On-line Teaching Quality Monitoring and Evaluation System of Design Major in Colleges and Universities in "three Stages+three Dimensions"

Jiangyue Han[1*], Juanjuan Ning[2]

{89397977@qq.com[1*], 515534361@163.com[2]}

Chengdu Vocational University of the Arts, Chengdu, Sichuan, 611433, China

Abstract. With the deepening of "network+education", the requirements of social development for students' individualized learning are constantly improving, and network teaching has become the focus of many universities. In order to ensure the teaching quality of online teaching for design majors in colleges and universities, the online teaching quality monitoring and evaluation system was established from three aspects: the pre-preparation stage, the mid-presentation stage and the post-feedback stage, and it was applied to the online teaching process. The research results show that the quality monitoring and evaluation system of online education for college design majors based on "three segments+three dimensions" can effectively improve the quality of online education.

Keywords: Online teaching; Quality control; Evaluation system; Design major.

1 Introduction

With the rapid progress of science and technology and the increasing improvement of information technology and network infrastructure, the integration of the Internet and education has become a powerful force in the field of education [1]. With its unique advantages, network education has gradually been widely recognized and applied. Online education breaks the time and space limitation of traditional education, so that learning is no longer bound by place and time. Students can access the Internet anytime and anywhere, and participate in online courses, discussions and interactions, greatly improving the flexibility and autonomy of learning [2]. At the same time, online education can also effectively expand the audience scope of education, so that more people have the opportunity to have access to high-quality educational resources. In university education, network education is particularly widely used. College education pays more attention to cultivating students' independent thinking and innovation ability, and online education just provides such a platform. Students can choose suitable courses and learning methods according to their own interests and needs to realize personalized learning.

2 Principles of network education supervision and evaluation system

Online education is an important part of higher education. Therefore, the main body of online teaching evaluation should be the "three dimensions" of educational administrators, teachers (professional teachers, peers outside the school) and students, as well as the "three stages" of students 'evaluation of teachers' classroom preparation stage, the middle stage of classroom presentation stage and the later stage of classroom feedback stage [3]. Diversified evaluation subject is the key factor to ensure the objectivity and rationality of educational evaluation. In the early stages of online teaching, teachers play a crucial role. They should not only design and prepare a rich variety of teaching resources, but also pay attention to whether these resources can effectively convey knowledge and stimulate students' interest in learning. In the middle stage, the main task of teachers is to teach online with the help of the network, which focuses on the evaluation of teachers' proficiency in the teaching platform, whether the teaching methods are reasonable, and whether the teaching objectives are achieved. In the later stage, the main task of teachers is to answer students 'doubts and release new tasks [4]. This link focuses on evaluating whether teachers' questions are timely, whether the homework and after-class tests are effective, and whether the teaching reflection is reasonable. Online teaching evaluation is one of the important means to measure the quality of online teaching. The purpose is to guide teachers to actively participate in online teaching research and practice, strengthen the application of online teaching information technology means, take students as the center, pay attention to the learning effect of students in the online teaching process, and constantly improve the teaching quality of online teaching [5].

3 The implementation of the education quality monitoring and evaluation system

As an important form of modern education, the process of network education has obvious stage characteristics. According to the characteristics of online education, we can divide it into pre-preparation stage, mid-stage display stage and post-feedback stage [6]. In the pre-preparation stage, students need to be familiar with the network environment, master the necessary technical operations, and make full preparation for the following study. In the mid-stage exhibition stage, students show their learning results through the network platform, and interact with teachers and students to further deepen their understanding of knowledge. The post-feedback stage is to summarize and reflect on the learning effect to provide guidance for the next stage of learning. The evaluator of network teaching is undoubtedly the key link to ensure the quality of teaching. Managers, teachers and students of online teaching together constitute the "three dimensions" of online teaching. They play an important role in the evaluation process and jointly promote the continuous improvement of online education. When designing the evaluation indicators, we should fully consider the characteristics of network education [7]. The first evaluation index, namely the learning effect, is an important standard to measure the students' learning results. It includes the mastery of knowledge, the ability to use skills and the improvement of comprehensive quality. The second evaluation index covers the two levels of learning task and learning effect. Whether the design of learning task is reasonable, whether it can effectively guide students to conduct in-depth study; whether the learning effect is significant and reflects the learning progress are important

aspects that assessors need to pay attention to. Detailed evaluation criteria are shown in Table 1 below.

Table 1. Evaluation Index Table of Preparatory Stage.

Teaching stage	Evaluation subject	Primary index	Secondary index	explain
Preparatory stage	Teaching management personnel (teaching management personneland supervisors of schools, academicaffairs offices and secondary colleges)	learning materials	Learning tasklist	Express clearly
			Teaching video	Explainitin place and make it well.
			Teaching	Clear content
			Self-test questions	Mode rate size and difficulty
			Scheduled plan	Scientific and reasonable
		Teaching plan	Teaching objectives	Knowledgegoal,ability goal and quality goal (including ideological and political goal)
			Teaching plan	Emphasis and difficulty are prominent, and the process design is reasonable
	Teachers (on-campus professional teachers, off-campuspeers)	Teaching design	Teaching resource	Rich, complete, high quality, can reflect the professional characteristics.
			Teaching organization	Reasonable teaching or ganization
			Differentiated design	Learning resources meet students' different needs
	Student	Learning effect	Learning tasks	The goalisclear and easy to understand.

In an online teaching environment, student learning effectiveness is a key indicator in evaluating their learning outcomes. Among them, learning experience and teaching behavior should be placed in the first place [8]. Learning experience refers to the perception, experience and gain of students in the process of online learning, which is directly related to students' understanding and mastery of knowledge. The teaching behavior refers to the performance of teachers in the online teaching process, and its quality and effectiveness directly affect the learning effect of students. In addition to learning experience and teaching behavior, learning outcomes, ability improvement, teacher-student interaction and teaching norms are also important evaluation indicators. Learning results are the specific achievements and progress that students make through online learning, while the improvement of their ability is reflected in the growth of students' knowledge, skills and other aspects. Detailed evaluation criteria are shown in Table 2 below.

Table 2. Evaluation Index of Mid-term Presentation Stage.

Teaching stage	Evaluation subject	Primary index	Secondary index	explain
Preparatory stage	Teaching management personnel (teaching management	Teaching material	Learning tasklist	Proficiency of teaching platform and use of information-based teaching

Evaluation subject	Primary index	Secondary index	explain
personnel and supervisors of schools, academicaffairs offices and secondary colleges)			tools
		Teaching video	The process conforms to students' cognition, and the important and difficult point sareh and ledproperly.
	Teaching plan	Teaching courseware	Teaching methods are flexible and diverse.
		Self-viewing topic	Effective interaction between teachers and students.
Teachers (on-campus professional teachers, off-campus peers)	Teaching design	teaching resource	Students actively and effectively participatein on line teaching activities.

When evaluating students, teachers should comprehensively consider students' after-class answers, personalized consultation, homework correction and learning effect and other aspects. The teacher-student interaction and learning effect should be taken as the primary evaluation index, which can not only reflect the participation and understanding of students in the classroom, but also reflect the teaching effect of teachers. At the same time, after-class answers and personalized consultation, as important supplementary evaluation indicators, can help students solve their doubts and deepen their understanding of knowledge. Homework correction can help students to correct their mistakes in time and consolidate their knowledge. Finally, the evaluation of the learning effect (knowledge and skills) can intuitively show the improvement of students in knowledge and skills, and provide strong feedback for teachers' teaching. Detailed evaluation indexes are listed in Table 3.

Table 3. Evaluation Index Table of Late Feedback Stage.

Teaching stage	Evaluation subject	Primary index	Secondary index	explain
Late feedback stage	Teaching administrators (teaching administrators and supervisors of schools, academicaffairs offices and secondary colleges)	After-school task	Homework after class	Proper operation
			After-school test	Appropriate test
		Achievement degree of teaching objectives	Learning tasks	The completion of students learning tasks
			Teaching objectives	Achieve the predetermined teaching objectives
		Filing of teaching materials	Learning process record	The rearetraces in the learning process.
	Teachers (on-campus professional teachers, off-campus peers)	Teacher-student interaction	Teaching material	Teaching materials are complete
			Online communication counseling	Smooth communication and timely communication.

4 Building the online teaching quality monitoring and evaluation system

Establish a full-staff participation mechanism. To ensure the quality of online teaching, we need to build a diversified quality monitoring and evaluation team. The team covers school leaders, office and teacher development center administrators, leaders and supervisors of secondary school teaching units, professional research teachers, external peers, and students. They work together and focus on the quality and effectiveness of online teaching from all dimensions. This diversified evaluation mode helps us to comprehensively and objectively evaluate the quality of online teaching, and to find out the existing problems and deficiencies in time, so as to make targeted improvements.

Establish a full-staff participation mechanism. Form a diversified online teaching work quality monitoring and evaluation team, school leaders, office and teacher development center leadership and management personnel, secondary teaching unit leadership and supervision, professional teaching and research section teachers, outside peer participation, students, inside and outside, form a top-down focus on the atmosphere of online teaching quality. Different evaluators pay attention to different aspects of online teaching and cooperate with each other to conduct a comprehensive evaluation of the quality of online teaching in the interactive communication.

Establish a full-staff participation mechanism. Form a diversified online teaching work quality monitoring and evaluation team, school leaders, office and teacher development center leadership and management personnel, secondary teaching unit leadership and supervision, professional teaching and research section teachers, outside peer participation, students, inside and outside, form a top-down focus on the atmosphere of online teaching quality. Different evaluators pay attention to different aspects of online teaching and cooperate with each other to conduct a comprehensive evaluation of the quality of online teaching in the interactive communication.

5 Conclusion

According to the three development levels of online education, the quality monitoring and evaluation system of online education in three development levels of online education is established. Through the practice of online education, students' enthusiasm for online education has been greatly improved, and their autonomous learning ability has also been greatly improved. In the nationwide online education, the students' level through online education is higher than the national average, and they have always maintained excellent results in the city-wide online education. Through the experimental verification, the online education quality monitoring and evaluation system based on "three segments+three dimensions" established in this paper can effectively improve the quality of online education.

References

[1] Yu Jiantong. Research on online teaching design and implementation based on effective teaching concept [J]. Journal of Hunan Vocational College of Posts and Telecommunications, 2020 (3): 98-100,107.

[2] Huang Wenxiang, Li Yadong, Zhang Xisheng. The quality status, evaluation and suggestions of online teaching in undergraduate colleges and universities in China [J]. China Higher Education, 2020(8):21-24.

[3] Lu Chunli. Analysis of the problems and improvement factors of online teaching quality evaluation in colleges and universities [J]. Journal of shijiazhuang tiedao university (Social Science Edition), 2021(1):98-104.

[4] Itani, M., Itani, M., Kaddoura, S., & Al Husseiny, F. (2022). The impact of the Covid-19 pandemic on on-line examination: challenges and opportunities. Global Journal of Engineering Education, 24(2), 105-120.

[5] Cui Yiran, Han Xibin, Zhou Qian. The effectiveness, problems and suggestions of online course teaching quality evaluation during epidemic prevention in vocational colleges [J]. Education and occupation, 2021(2):88-94.

[6] Lutfiani, N., & Meria, L. (2022). Utilization of big data in educational technology research. International Transactions on Education Technology, 1(1), 73-83.

[7] Xue Ning, Yang Xiaodong. Construction and practice of online teaching quality evaluation index system in higher vocational colleges [J]. Exploration of higher vocational education, 2021(2):75-80.

[8]Patael, S., Shamir, J., Soffer, T., Livne, E., Fogel-Grinvald, H., & Kishon-Rabin, L. (2022). Remote proctoring: Lessons learned from the COVID-19 pandemic effect on the large scale on-line assessment at Tel Aviv University. Journal of Computer Assisted Learning, 38(6), 1554-1573.