The New Historical Divide of Online Education: Dialogues with Key Leaders During the Epidemic

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The Coronavirus epidemic has reached far deeper into people's daily life across the world, with the sweeping shutdown of all schools and the educational upheaval of students globally. "The speed and scale of the educational tumult has little parallel in modern history," as commented by *The New York Times* (Wang & Inoue, 2020).

During the outbreak of COVID-19, many universities and schools have responded as quickly as possible and shifted the courses from off-line to online. However, with the explosion of online teaching and learning, there came growing questions and challenges for educational leaders, scholars, and educators. The current crisis has stimulated discussions about online education before, during, and after the Coronavirus. One of these critical questions is *where online education shall move in the post-epidemic era*. Recently, the Research Center for Online Education of China's Ministry of Education has launched an International Interview Project to invite scholars,

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educational leaders, and academic researchers to have dialogues concerning the significant issues about technology and education in this historically unparalleled divide. Furthermore, this dialogic space expects to include different voices about online education under this crisis, discuss the opportunities and challenges for technology and education, and prompt further collaborations for education innovation globally.

Despite the busy schedules of scholars and educational leaders, at the end of many thorough, open, and substantive conversations, the organizers and participants agreed that the current crisis presents an opportunity that would add significant value to our understanding of online education in the post-epidemic era. Participants also raised a range of issues that confront educational leaders, administrators, researchers, faculty, instructors, and students across the globe during the discussions.

Participants' prediction

Almost all participants predicted that online education would continue to increase and develop after the COVID-19 epidemic. Some trends are happening in education, which make online education an undeniable future. As Professor Froumin from the University Higher School of Economics responded that "as soon as you can do something, it is difficult not to do that; as soon as most professors and students master the new tools, they will keep on using them." Schoolteachers and students now have realized that not every instructional session has to be achieved physically in person. More than that, everyone in society has understood that we are now able to move online with very short notices. It somehow enhances the online education readiness of life-long learners across the world, echoed by Professor Linn from the University of California, Berkeley. Another point of view from Dr. Hoshi from the Stanford Online High School demonstrated that current situation compels people to learn more about online education than ever before while at the same time arouses a new round of skepticism toward it. Positively speaking, this skepticism may help people to see clearly what sorts of online education might be improper or ineffective. Moreover, this ineffectiveness, in turn, is going to promote the development of online education faster and better with the really good remaining methods and approaches. It seems that all of these trends will have a significant and positive impact on online education development.

Participants' concerns

For this prediction, other participants expressed a concern that many people might associate online learning as the alternative or Plan B solution during a crisis, rather than recognizing that online learning has its unique value and need to keep on developing independently upon resolving the Coronavirus situation. In facing this question, Professor Siemens of the University of Texas at Arlington and Professor Hoivik of Norwegian University of Science and Technology indicated that university and school leaders should think about and lay out both the short-term and long-run

online education strategies. For instance, in this epidemic situation, perhaps most universities may focus on urgent technical problems. However, it is only the short-term strategy focusing more on technology accessibility issues. In the long run, the main problem would transfer to the professional development of teachers and students and the technical capacity building of institutions. "Because people in higher education systems should try and explore numbers of tools, more importantly, to make sense of teaching and learning in support of technologies," as several participating scholars have echoed. In this consideration, universities and schools not only need to make investments in technology for increasing accessibility but also capability investments in developing their faculties and staffs. In other words, for most educational institutions, there is still a long way to go to advance the technical capacity for online education in this digital world in the post-epidemic era.

Some highlights

Several participants highlighted the advantages of combining off-line and online education in post-Coronavirus and indicated that blended instruction is the way to go in the future. Professor Pong of the Hong Kong University of Science and Technology replied that he has considered suggesting their faculty members to record some video pieces through ZOOM for courses during this semester and then reframe their courses into blended learning programs in the next semester. For this, both Professor Siemens and Professor Yang explained, on one side, faculties and students have a chance to accumulate and create knowledge products because of the crisis, including discussion forum resources, video-based materials, or other knowledge artifacts to enrich online interactions. "These knowledge products," as Professor Yang of Tsinghua University indicated, "can potentially transfer and promote deep innovation of teaching and learning within the institution." On the other side, faculties and students have realized that they need physical connections with one another in a residential campus environment. As Professor Mitchell from Stanford University echoed, "now we understand better why it is really important to have this residential experience as it gives everyone a place to start with, the same way of learning regardless of their economic backgrounds or what their family is like." Furthermore, Professor Froumin provided another point of view and said that "now with this great move, we observe what we are losing—human beings are social animals and need physical interactions, the soul-to-soul kind." Otherwise, people may have a lot of emotional and mental health dilemmas. Online education, therefore, would not wholly substitute the residential education in university; however, may indeed better and enhance the students' learning experiences and opportunities.

Problems identified

Following the point of view above, several participants have identified some problems if universities need to provide both off-line and online courses after the epidemic disruption. For this issue, universities might inevitably deal with many management challenges, as Dr. Laura Zhou indicated, the Educational Development Officer from the Hong Kong Polytechnic University. In fact, there were many universities already providing online programs for students, and these programs were assumed to have no essential difference between face-to-face teaching and online teaching. Literally speaking, if universities need to provide both off-line and online course in large scale after the epidemic disruption, they must formulate some standards for the programs, along with the fair assessment methods and approaches, to ensure the quality of teaching and learning, no matter in face-to-face or online environments. However, both Professor Pong and Dr. Zhou indicated that setting up such standards seems very difficult. Even though the standards are reasonable and acceptable, there are still questions about how to adapt them to the development of the entire higher education system. For example, if the ecosystem does not recognize the standards set by colleges and universities, institutions, employers, and students may not buy in this blended form of programs. Furthermore, even if legitimacy is not an issue, universities would still face a series of unresolved problems, including online security matters and privacy issues. All these issues need further discussion and cooperation to pursue better solutions globally.

Rising issues

Throughout the dialogue, issues of using, developing, and diversifying online tools arose. Firstly, some participants suggested that faculties would ideally like to use one comprehensive tool for online teaching instead of combining multiple different technologies. However, Professor Siemens noticed that people doing so may end up sustainable explorations of all sorts of tools and then narrow their creativity and innovation in online education. Besides, perceiving the access and usage patterns of emerging learning technologies, Professor Yang found that the size and cost of the technologies may not always correlate to the effectiveness of students' learning experiences, as sometimes smaller and cheaper ones may be better and more appropriate for the particular course needs. In addition, concerning the technology-enhanced teaching and learning, Professor Linn agreed and indicated that the learning tools such as automated scoring and online discussions would allow teachers to see students' thinking and misconceptions, help them provide adequate scaffolding for students, and let them personalize their students' learning activities and feedbacks. All of these are beneficial for students' learning and deep understanding. However, some participants pointed out that many online education tools in the market did not have any scientific basis, or if they did, they still lacked conclusive results from academic researches. In the meantime, some teachers are also unsure whether they are using the online or e-learning tools appropriately, due to

lacking sufficient support and training, despite using them on a regular or daily basis, as Dr. Hoshi observed. All these problems and controversies demonstrate that we still need more scientific, well-designed, and iterated researches to enhance the quality of digital learning tools as well as our understanding of these technologies. More than that, teachers also need more well-designed customizing trainings for using learning technologies appropriately, as Professor Linn reminded.

Changing understanding

Another recurring issue concerned the changing understanding of learning, teaching, and schooling in the digital world. For the students' learning in the post-epidemic era, some participants provided insightful observations. Almost all participants regarded self-discipline as an essential competency for both residential and online school students. Another critical competency that students should be nurtured and cultivated is sociability. From Professor Siemens's point of view, high-quality online learning relies on building communal contexts for students and instructors to keep connections with each other. Moreover, many participants agreed that even though these young generations are digital natives, they still need to learn to actively reach out to make friends and do group work. "Just like reaching out through email communication may be challenging," as Dr. Hoshi pointed out. Having a sense of sociability means that students need to understand how to express things in both off-line and online contexts, as well as to be more conscious and considerate in their expression. For that, teachers and instructors need to design and help students learn to make intentional connections with others within digital learning contexts.

Besides, many participants coincidentally agreed that teachers and instructors have to change their roles. They should become more like mentors, wise facilitators, or seniors who can help the younger generation to explore the unknown using various digital learning technologies, instead of knowledge providers. Professor Linn and Professor Siemens have further pointed out that teachers must take concerted effort to create web-based community learning experiences for students and to nurture a feeling of connection with our education community. In this view, teachers and instructors should also play as communicative agents who can continuously connect with and support one another in the digital learning environments.

What is more, some participants predicted that the concepts of schooling would change radically, or it already has started to at this historical divide. Students and adult learners now demand and can get much broader access to a wide range of courses online. As Professor Hoivik pointed out that such unparalleled situation potentially compels people to reconsider the relationship between society and education, as well as technology and life-long learning.

Final reminders

Last but not least, a few participants reminded us to pay attention to the change of mind-set for learning in the digital world, rather than merely the advance of technology. Professor Taddei from the Center for Research and Interdisciplinary in France indicated critically that online education nowadays still applies in a relatively traditional way to deliver learning content. "It looks like we are still dominated by the MOOC form of online learning," as he responded. However, this is only half of the picture.

The advanced technology can be used in creative ways to promote innovation-driven learning. As Professor Taddei indicated that, in this innovation-driven learning, both teachers and students are to find paths to explore the unknown problems, such as the climate changes, the Coronavirus, or any open research question. For instance, in maker-spaces, makers not only search for information through search engines like Google, but they also go to e-commerce marketplaces like Taobao to find out the cheapest pieces for their machinery. They learn between each other in these "communities of practice" context (Wenger, 1998) and then communicate and eventually build new hardware solutions. In addition to cooperative and critical thinking skills and interdisciplinary ideas, it appears that both teachers and students in such space have to get access to all sorts of digital tools (including the artificial intelligence [AI], data science tools, and learning analytics) to proactively solve future-oriented "unknown" problems. Innovation-driven learning, thus, should be the other half of the picture that advanced technology may create. And this way of education, as both Professor Taddei and Professor Linn pointed out, deserves more attention, as it encourages creativity and pushes the changing of mindset for learning in the future digital world.

In sum, the world is changing, but so is online education. The assembled scholars and educational leaders agreed and discovered that people in the educational field face a multitude of common online education-related issues and challenges during and after this Coronavirus crisis. Valuing the opportunities to share ideas around the world, all participants expressed their thoughts about the prospect of online education development and identified the issues above as worthy of future collaborative inquiry and deliberations.

Main participants in this project (in alphabetical order)

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References

Wang, V., & Inoue, M. (2020). 'When can we go to school?' Nearly 300 million children are missing class. *The New York Times*, March 4, 2020.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.