Research on the Connection Between Online and Offline Teaching of Secondary Vocational Courses after the Epidemic

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Abstract

In response to the call of the Ministry of Education to "stop teaching and stop teaching" during the epidemic, all secondary vocational schools and teaching staff change the traditional offline teaching method, using online teaching, so that secondary vocational students can complete the study of relevant courses at home.After several months of control, the epidemic gradually improved and students gradually returned to school. In order to promote the efficient implementation of classroom teaching, it is necessary to realize the effective combination of online and offline teaching.Secondary vocational school students generally weak knowledge accumulation and pay more attention to its teaching, practicality, therefore how to use offline during the outbreak of teaching to make up for the online teaching neglected the cultivation of the students' practical ability, how to manage the effective online teaching cohesion, realize the organic combination between the two, the vocational schools after the outbreak is an urgent need to solve the problem.This paper analyzes the advantages and disadvantages of online teaching and the problems existing in online teaching in secondary vocational schools. In view of these problems, a series of improvement methods are put forward. At the same time, specific cohesion measures are given, that is, scientific diagnosis, assessment of learning, adjustment of teaching methods;Find out the details of students, check the gaps and do a good job in the connection of subject knowledge content;Online guidance for students unable to return to school after the epidemic.Through this series of measures, the effective connection between online teaching and offline teaching is explored and studied, so as to improve the quality of classroom teaching.

Keywords

COVID-19; Secondary vocational courses; Online and offline; Teaching cohesion.

1. Introduction

COVID-19 is a major global crisis, a major disaster for human society and a major challenge for the world today.The epidemic is having a profound impact on China, the world, and the global landscape, as well as on the economy, society, culture, life and even survival.As of 24:00 on June 27, 2021, 31 provinces, autonomous regions and municipalities directly under the Central Government and the Xinjiang Production and Construction Corps had reported 462 confirmed cases, including 12 severe cases. A total of 86,655 patients had been discharged from hospital after recovery, and 4,636 had died. A total of 91,753 confirmed cases had been reported.There is 1 suspected case [1]. Globally, the peak of the COVID-19 pandemic has passed, but it is still at a high level.Although vaccines have begun to be used, raising hopes that the world can contain the outbreak, the world is not yet able to reach the immunization rates needed for herd immunity barriers.In China, there has been no large-scale spread of the virus, and it is safe for people to travel.China has accumulated a whole set of experience in dealing with the epidemic, which can be detected and controlled in a timely manner without large-scale outbreaks.

The outbreak of COVID-19 has undoubtedly had the greatest impact on the education industry, as schools have been closed, students have stayed at home, and teaching has been affected unprecedentedly [2]. Due to the impact of COVID-19, the Ministry of Education issued a notice on January 27, 2020, requiring schools to postpone the start time of spring semester, and then issued an initiative for students to "suspend classes without suspension" based on online teaching platforms [3]. Chinese education is forced to realize a completely online teaching, which leads to the rapid development of online teaching.

However, for vocational education, online teaching fails to solve the dilemma faced by vocational schools during the epidemic due to the particularity of course teaching focusing on students' practical operation ability.The development of vocational education is closely linked with industrial development, and is an important support to train and transport application-oriented talents for industrial development [4]. Therefore, on 12 February 2020, the General Office of the Ministry of Human Resources and Social Security of The People's Republic of China issued the Notice on Opening China's Online Vocational Training Platform free of charge during COVID-19 prevention and Control to provide policy support for online vocational skills education in various regions.Vocational schools throughout the country have adopted various coping methods and measures in the process of dealing with the crisis, and have carried out a hard and lasting struggle against the epidemic, while also accumulating a lot of experience and lessons.

The outbreak of COVID-19 has ushered in a new era for the education industry, that is, the integration of online and offline teaching.Through the integration of online and offline teaching, to achieve effective seamless connection and higher educational output.In order to ensure that students' knowledge does not shrink, it is necessary to reform and innovate, redesign teaching content and teaching methods according to the current educational situation, and achieve effective connection and combination of online and offline teaching.Through continuous exploration and research, problems encountered in online education and teaching during epidemic prevention and control were solved, and a series of experiences and methods were explored.

2. Advantages of Online Teaching

Online education is the product of the development of modern society and technology era.It can be said that online education has a certain impact on traditional education, breaking the fixed teaching mode of "teacher, platform and student" under the traditional mode, making the network become the main transmission tool.Online education breaks through the limitations of offline education, namely the limitations of time, space, age and educational environment, which seem to be no problem in online education.

2.1. Knowledge Acquisition Is Convenient and Breaks Through the Time-Space Boundary

The call to "stay in school" has made online learning a major source of learning for students.Educational technology brings convenience to break through the time and space limits, and makes online teaching interactive in a variety of ways, and the interaction is ubiquitous and indispensable [5]. Online teaching makes the class no longer limited to the classroom. We can choose a comfortable and quiet environment with a mobile phone or a computer and connect to the Internet to start the day's study.Outbreak, for example, aimed at the shortage problem of a single school education resources, in some places to take the cooperation sharing method, such as Shanghai to broadcast "in the same period, the same time, with a group of" teacher's plan to launch online education, granted by the municipal level unified network course, focus on high quality education resources, to provide the same resources for schools, effectively solve the deficiency of the schools resources [6]. Offline teaching also brings new teaching modes to

teachers. Teachers can take students to different learning platforms and experience different learning scenarios according to different course types without leaving home.

2.2. Online Education Equalizes Quality Education Resources. Online Education Makes Up for the Deficiency of Offline Education

During home study, local teaching and research departments have taken practical and effective measures to provide teachers with teaching-focused curriculum resources to support online teaching [7]. High-quality course resources are the key. During the epidemic, many "Internet celebrity teachers" emerged. Classroom teaching practices originally limited to one classroom were amplified to the "cloud" by technology, and high-quality course resources were widely promoted [8]. Online courses in many regions are recorded, often with well-known local instructors, so that students in different regions can watch the same video and enjoy the same teaching resources online.

2.3. Parents Are Better Involved in Their Children's Learning

Affected by the epidemic "shutdown", many parents did not return to work and have more time to accompany their children to study.Parents can also supervise and guide their children when they attend classes online, so that their children study more carefully and perform better in all aspects.

3. The Problems Existing in Online Teaching in Secondary Vocational Schools and Measures

3.1. Disadvantages of Online Teaching

3.1.1. The Online Teaching Platform Is Insufficient

Online education has been a hot topic in recent years, especially after the COVID-19 outbreak.But at the same time, because online teaching is an emerging industry, its development is not mature, so the online teaching platform is not complete, and there are many online teaching platforms and their types are complex, so it is inevitable to face some problems in the teaching process.For example, when a large number of teachers and students simultaneously broadcast, demand and download resources, network congestion or even paralysis occurs frequently, and most courses, especially live courses, are difficult to be carried out smoothly, which affects the quality of courses [9]. At the same time, the content of the network information database is various, which contains some harmful information, such as network violence and pornography, pollution of the network learning environment, and even harm the personal safety of students, which is very unfavorable to the outlook on life, values and world outlook are not mature for secondary vocational students.Therefore, each teaching platform should be committed to creating a safe online learning environment for students, which is also the first condition for the smooth implementation of online teaching.

3.1.2. Teachers Lack of Information Ability

Different levels of teachers bear different pressures.The teachers who have the reserve of information technology application ability will be able to play with ease after a short adaptation.However, some teachers who are not trained in the application of INFORMATION technology are more comfortable with face-to-face teaching and find online teaching difficult, especially some older teachers in schools.In order to conduct daily course teaching, it is often necessary to spend a long time searching for electronic devices on the network, which will lead to the lack of sufficient time for lesson preparation and unsatisfactory teaching effect. These troubles hinder teachers from conducting online teaching.Second, since most teachers are first-time online teaching this way, for the use of the teaching platform still at groping stage, teacher's role becomes pure "anchor", most of the time is teacher a person speaking, students

are listening to, lack of interesting interaction between teachers and students, even if the teacher speak of graphic, students will see for a long time still have tired psychological,The teaching effect is greatly reduced.

3.1.3. Single Form of Teaching Content

After the initial adaptation stage, teachers often form their own online teaching mode, or use the online courses of major websites, or live broadcast online, or recording, or simply use wechat, QQ and other chat apps to conduct guided teaching.Although "non-stop teaching" has been achieved, the new requirements of online teaching on the role of teachers have not been reflected in the operation, and the problem of "how to teach" has not been well dealt with [10]. For example, compared with theoretical courses, there are fewer online education resources for practical and experimental courses, and it is not appropriate to adopt live teaching [11]. Online teaching in the process of site supervising teacher cannot be in class, can't intuitive feelings of students' learning state, also is unable to carry out on-site q&a or groups to discuss such interactions, between teachers and students, students' good interaction effect is far from the scene teaching, resulting in lack of online teaching classroom learning atmosphere.

3.1.4. Online Teaching Is Greatly Affected by Terminal Devices and Network

Students in remote areas or poor families lack computers or mobile phones that work well, and some families lack data flow or Internet, which makes it difficult for them to take classes online.In the face of school suspensions caused by COVID-19, the vast majority of countries are using digital distance learning to ensure continuity of education, yet half (826 million) of suspended students do not have a computer at home, and 43 percent (706 million) do not have an Internet connection at home.Even though the United States has far more infrastructure than other countries, there is a huge gap in its broadband infrastructure, and millions of rural and poor families cannot get reliable Internet access [12].

3.2. Online Teaching Improvement Measures

In view of the above problems, the teaching management department should do a good job of coordination and communication with schools and teachers to ensure the orderly and smooth teaching.

3.2.1. Online Platform Construction Level

All kinds of online teaching platforms should be good at using big data technology, that is, to quickly obtain valuable information for students from all kinds of data.Big data technology can record online learner's behavior in the teaching, through the study of the modeling of each student's learning behavior, accurate understanding of each student's study habits and the ability to self-control poor students to study early warning, when student's inattention to timely reminder, achieve the goal of improving learning efficiency.Secondly, the teaching platform also needs to set up a strong encryption system. In this era of pirated knowledge, if the teaching video is not encrypted, it will be easy to be leaked or even sold, causing serious property losses.Thirdly, both the popular live teaching and the convenient and fast recording teaching should be there.In addition, the function selection of live courses must be diversified, and there must be interactive function system, such as hand raising, video interaction, voice interaction, etc., which can fully mobilize the enthusiasm of students.

3.2.2. Improvement of Teachers' Information Ability

To improve teachers' information literacy.Teachers' use of information technology equipment and resources is single, lack of deep mode innovation, and the degree of "information" is not enough.Therefore, teachers should pay attention to the improvement of their information literacy, realize the comprehensive and in-depth integration of subject knowledge, teaching methods and information technology, and enhance the ability to analyze, solve problems and innovate and create by using information technology.Information construction needs

continuous learning and improvement.For teachers, more targeted training should be carried out, the purpose of training is to let teachers master more information application skills, so as to improve the level of information teaching.

3.2.3. Diversity of Teaching Content

The teaching content should be as interesting as possible.In online teaching, most teachers can only present PPT courseware to students. If THE CONTENT of PPT lacks novelty, it is easy to lead to low interest in learning and poor learning efficiency of students.Therefore, teachers should combine the curriculum content with the schedule and students' interest points to create more vivid and interesting teaching methods, fully mobilize students' learning enthusiasm and improve their learning efficiency.

Strengthen the frequency of interaction with students.In the process of network teaching, teachers can not blindly carry out "indoctrination" teaching, ignoring the importance of communication and interaction.Network teaching is still the main body of students' classroom, teachers should give full play to its leading role.Due to the separation of time and space, the sense of interaction of students weakened a lot, which for the poor self-control of secondary vocational students, if they feel that the teacher is not around, the psychological will relax.Therefore, in the teaching time and non-teaching time should consciously strengthen the interaction and communication with different students.

3.2.4. The Complete Layer of Terminal Devices and Networks

Vigorously develop remote monitoring systems.In online teaching, because of the spatial gap between teachers and students, teachers must rely on remote monitoring systems, which are usually cameras on phones, computers and tablets, to keep track of students' learning.Remote monitoring system can be very precise monitoring the teaching process, through the remote real-time monitoring and control system for teachers to understand each student's learning status, can maximum limit to face-to-face teaching form, to avoid the poor self-control of the students in the class in the process of "hear" or "play footsie", will be better able to improve the students' learning efficiency.

Online education is another aspect is to be reckoned with in the network transmission speed, education platform, live online education should focus on the speed of caton, delay, etc., the transmission of real-time speed, smooth live content can close distance sense of the students and teachers, let the students can learn anytime and anywhere you interested and need knowledge, achieve zero distance classroom.In the process of building an online education platform, a truly mature online education system adopts large bandwidth and multiple backup lines to ensure high-definition, no-delay and no-delay video teaching.

4. Effective Link Between Online and Offline Teaching, Scientific Progress

Based on the results of the questionnaire survey conducted by the author, 87.4% students had follow-up bridging teaching after the resumption of school (see Table 1).

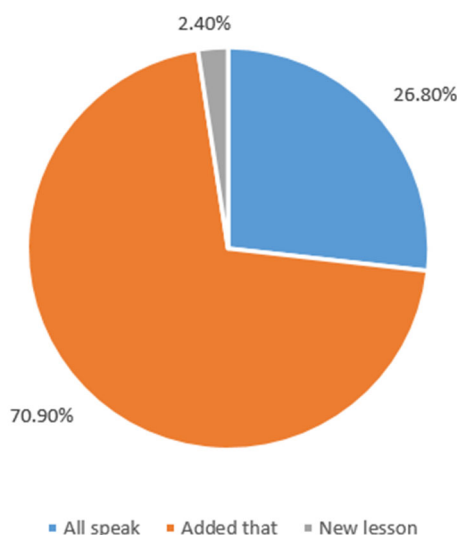**Table 1.** Descriptive statistics of "Teaching connection between online and offline courses"

		Frequency	Percentage	Effective percentage	Cumulative percentage
Cumulative percentage	A Yes	111	87.4	87.4	87.4
	B No	16	12.6	12.6	100.0
	Total	127	100.0	100.0	

For the content that has been explained in the online teaching process, only 26.77% of the students think it is necessary to repeat all the content, 70.87% of the students think it is only

necessary to emphasize some content, and only 2.36% of the students think it is possible to directly teach the new lesson (see Table 2 and Figure 1).

Table 2. Descriptive statistics of "Teachers' treatment of the knowledge taught after the resumption of school"

|		Frequency	Percentage	Effective percentage	Cumulative percentage
Cumulative percentage	A All speak	34	26.8	26.8	26.8
	B Part of the content is supplemented with emphasis	90	70.9	70.9	97.6
	C Go straight to the new lesson	3	2.4	2.4	100.0
	Total	127	100.0	100.0	

Figure 1. How do teachers treat taught Courses after resuming school

Table 3. Descriptive statistics of "Students' preference to teaching mode after resuming school"

		Frequency	Percentage	Effective percentage	Cumulative percentage
Cumulative percentage	A Offline face-to-face classroom teaching mode	58	45.7	45.7	45.7
	B Pure online network teaching mode	18	14.2	14.2	59.8
	C Online and offline hybrid teaching mode	49	38.6	38.6	98.4
	D The teaching mode of pure autonomous learning	2	1.6	1.6	100.0
	Total	127	100.0	100.0	

Meanwhile, we also know from the survey results that 45.67% of the students prefer the offline face-to-face classroom teaching mode, 38.58% of the students support the online and offline mixed teaching mode, and the rest support the pure online and online teaching mode or pure autonomous learning teaching mode (see Table 3 and Figure 2).
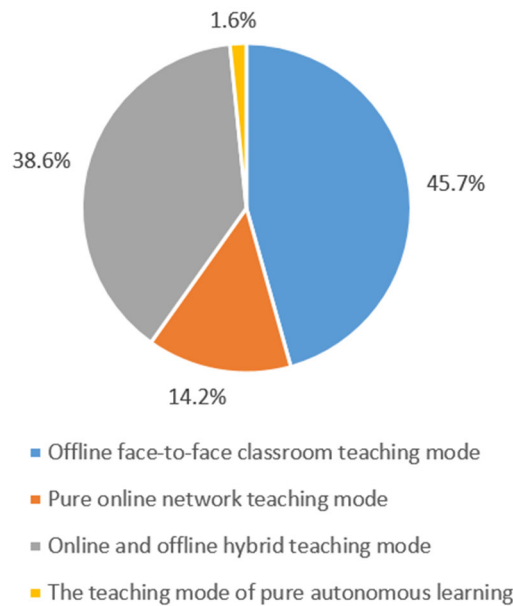
Figure 2. The scale of "Students tend to choose teaching mode after resuming school"

From this group of data comparison, we can understand the students still tend to offline face-to-face teaching mode, which can be seen online teaching for students' learning has certain limitation and deficiency, for example, empathy, close contact with the teacher in class easily distracted, and so on, so their offline teaching effect is better.

However, as the "Internet + education" is put forward and the popular, puts forward new requirements to education, the education should be compatible with the time environment and the need and the classroom is no longer confined to the line, from the education mode, "Internet +" is the biggest influence on education online education are presented, which changed the single mode of classroom teaching,Although online teaching still has some shortcomings, online and offline hybrid teaching model is definitely the trend of the future.The outbreak of COVID-19 has exposed the advantages and disadvantages of online teaching. We should learn from the advantages and experience, and do a good job in connecting online and offline teaching.

4.1. Organize Your First Class

We will prepare the first class of this semester with the theme of "Epidemic prevention and control, Life education" to cultivate the feelings and responsibilities of loving the Party, patriotism and socialism.Let secondary vocational students in the study period skillfully do self-protection work, as soon as possible from home to the normal campus learning state, to the best state of offline review and preparation.

4.2. Learning to Judge Learning, Learning Method

Before the semester starts, teachers of each course use the designated network teaching platform to sort out the data of network teaching and comprehensively understand the students' network learning by means of questionnaire survey and interview.Arrange the teacher to carry on the careful arrangement to the online course review content, design the examination paper according to the student study situation at home.Develop a family learning test plan for students to scientifically diagnose and evaluate the learning quality of students.

After the semester began, all grades and departments made a summary of online teaching, and required teachers of all disciplines to review and master the situation of online students during the epidemic period, so as to understand the learning situation.Through in-depth monitoring, let students know their lack of knowledge of online courses.Through in-depth monitoring, teachers can make scientific diagnosis of students' learning situation, understand students'

knowledge level and the existing learning starting point after returning to school, and re-formulate teaching plan.In view of the "learning difficulties" of some classes, individualized tutoring programs are formulated and teachers are arranged to make up for special tutoring.At the same time, the use of group cooperative learning makes up for the lack of personalized learning guidance for students with weak learning foundation, so that classroom teaching in the "non-stop" period effectively linked with home learning.

4.3. Make A Thorough Investigation and Make Good Knowledge and Tolerance

To find out the details, teachers of all subjects should sort out the study notes of each lesson during online learning in advance, find out the omissions of online teaching, know whether students have mastered the key and difficult points by correcting the homework of each lesson, and help students find their vulnerable parts or omissions through online teaching results.

After finding out the details, the subject teacher should make a comprehensive analysis of the learning situation of students in the class and find out the common problems and personalized problems existing in online teaching.Individualized questions raised by students can be solved and communicated one to one. For common problems, online discussion groups can be formed for teachers and students to discuss together.In addition, according to students' wishes, offline communication meetings can be organized from time to time to solve common problems through face-to-face zero-distance discussion. In this process, teachers should guide students to think more deeply about relevant problems [13].Secondly, the inherent meaning of knowledge that is difficult for teachers to explain clearly online and difficult for students to understand can be solved in offline classroom teaching through two-way in-depth interaction and communication between teachers and students [14].At the same time, students are encouraged to analyze the causes of their own mistakes through review and other means, and find solutions to the problems with the help of teachers and classmates.

Check for gaps.There are two main ways to fill gaps:

① Focus on breakthroughs.For the common problems and the representative and personalized problems of students, teachers should prepare special lessons and arrange certain class hours to make breakthroughs.For students' personalized problems, students can be guided to watch online teaching video playback, independent review, and individual tutoring solutions.

② Make up lessons before classes.For the new lesson content with strong connection with the previous content, knowledge points can be reviewed and sorted out before the new lesson teaching, so that students can achieve seamless connection in the knowledge learning link.

4.4. Online Guidance for Students Who Cannot Go Back to School Will Be Provided

According to the school's daily investigation of students' health and epidemic situation, "one-to-one" online teaching guidance measures will be formulated for those students who cannot return to school temporarily.Homework assignment, homework submission, after-class discussion and after-class q&A are completed through teaching software and network teaching tool software of multimedia laboratory [15]. We will continue to arrange online teaching guidance, establish temporary online classes, contact wechat group with online home-school, organize temporary head teachers and department teachers, and carry out online teaching synchronously according to offline professional course progress.We will try our best to arrange a responsible teacher for each student to supervise and guide their learning in a targeted manner.For students whose learning level is obviously lower than the overall level, practical supplementary learning programs and personalized guidance programs should be formulated to help them by organizing temporary classes, arranging teachers to answer questions centrally, and giving individualized guidance after school starts.At the same time, we will continue to give

greater care and support to students from poor families and children of frontline epidemic prevention and control workers, so that no one will be left behind.

5. Conclusion

Curriculum cohesion is a dynamic process, not a problem that can be solved in a few classes.The most important thing is that in the later stage of classroom teaching, teachers should always pay attention to students' classroom learning status and acceptance ability, review basic knowledge and basic concepts in the whole teaching process of knowledge system, so as to understand the actual situation of students' early online course learning, and make effective connection between online and offline teaching work.

Outbreak as catalyst, it makes the secondary vocational school, the teachers and students staff had the further understanding of online teaching, online teaching brought new teaching experience and challenges to teachers, improve the ability of teacher's online teaching platform use and was recorded using live, auxiliary tools for teaching ability, students learning into autonomous learning from passive to accept knowledge,At the same time, we have a deeper understanding of "Internet + education".We need to closely follow these new forms and changes brought about by the epidemic, so as to better build offline classroom teaching, promote the construction of hybrid classroom teaching, enhance teachers' ability and level of modern information technology tools, and effectively improve the teaching effect and quality.

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