

Research on Strengthening the Quality Management of Online Teaching in Universities

Junhong Chang*

SIAS University of Zhengzhou, China.

* Corresponding author. Email: siascjh@126.com

Manuscript submitted July 1, 2020; accepted October 5, 2020.

doi: 10.17706/ijeeee.2021.11.4.151-158

Abstract: Online teaching is a virtual teaching mode developed with the help of modern information technology, which is widely used in colleges and universities. Online teaching has the advantage of learning across time and space, but it also brings problems such as ineffective classroom management and poor learning effect. To improve the existing problems in the current situation, we need to do a good job in teaching preparation, strict management of teaching and learning process, timely feedback and improvement of the existing problems. Students, teachers, and organizations need to join efforts to improve the quality of teaching.

Key words: Online teaching, education, management.

1. Overview of Online College Classroom Teaching

Online teaching is a way of course teaching on the virtual platform with the help of modern information technology. Modern practical use is mainly the use of Internet technology, through mobile phones or computers and other equipment, by teachers remote online live or recorded, remote teaching to students teaching activities [1].

Online teaching has broken many educational barriers in the traditional teaching mode and improved the deficiencies in traditional education to some extent. Mainly reflected in the following aspects:

1.1. Make Learning Break down the Time and Space Limit

In the traditional teaching, teachers and students need to complete the teaching and learning activities in the prescribed time and place. However, in online teaching, students can choose to learn according to their own environment, which greatly improves the efficiency of learning. In addition, because online courses generally form replay videos, it is also convenient for students to review after class, which truly realizes that students can study anytime and anywhere without being limited by time and space.

1.2. Get More Learning Resources

Online education mode, the teacher will take learning materials uploaded to the Internet, network education platform provides more information resources sharing, through the resources of the upload form a cloud database, not only can greatly reduce the cost of learning resources, but also can store abundant education resources, maximize resource sharing do, students can gain a more comprehensive learning resources, can according to your need to choose the appropriate learning materials.

1.3. Enrich the Content of Teaching Design

The classroom design of traditional education is limited by the physical environment, while online education is presented to students through the Internet in the form of mobile devices. Teachers can conduct online education through video, audio and file. The online education platform can also help students learn by making exquisite PPT and video animations, so as to enhance their interest in learning and improve their enthusiasm for learning.

Compared with students at other stages of education, college students have stronger willingness to study independently and more time to be allocated independently. Online teaching has more advantages than students at other stages. Online education can provide college students with more equal learning resources, enabling them to learn under the same network resources, acquire new knowledge and skills, and improve their professional level in a more targeted way. Therefore, college students are more likely to adapt to the online teaching mode.

2. Current Situation of Online Classroom Teaching in University

With the development of the Internet, distance education has become more and more web-based online teaching mode. According to a research report of Ambient Insight in the US, the number of students involved in online learning in the US has increased rapidly from 44% in 2009 to 81% in 2018, and surpassed the number of offline students for the first time in 2018 [2].

In 2020, due to the novel Coronavirus epidemic, the vast majority of global education will be online. On 10 March 2020, UNESCO released data on its website that the COVID-19 epidemic has affected nearly 363 million students worldwide, including 57.8 million students in higher education, from pre-school to higher education. Universities around the world have implemented online classes. In February 2020, the Ministry of Education of China put forward in the Guidance on The Organization and Management of Online Education in Ordinary Institutions of Higher learning during the Epidemic prevention and Control period the requirements of "teaching without stopping, teaching without stopping" and "ensuring the homogeneity of online and offline". Under this guidance, all kinds of colleges and universities in China have unified online teaching before students return to school in the spring semester of 2020, so as to ensure the normal operation of teaching.

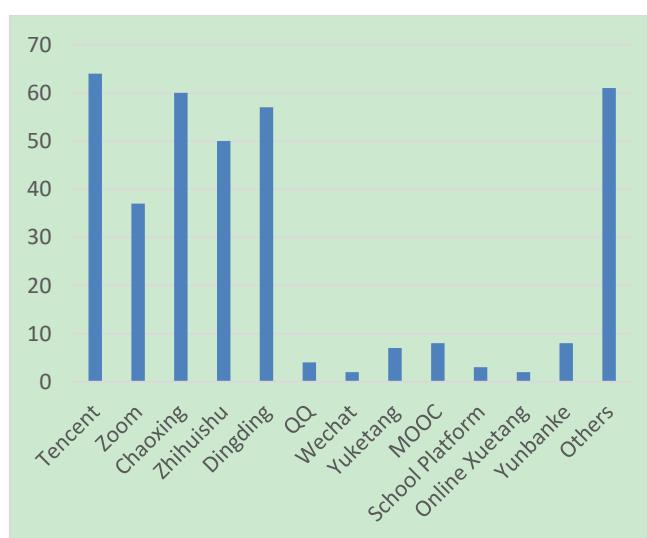


Fig. 1. The number of universities using each teaching platform [3].

According to public data, in 2019, China had a total of 40.2 million people studying in various types of

higher education, and there were 2,688 institutions of higher learning (including 257 independent colleges). As of June 30, 2020, there are 3,005 institutions of higher learning in China. Among them, there are 2,740 institutions of higher learning. As the number of colleges and universities increases, the audience scope of online teaching expands.

At present, online teaching in colleges and universities mainly takes advantage of online MOOCs and high-quality online course teaching resources at all levels to carry out online teaching activities by relying on various online course platforms at all levels and online learning Spaces within the university.

Most colleges and universities choose one or two online teaching platforms for online teaching, and many have built their own platforms according to their actual conditions and needs. The platform has the functions of homework, test, examination, interaction, attendance, statistics, etc., and the teachers give lectures live and recorded. The teaching forms include network broadcast, online course teaching, recorded video teaching, mixed teaching, etc. The teaching resources mainly include PPT, teaching video, audio and electronic materials, etc.

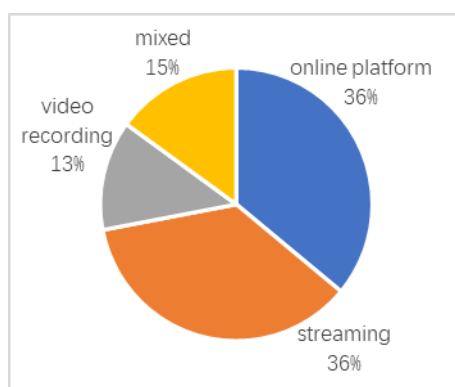


Fig. 2. Proportion of online teaching forms (source: Online teaching status and quality analysis report of National Colleges and Universities -- a comprehensive survey report from 86 colleges and universities).

3. Performance and Analysis of Online Teaching Problems

Online teaching has solved the problem that teaching cannot be concentrated in a special period. However, due to the outbreak of the epidemic, online teaching has been implemented in a hurry, and many colleges and universities have insufficient teaching preparation, leading to some problems.

In the process of teaching implementation, the main manifestations are as follows: the hardware cannot support the operating environment; the network is not smooth, which leads to the failure of the online classroom; teachers are unable to skillfully use the online platform, have limited use of teaching functions, and are still accustomed to one-way teaching in teaching form with insufficient interaction. Students' self-restraint ability is poor; attention is not concentrated in the course of class, there are explicit, invisible truancy phenomenon.

In terms of teaching effect testing, the assessment method is backward, which cannot fully test the learning effect of students. Assigned homework cannot be submitted and completed on time, and there are obvious perfunctory and plagiarizing. Teachers cannot timely find problems and make adjustments through students' homework [4].

To summarize the current quality problems of online teaching, the main problems are that the innovation of teaching mode cannot be integrated with the concentration of information, and there is still a lack of mature operation methods in teaching quality management.

3.1. Poor Communication in the Virtual Environment

Virtual communication is called "communication without temperature". Compared with face-to-face communication, the communication between teachers and students in online teaching is more one-way and rapid, and students' understanding of knowledge is limited by the communication environment. Even if there is interaction, students cannot fully follow the teacher's teaching schedule, and the teacher cannot timely and fully understand the students' learning situation. In addition, the current in-depth integration of educational technology and teaching is still very limited, and educational technology has not promoted the fundamental change of teaching mode. In the classroom teaching of colleges and universities, there is little interaction between teachers and students, and classroom silence is still a shortcoming of classroom teaching in colleges and universities in China [5]. This is bound to affect the stability and improvement of online teaching quality.

There are more abundant and high-quality learning resources in online education and teaching. The "massive" resources provide the opportunity to freely choose learning content and learning time, which is conducive to improving the pertinence and effectiveness of learning, so as to realize the fundamental significance of individual learning and independent learning [6]. However, although online information resources are rich, they also lead to information overload. Teachers and students are trapped in the dilemma of information selection, which hinders the effectiveness of information use.

3.2. Poor Management of Online Teaching Quality

Online teaching is different from offline teaching, teaching quality supervision cannot be carried out according to offline methods. How teachers supervise students' learning status and effect, and how schools supervise teachers' attending classes need to introduce new quality management methods. Online education has higher requirements on students' autonomous learning ability. If students have poor self-control, the teaching quality cannot be guaranteed in the absence of supervision. According to the survey, the main problem of online education during the epidemic is that students cannot get targeted study guidance, and some students cope with online courses. It is common for students to skip classes and skip classes [7]. Similarly, the lack of effective supervision by teachers makes it more difficult to ensure the quality of teaching. Some teachers only let students watch the recorded videos without monitoring their learning process. They also do not carefully review students' homework and turn a blind eye to students' plagiarism. In order to promote the normalization of online education smoothly and improve the teaching quality, such phenomenon must be put an end to, and the lack of supervision of online education must be solved.

4. Suggestions on Strengthening the Quality Management of Online Education

From the perspective of management function, control function is an important function throughout the whole process of management. In teaching, curriculum is the core element of talent cultivation. The courses are the most direct, central, and effective ones that students benefit from in college [8]. Improving classroom teaching quality is an important part of school teaching quality management.

4.1. Prepare Well for Online Teaching

First, adequate hardware support should be invested to build a perfect online teaching environment. Schools can equip teachers with necessary online teaching equipment to provide adequate support for recording and broadcasting classes. If the teaching conditions are not available, teachers will not be able to focus effectively on the expression of knowledge points in the online courseware because the online learning is greatly affected by the environment in class [9]. The stability of the online live teaching platform and the convenience of installation and use will have an impact on the class teachers, students' experience

in class and teachers' teaching effect.

Second, the information system of online teaching platform should be optimized. Direct purchase and use of the teaching platform provided by the developer cannot fully meet the teaching needs, ready-made online platform is generally designed for the needs of the public students. When choosing an online teaching platform, in order to reflect the characteristics of teaching, the school can choose a suitable platform development partner if conditions permit. It adopts the way of combining self-construction and quotation to build rich teaching resources in line with the teaching situation [10]. On the basis of in-depth research and the actual needs of teachers and students, the developers of the platform prudently add the existing functions of the teaching platform to meet the needs of all kinds of teachers and students [11].

Third, strengthen the online education technology training for teachers. Whether online teaching or offline teaching, teacher quality is a key factor affecting the quality of teaching [12]. As online teaching is a rapidly emerging teaching mode in recent years, many teachers, especially some older teachers, are not familiar with the use of online platforms, so it is necessary to do a good job in training teachers on the application of online platforms. In addition to the training organized by educational technical departments at the school level, various academic colleges should also carry out corresponding training, so as to facilitate the teaching design and organization according to the characteristics of specialized courses.

Next, we should train teachers in their moral qualities. No matter how innovative the form is, improving the quality of talent training needs the strong support of high-quality classroom teaching. This support is not only reflected in the need to complete the systematic teaching of subject knowledge, but also reflected in the training and improvement of students' thinking quality and professional ability [13]. Teachers should take online teaching as a new thing seriously, and should not be lax about teaching because of the distance of online teaching. Instead, they should study the functions of the teaching platform carefully, design the teaching process carefully, keep the continuous interaction with students, prepare every class carefully, make every class well and manage every class well. In teaching, students should not only master the knowledge, but also pay attention to the improvement of their basic qualities and comprehensive abilities.

Finally, for colleges and universities, the traditional teaching quality monitoring and evaluation system is no longer suitable for online teaching under the current epidemic prevention and control background, and colleges and universities urgently need to establish a set of scientific, systematic and effective online teaching quality monitoring and evaluation system [14]. The establishment of the current online course quality system still takes offline classroom as the object of consideration and faces many problems. For example, there is a serious lack of online assessment of teachers' ability and business, and the assessment projects mainly focus on offline functions. Secondly, there are fewer monitoring and investigation points for online teaching process, and too much focus on classroom visits, visit duration and participation activity. The form of online examination is simple, while complex examination is not easy to be implemented.

Based on this, a three-level network teaching quality organization guarantee and control system should be established based on grassroots teaching units, with professional colleges (departments) and various functional departments as the main body and schools as the leading part. According to the characteristics of online teaching, the quality supervision and evaluation index system should be established to increase the monitoring point evaluation of teachers using the online platform function and the monitoring and evaluation of teachers' classroom management, so as to improve the evaluation index system of teachers' teaching from multiple dimensions. Actively carry out classroom monitoring activities such as teacher evaluation, student evaluation, teacher evaluation, student evaluation, student evaluation, supervision and class evaluation, and integrate various monitoring indicators into the functional modules of the teaching platform, so as to timely control the classroom situation through platform statistics.

4.2. Strict Teaching Process Management

Online classroom teaching should be carried out under constraints and supervision, and it should not be turned into a "hollow classroom" [15]. Compared with offline teaching, the process control of online teaching is difficult because online teaching teachers cannot implement on-site guidance and answer questions.

For the management of students' classroom learning, online Internet technology and network platform can be used to supervise and inspect students' daily learning status [16]. The supervisors are mainly teachers. In the teaching process, teachers should strengthen the classroom interaction with students, reasonably arrange questions and discussion links, assignments and tests can be based on enriching the number of questions in the database, mainly to be randomly distributed and completed within a limited time, if feasible, require students to hand in handwritten homework. For classroom evaluation, teachers should timely record, maintain dynamic monitoring, the results into the total score accounting. Due to the limitations of recorded and broadcast classes, it is suggested that live broadcast is preferred according to the specific situation of the course.

The teaching supervision of teachers is mainly based on the supervision of students and class evaluation. The supervision of class attendance is accidental and cannot continuously monitor the working status of teachers. Therefore, it can actively carry out peer evaluation of class attendance and effectively promote the improvement of classroom teaching quality. In addition, it can be carried out through the evaluation of students. Teachers are the leaders and organizers of students' learning, and students are the masters of the classroom. The teaching effect is reflected through the evaluation of students. Students' evaluation can be timely counted through the platform function, such as teachers' class time, teaching content, teaching design, learning effect evaluation, etc., so as to promote the improvement of teachers' teaching.

In order to achieve the goal, supervision, peer listening and student evaluation should be carried out conscientiously, instead of being merely formal and perfunctory. Problems should be found in a timely manner, and timely feedback and solution should be made.

4.3. Timely Feedback for Improvement

It is necessary to regularly evaluate the online teaching quality standard indicators completed by each teaching unit and accurately evaluate the teaching status of each unit. For active and effective teaching methods, learning can be popularized. To the problem that appears, urge improvement. To guide all units to actively invest in teaching reform and research to ensure the continuous improvement of teaching quality. If it is a technical service problem, the platform should be urged to help solve the problems in the course of teaching in a timely manner, implement remote control to help install, guide the use, etc., and implement real-time services to ensure network security and stable operation. In terms of teaching, if it is the reason that the teachers are not proficient in using online technology, it is necessary to increase information technology training; if it is the problem of teaching organization design, it is necessary to organize teaching and research activities to solve it; meanwhile, it is necessary to organize teachers to actively carry out online teaching communication, and timely communicate their experiences and problems in teaching. If students encounter difficulties in learning, timely feedback information with students to help students overcome learning disabilities.

4.4. Guides the Student to Establish the Correct Study View

Online learning is a teaching innovation brought by the information age, which can expand students' knowledge horizon and meet their more learning needs. Now the network has covered the vast majority of the world, the use of mobile electronics has penetrated into all aspects of people's lives, online teaching in the technical level does not have a big problem. It's just that some college students don't cooperate well in cognition and action. Some college students are still confined to the offline classroom learning mode in

thinking and cannot adapt to the virtual learning environment. At the end of online teaching, the consciousness of independent learning after class is not strong, not good at active learning. Lead to the learning effect wasted effort.

In addition, some students have erroneous ideas about college learning. Their learning goals are too low. They turn "independent learning" into "free learning".

In view of these phenomena, schools need to conduct ideological education for students, guide them to establish correct view of learning, set lofty goals, and cherish the university time. College students, as adults, are generally capable of autonomous learning and should learn to recognize the talent requirements of the information age and master innovative skills.

In addition, to enhance the integrity awareness and credit level of the whole society, colleges and universities have an inescapable responsibility in the cultivation, education and management of students' integrity quality [17]. It may be considered to incorporate the students' classroom performance into the credit evaluation mechanism of college students. According to the results of the classroom learning honesty evaluation of college students, it is linked to the daily rewards and punishments of students, which can be used as the basis for students to evaluate awards, recruit student cadres, apply for student loans, comprehensive evaluation, and recommend students for further study and employment [18].

Online teaching is the inevitable result of the development of information age, which challenges the traditional teaching. However, due to the lack of on-site communication, online teaching cannot completely replace offline teaching. How to overcome the obstacles and improve the quality of online teaching is the direction that many colleges and universities are constantly trying to explore in practice. With the progress of technology and the renewal of people's ideas, teachers and students should also keep up with the progress of The Times, learn to adapt to online teaching mode, and make full use of its advantages, enrich knowledge reserve and improve learning ability under the guidance of teaching quality supervision mechanism at all levels.

Conflict of Interest

The author declares no conflict of interest.

Author Contributions

This paper has only one author.

Acknowledgment

No sponsor and financial support acknowledgments.

References

- [1] Li, R. (2020). Research on problems and countermeasures of online course teaching in colleges and universities. *Education Modernization*, 7(43), 126-128.
- [2] Luo, R. G., & Song, Q. (2016). Retrospection and Inspiration of overseas teachers' online Teaching research. *Foreign Primary and Secondary Education*, (11), 54-58+45.
- [3] Huang, W. X., Li Y. D., & Zhang, X. S. (2020). Quality Status, Evaluation and Suggestions of online teaching in Chinese universities. *China Higher Education*, (08), 21-24.
- [4] Zhao, L, Jia, X. F., Wang, T. X., *et al.* Problems and Countermeasures in offline teaching of COVID-19' (Written). School of Education Sciences, Yangzhou University.
- [5] Xue, C. L., & Guo, Y. X. (2020). Transformation and countermeasures of online teaching reform in universities. *Journal of East China Normal University (Education Science Edition)*, 38(07), 65-74.

- [6] Zhe, X., & Sun, Z. P. (2020). Based on the major epidemic situation of online education in colleges and universities to explore. China's Global Culture Publishing House, Chinese Education Innovation Culture Media (Beijing) co., LTD. South China Expo 2020 Academic Symposium on (2) (pp. 813-817).
- [7] Ye, H. Research on the new normal of education mode in the post-epidemic Era' [N]. *Shaoguan Daily*. Medical College of Shaoguan University.
- [8] Yue, C. Y., & Xu, R. H. (2020). Effects, problems and deepening of online teaching in colleges and universities. *Research on Education Development*, 40(11), 18-24.
- [9] Fang, L. (2018). On the current situation, problems and embedding path of online teaching in colleges and universities. *Market Research*, (12), 15-17.
- [10] Qu, W. J., & Huo, Y. F. (2020). Countermeasures and Suggestions for improving the quality of online education and teaching. *Journal of urumqi vocational university*, 29(01), 43-45+56.
- [11] Zhang, P. S., Lu, H. F., Xu, H. J. (2020). Management and normative strategy of online teaching in universities in the special period of epidemic prevention. *China Geological Education*, 29(02), 54-57.
- [12] Xu, T. (2020). Research on the basic framework of online teaching quality evaluation of university writing course. *Journal of Mudanjiang University*, 29(08), 89-93.
- [13] Gong, Q. H. (2020). Methods and paths to improve the quality of online teaching in colleges and universities. *Higher Education in China*, (07), 4-6.
- [14] Wang, G. H., Zhuo, Z. P. & Zhou, G. H. (2020). Construction of offline teaching quality monitoring and evaluation system under the background of big data. *Journal of Huaibei Normal University (Philosophy and Social Science Edition)*, 41(03), 107-111.
- [15] Zhang, P. S., Lu, H. F., & Xu, H. J. (2020). Management and normative strategy of online teaching in universities in the special period of epidemic prevention. *China Geological Education*, 29(02), 54-57.
- [16] Sun, J. P. (2020). Research on mixed Teaching Mode in Universities in the era of Internet +. *Heilongjiang Science*, 11(13), 106-107.
- [17] He, M. (2019). Research on the construction and application of college student credit evaluation system. *Reform and Opening*, (19), 116-119.
- [18] Ding, M. (2016). Discussion on the long-term mechanism construction of integrity education from the perspective of student management. *Journal of Nanning Vocational and Technical College*, 21(05), 69-71.

Copyright © 2021 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).



Junhong Chang is associate professor at SIAS University of Zhengzhou, has over 20 years of teaching and working experience, research focused in management and organizational behavior, hosted multiple research projects, over 20 publications including “research on work stress of modern professional women”, “employment trend of college students — Based on ERG perspective”