

Contemporary Education Research—Online Education from the Perspective of Teachers

Qianyi Ding

Beijing Sport University, China

Abstract: This paper examines the development process of online education, the advantages and disadvantages of online education from the perspective of teachers, proposes on how teachers should transform in order to adapt to online education from the perspective of classroom teaching, and finally gives thoughts on the future and application of online education.

Keywords: Teacher's perspective; Online education; Review; Transformation

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***Corresponding author:** Qianyi Ding, 13161638800@163.com

The development of educational technology has always relied on changes in communication methods and technological progress. From word of mouth in the Socrates period to the writings of the Hundreds Schools of Thoughts in the Spring and Autumn Period (of ancient China), from the popularization of textbooks to the introduction of electronic courseware into the classrooms of elementary and middle schools, and to the wide application of online classrooms, the development pace of online education is becoming more and more rapid. Especially in 2020, online education has opened a new era of national use for all age groups.

1 Online Education is Imperative

1.1 The Development of Online Education

The world's first Massive Open Online Course (MOOC) which means large-scale open online education, started at the end of the 20th century. As

a recorded course, MOOC is more like an electronic correspondence education; open to the general public, and the classroom design is similar to university classrooms. But the difference is that MOOC has teaching videos, teacher explanations and also set up discussion sections for students to communicate, which greatly increases student participation.

MOOC has a wide range of courses, such as natural sciences and engineering such as mathematics, as well as social sciences and humanities courses. The rich knowledge resources attract more and more scholars from all over the world. This course structure has been developed and used by some experts and scholars since 2008. By the fall of 2011, 160,000 people worldwide had registered for the free course "Introduction to Artificial Intelligence" by Sebastian Thrun and Peter Norvig of Stanford University. As the three giants of MOOC, Udacity, Coursera, and edX developed rapidly after being inspired by this course and enticed more than a dozen famous universities around the world to participate. The development of MOOCs worldwide is in full swing, which has greatly stimulated the development and improvement of online courses in China.

In China, MOOC courses are attracting the attention of scholars of different ages across the country. According to the data from Coursera, there were 130,000 Chinese users registered on Coursera in 2013, ranking ninth in the world. In 2014, it reached 650,000, a growth rate far exceeding that of other countries. The new online education model represented by MOOC mainly serves college students or those who are already working but still in need of further education. Platforms such as Xuetao Online hosted by Tsinghua University provide

unprecedented opportunities and help for those with strong demand for knowledge. Stimulated by the online education platform targeting adults, the online education platform serving primary and secondary school students has also developed rapidly. The most widely used is the national primary and secondary school network cloud platform, which has surpassed the state sponsored China Education Channel which is still in the second stage of long-distance education development. In addition, many private online education platforms are also favored by parents, such as vipkid, ape tutoring, etc. However, the online lesson videos recorded by the teachers in our school is the most trusted by students and parents. This model has made a certain contribution to the advancement of the curriculum in 2020.

Another form of online classroom is webcast teaching, which uses the internet to realize real-time teaching interactions between teachers and students in different spaces at the same time. This model is relatively new, and it was common in some private online education platforms in the early days, such as the vipkid mentioned above, to solve the many inconveniences of teachers and students having lessons in different places. Different from the MOOC mentioned above, live network teaching has the advantages of real-time, convenient communication, and flexible course schedule, etc. Therefore, it will be implemented nationwide in 2020, and it has a trend of surpassing MOOC recording and broadcasting. Its live broadcast platforms, such as Ding Talk, Tencent Conference, etc., surged to the top first and second place in the application software download hot list in a short time. The two forms of online education also have many similarities. As domestic schools mostly use a combination of the two teaching methods (MOOC lecture videos are used as preview and review materials, and online live lectures are the main content of the classroom), this paper treats MOOC lecture videos and online live lectures as two parts of the teaching process, and reviews and discusses the both simultaneously. In addition, some scientific and technological teaching methods, such as online assignments and online group discussions, are based on the development of information technology, and most of them appear in similar software together with live lectures. Therefore, we will not go into the details of their definitions and development processes. This type of teaching method is also classified as online

teaching in this paper and discussed together.

2 The Advantages of Online Education

2.1 Convenient Access to High-quality Resources

Different from traditional teaching, the popularization of online teaching videos provided students a more flexible and adjustable learning method, which allows students to learn independently away from the classroom. Students can start learning almost anytime, anywhere, through the internet. What is even more surprising is that students can not only watch the course explanations of the teachers of this school, but also watch the teaching content of famous teachers from all over the country. Therefore, MOOC videos increase the possibility for students to have a deeper understanding of the content of the textbook, which also helps students to strengthen the effects of previewing to a certain extent. In the after-class review, students can watch the recorded video repeatedly in order to clear up the doubts, difficulties and the knowledge omissions caused by distractions during lectures. There are excellent educational resources for students to use at any time, which greatly improves the learning effects of students, and at the same time forms a virtuous circle of obtaining new knowledge while revising and having the new and old knowledge reinforcing each other.

2.2 Monitor the Results of Previewing

Previewing has always been one of the greatest headaches for teachers. Due to its particularity, it is difficult for teachers to have an in-depth understanding of the students' previewing in the class. The first is that it is difficult to assign preview tasks. Except for subjects based on words and sentences, such as Chinese and English, subjects based on knowledge and understandings of theories are difficult to assign previewing tasks. The former can require students to copy written words and sentences to form memory and acquire basic knowledge, but for subjects that emphasize understanding, such as mathematics and physics, the copying definitions cannot effectively enable students to understand the knowledge. Therefore, teachers of the latter subjects often require students to preview, and the inspection of the previewing is mostly random checks in the classroom asking on basic knowledge. However, the lecture time is short and the teaching task is heavy.

The teacher will ignore the inspection and preview step or the number of inspections is limited for the overall consideration of completing the teaching tasks. Therefore, there will be situations in which students drift along the preview leading to half-baked learning in the classroom, but teachers cannot control and grasp the situation of students in the class. These factors will cause certain damage to teaching results. The emergence of online teaching can solve such problems to a certain extent. After the teacher has assigned the previewing homework (a simple question and answer to examine the basic understanding of the definition or course content), the teacher can either monitor the student's completion in real-time online, or understand the grasp of knowledge of the whole class before lecture, and adjust the teaching content according to the relevant situation.

2.3 Monitor Teaching Results in Real-time, Devise the Solution based on Situation (for both Teachers and Students)

In view of the characteristics of difficulty in students' previewing, feasible solutions have been given for completing homework online. For the monitoring of teaching results during and after lecture, the completion of homework online also plays a certain role. In the classroom, teachers can monitor the completion of in-class exercises online in real time, and adjust the classroom progress based on the real feedback from students. More importantly, teachers can see the results of students' exercises in real-time in the background, so that they can pay attention to students with low understanding in time, improve classroom efficiency, and ensure that students' problems can be solved in the classroom and the quality of teaching. In the exercises after class, when students complete their homework online, their completion status is transmitted to the teacher in real-time, which helps teachers to monitor the completion of students' homework at any time. In this way, the completion of students' homework can be guaranteed, and teachers can more realistically evaluate their own teaching level, and can also design follow-up review content more targeted.

The method of online homework can enhance the results of education, and the method of online teaching and MOOC recording and broadcasting can also make teachers realize their own advantages and disadvantages, and learn from others to make

up for their shortcomings. Before the popularization of online education, teachers mainly reflected on their own teaching by reviewing teaching plans and checking student feedback. But the above methods are not intuitive, and are therefore unreal and unfair. Today, with the advancement of the internet, teachers can view their classroom performance through live broadcast playback, and even details of their own language expressions, which helps teachers improve. The recorded and broadcast courses make the communication between teachers more convenient. This function not only supports the communication within the teaching group, but also supports the mutual evaluation between cities and provinces and even the whole country. In the process of exchanging and referencing, teachers clarified on their own shortcomings, absorbed the advantages of other teachers, which also urged teachers to prepare carefully for each lecture. Therefore, the teaching quality of teachers will also be improved. From a more far-reaching perspective, this also balances educational resources and secures fairer educational opportunities for teachers and students in underdeveloped areas.

3 The Problems Encountered in Online Education

3.1 Low Self-Awareness of Students, Easily Distracted

Staring at electronic product screens for a long time not only easily causes visual fatigue in students, but also consumes students' energy and attention, causing students to lose concentration in class and affect their academic performance. It is difficult for teachers to notice the learning status of each student on the other end of the screen, so the classroom atmosphere may be affected, and the teaching efficiency will also decrease due to the inattention of students.

3.2 Equipment Failure, Equipment Not Widely Available

Not every family can afford electronic devices such as mobile phones, computers, and tablets. It is difficult to balance between the needs of students to use electronic devices and the needs of family members. What's more serious is that some impoverished families do not even have electronic products available to support students in online classes. It's

not just a problem with equipment, but poor network signals can also affect teaching. Some application software is not perfect in design. When there are too many users or frequent operations, it will collapse and freeze. The above situation will bring difficulties to the popularization of online teaching.

3.3 Control of Task Load

One of the major advantages of online teaching is the availability of high-quality online resources, such as MOOC videos, for pre-class preview and after-class review. This undoubtedly increases the stress of schoolwork on students. If the teacher assigns too many pre-class tasks, it will also cause the students to fear difficulties and procrastinate. However, if students fail to do a sufficient preview before lecture, they will not be able to fully integrate into the classroom. This situation will make it more and more difficult for students with poor self-control to keep up, and their self-esteem and confidence will be hit. When teachers habitually rely on self-study off class to support the content of the lecture, students will fall into an endless loop of failing to complete the homework after class, and the focus of teaching will also be biased, which seriously affects the teaching effects.

3.4 Teachers' Control of Students' Status in the Classroom

It is difficult to monitor and control the participation of each group member in discussions, which has weakened teachers' supervision of the class. The self-control ability of senior and adolescent and adult students is relatively good, but the acceptance of younger students (such as primary school grades 1 to 3) is mostly related to the degree of accompanying parents. Therefore, the teacher has changed from the active position of the classroom learning organizer to being passive.

3.5 Difficulties with Parents' Coordination

For young students, the supervision and accompany of parents is very important. However, when parents' working hours conflict with students' school hours, it is difficult to take into account the completion of students' online classes. It may be even more difficult for the student's grandparents to supervise the completion of online courses. Most of the older generations do not have a high level of grasp of digital products and cannot help students operate

or even play a role in supervision. Since electronic products have great damage to the eyesight of young children and are more of a temptation for children, parents generally resist using electronic products for learning. In addition, online classrooms require students to study before and after class. If parents are required to supervise them, it will bring too much burden to parents.

3.6 Passive Classroom Interactions

The students' concept of live broadcast is influenced by software such as Tik Tok, and preconceived it as a way of entertainment and leisure. In the early stages of adapting to online education, students may not be serious about the lectures. After gradually adapting to the online classroom, we will find that the teachers and students across the screen developed a sense of virtuality, so students' sense of participation in the live lectures is reduced. Teachers being unaccustomed to the teaching methods, such as the messy background of the live broadcast room and the dim lights, the teachers' inability to adapt to the identity as a host and the inability to liven up the atmosphere, will further reduce students' sense of participation.

4 Teachers' Transformation and Exploration

4.1 Learn from the Experience of Internet Celebrities

The first batch of people who were active in the live broadcast room are called internet celebrities, and their fame and popularity remain high. As an online teacher who uses live broadcast as a teaching method, there are some similarities with live broadcast internet celebrities, such as requiring fans (students) to be sticky, leading the direction and rhythm of programs (courses), creating a live room (classroom) atmosphere, and controlling content output etc. The live broadcast room and the audience (students) also have certain demands for their language use and appearance in front of the camera, such as fluent in standard Mandarin, neat and good image, etc. Therefore, live broadcast teachers may wish to learn from the experience of internet celebrities.

The characteristics and advantages of internet celebrities are particularly eye-catching in the live broadcast room. The first is the combination of body language and oral expression. It is mentioned in psychology and oratorical skills that body language

can expand the space occupied by the speaker, help the speaker become a stronger party in the conversation, and achieve the purpose of enhancing conviction and attracting more attention. Graceful and decent body language is not only the industry secret of internet celebrities, but also the focus of live broadcast teachers. The lens will magnify people's defects. For example, indecent small movements such as bending over and picking ears will distract students from the camera, and will also make students feel a casual and undisciplined atmosphere. Therefore, correcting the flaws in etiquette is the first step of becoming graceful and decent. On this basis, proper increase of body language can attract more of students' attention. Secondly, warm-up communication is also one of the required courses for various internet celebrities. Before the live broadcast, internet celebrities will greet the fans who have entered the live broadcast one after another and chit-chat, in order to stir up the atmosphere of the live broadcast room, and will play music to fill the gap during the short breaks of the live broadcast. Live broadcast teachers can also learn from this method to mobilize students' enthusiasm. Teachers can enter the live room about three minutes earlier to communicate with students who enter the live room at the same time in a relaxed and happy way, so that the atmosphere of communication in the live room will be activated. During the break between classes, you may also wish to learn from the internet celebrities, play soothing and pleasant light music to relieve students' fatigue, or play music that most students love. Due to the continuity and intrusiveness of music, students will still not divert their attention from the live broadcast room when their brains are resting. Playing music helps students relax physically and mentally and also helps students resume their learning in class as soon as possible, rather than being interrupted by other entertainments. For internet celebrities, what is more important is the communication with the audience during the live broadcast, that is, they are required to request for feedback from the other party and respond to the feedback received in a timely manner. As a live broadcast teacher, after all, the content of live broadcast is different from that of other hosts, and there is no need for teachers to communicate all the time. But before explaining the key points and knowledge points, it is best to remind students to concentrate on listening which serves to

guide students' thinking. After the lecturing, students should be invited to leave a message or connect with the microphone to raise their confusions. This sense of communication effectively prevents teachers from talking to themselves. If the previous section is all about attracting students, solid preparation before lecture is the way to educate students. As an internet celebrity, you will confirm the script with the company or related staff to rehearse repeatedly before the live broadcast, so as a live broadcast teacher, you should prepare a logical lecture plan to complete the teaching. Unlike offline teaching, students who learn online are more likely to be slack in thinking or distracted. A lecture with interlocking logic and clear teaching can better meet the needs of students. Finally, regarding the live broadcast facilities, teachers can refer to the audio equipment and lighting equipment commonly used by internet celebrities to improve their live broadcast venues. Bright lights and clear sounds make the live broadcast teachers appear more professional and make students feel comfortable. They are essential conditions for a high-quality live broadcast room.

4.2 Teaching Methods from Traditional Classroom to Online Classroom

The traditional model still dominates classroom teaching in China's primary and secondary schools. Traditional teaching is more teacher-oriented, classroom teaching is mainly carried out around "teaching", and knowledge is directed to transfer from teacher to student. Therefore, the teacher occupies an active position relative to the student, and students as the terminal of knowledge transfer are relatively more of passively accepting the teacher's arrangement. In other words, students fully accept the teacher's lecture design, and their self-initiative to explore the content of the classroom is poor, leading to passive learning that affects teaching results. From the perspective of teachers, as the teaching years increase, their teaching design is facing the risk of rigidification. From the traditional classroom 'duck-stuffing' education to the quality education required by the state, the main task of teachers has evolved from the teaching of knowledge to the cultivation of students' learning habits and thinking. Therefore, traditional education can no longer meet the new learning needs of teachers and students, and new teaching methods such as flipped classrooms have gradually become

mainstream.

Online classroom is a training classroom that uses the internet to realize remote online interactions between teachers and students. Under normal circumstances, students can participate in the classroom by opening the designated webpage or application software. In addition to the advantages of convenience and speed, the characteristics of online classrooms are also more suitable for achieving quality education and training students' learning ability. The shift in the role of teachers and the focus of work is inseparable from the many characteristics of online classrooms. As mentioned in the previous sections, the advantages of online classrooms include convenient access to high-quality resources, real-time monitoring of preview results, and solution formulation based on feedback. Teachers can send students a curriculum design framework as a guide for preview, expressing clearly the lecture content that students need to preview and have a certain level of preparation, and recommend relevant learning materials. After checking the eligibility of students' previewing, the teacher organizes the students to communicate in groups and explain their own learning and thinking through online classrooms. Finally, the teacher will summarize, guide and explain the different problems that students have encountered. After completing the lecture content, the teacher arranges the previewing task for the next class.

5 Application of Combination of Online and Offline Education

Although online teaching has developed rapidly for a period of time, it cannot completely replace offline teaching because of the irreplaceable advantages of offline education, such as face-to-face communication and strong effectiveness. On the other hand, the development pace of online education is just right, and it has continuously penetrated into daily life and teaching, and has gradually become an indispensable part of teaching. Therefore, the combination of online education and offline education will be the trend of education development.

5.1 Online and Offline Combined Teaching

The combination of online and offline teaching means that offline teaching undertakes part of the teaching tasks, such as pre-class preparation and after-class supervision. The pre-class preview relies on high-

quality online resources, such as Bilibili and other video platforms to provide professional and thorough explanations. However, the supervision of students and timely inspection of teaching results cannot be achieved by online video lessons. In the classroom, the teaching methods of offline education and online education mentioned above are similar. They are all targeted to resolve students' doubts in a timely manner, arrange pre-class tasks through the network platform to monitor the completion of pre-class tasks in real-time, and determine the key explanation parts of offline teaching based on students' grasp, manage students' learning attitudes, and get to know each student's weaknesses. If conditions allow, one can also complete the in-class exercises in the offline class online. Teachers can adjust their teaching methods in time and evaluate their own teaching. The after-class exercises can be arranged according to the students' grasp and weak links, and the teacher can check the completion in real-time.

5.2 Improve Offline Teaching Efficiency by Applying Online Teaching

Online teaching is especially suitable for new forms of offline classrooms, such as flipped classrooms and other student-oriented teaching methods. This kind of teaching method is usually based on group discussion and students' self-study and preview. Its advantage is to give full play to the students' self-initiative. However, there is a lack of real-time supervision by teachers, and students with poor self-awareness will fall behind. And it is difficult to control the duration of the discussion in class. Compared with traditional teaching methods, learning the same content will take more time. After the online preview, the teachers can finish simple question answering first, or put a small part of the lecture content for discussion before class. The advantage lies in deepening the students' impression of the lecture content and saving class time. Teachers can also put the content that cannot be finished in the lecture into homework, let students discuss and think online, to reduce the stress during lecture and ensure the completion of the teaching content.

In conclusion, compared with offline education, online education has many advantages, but there are still shortcomings rendering it unable to completely replace offline education. Therefore, in education and teaching activities, teachers should make online

education and offline education complement each other, learn from each other's strengths, and use these two educational methods in a comprehensive manner to achieve better teaching results.

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