

Innovations in Distance Learning in Postgraduate Education during COVID-19

Yafei Jia ^a, Li Liu

School of Xi'an Polytechnic University, Shanxi 710600, China;

^a 851325074@qq.com

Abstract: Many training courses and activities have chosen distant learning as a distance alternative, which began to gain popularity even before the coronavirus pandemic. The availability of electronic tools and distant learning platforms in higher education, as well as the temporary suspension of classes in several countries during the epidemic, were extremely useful in the emergency transition to distance learning to ensure the educational process's continuity. However, there are still a number of difficulties that need to be addressed in terms of the country's current condition of distant learning delivery. This paper first discusses the background of distance education, then summarizes the problems that arise in distance learning for postgraduate students, such as the shift in teaching mode, the change in environment and the distraction of students, and explains how the distance learning process can be improved: (1) a student-oriented teaching philosophy; (2) finding an effective collaborative model of schooling; and (3) strengthening the assessment of educational quality. It is envisaged that this will serve as a model for using the online platform teaching approach in the context of the epidemic in China.

Keywords: Distance learning; Problems; Solutions.

1. Introduction

On March 11, 2020, the World Health Organization labeled the coronavirus infection a pandemic. Since late December 2019, the disease's global incidence has risen dramatically. Various countries are in a state of emergency, and the epidemic is affecting China's education system as well. Almost all educational institutions have begun offering online courses, and offline learning activities have been halted. Many countries have taken unprecedented precautionary steps to combat the virus's spread, including the temporary shutdown of schools and colleges in specific areas, cities or across the country. The availability of e-tools and distance learning platforms in higher education institutions has been shown to be very beneficial in the urgent move to distance learning in the context of this epidemic. Distance learning has arisen as a novel pedagogical strategy to maintaining educational continuity amid the COVID-19 pandemic's shutdown of educational institutions.

The term "distance e-learning" refers to the use of computer technology to deliver training, which can be done online, offline, or both. [1] Distance learning and computer-assisted interaction are the two types of e-learning (CAI). In various educational and government research, distance e-learning has proven to be an efficient method of learning. [2] Over the last decade, the use of various technologies to support the teaching and learning process in higher education has rapidly evolved, and a variety of technologies and electronic tools are now being used to facilitate teaching and learning and promote active learning in the classroom environment. All schools are continuing their educational operations using online tools and virtual learning environment platforms in order to deliver a high-quality learning experience for all pupils. Various universities have also adopted online education in postgraduate education, optimizing the various electronic tools currently available for collaboration and communication, such as university online resources and meeting resources like Tencent Meetings and Ding Talk. Teachers, staff, and students can use these technologies to host or participate in online meetings, access virtual learning rooms with audio and HD video, share apps, and record sessions from any computer, smartphone, or tablet device.

Effective and cheap education initiatives, particularly in low- and middle-income countries, are crucial in order to achieve the 2030 Sustainable Development Goals (SDGs), which include improved health and education quality (LMICs). [3] The use of remote e-learning in several fields of knowledge

in LMICs can have a substantial impact on the 2030 SDGs' attainment. Distance learning has broken through several barriers in traditional education, such as time and space constraints. The Internet has revolutionized traditional learning by allowing students to exchange information without the constraints of time and space in a more efficient and faster manner, resulting in a more personalized learning experience for students and an overall improvement in university teaching quality. Distance learning encourages students to use their initiative and creativity, as well as provide them with opportunities to engage and learn while also enhancing their learning, analysis, and problem-solving abilities.

However, there are still numerous issues to be resolved in realistic distant learning. This paper summarizes current remote learning issues from a distance learning viewpoint and provides appropriate solutions in an attempt to provide some insights into distance learning.

2. Requirements of distance education for postgraduate students

Postgraduate education is one of the most significant parts of the national education system and the professional talent pool at the national level, and it has a large strategic store of talent. Postgraduate education emphasizes the professionalism, precision, exploration, and research nature of education and aims to shape self-innovation and independent research ability of postgraduates. It is based on higher undergraduate education and emphasizes specific professional knowledge and collaborative research ability. Student research is frequently emphasized throughout the educational process, with teacher inspiration supplementing it. [4]

Compared to undergraduate education, postgraduate education places more emphasis on the ability and skills of problem identification, analysis and problem solving. Therefore, in distance learning, postgraduate studies should integrate content within the framework of independent research and experience the basic characteristics of different cultures in terms of thinking, behavior and impulses, so that students can acquire better intercultural communication skills. In general, postgraduate students have a broader knowledge base, stronger research skills and better personal qualities, so they should also be transformed from 'listeners' to 'participants' in distance education. In the era of the epidemic, offline lectures have encountered numerous difficulties, and the country was in a state of educational standstill. In response to this, the Ministry of Education formally called for the suspension of classes and non-stop learning in early 2020, which is essential for the training of postgraduate students, both in times of epidemic and in times of normalization.

3. Problems in distance education

People have already been working in their homes and distance learning has started to be used by students, as a result of the development of internet technology. However, this dramatic shift has also given rise to many problems.

3.1 The shift in teaching model

According to the present condition of distance learning, most online educational teaching means are merely traditional teaching modes translated to the Internet, simply imparting professional information to students and completing assignments and assessments on the Internet. This circumstance results in a breakdown in communication between professors and students, as well as a failure to emphasize the importance of a student-centered teaching philosophy. Many teachers have spent a significant amount of time trying to adjust to the technology of online courses, and many who thought they were simply transferring their work from the traditional classroom to the virtual classroom have discovered that they are unable to control the class as effectively as they once could. For example, signal delays can make asking a pupil a question take considerably longer than it would face-to-face. They have to take a break from time to time to deal with unanticipated difficulties caused by software breakdowns or malfunctions. Teachers may say anything more than once to ensure that

all pupils have seen or heard it. They frequently discover that they are unable to accomplish the assigned topic in the time allocated, resulting in unproductive instruction. [5] Thus, it does not assist students in developing autonomous study abilities, and it falls short of the basic intent of distant learning.

3.2 The change of environment

In this article, the environment refers to the sense that the people surrounding the student are providing room and time for the student to study. [6] Distance learning poses many disadvantages, including poor supervision, poor learning outcomes for some students, poor accessibility to network infrastructure in some areas, and network congestion. Online distance learning in postgraduate education faces many obstacles to proper implementation and full accessibility. Some people often have a misconception about the concept of online learning, believing that studying at home isn't as important as studying on campus. The professor's video lectures are now the major emphasis in distant education, with all postgraduates turning off and keeping the camera muted throughout. This method of delivery compromises teacher-student communication, allowing the teacher to dictate the speed of the lecture depending on prior experience. When left alone with their cell phones, tablets, or laptops, students also tend to retreat, grow bored, or even give up. Because of the shift in surroundings, pupils may mistakenly believe that being at home equates to taking a vacation, preventing them from studying in peace.

3.3 Distraction of the students

Pupils relocate from the conventional classroom to the comfort of their homes or dormitories in front of a screen or picture to have classes, and the instructor is less certain that the students are following the teacher's guidance, particularly if they are unmotivated. The instructor may see the students' movements in the classroom and evaluate how well they are listening and receiving the lecture based on their expressions, eyes, and behavior. Professors can also detect faults and make changes to the lecture style to achieve the best outcomes. Teachers discover that their students are occasionally missing or doing something other than attending courses at home or in the dormitory during the distance learning process, and that many factors might distract the students, resulting in a less than ideal outcome.

4. The construction of distance learning

4.1 A student-oriented method of teaching and learning

Changes in teaching methods are part of distant learning strategies. Above all, they should be student-centered and engaging, with the goal of moving the classroom from passive sitting and listening to active engagement. According to Kyungmee Lee, a lecturer in technology enhanced learning at Lancaster University in the United Kingdom, teachers can't spend the entire lecture on video or conduct a continuous lesson; instead, they must allow students to engage and provide feedback. She said, "It seems to be hard to evaluate when students grasp the subject if you can't see their faces." [7] For this reason, it is imperative that online teaching for postgraduates is reformulated. With their experience in primary and secondary schools, postgraduate students already have a certain level of knowledge and self-understanding about their specialties, and their learning efficiency will increase significantly as they switch from passive learning to active learning. Furthermore, distance learning should provide a platform for teacher-student communication, so that students can interact and communicate with teachers at any time and from anywhere. By utilizing convenient network conditions, the teacher should also provide students with question-and-answer services, strengthen supervision and guidance of their learning, and gradually develop a problem-oriented teaching method, so that students' learning effect can be enhanced.

4.2 Seeking effective models of collaborative education

On the one hand, the government should establish a qualification mechanism, and universities and research institutes across the country should set up online teaching management departments to ensure the efficient and stable operation of online distance education. The relevant department of the government should also promote the sharing of educational and teaching resources among universities, build a data sharing platform to achieve the purpose of education for all and lifelong education, and encourage distance education institutions with open exchanges and fair competition. On the other hand, a monitoring mechanism should be set up to monitor the operation of schools. The development of distance education should be accompanied by the maintenance of order in the running of higher education. Different institutions should break down disciplinary barriers within online education, enrich the curriculum, explore the laws and characteristics of online education in different disciplines, form disciplinary synergies, ensure the scientific and effective design of online education teaching programmes, load data engines for education, and better meet the learning and teaching needs of students and teachers.[8] At present, the comprehensive coverage of the network enables the sharing of resources to become a very easy task. In their distance education work, universities can cooperate with other schools that have the conditions and qualifications for online teaching, so that distance education teaching resources can be shared in information among schools that cooperate with each other. Schools should also actively work with mobile Internet information technology to integrate education and teaching resources to build a high-quality resource bank.

4.3 Strengthening the assessment of the quality of education

When the teaching model is being innovated, it is also essential that the assessment system is innovated. For example, the quality of the interaction between students in online seminars and their participation in online learning has been strengthened. Compared to undergraduate and specialist education, postgraduate education is of a higher level and smaller in scale, leading to more stringent requirements for the quality of training. The reality of the marginalization and low social recognition of the qualifications awarded by distance education in China has not yet been improved, and there have been calls from researchers for a sound quality assurance system for distance education.[9] In the construction of the teaching resource base, the relevant authorities should make co-ordinated arrangements to optimize the allocation of resources, co-ordinate planning and to strengthen the assessment of education and teaching resources to eliminate those of low quality. In addition, the distance education teaching system should also establish a learning evaluation mechanism to optimize students' supervision of the distance education system and promote the continuous improvement of the quality of education in this system. Whether it is the use of machine learning, artificial intelligence and other emerging technologies, or the adoption of various teaching modes such as learning assessment methods, practical teaching should be carried out based on relevant theories, accumulating practical experience and adding to the promotion of localised development of online education.

5. Meeting the objectives of distance education

Since 1999, China's Ministry of Education has implemented the "Modern Distance Education Project" in order to implement the "Action Plan for the Revitalisation of Education in the 21st Century". In the past 20 years, certain achievements have been made in undergraduate and specialist education, and certain material and institutional experience has been accumulated for the future development of distance learning postgraduate education in China.

Distance learning turns learning into an active process of exploration rather than a passive one. Students develop their research and problem-solving skills by working with their teachers to improve their abilities and skills in independent and collaborative learning. The key feature of distance education is student-centredness, but this does not mean that the role of the teacher is diminished. On the contrary, distance teaching places greater demands on teachers. It requires teachers to be skilled in the latest developments in the subject and in novel teaching methods. At the same time, it requires

teachers to have the ability to deal with diverse students and complex projects. Teachers are expected to take an active role in guiding, directing, organizing and monitoring students' distance learning. Teachers should believe that, with the right guidance, students have the potential to stimulate their great creativity. In conclusion, the key factors for the effective implementation of distance education are successful communication, interaction and collaboration for better cooperation between teachers and students.

6. Conclusion

As distance education in China has developed rapidly, the instructional mode of distance education has undergone changes. Distance learning has brought more convenience and possibilities to modern postgraduate education, and the distance learning model in China's universities has achieved some achievements, but we also need to recognize the advantages and shortcomings of distance learning in postgraduate education. It is not only the change in teachers' teaching mode and the changing environment, but also the distraction of students. In response to these situations, teachers must improve their ability to use online learning applications and improve traditional teaching models, and students must improve their self-discipline. The government should increase the building of infrastructure, develop policies on relevant online learning tools, guide institutions to implement more effective collaboration models and enhance the assessment of the quality of education. This will enable distance learning to be most effective, allow the quality of distance education work in universities to be continually improved, enable the learning needs of those receiving distance education to be better met, and distance learning to develop in a positive way.

References

- [1] Moore JL, Dickson-Deane C, Galyen K. E-learning, online learning, and distance learning environments: are they the same? *Internet High Educ.* 2011;14(2):129 – 135.
- [2] Bernard RM, Abrami PC, Lou Y, Borokhovski E, Wade A, Wozney L, et al. How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Rev Educ Res.* 2004;74(3):379 – 439.
- [3] Information on: www.whoeducationguidelines.org
- [4] Cao Ting, Xiong Jidong. Analysis of the Status Quo of Network Distance Teaching in Medical
- [5] Postgraduate Education [J]. *Digital Technology & Application*, 2021,39(09):240-242.
- [6] Information on: www.huanghe.yuketang.cn
- [7] Ladyanna Sonezza, Aslinda. Problems and Challenges of Online Lectures in Indonesia During the Pandemic COVID-19[P]. The 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020), 2021, Indonesia, p78-82.
- [8] Gewin V (2020) Five tips for moving teaching online as COVID19 takes hold. *Nature* 580:295 – 296
- [9] Li Xiaoxue, Xu Xinhua, Sheng Chen. Visual analysis of online education research in the past decade in China [J] *School of Computer and Information Engineering, Hubei Normal University*, 2021,41(02):59-66.
- [10] Chen Li, Lin Shiyuan, Zheng Qinhua. 2016. Opportunities and challenges of distance education in China in the era of "Internet+" [J]. *Modern Distance Education Research* (1): 3-10.