

The Effect of Improving Online Teaching Quality on Alleviating Students' Psychological Anxiety During the Epidemic

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Abstract: The spread of COVID-19, a public health emergency, not only causes huge losses to the society, but also has many adverse effects on people's physical and mental health, such as panic, anxiety, anxiety and other psychological problems. These effects have also spread to higher education. The emergence and continuous development of the new coronavirus pneumonia has had a huge impact on university teaching. In response to "suspend classes without stopping learning", colleges and universities have adopted online teaching methods. The impact of the epidemic on students' psychology has greatly influenced the online teaching effect in colleges and universities. This paper aims to research how the psychological changes of college students during the epidemic influence the effect of online teaching. This paper choose some colleges and universities in Anhui Province as the research object, conducts a questionnaire survey on college students' satisfaction with online teaching under the background of the epidemic. The students surveyed include junior college students, undergraduates and professional full-time postgraduates and academic full-time postgraduates. We summarizes, organizes, and compares the questionnaire data and then according to the data analyzes the effect of psychological changes on teaching satisfaction. Long-term home isolation and closed management have caused negative psychological changes in students. Their psychological changes are mainly reflected in: panic, the spread of anxiety, and the significant increase in the prevalence of depression. Such internal psychological changes will be subtly reflected in external behaviors, making online teaching less effective, and ultimately leading to low satisfaction with online teaching. The survey results show that both college students and graduate students generally have low satisfaction with online teaching during the epidemic. Students are dissatisfied with online teaching mode, communication mode and teaching facilities to varying degrees. The learning environment and learning methods of college students has great changes during the epidemic. That leads to college students have psychological anxiety, fear and even depression symptoms. This paper finds that the students in negative psychological state will reduce the quality and effect of online teaching. In response to such phenomena, this paper proposes four optimization paths and suggestions for raising the quality of online teaching in colleges and universities. We should form joint efforts between schools and families and building an all-round education system, improve the hardware and software facilities to form a sound and mature teaching pattern, improve the level of teachers and strengthen the whole process of the teaching

system, and strengthen mental health education and create a positive atmosphere to improve education satisfaction in colleges and universities.

1. Introduction

The COVID-19 outbreak in 2020 changed people's lives and the model of higher education. To ensure the orderly development of teaching work in colleges and universities, the Ministry of Education of China has proposed that "classes will not stop teaching, classes will not stop learning"^[1]. In response to this instruction, various regions have successively opened the online teaching mode, creating a good opportunity to further promote the dual-line mixed teaching. It makes people re-examine the function and value of online teaching^[2]. At the same time, the condition that people cannot freely flow during the epidemic period is well improved, so that students can smoothly guarantee their learning progress at home. With the rapid development of online instruction, ensuring both epidemic prevention and control and teaching quality is an urgent problem for online teaching. How to further improve the quality of online teaching is an essential topic of the education teaching research. This paper analyses the present situation of online education implementation by the survey data of some universities in Anhui province on online teaching satisfaction research in the path of ascension, analysis the effective ways to promote online education satisfaction, and explore the new mode of "two-line mixed teaching"^[3]. We explore new opportunities for the development of higher education, and provide helpful thinking and reference for the higher quality development of online teaching.

2. The status of online teaching in colleges and universities of China

The author took some colleges and universities in Anhui Province as the research object, including junior college students, undergraduates and full-time postgraduates (professional and academic), and conducted a questionnaire survey of online teaching in colleges and universities. 942 valid questionnaires were collected, including 223 junior college students, 380 undergraduates and 339 postgraduates. The Questionnaire options include the basic information of the participants in the questionnaire (gender, identity, grade, area, etc.), evaluation of online teaching platform, the online teaching satisfaction, the results are as follows:

2.1 Students' favorite online teaching methods

According to the survey data in Figure 1, it is not difficult to find that 43.74% students prefer the online teaching mode of "live broadcast + recording", 210 students prefer "live broadcast", and even fewer students prefer "recording". According to the results of the systematic analysis, it is evident that students choose the hybrid online teaching mode rather than the single online teaching mode.


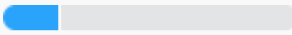

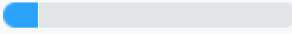
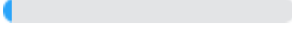
Options	Subtotal	The proportion
Live	210	 22.29%
Record	180	 19.11%
Live broadcast + recording	412	 43.74%
Learning Resource Pack	113	 12%
Other	27	 2.87%
Valid number of entries in this topic	942	

Figure 1 Favorite online teaching method

2.2 Students' evaluation on the functions of the teaching platform

Combined with students' online learning needs, the questionnaire mainly covers four aspects: operation convenience of the teaching platform, interface beauty, audio and video effects, and teacher-student interaction convenience. As shown in Table 1, 41.72% of the students are generally satisfied with the operation convenience of the platform, and 38% are happy with it. Online teaching platforms in other aspects of the survey results mainly focus on "general" and "satisfied" these two dimensions, teaching platform as hardware need be improved.

Table 1. Evaluation of the functionality of the teaching platform in use

Topic\Option	Very Dissatisfied	Not Satisfied	Generally	Satisfied	Very Satisfied
Ease of operation	35(3.72%)	20(2.12%)	393(41.72%)	358(38%)	136(14.44%)
Interface aesthetics	37(3.93%)	18(1.91%)	425(45.12%)	329(34.93%)	133(14.12%)
Sound and video effects	31(3.29%)	35(3.72%)	384(40.76%)	364(38.64%)	128(13.59%)
Convenience of teacher-student interaction	34(3.61%)	40(4.25%)	370(39.28%)	374(39.7%)	124(13.16%)
Valid number of entries in this topic	942				

2.3 Students' evaluation on the teaching mode of online teaching platform

In regard to the students' evaluation of the online teaching platform, the results were divided into five grades of "excellent, good, average, poor and very poor". The questionnaire results showed that 46.18% of the students felt that the teaching model was average, but the proportion of poor and very poor was about 13%, as shown in Figure 2. Therefore, if the online teaching mode wants to gain the recognition and satisfaction of students, it needs to make further efforts to meet the personalized needs of students.

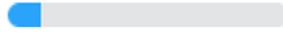
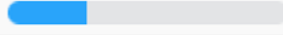
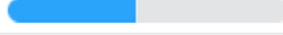
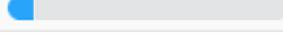
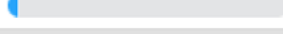
Options	Subtotal	The proportion
Excellent	117	 12.42%
Good	266	 28.24%
Average	435	 46.18%
Poor	90	 9.55%
Very poor	34	 3.61%
Valid number of entries in this topic		942

Figure 2. Evaluation of online teaching platform mode compared with traditional classroom teaching

2.4 The overall effect of using online teaching platforms during the epidemic

According to the questionnaire data, during the epidemic period, the number of students who felt "good" by using the online teaching platform exceeded the average, and only 3.08% felt "very bad", as shown in Figure 3.

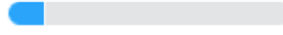
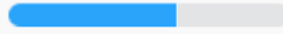
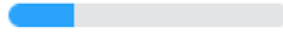
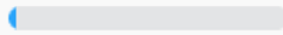
Options	Subtotal	The proportion
Excellent	124	 13.16%
Good	566	 60.08%
Poor	223	 23.67%
Very poor	29	 3.08%
Valid number of entries in this topic		942

Figure 3. Teaching effect of online teaching during the epidemic

2.5 The degree of satisfaction with the overall teaching situation of teachers

Through calculation, it is found that the average score of this matrix is 3.9, which is between "general" and "satisfactory". Teachers need to work hard to improve the satisfaction of online teaching, to effectively ensure the effect of online teaching. The result is shown in Table 2.

Table 2 Satisfaction with the overall teaching situation of online teachers

Topic\Option	Very Dissatisfied	Not Satisfied	Generally	Satisfied	Very Satisfied	Average score
Responsibility	11(1.17%)	8(0.85%)	212(22.51%)	442(46.92%)	269(28.56%)	4.01
Respects students	10(1.06%)	8(0.85%)	174(18.47%)	468(49.68%)	282(29.94%)	4.07
Suitable difficulty	13(1.38%)	23(2.44%)	269(28.56%)	418(44.37%)	219(23.25%)	3.86
Highlights	14(1.49%)	27(2.87%)	270(28.66%)	415(44.06%)	216(22.93%)	3.84
Ability training	11(1.17%)	19(2.02%)	314(33.33%)	395(41.93%)	203(21.55%)	3.81

Interest stimulation	11(1.17%)	23(2.44%)	320(33.97%)	391(41.51%)	197(20.91%)	3.79
Course preparation	9(0.96%)	18(1.91%)	232(24.63%)	440(46.71%)	243(25.8%)	3.94
Course specification	8(0.85%)	18(1.91%)	243(25.8%)	446(47.35%)	227(24.1%)	3.92
Organization	7(0.74%)	18(1.91%)	239(25.37%)	449(47.66%)	229(24.31%)	3.93
Frontier	9(0.96%)	16(1.7%)	273(28.98%)	417(44.27%)	227(24.1%)	3.89
Subtotal	103(1.09%))	178(1.89%))	2546(27.03%))	4281(45.45%))	2312(24.54%))	3.9
Valid number of entries in this topic	942					

3. Main factors affecting online teaching satisfaction

With the development of big data, artificial intelligence, cloud computing, 5G and other information technologies, online teaching has attracted increasing attention from all walks of life in recent years. The outbreak of COVID-19 has made online teaching the primary teaching method in a specific period, realizing the rapid development of online teaching. But behind the rise of the fast-food type also appeared a lot of thought-provoking question. These problems embodied in the online teaching satisfaction need to improve the quality of online teaching. The outbreak of COVID-19 has inflicted a double blow and destruction on people's bodies and minds. As an essential place for youth growth, colleges and universities temporarily blocked the regular communication between teachers and students, and close management and home isolation became the norm. These objective realities bring about significant changes in people's psychology, which directly affects the quality and effect of online teaching. Through the previous analysis, it is not difficult to find that the performance of online teaching platforms, teachers' teaching level and network are undoubtedly objective factors affecting the satisfaction of online teaching.

The spread of COVID-19, a public health emergency, not only causes huge losses to the society, but also has many adverse effects on people's physical and mental health, such as panic, anxiety, anxiety and other psychological problems. Therefore, social-psychological management and psychological intervention have become the primary task of epidemic prevention and control. Psychological intervention, life security and medical treatment work together to maintain the stability of the overall social situation. The student population has also been affected qualitatively during the epidemic. The most obvious change is in the way of learning. Online teaching has become the primary way of university education. The long-term home isolation and closed management have brought many adverse effects to students, which are permeated in psychology and reflected in behavior. Psychological changes are mainly reflected in: panic, the spread of anxiety, and the significant increase in the prevalence of depression. These subjective factors subtly affect the impact of online teaching, leading to low satisfaction with online education.

3.1 Panic psychology

Panic psychology is mainly manifested in people's fear, panic and other psychological phenomena in the face of emergencies ^[3]. In the beginning, the lack of understanding of the COVID-19 outbreak led to the wide spread of the virus. The "human-to-human" phenomenon caused panic among people. Many policies used by colleges and universities in this time have changed students'

original living and learning habits, which makes students have different degrees of panic virtually. The communication between people has changed from face to face to online. The physical distance between people practically leads to interpersonal communication barriers, the most intuitive manifestation is the sense of alienation between people. In the traditional classroom teaching, teachers are on the platform and students are gathered in the classroom. Online teaching breaks this traditional teaching method. Students and teachers use the Internet, multimedia and other media to carry out daily learning. In the face of a "visible and intangible" "classroom", students will involuntarily panic when facing problems. The accumulation of such panic psychology has a subtle impact on students' acceptance effect, which leads to low satisfaction of online teaching and a series of adverse effects.

3.2 Anxiety symptoms

Wang Ya and Li Qiang(2020) found that 28.48% of college students had anxiety symptoms in the context of COVID-19 in their sample survey of 3,178 college students in Sichuan, Yunnan and Chongqing^[4]. Psychological anxiety is interpreted as a psychological phenomenon such as anxiety, nervousness and fear, which is particularly common during the epidemic. Due to a lack of awareness about COVID-19, and the fact that COVID-19 is contagious, people often fall into a sense of worry and fear when faced with mixed messages online. College students are generally between the ages of 16 and 24, which is the youth period of upright people, during which people reach their best physiologically and become increasingly perfect psychologically^[5]. However, due to their lack of experience, college students are still prone to anxiety in the face of the sudden COVID-19. The psychology affected the effect of online teaching to a certain extent, due to generally used online teaching, students' lack of awareness of knowledge, the online examination of the strange, such as the teaching arrangement of uncertain concerns to let the students can't concentrate very well in a specific time to go to the online course, and some universities adopt the way of the live, This makes students need to spend enough time and energy to study independently after class once they miss a certain knowledge point, which produces unsatisfactory results. Even recorded classes require students to play them back, unlike traditional classroom teaching, which can be consulted by the teacher in time between classes.

3.3 Depressive symptoms

Depressive symptoms. Depression is a common clinical psychiatric disease, it generally refers to depression mood, and this mood has lasted too long to cause trouble. Due to the increase of academic and employment pressure, more complex interpersonal communication, and unresolved emotional problems, the probability of depression among college students is significantly higher than before. Fa Jiejin (2021) pointed out the longer the screen time, the greater the probability of college students suffering from depression in the correlational research among physical activity, screen time and sleep duration and college students' depression^[6]. During the epidemic, the cumulative time of college students facing electronic product screens increased significant. First of all, the classroom adopts the online teaching mode, so students need to focus more on the screen writing than usual to understand the content of the class. Secondly, in order to make the teaching effect better, in addition to the daily classes, teachers will upload the class notes to the learning platform for students to review after class, which increases the length of time college students face the screen one more time. Finally, in normal, teachers will combine the completion of homework and final test results to text whether students' learning has achieved the expected teaching effect. During the epidemic, homework and final exams can only be completed online. Sitting for a long time and staring at a screen leads to increase the probability of depression in college students.

Depressive symptoms will make college students uninterested in learning and life, and emotionally unstable. College students who have such psychological conditions will reduce learning efficiency, have negative attitudes and emotions about anything around them.

4. The effective way to improve online teaching

4.1 Forming joint efforts between schools and families and building an all-round education system

During the epidemic, many colleges and universities have started online classes, and it is normal for students to attend classes at home. How to ensure the study effect of students at home needs to strengthen the relationship between colleges and universities and students' parents. Only when schools entirely communicate their teaching tasks to parents in a timely and effective manner, school and families can form a joint force to create a good learning environment and growth space for students.

Home isolation for online learning requires strong support from parents, such as providing quiet places and efficient learning equipment for students. Some parents even can't guarantee three meals because of busy work, some parents have no regular life work and rest, some parents worry that using the computer has negative effect on students. These concerns have directly affected the satisfaction of the online teaching. Schools should fully communicate with parents, let parents know, understand and support the move online education. Parents should be the supervisor of children, manage and serve students, allow students develop good self-conscious learning ability at home, cultivate students' self-discipline, and feedback on the progress and effect of students' study in time during online research at home. The formation of comprehensive management and service system will provide vital support and guarantee for online teaching, to facilitate communication at any time.

Families, parents, schools and teachers work together to maintain the students' growth environment, so that students can achieve offline learning effects even if they study online. On the one hand, it responds to the requirement of "no school suspension", effectively meets the relevant provisions of epidemic prevention and control, and avoids large-scale movement of people, which is also an effective measure to defeat the epidemic at an early date.

4.2 Improve the hardware and software facilities to form a sound and mature teaching pattern

On the one hand, online teaching needs an exemplary network environment. On the other hand, it also requires a teaching platform with sound functions. Only when the two aspects work together can online teaching be supported and guaranteed effectively.

Online teaching in an open network environment is needed to develop smoothly, such as the main way of live online instruction, need to network information technology to achieve certain conditions to dynamic implementation of the network classroom, ensure that the teachers and students in the same frequency, the synchronic performance make teachers "teaching" and students "learning" can produce interactive influence, and receive timely feedback. If there is no network condition for efficient operation, online teaching will lose the premise of survival, reflected in the learning of a live broadcast and recorded broadcast. If there is no sound and smooth network in live class, there will be lag, information lag, interaction out of sync and other phenomena that seriously affect the teaching effect. If there is no good network condition in the recording and broadcasting class, the relevant course materials and learning materials cannot be transferred in time, which will affect the teaching progress in severe cases.

In addition to a high-speed and efficient network environment, whether the function of an online teaching platform can meet the needs of teachers and students is also an essential basis for online teaching. The sound, humanized, and personalized function setting can well meet the needs of different teachers and students, which is conducive to clarifying the key and difficult points of teaching, so that teachers can make better use of the intelligent, flexible, dynamic, and all-round display of the teaching process under the premise of giving full play to their subjective initiative, to achieve teaching objectives. The platform operator should set up the platform feedback module scientifically and rationally, and make rectification and improvement timely and pertinently.

4.3 Improve the level of teachers and strengthen the whole process of the teaching system

Online teaching has brought new challenges and requirements to college teachers. In the face of this booming educational phenomenon, only by starting from themselves and strengthening their theoretical literacy can teachers take advantage of the trend. Online teaching platform relies on the solid support of platform software, and requires teachers to consolidate professional knowledge. Under the goal of sharing and win-win situation, we can better serve the students with the right educational resources. Based on the growth of students, we can carry out targeted teaching and learning to solve their doubts, enhance the interaction between teachers and students, establish the authority of teachers and play the role of teachers.

First, teachers should strive to improve their theoretical literacy. Solid professional ability is the premise of the profession of teachers. Still, teachers should have the ability and level of imparting knowledge, which is particularly important in online teaching.

Second, teachers should learn information technology knowledge and improve their information literacy^[7]. Online teaching relies on information technology, which puts forward new requirements for many old teachers. They not only need to have excellent knowledge, but also flexibly use online platforms to turn traditional classroom teaching into vivid "live broadcast". This requires it to base itself on the development of modern network information technology, rationally utilize modern science and technology to enrich teaching content, optimize teaching links and innovate teaching forms.

Finally, teachers should make full use of the Internet to update their knowledge reserves. The boring theories are visualized with examples advancing with The Times and current political hot spots, improving students' interest in online learning and making students' learning infiltrate into daily life, to form a comprehensive and three-dimensional teaching system. Let the students learn knowledge, gain skills and improve their abilities through teaching by word of mouth and example.

4.4 Strengthen mental health education and create a positive atmosphere

College students face different degrees of panic, anxiety and even depression during the epidemic. The government, society and schools should actively strengthen mental health education for college students, so that students can maintain physical and psychological health during the epidemic^[8]. It is necessary to enhance mental health education, set up appropriate mental health education links and timely psychological intervention. It is essential to integrate mental health education into THE prevention and control of COVID-19, which is also a powerful way to ensure online learning of college students^[9].

It took many experts a long time to discover how infectious COVID-19 is, but there are still many misconceptions. As college students in their youth, they could not avoid panic in the face of this sudden public health event. Facing the situation that they could not communicate with their classmates and teachers face to face for a long time, they could not avoid all kinds of negative emotions, which had virtually affected their learning efficiency. Only by attaching great importance

to psychological health, regularly carrying out mental health education and paying attention to students' psychological dynamics, can students have correct cognition and positive actions. Such physical and mental health is conducive to students' rapid and efficient acceptance of new knowledge, thus improving online learning effect and self-learning ability.

The communication between students and their parents is too frequent due to a long time of home isolation, which is prone to various conflicts. Staying at home for a long time tends to breed inertia in students' comfortable life, which on the one hand shows poor self-discipline, and on the other hand, offers a sudden decline in academic performance. These need timely psychological intervention and guidance, to achieve convenient stop loss.

By enriching the online form and content, mental health education can penetrate the teaching link, and timely capture the students' ideological dynamic and psychological state, to create favorable conditions for the healthy growth of students. It is particularly essential and necessary for students at this pandemic. Mental health helps students to concentrate, which is the essential requirement of online teaching for students, and thus promotes the improvement of online education satisfaction, so as to truly ensure the progress and quality of online teaching.

5. Summary

After the epidemic's impact, online teaching has been fully applied, which has the advantage of breaking the time and space restrictions and realizing resource sharing. This pattern of intelligent education is also a critical foothold and development direction of education and teaching in the future. However, online teaching also has an excellent space for development, and more efforts should be put into software, software, teachers and other aspects. In this way, the goal of education can be truly realized and the quality of online education in colleges and universities can be improved while sharing educational resources. While building a pattern of an entire staff, the whole process and all-around education, we should lay a solid foundation for online education, improve online teaching satisfaction and realize hybrid teaching. Education can genuinely penetrate every aspect of life and play an essential role in human society.

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