

Construction of Quality Monitoring System for Online Courses of Navigation Majors

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Abstract. In the face of the national new crown epidemic, to reduce the negative impact caused by the suspension of classes and schools, Online teaching has become an important mode of classroom teaching. This paper takes the online teaching of marine majors as an example. Online teaching is carried out on online platforms. According to the characteristics of online teaching of marine courses, a "four-in-one" evaluation system model of online course quality is constructed, and a four-level linkage monitoring system is established, build a course quality spiral improvement model, improve the digital information management platform for course teaching quality monitoring, ensure the substantial equivalence of online teaching and offline teaching, and ensure the teaching effect and the quality of talent training.

Keywords: Online courses; Teaching diagnosis; Monitoring system.

1. Introduction

Vocational education undertakes the important task of cultivating high-skilled and skilled talents for the country. The quality of human capital is the key to economic growth, and education is an important factor in it. The outbreak of the new crown epidemic in 2019, the suspension of classes and other requirements, seriously affected the "offline" teaching of the course and disrupted the teaching order. The Ministry of Education requires all colleges and universities to make full and reasonable use of high-quality online course teaching resources and actively carry out online teaching activities to ensure the teaching progress and teaching quality during the epidemic prevention and control period.

With the organic combination of information technology, 5G technology and the educational process, a new teaching method combining online and offline teaching is emerging. At this stage, various network platforms have been able to meet the requirements of online teaching and have been recognized by teachers. Teachers are proficient in using online platforms such as Tencent Conference, Smart Vocational Education, Chaoxing Xuetong, Duofenyi and other network platforms to carry out online teaching. However, the transition from the original traditional classroom to the online and offline mixed teaching mode has put forward higher requirements for teaching management, especially classroom teaching quality monitoring. Therefore, it is urgent to establish a curriculum teaching quality monitoring system based on the concept of diagnosis and reform.

2. The necessity of online teaching

2.1 Improve teachers' information-based teaching ability

The ability to monitor classroom teaching is a core ability of teachers' professional development. This project can establish a complete monitoring system for the quality of classroom teaching in schools, arouse teachers' awareness of classroom teaching diagnosis, and cultivate teachers' learning ability, innovation ability, and quality awareness. Informatization teaching ability, improve teachers' professional development level.

2.2 Improve the quality of online courses and the effect of teaching and learning

Continuous improvement of teaching quality is an eternal topic. This project builds a monitoring mechanism based on the "figure-8" spiral of "target-standard-design-organization-implementation-

diagnosis-learning-innovation-storage-improvement" as the basic means, and conducts horizontal and vertical analysis with test scores as monitoring points. The comparison will help teachers and students to reflect and improve, and take appropriate measures to improve the quality of online courses and the effect of teaching and learning.

2.3 Reduce teaching management work and improve teaching management level

Quality monitoring is a difficult point in online teaching. The school in this project, together with the platform side, jointly designs and develops a quality monitoring platform suitable for the school, automatically collects basic data, analyzes and compares the platform to form early warning and notification, and urges teachers and students to participate in improvement, which can realize real-time monitoring. and early warning to achieve whole-process management, and the teaching management department regularly checks the monitoring report.

3. Construction of Online Course Quality Monitoring System

3.1 Build an indicator system for online course quality monitoring

3.1.1 Overall framework and evaluation model of online course quality monitoring system

Online course teaching quality monitoring is crucial for monitoring course quality. Analyze the professional post groups of marine students, reconstruct the knowledge and skills of each post, and form the course content. Based on the comprehensive evaluation index system of marine majors and the evaluation system for the degree of achievement of graduation requirements, it is established from course resources, student evaluation, supervision and inspection and random lectures. "Four in one" monitoring model.

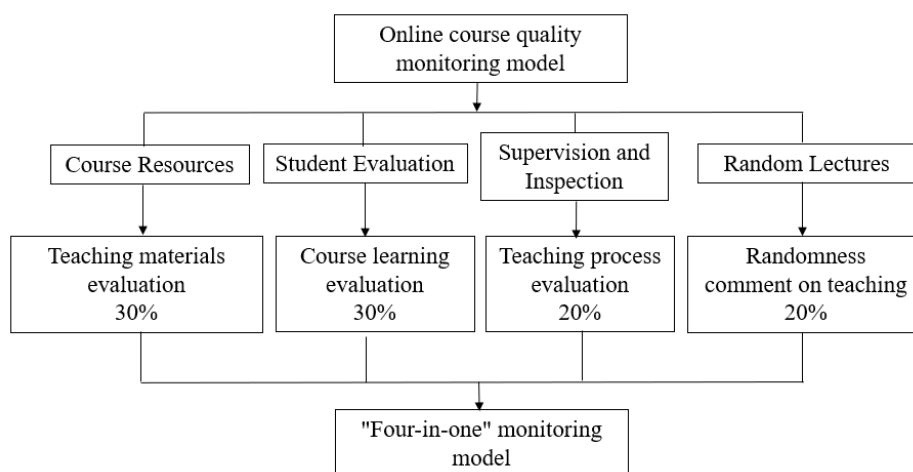


Figure 1 Evaluation model of online teaching

3.1.2 Construction of online course quality evaluation index system

Build a four-in-one teaching evaluation system to monitor the quality of course teaching. Course resources, relying on the teaching platform to carry out teaching, the evaluation of teaching assignments, tests, video viewing, attendance, etc., accounts for 30%; students evaluate teaching, and judge teachers' courses by examining indicators such as teaching design, appearance, and course goals. quality. In accordance with the platform + module curriculum system, navigation majors use questionnaires on the Star Online or the teaching platform evaluation path to evaluate the teaching of all online courses. Reviews account for 30%. Supervision and evaluation. The supervisors set up an online teaching supervision group to conduct online lectures and evaluations for the teachers, and give the corresponding evaluation results. The proportion is 20%. Random assessment. Invite college leaders, industry professionals, steering committees, academic committees and other members to attend the lectures randomly, and communicate and discuss with teachers and give evaluations, accounting for 20%.

3.1.3 Assessment methods for online teaching quality evaluation

Talent training programs are generally divided into pure theoretical courses, integrated courses of theory and practice, and practical courses. According to the "four-in-one" online course monitoring system, to evaluate the quality of online courses, students' academic performance is a very important indicator to reflect classroom teaching. Students' learning can be assessed by a combination of quantitative and qualitative methods. grades, and formulate assessment standards for different types of courses.

Pure theory courses, different courses, according to the specific teaching requirements and syllabus, set the quantitative standards for the corresponding evaluation and assessment links. Taking the course "Ship Management" as an example, the assessment ratio of the weight setting of the trading platform is shown in Table 1.

Table 1 Assessment weight table

Project	Sign in	Classroom interactive	Discuss	Operation	Test	End of period assessment
Proportion	10%	10%	10%	15%	15%	40%

Pure practical training courses can be carried out in a combination of online and offline methods. In general, the online virtual simulation experiment courses that can only be carried out during the suspension of the epidemic should monitor the teaching effect from five aspects, including 30% of the operation score, 30% of the experimental summary, 20% of the test, 10% of the interaction, 10% of the attendance, etc. link. Set corresponding scores for different links to give a total score, focusing on examining students' autonomous learning ability, theoretical analysis and innovative thinking ability.

The assessment of the integration of theory and practice is carried out according to the method of 60% theory + 40% practical training. At the same time, in the training assessment, pay close attention to the assessment of safety awareness, situation awareness and quality awareness, and emphasize the particularity of the occupation. If classes are suspended due to the epidemic, the theoretical class hours can be increased first, and the practical training classes can be appropriately carried out by referring to the online virtual simulation practice on the platform, or by using a simulation applet.

3.2 Establish a monitoring mechanism for continuous improvement of online teaching quality

3.2.1 Construct a course quality spiral improvement model

According to the zero-defect quality theory and PDCA cycle management model, a spiral improvement model of course quality monitoring is constructed. The principle of curriculum quality improvement is that teachers establish target chains and standard chains, organize and implement them, use the information platform to capture data, analyze data, and form diagnostic reports. The course diagnosis and reform is divided into 2 cycles. The first cycle is a big cycle, which occurs every three years. Teachers set curriculum goals, develop curriculum standards, design action plans, organize implementation, use information platforms to diagnose, find gaps, digest and absorb through learning innovation, and further improve, set higher and better course goals. The second cycle is a small cycle, once a year, which means that in the course of teaching, through platform monitoring and data analysis, problems are found, early warnings are issued, and practical improvements are made.

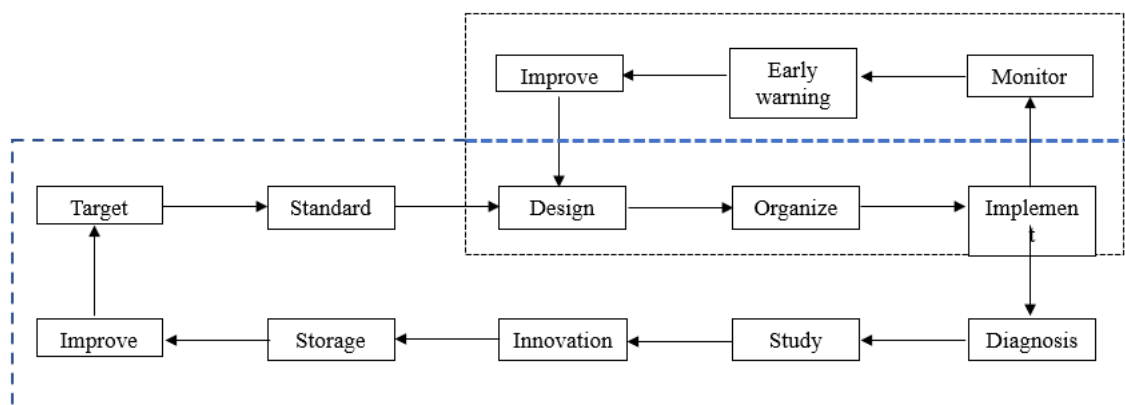


Figure 2 Course quality spiral improvement model

3.2.2 Develop an index system for curriculum self-diagnosis

According to the curriculum construction goals and construction standards, and according to the work priorities at all levels, the curriculum diagnosis and reform elements and early warning values are established respectively, and an indicator system is formed. The index system is mainly divided into three dimensions. In the dimension of curriculum construction, the self-diagnosis index system designs the objectives, content, assessment, resources, textbook development, and student absence rate of main courses; Supporting professional development and professional group post ability requirements are the main indicators; in the dimension of student development, students' learning achievement, skill and knowledge expansion, and comprehensive ability improvement are indicators to form indicators with navigation characteristics. At the same time, it is necessary to add or update new contents and new norms recognized by the International Maritime Organization in a timely manner.

3.2.3 Improve the digital information management platform for course teaching quality monitoring

To ensure real-time monitoring of the whole process of course operation, the school will develop a digital information management platform for course teaching quality monitoring and continuously optimize it. Realize common teaching platforms such as blue ink cloud classes and easy-to-point classes through technical means to realize data connection with this platform. Teachers and students upload the process teaching records, course teaching materials, etc. on the teaching platform, and the collected data enters the teaching platform and database immediately, and compares, analyzes, and monitors the collected data and standard data to realize real-time monitoring of the entire course operation process. , and display the teaching and learning situation dynamically in real time through the large screen of teaching monitoring display, and automatically send the warning items to the terminals of teachers and students, and generate real-time course teaching reports and student learning reports.

4. Guarantee measures for online course quality monitoring

4.1 Establish a monitoring system and mechanism for teaching quality

Establish a teaching quality monitoring and evaluation team composed of school leaders, academic affairs offices, supervisors, and teaching and research offices, form annual, quarterly, monthly and weekly monitoring plans, and form a four-level linkage course management model of "school-faculty-teaching-research office-teaching team". Monitor the quality of online classroom teaching to ensure the normal operation of online teaching.

4.2 Build an indicator system for online course quality monitoring

The three themes of teachers, students and courses are the main factors that affect the quality of classroom teaching. Therefore, the diagnosis of classroom teaching should also be the main body in turn. According to the school-running quality assessment standards, the college's curriculum construction plan, the talent training work evaluation index system, and the requirements of the curriculum syllabus, etc., and in combination with the "Course Construction Planning" and the "Syllabus for the Crew Examination", the diagnostic elements and standards of classroom teaching are determined, and the diagnosis of classroom quality teaching is carried out. Reform work, comprehensively analyze and diagnose, form diagnosis reports, carry out diagnosis and improvement, and adjust curriculum standards and construction plans in a timely manner.

5. Summary

In view of the outstanding problems in online course quality monitoring, this paper analyzes the relevant research on the online course quality monitoring system, develops a "four-in-one" monitoring model, proposes an online course quality monitoring index system, and establishes a continuous online teaching quality. Improve the operation mechanism, and establish an online course quality evaluation system based on this, build a course quality spiral improvement model, improve the digital information management platform for course teaching quality monitoring, comprehensively monitor the online course teaching quality, and improve the teaching effect.

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