supervision activities. The university must make all members and departments aware of the goals and objectives of the university, and involve every faculty member in the management of the university by empowering them to take responsibility for the quality of their work.

4 Based on TQM theory of college online teaching quality improvement path

4.1. Establish online teaching quality assurance mechanism

First, improve the online teaching platform. Under the background of education information construction in our country, we should make use of emerging intelligent information technology to build a unified and intelligent online teaching platform. Universities can make online teaching equipment more adjustable and applicable by establishing a unified online teaching platform consistent with their teaching objectives, campus culture and school-running characteristics. In addition, the teaching management departments of universities can use the platform to get involved in teaching procedures and extract teaching data, which is more conducive to the development of teaching management.[9] Universities also should make full use of the convenience of the Internet era and the development of information technology to build an intelligent platform. It senses the online teaching situation and teaching interaction process, and can meet the individual needs of college students.

Second, strengthen the construction of teachers' network literacy. Teachers should constantly improve the awareness of online teaching, update the knowledge structure on the basis of improving the application ability of information technology, and complete the teaching objectives. Universities need to strengthen the construction of network literacy and provide sufficient conditions for all teachers. Colleges should regularly carry out online teaching technology and other training courses, establish a teacher training system, and regularly assess the online teaching technology of teachers to help the continuous improvement of teachers' teaching technology, which is conducive to fully exploring the compatibility of online teaching mode.
4.2 Optimize the online teaching quality control system

The first is to build students’ subjectivity model. The online teaching mode should highlight the students as the center. First of all, teachers should take students’ needs as teaching guidance. Secondly, as the guide and supervisor of online teaching, teachers should play the role of online guidance and supervision, pay attention to students’ learning rules and learning characteristics, and take effective teaching measures to mobilize students’ learning enthusiasm, so as to improve the quality of online teaching. Finally, online teaching should give students more opportunities to communicate and show themselves online. Creates more opportunities and exhibition space for students, which can enable students to fully tap their own potential and help create a student-oriented online teaching model.

The second is to carry out regular online teaching reflection activities. Teaching reflection is to give feedback to the current situation of teaching activities and think about improvement plans. The once-and-for-all teaching method can no longer meet the learning and development needs of college students in the new era. Universities should regularly organize teachers to carry out teaching reflection activities, timely identify problems and adjustments. Finally, universities must pay attention to the effectiveness of the online teaching reflection program. The regular online teaching reflection mechanism will constantly raise and discover new problems, and teachers need to implement improvement strategies in a timely manner, so that the reflection mechanism can become a powerful help to control the quality of online teaching.[10]

4.3 Improve online teaching quality supervision measures

First, improve the online teaching quality evaluation system. Universities should establish an implementation mechanism to promote online teaching quality evaluation with full participation. First of all, university leaders must attach great importance to online teaching evaluation, actively participate in teaching quality evaluation and mobilize all departments to work together to improve the online teaching evaluation system. Secondly, the teaching management department should track the teaching dynamics and progress in time, evaluate the quality of teachers’ lesson preparation materials and the interaction between online teaching time and process, and understand the completion of teachers’ teaching work through the professional degree and teaching attitude of the submitted materials, so as to reflect the quality of online teaching.

The second is to innovate the collaborative supervision mode. Universities should clarify the rights and responsibilities of families and schools, achieve collaborative supervision. University and relevant administrative departments should perform the duties and play a leading and supervising role. We should not only capture the highlights of online teaching, but also explore potential problems, communicate with teachers and students regularly, make online teaching activities orderly. At the same time, online teaching activities should be supervised by parents. By introducing home-school collaborative supervision into online teaching, parents can enter online classes as spectators, which is an invisible constraint for universities. It effectively supplements the management system and accepts opinions from society, which promotes the development and progress of online teaching in universities.

5 Conclusions

Online teaching mode plays an important role in the construction of high quality education system. Through establishing quality assurance mechanism, optimizing quality control system and improving quality supervision measures, high-quality development of online teaching can be achieved.

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