



Research on the Problems of School Digital Management During the Epidemic

Botian Yuan^(✉)

College of Teacher Education, University of the Cordilleras, Gov. Pack Road, Baguio, Benguet, Philippines

b-y0645@students.uc-bcf.edu.ph

Abstract. The sudden school closures during the epidemic disrupted the progress of education. As one of the public health control methods to control the spread of the COVID-19 virus, large-scale school closures have brought unprecedented challenges to the school education system. The school provides education remotely through a combination of technologies, ensuring that all students can continue to access the curriculum, even when classes are closed. The guiding concept for these efforts should be to avoid exacerbating existing educational and social inequities through the design and execution of distance learning. In addition to responding to the current Covid-19 crisis, initiatives to scale up distant education at all levels of the education system give useful insights that could be applied to establishing a more open, inclusive, and flexible education system in the post-COVID-19 era. Long-term goals lay the foundation. The goal of this study is to better identify key difficulties with home-based distance learning during COVID-19 school closures, as well as to create and facilitate effective learning activities.

Keywords: Distance learning · Distance education · Education strategy · Digital management · Remote management

1 Introduction

In response to school closures caused by the Covid-19 outbreak, the distant learning strategy calls for government agencies and partners to continue student classes and other normal educational activities when schools and other brick-and-mortar establishments are closed. To achieve this goal, relevant departments will assess acceptable learning activities and, with the help of instructors and the education community, prepare and equip students and their families with alternatives to remote learning programs. The complementarity of formal and non-formal education, as well as the spectrum of education and training levels for lifelong learning paths, are considered in the Distance Learning Strategy, although this question concentrates on schooling. Without a traditional school setting, students, teachers, and parents obtained a school-quality education almost overnight. How students can access remote interactive content and communications support are two issues that must be addressed in distance learning. How to safeguard learner privacy and rights. How to assist teachers in making the shift to online learning. as well as how to mobilize financial and technical resources to help.

© The Author(s) 2023

Z. Zhan et al. (Eds.): SEAA 2022, ASSEHR 675, pp. 1609–1617, 2023.

https://doi.org/10.2991/978-2-494069-05-3_196

Students, teachers, and parents or caregivers are all responsible for ensuring school education activities take place outside of formal school settings, which frequently occurs overnight. Distance learning strategies must address a variety of issues, including how students can access remotely delivered content and communicative support, how learners' rights and data privacy can be protected, how teachers can be supported in the transition to remote teaching, and how financial and technological resources can be mobilized to sustain the provision for several months.

2 The Importance and Challenges of Distance Education During an Epidemic

2.1 What is Distance Education?

Broadly speaking, distance education is often associated with online learning, e-learning, distance learning, off-campus learning, flexible learning, and massive open online courses. A common feature of distance education is that teachers and students are separated in space or time, but media and technology can be used to communicate and communicate during the learning process. This can be achieved in several ways. For example, printed learning materials, one-way mass broadcasting (TV and radio programs), and online communication using social media channels or learning platforms. Distance learning generally requires learners to have high self-reliance learning abilities and skills. These need to be supported through new education, learning and mentoring strategies.

2.2 The Importance of Distance Education for Students and Teachers During the Epidemic

Break the time and space constraints. In the case that face-to-face teaching cannot be returned to the classroom, remote teaching through online courses or other remote means ensures the teaching progress and the completion of teaching tasks stipulated by the school. To achieve the teaching policy of "suspending classes without stopping".

Distance education reflects the characteristics of a wide range of education and equality. Fair supervision can be achieved. There is no "front row" or "back row" in an online class. The teacher treats each student equally, and the audio-visual effects experienced by each student are also equal.

The method of teacher management is more scientific. Teachers play an important role in helping and facilitating student learning. To stimulate the subjectivity of students, the means of control are weakened. Teachers can use more tools to manage their teaching progress and teaching style. And this control is relatively hidden and subtle because there is no contact between the teacher and the student.

Interactive operation is beneficial to help students learn. For example, having students complete assignments online while teachers grade assignments online. Students can also read and comment on other students' articles through the website, or participate directly in discussions to solve homework problems. Improve the efficiency of teachers showing homework and students' interest in learning. Some students reported that they could

learn a lot from other people's comments on their articles, and understanding their own writing experience and feelings can improve their writing level and problem-solving ability faster.

Distance education can help teachers expand the scale of teaching. Compared with the traditional face-to-face classroom teaching, subject to the capacity of the classroom, a course is often divided into several classes to be taught. Through remote teaching, more students can be allowed to participate in the course at the same time, thereby saving the time of teachers and students, saving teaching costs, and improving teaching efficiency.

2.3 The Challenges that Distance Education Facing During the Epidemic

Formalism is easy to fall into. The ultimate purpose of online courses is to enable students to learn and acquire knowledge as efficiently as possible at home. When compared to traditional classrooms, online learning at home is a test of self-control, and online courses are comparatively uninteresting. The teacher only reviews the textbook and PPT in class if the school only completes the tasks provided by the boss. If you take the oath of office while ignoring the feelings of the students, formal online courses will not only be unpopular and unproductive, but they will also waste students' time and make them despise you.

There are specific equipments and operation requirements. Distance education is a product of the information age, and both software and hardware must meet certain requirements to ensure the smooth progress of distance education. This has undoubtedly exacerbated the situation for many impoverished areas and families, as well as students with poor internet access. Some teachers are not familiar with the operation method of distance education. In the teaching process, the use of online course software is also a test for some old teachers.

Learning efficacy is tough to determine. Online courses are a type of distance learning training that makes it difficult for students to connect with teachers, teachers to instinctively understand students' understanding of knowledge, students' imagination and creativity are limited, and students are more passive in acquiring information. This process puts students' efficiency and self-control to the test, especially at home, where there are several distractions and temptations.

Affects health. Many students report staring at a screen for 10 h a day, which takes a toll on eyesight, leading to dizziness and tiredness throughout the day.

3 Current Situation of Distance Education in the Context of the Epidemic

3.1 The Unique Circumstances of Home-Based Distance Learning During School Shutdown

The transition of learning from school to home can result in a physical and psychological divide between teacher and student, as well as between pupils. Students gain autonomy in this new environment, teachers lose direct control and supervision, and parents are frequently tasked with supporting and guiding their children as they adapt to new types of learning, which may involve assisting children in learning to use new technology.

3.2 Analysis of the Situation of Students Studying at Home During the Epidemic

When making the teaching plan of distance education, the learner's self-regulation ability and autonomous learning should be considered. Before COVID-19, distance education programs were primarily aimed at adult learners with high self-regulation skills or supervised adolescent learners. However, during the Covid-19 pandemic, distance learning is geared towards learners of all stages.

Distance learning programs pose multiple challenges to students' study habits, self-management, self-directed learning motivation, parental relationships, and future planning. In addition, students' daily life is relatively chaotic due to the impact of the new crown epidemic, and they need to formulate study plans for different subjects, resulting in slower learning. Electronic devices (mobile phones, tablets, etc.) that were often used for gaming in the past required students to have a lot of self-control. To keep students motivated to learn without a teacher present, parents also need to find time in their busy schedules to motivate and manage their learning activities, which can easily lead to family friction...and, for students of different ages, the uncertainty of the big picture can also cause anxiety about further education.

On the other hand, home-based learning provides a good opportunity for students to improve their self-regulation skills. They need to be voluntary and active learners, understand and learn relevant safety measures and health knowledge, maintain a good attitude and have physical and mental health, to cope with the new crown epidemic. Students may learn these skills at home and are important skills for lifelong learning. There are several ways to motivate students during home learning: Adjusting study and playtime to find the right balance; Choosing learning resources based on their needs; Stimulating the enthusiasm for learning through games or other interesting methods; Self-monitoring learning progress and achievements; Enhancing formative assessment and cultivate learning ability; Reflecting and reviewing their learning methods [1].

By adopting these approaches, students can set and manage their own learning goals. Especially for those older students, these strategies can greatly unlock their potential. Teachers need to help students reflect and adjust their learning methods by assigning regular assignments, providing quick feedback, and showing that students are moving toward their goals.

3.3 Analysis of the Situation of Home Teaching Teachers During the Epidemic

During school closures due to the COVID-19 pandemic, teachers play multiple social roles, as designers and implementers of distance learning providers, facilitators of learning activities, learning partners, and liaisons with students' families, and students' parents, and school and community interactions. Middleman. It is important to improve teachers' physical and mental health, social and emotional skills, and resilience, whether before, during, or after the COVID-19 pandemic [2].

Teachers who provide distance learning services are unable to leave their homes to teach at schools or meet with students in person, therefore they must adapt to their own and their students' educational practices. The lack of physical contact and the physical classroom setting are the two most significant barriers that teachers must overcome.

To address these issues, teachers must think about how to make the best use of existing resources and turn themselves into designers and facilitators of distance education across time and space. Teachers must manage a variety of course resources while also maintaining social contact with their students. Teachers must provide remote learning activities that encourage students to actively investigate and expand their comprehension of the subject matter. Planning flexible learning assignments and offering feedback to assist students in studying at their speed encourages student autonomy. Teachers also assist students in managing their learning by establishing individual goals and keeping track of their progress [3].

The social interaction between teachers and students, as well as between students, is limited when students study from home. Students may feel alienated and powerless in this situation. Teachers can assist students in relieving their stress by offering emotional support and encouragement.

Teachers must develop and arrange course objectives, as well as organize course resources and activities. They must also prepare live or recorded class scripts, create distance learning exercises and tasks, and conduct formative assessments.

4 Suggested Measures for Distance Education Implementation Under the Epidemic

4.1 The Effectiveness of Distance Education Depends on Various Aspects of Preparation

Technical readiness: This usually includes the degree of readiness for technical competence. Utilize digital learning platforms or television and radio systems to deliver lessons, provide remote services to all learners, and bring electricity, telephone, television, radio, digital devices, internet connectivity and data to the home and more.

Educational content preparation: This includes educational and learning materials delivered through online platforms, television or radio programs, or printed for home study according to the national education curriculum. Delivering curriculum content that covers all grade levels and all subject areas and is accessible to all learners is often a challenge.

Home Learning Readiness: This includes teachers' readiness to design and implement distance learning instruction, home distance learning based on handed-out printed materials, and whether parents have home distance learning that can effectively supervise assignments. Most teachers are ill-prepared for the transition to remote learning, and families are ill-prepared to facilitate and supervise children's day-to-day home learning, especially those with multiple children. It can be even more difficult to implement distance education if parents lack the relevant tutoring and supervision skills and do not have the time to follow the study plan and manage the learning process.

Monitoring and Evaluation Readiness: This includes the following features: monitoring the process of distance learning; tracking course access and participation; evaluating distance learning outcomes; maintaining immediate distance education feedback for long-term goals. In online learning, monitoring differences in student engagement and motivation is important because some students have weaker self-regulation and self-organization skills. However, it is often difficult to measure student, teacher, parent, or

caregiver participation in distance learning when one-way knowledge dissemination systems such as online classes, television, and radio programming are used as the primary solution [4].

4.2 Lessons Learned from Current Practices

One of the most important lessons learned from distant learning in reaction to diseases and pandemics is that learned Distance learning as a new everyday instructional strategy should be supported for schools, teachers, and families or households to quickly shift paradigms and adapt.

Distance learning alters the learning environment, resulting in physical and psychological alienation between teachers and learners, as well as distance among peer learners. Learners gain more autonomy in the new learning environment, while the teacher loses some direct control and monitoring. Supporting and encouraging teachers, parents, or caregivers to provide regular monitoring can help lessen feelings of detachment and disengagement while also managing the rules necessary for home studying or discipline.

The key to making the shift to distant education is to not only train and support teachers but also to encourage them to collaborate. Teachers should be involved in the development of large-scale distance learning programs to ensure the greatest possible combination of technology and pedagogy. Teachers should be encouraged to investigate solutions to common problems, such as assisting students in overcoming distance and disengagement from the classroom, adapting instructional strategies to motivate students and maintain interaction, and creating and sharing instructional resources and best teaching methods.

Learners and students with disabilities who do not have access to radio, television, or digitally connected devices are among the most susceptible demographics to remote learning courses. While text messaging on feature phones can be a convenient way to communicate, distance learning that relies solely on paper-based materials or offline information will dramatically diminish students' connection with instructors and other students. Contributions to low-income families can help the most vulnerable children gain access to basic digital devices, and assistive technology can aid students with impairments. Equal access to home learning devices for men and women should be supported by policies and procedures, as well as adaptable case arrangements and learning structures.

Improving national distance learning systems' technical capabilities. Government-run, public-sector, or university-run learning platforms are an important part of distance learning initiatives. Assistance for delivery, hosting, and management of learning materials, as well as support for instructor and learner contact, are all included in the platform's services. During downtime, the bandwidth needs to be boosted depending on the expectation of higher platform access during the same period. Furthermore, capacities for online teaching and learning, as well as large-scale television and radio program broadcasts, must be improved. Content for courses and platforms should be built with accessibility in mind.

By coordinating and aligning educational resources with national standards for development. Each grade and subject's curriculum is completely online, and resources are organized from the Open Educational Resources main database to connect relevant resources with the national curriculum. Teachers are also urged to share resources more

actively. Newly created distance learning resources should be made available as open educational resources, and teachers should have the tools and training they need to create and share high-quality content.

4.3 Practical Advice for Future Education Policymaking

The transition to distance learning is essential, and the process will not be flawless from the start but will require continuous development. Most significantly, it is critical to guarantee that the experimentation process does not jeopardize educational equity and inclusion, and that long-term distance learning solutions maximize their effectiveness in fostering inclusion, equity, and inclusion, and to make long-term distant learning practices as effective as possible in fostering inclusion, equity, and learning quality.

Changing course objectives and placing a higher priority on humanitarian social care. Trauma, psychological stress, and unpleasant emotional reactions can all be caused by epidemics and pandemics. Regular human interaction should be ensured before offering academic studies to establish interpersonal relationships, manage feelings of isolation, and provide social care help to handle the psychosocial challenges that students may confront in times of loneliness or grief. To prevent developing improper interpretations of the learning objectives, define the purpose of remote learning around all key parts of the national standard curriculum and broader educational aims.

To satisfy the greatly increasing demand from professors and students, upgrade the bandwidth and capability of existing distant education platforms or develop new ones. To cover gaps in curriculum and materials, develop, adapt, and curate existing high-quality OER courses. Plan learning schedules based on student needs, learning levels, and learner support from parents and the community. Avoid requesting students and parents to download and register for too many applications or platforms when implementing an online learning approach, and avoid overburdening and confusing students and parents.

Ensure that all people are treated equally. Measures to ensure that all students have access to distant learning and that all learners, particularly those from disadvantaged backgrounds, are not harmed in any manner during their distance learning experience.

Ascertain that the management of national platforms and private application providers do not infringe on the privacy of students' personal information. This relates to data security while exchanging privacy-sensitive data or educational resources with other organizations or individuals via the internet. Take explicit steps to guarantee that learner data is used in a reasonable, non-discriminatory, and transparent manner.

Organize expedited teacher training on distance learning tools, as well as creating and facilitating distance learning activities, to assist them in adjusting to the new learning environment. Assist teachers in preparing the fundamental infrastructure required for home-based teaching, remote learning, and monitoring. Support parents' or caregivers' involvement in home learning management by providing them with guidance resources or addressing the creation of daily home learning management activities with parents and students. To establish a regular interchange of information, form a community of teachers, parents, and school officials. Provide a suitable area and setting for students without parents or carers to grow up in, or provide financial support so they can experience the comforts of home.

To ensure the efficacy of distance learning, incorporate student-centered education, monitoring, and assessment approaches. By creating Improve student engagement by tailoring teaching approaches to students' interests and cognitive capacities, such as using group discussions and peer tutoring. Peer facilitation and evaluation. Create open-ended questions, examinations, or exercises to track how well students are learning. Encourage Reduce the frequency with which parents are asked to review and send student feedback by using accessible resources to assist children in completing answers and feedback inquiries. Make sure parents aren't overburdened with the chore of checking and submitting student feedback.

Make plans for long-term goals and sustainability. In the future, current efforts to assure the success. More technology-driven pedagogical innovations, more open and flexible learning environments, and more resilient education institutions will all benefit from distance learning. To develop a more inclusive, open, and robust system, bring together key resources and elements. Better accessibility for the most vulnerable, modernized learning platforms, distant learning courses covering all grades and subjects, and improved teacher capacity to develop and assist distance learning are all key parts of the new normal.

5 Conclusion

As most schools reopen, attention should be paid to the educational achievements made during the school closure period and efforts to make them part of the new norm in education. It is of utmost importance for all education participants to continue to promote best teaching practices and to actively explore innovative ways to integrate technology into teaching practices to innovatively solve the many problems in schools.

Schools, teachers, parents, and community members are all acutely aware of the benefits of distance learning alternatives in the aftermath of the COVID-19 outbreak. As schools reopen, this could be a game-changing opportunity to integrate technology into the classroom on a large scale. This could be a game-changing opportunity for large-scale technological integration in education. Teachers should continue to be proactive in their use of technology for teaching and learning, increasing understanding of data privacy and data protection, creating a culture of digital teaching and learning, and promoting the implementation of flexible teaching and learning.

Educators should learn how to leverage national platforms, teach synchronous online courses, coordinate video-based flipped learning, and employ television and radio shows for learning in the post-epidemic era. This understanding will enable everyone to approach future issues in fresh ways. In the post-epidemic age, all of these excellent techniques can be incorporated into the new normal of school-based teaching and learning.

References

1. Huang, R. H., Liu, D. J., Amelina, N., Yang, J. F., Zhuang, R. X., Chang, T. W., & Cheng, W. (2020). Guidance on active learning at home during educational disruption: Promoting students' self regulation skills during the COVID-19 outbreak. Smart Learning Institute of Beijing Normal University. <https://iite.unesco.org/wp-content/uploads/2020/04/Guidance-on-Active-Learning-at-Home-in-COVID-19-Outbreak.pdf>
2. UNESCO. (2020). *COVID-19 Education Response, Issue note no. 2.2: Supporting teachers and education personnel during times of crisis*. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000373338?posInSet=1&queryId=e32ea6f3-59fa-4fce-892b-129c32832194>
3. UNESCO. (2019). *Recommendation concerning the status of teachers*. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000259299?posInSet=1&queryId=f9d4bf3e-e911-4299-939d-33ea957a3000>
4. UNESCO. (2020). COVID-19 education response webinar: Distance learning strategies – What do we know about effectiveness? *Synthesis report*. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000373350?posInSet=1&queryId=1474b0d7-afe5-4251-93b9-70d7eceb3b>
5. Brown University. (2020). *Introduction to Creating Course Videos*. Retrieved from <https://dld.brown.edu/resources/guides/online-teaching/introduction-creating-course-videos>
6. Burns, M. (2020). School interrupted: 4 options for distance education to continue teaching during COVID-19. *Global Partnership for Education*. Retrieved from <https://www.globalpartnership.org/blog/school-interrupted-4-options-distance-education-continue-teaching-during-covid-19>
7. Education Cannot Wait. (2020). *COVID-19 and Education in Emergencies*. <https://www.educationcannotwait.org/covid-19/>
8. Education Development Center. (2020). *Learning at home in times of crisis using radio*. Retrieved from <https://www.edc.org/sites/default/files/WB-IAI.pdf>
9. Human Rights Watch. (2020). *COVID-19 and Children's Rights*. Retrieved from <https://www.hrw.org/news/2020/04/09/covid-19-andchildrens-rights>
10. Richmond, S. (2020). Repurposing established radio and audio series to address the COVID-19 educational crises. *Education Development Center*. Retrieved from <https://www.edc.org/sites/default/files/Repurposing-Established-Radio-AudioSeries.pdf>
11. Study.com. (2020). *Blended learning: A guide for teachers*. Retrieved from <https://study.com/teach/blended-learning.html>
12. Techsmith. (2020). *The ultimate guide to easily make instructional videos*. Retrieved from <https://www.techsmith.com/blog/instructional-videos/>

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

