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Original Paper

Scrambling to Digitalize—COVID-19 Pandemic as a "Disclosing Tablet" for Japan's Education Woes and the Way Forward

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Abstract

While in the past online education was an educational option, during the COVID-19 pandemic it has become an essential tool for colleges and universities to maintain their academic activity. Like a disclosing tablet that makes plaque visible, indicating the areas where more brushing is needed, the COVID-19 crisis has highlighted some critical issues in education that require further attention. This paper discusses the challenges that universities, teachers and students in Japan faced after the breakout of the COVID-19 pandemic and the lessons learned from them. Following the literature review and the author's experience teaching foreign language classes at Japanese universities, the study identifies four main areas of concern: (1) a lack of digital devices and stable internet connections, (2) low levels of digital literacy among teachers and students alike, (3) insufficient institutional support, and (4) a lack of familiarity with online teaching formats and course delivery. The paper continues to examine the conditions needed for further integration of technology in education. Attention is given to teacher development, student training, and the selection and use of digital technologies in blended and fully online synchronous and asynchronous classes. While statistics and examples come from the Japanese context, many of the problems described are not unique to Japan. It is hoped that shared experiences and perspectives will help teachers and institutions in other countries identify common problems and develop the adequate strategies to confront them.

Keywords

COVID-19 and education, online learning, remote teaching, digital pedagogy, technology in education, Japanese education

1. Lagging Behind

Advances that have been made in the field of Information and Communication Technology (ICT) over the last few decades have changed the way people interact. Enormous amounts of data can be stored and transmitted quickly and globally, transforming the ways knowledge is acquired and shared.

Although usually seen as a hi-tech wonderland, Japan has lagged behind other developed countries when it comes to the use of digital technology. In the OECD *Digital Economy Outlook 2020*, Japan was ranked the lowest among 31 countries with respect to the use of online procedures—only 5.4% of the population used digital applications in public offices compared to 70% in countries such as Denmark, Estonia or Iceland (Kajimoto, 2020). A century-old custom of putting a *hanko* (personal seal) on paper documents is still a part of workplace culture. Cash remains a preferred mode of payment even for large purchases. Remote medical services were almost unheard of prior to the breakout of the pandemic. In short, despite all technological advances, robots and gadgets, Japan has remained an analogue, paper-based society.

The educational sector has been no exception. Compared to other developed countries, Japanese schools and universities have been slow to take up ICT. According to the Ministry of Education's data from 2019, Japanese schools had, on average, one computer for every 5.4 students with the shortage being particularly acute in large cities (Obe & Okutsu, 2020). The 2018 PISA survey showed that about 80% of Japanese students did not use any digital devices in their mother tongue, mathematics and science classes: the figure placed Japan at the bottom of the OECD list (MEXT, 2019a). In a study conducted by the Ministry of Education in March 2019, as many as 1,316 out of 1,815 (72.5%) municipalities surveyed stated they had no plans to introduce or further expand online learning in primary and secondary schools. There were 463 (25.5%) municipalities that were interested in introducing online learning, but which lacked the know-how (12.2%) or found the cost to be prohibitive (12.5%) (MEXT, 2019b). Few Japanese schools used digital textbooks prior to the pandemic. Data from a MEXT survey on diffusion of digital textbooks in public schools showed that as of March 1,2020, digital textbooks were used in only 7.7% of public elementary schools, 9.2% of public junior high schools, and 5.2% of public high schools (MEXT, 2021). Despite the technology available, paper textbooks have remained the hallmark of Japanese education.

Higher education does not fare much better. Data from the 2016 Ministry of Education's survey showed that only 26.5% of Japanese universities used ICT (MEXT, 2018). The most popular applications were learning management systems (LMS) found at 53.1% of the "ICT universities". Blending of online lectures with classroom discussions and use of "clicker technology" for polling and checking students' understanding were other common forms of ICT integration, reported by 45.7% and 39.3% of the user institutions, respectively. Slightly less than 29% of the ICT universities reported using videos-on-demand and similar online content distribution technologies, while 25.5% employed videoconferencing. In short, data from all levels of education show that prior to the pandemic, ICT had very limited diffusion in the Japanese educational system with a marginal impact on school curricula

and teaching practices.

2. Facing the Pandemic

The first case of COVID-19 in Japan was confirmed on January 16, 2020. As the number of cases continued to grow, on February 27 the government requested a temporary closure of all primary and secondary schools. On April 7, a state of emergency was declared for the cities of Tokyo and Osaka, and four other prefectures, which was expanded nationwide on April 16. The state of emergency was lifted on May 25, and almost all primary and secondary schools reopened by June 1,2020. However, most junior colleges, universities and vocational schools remained closed for the whole school year, with some restrictions eased in the autumn semester (September-January). They had no choice but to move to online learning. Few were ready for that.

The academic year in Japan begins on April 1. While there is some variation in school calendars, the first week is normally used for student orientations, class registration and medical check-ups, and the classes begin in the second week. There were hardly any schools that began the semester on time. According to data from the Ministry of Education released on May 12, 2020, about 90% of Japanese universities delayed the start of the semester. Only eight national universities (9.3%), 14 public universities (13.3%), 86 private universities (10.5%) and seven technical colleges (12.3%) were able to move online and start the semester on time. Moreover, 96.6% of those that delayed the start of the semester reported moving classes online or preparing to do so (MEXT, 2020).

Transition to online learning was not smooth. In Japanese work culture, an enormous amount of time is spent on planning, with meticulous attention given to the smallest details. Months can pass with proposals going back and forth among different departments before a consensus is reached and decisions are made. A lot of emphasis is placed on the process, leading to complex flowcharts and long manuals, which are constantly optimized and maximized. In normal times, this planned and systematic approach, albeit slow, results in the high-quality performance for which Japan is renowned and praised. Yet, as the saying goes “too much analysis can lead to paralysis”. With no written guidelines and charts to follow, Japanese people often feel at a loss how to address situations that have not been anticipated. Corona virus left Japan “paralysed” in the crisis. Through March and the first half of April, many universities remained closed with the starting date of the semester being pushed back several times. Instructors did not know whether the lessons would be held on campus or online, or what they should prepare and how. When the decision to move online was made, they had about two weeks ‘to get ready’. For many it was the first time teaching in a virtual classroom. They lacked technical skills as well as knowledge about how to adapt the content of their courses to the online environment.

As observed earlier, prior to the pandemic, many universities did not have learning management systems, and even if they did, not all instructors used them on a regular basis. Ishikawa and Hara (2019) report the results of a study conducted at Yamanashi Gakuin University on LMS use which showed that between 2016 and 2018 as many as 15% of full-time instructors and 63% of part-time instructor never

logged onto the university LMS. Even the instructors who did access LMS did not integrate the system in all the courses they taught, and they often limited their use to a small number of functions such as content uploading, short tests and report submission. Instructors who did not use LMS felt that it was not suitable or necessary for lecture-style classes or lacked confidence in their computer and LMS navigation skills. Some teachers doubted that LMS would help decrease their workload. There were also security concerns. Finally, some instructors simply had no interest in LMS.

Personal communication that I had with instructors at three universities in the Tokyo area in the spring of 2020 confirmed these findings. Eleven out of fourteen instructors I spoke to reported not having used LMS for teaching before the pandemic, and those who had limited their use to uploading the handouts "to save time on photocopying' and collecting students" assignments. One instructor used it to record students' attendance. None of the instructors mentioned having used online chats or LMS assessment tools and most felt anxious about having to move their classes online.

One reason for this was a lack of LMS training courses. Only one of the three universities where I work had been offering ongoing training and support for their Blackboard-based LMS prior to the pandemic. One university provided online manuals but there were no regular training sessions, while the third one introduced Google Classroom as its official LMS only after the breakout of the pandemic.

With all universities moving online, there were widespread concerns about the stability of the servers. Teachers' mailboxes were filling up with messages regarding the restrictions in file size and requests to limit LMS use at "peak times" (which, as could be expected, coincided with class time slots) to prevent systems from crashing. The Japanese even coined the term for this: *data diet.*

The shift to online learning also required use of video-conferencing technology. School policies varied. One of the universities where I work opted to use Zoom, while the other rejected it due to security concerns: it made Google Meet the official communication technology. That policy was reversed in the autumn semester when an institutional Zoom account was set up. At the third school, instructors could choose between Zoom and Webex. While some teachers had used these applications before, most had no experience in teaching group lessons online. At some universities, full-time instructors organized one-off 'training sessions' with different degrees of success. Despite good intentions, many of the 'demonstrators' themselves were new to these technologies, and the 'training sessions' involved a lot of trial and error, not always inspiring confidence in the instructors that they would be able to teach their online courses well. At one of the schools, some of the colleagues experienced with Moodle organized a tutorial, which was well-planned and helpful. Yet, as Moodle was not the official university LMS, the IT department was explicit about not providing any support to the students or instructors who employed it. The instructors were left with a choice of either adopting an LMS not endorsed by the university and relying on collegial support or working on the official platform (Google Classroom) with You Tube videos as the main "trainer". The situation was further complicated by work practices in Japanese universities. In Japan, it is common for full-time instructors to work part-time at a different university one day a week while part-time instructors often work at four or five different schools. While none of

the mentioned technologies was prohibitively difficult, having to learn to navigate through three or more LMS platforms and different video conferencing systems in a span of a week or two was an overwhelming and stressful endeavour for many instructors.

Students' IT environments were another challenge. Many students lacked the equipment and stable high-speed Wi-Fi connections necessary for online learning. Others faced limits on the amount of data they could download each month. Data from an internal survey conducted by Bunkyo University in April 2020, which involved approximately 6,000 students, showed that 21% relied on their smart phone only, 13.1% used tablets, 61.8% had their own computer, while 18% shared a computer with other family members. Only 64.7% of the computers were equipped with a camera. Further, 5.3% of the students did not have Wi-Fi at home, while 31.4% had a data limit (Bunkyo University, 2020a). A smaller scale survey of 155 students conducted by a group of students at Showa Women's University at about the same time showed that 9.6% relied only on the phone. Additionally, 23% of the students did not have a printer at home (Showa Women's University, 2020). A survey of 223 undergraduate and graduate students conducted by Kioicho Strategy Institute (KSI) after the spring semester (August, 2020) showed that 52.9% of the students relied on smartphones for their classes (KSI, 2020).

Universities ran a number of initiatives to assist students during the transition to online learning, which included endorsing asynchronous over synchronous learning to reduce mobile data usage, lending laptops and mobile Wi-Fi routers, usually at no charge, as well as various forms of financial assistance. However, purchasing the equipment and organizing shipping took time, and many students started the school year without the necessary resources. Problems with cameras, microphones and internet connections persisted throughout the whole school year. According to Kioicho Strategy Institute (2020) data, about 4% of students were not able to attend their classes due to the connection problems.

Textbooks were also delayed. As students' access to campus was restricted, many placed their orders online. The pressure on college bookstores was large, leading to the shipping delays that sometimes lasted up to several weeks. Many students started the semester waiting for the materials. It should be noted that at that time national and international publishers with offices in Japan made praiseworthy efforts to provide teachers with access codes for digital books and links for audio and video materials that could be shared with students. Yet not all resources were available in a digital format, and sometimes teachers had no choice but to change their textbooks and syllabi just before the start of the course.

3. In the Classroom

When the classes started, no one was ready. Teachers had not had sufficient time to prepare their courses and master the technology. Many students did not have all the necessary equipment or the textbooks. Both sides were new to the online learning environment.

For many instructors, the shift to virtual classrooms was an exhausting experience. The lack of experience with online teaching and traditional dependence on analogue materials meant that class

preparation took a long time, sometimes longer than teaching itself. Resources had to be created, downloaded, scanned and uploaded. Tasks and assignment shad to be set up in LMSs, new online tests had to be made. Detailed instructions about where to find materials and how to work with them had to be provided.

Teachers who opted for asynchronous ("on-demand") learning were spending hours recording and editing the videos of their lectures. In order to maintain students' interest and attention, some instructors were splitting their 90-min lectures into several shorter video recordings. Recording and editing time would take between 7 and 10 hours per class ("Shift to online classes [...]", 2020). For instructors with families, the difficulties were compounded by the fact that since the schools were closed, they faced not only an increase in their workload but also more demanding childcare. Work hours sometimes extended deep into the night. All boundaries between work and private life were blurred ("Shift to online classes [...]", 2020).

Instructors who went for synchronous ("real-time") teaching soon discovered the limitations of the videoconferencing technologies. Google Meet is useful for all-group discussions, document sharing and chat messages, but it lacks many important features needed in the online classroom. Zoom is more suitable for online teaching as it includes "breakout rooms" option, which allows participants to meet in smaller groups. Yet moving in and out of breakout rooms is not the same as circulating around the classroom. Breakout rooms make it more difficult for instructors to monitor students' performance and work pace. Furthermore, moving back and forth between the "main classroom" and breakout rooms slows down the lesson pace. Both Google Meet and Zoom are equipped with interactive digital whiteboards on which teachers and students can collaborate, write and annotate text. On Google's Jamboard, it is also possible to draw pictures, post images, move objects and use sticky notes (digital post-it notes). Teachers can assign students into groups and have them work in different frames, which can be saved individually or as a pdf file. However, while teachers can monitor students' work in real time, the application does not allow post-activity tracking of individual contributions. Zoom's White board feature also allows learners' collaboration through screen sharing and co-annotations. However, navigating on these platforms can be confusing for novice users. For example, Zoom's tools such as Select, which allows moving and resizing annotations, Spotlight and Save are available only to the user who shared the whiteboard. Annotation controls are displayed automatically only to the user who shared the screen. Screen viewers have to click on View Options and then on Annotate in order to access them. At the onset of the pandemic, most students were not familiar with videoconferencing technologies and every step required guidance and explanation.

Technical problems persisted throughout the whole school year. With many participants logged in at the same time, unwanted noise and static often disrupted the sessions. Students were instructed to keep their microphones off when not speaking to prevent interference. However, that meant that responses were often delayed. Some students had problems with microphones or could not use them because they had other family members working from home. They were advised to use the chat tool. However, in

foreign language classes that also proved difficult. As many students were poor at typing and had difficulty expressing themselves in English, their answers were short and slow to come. There were also students who had to share computers with other family members, which meant that they could not always attend the classes in real time.

Furthermore, many students participated in the classes without cameras. Some did not have them on their computers or were not able to get them to work. Some opted not to use them to reduce the need for a high-bandwidth connection or because they felt uncomfortable about their faces or private spaces showing on the screen. Others preferred to do other things.

Out of respect for students' privacy and concerns over possible online bullying, university policies stated that instructors could not make camera use mandatory. This meant that lessons were often devoid of human connection. There were classes where instructors never got to meet some of their students, and students themselves never really got to know their classmates. Lessons lacked small talk, humour, laughter and bonding. Lack of visual cues also made it more difficult to see how the students felt about the classes—whether they were confused, bored or excited about the content.

Students' low digital literacy skills affected all aspects of online learning. As many young Japanese grow up with digital media, a general assumption is that they are technologically savvy. In reality many have never received any ICT training, and their digital literacy lags behind that of students in other developed (and many developing countries). According to the 2015 OECD Skills Outlook report, about 25% of young Japanese people (aged 16-29) lack basic computer skills. Other studies suggest the same. Cote and Milliner assessed the digital literacy skills of 112 first-year Japanese college students; they found that as many as 82% did not know how to convert a Word document into a PDF, 64.2% did not know how to move a file from a hard drive to a USB drive, and 26.7% did not know how to send or receive attachments via email (Cote & Milliner, 2017).

While in the past digital literacy deficiencies were concerning, during the pandemic they proved to be a major hindrance to online learning. Many students were not familiar with the computer keyboards, Microsoft Office or Google Drive. Simple instructions to indent a paragraph, use double space in an assignment, or download an audio file from Google Drive caused confusion. Many had never used an LMS platform. They had difficulties logging in, finding the course materials, and uploading their assignments. In the first test conducted via Google Classroom, about 40% of the students in my class went over the time limit because they did not know how to submit their responses. University support was limited to providing links to basic online manuals but there was no special training or demonstration sessions for the students. It was generally left to the teachers to train the students to use LMSs and other tools needed for the online classroom.

Managing the workload was another challenge. Slower lesson pace and concerns about data usage limits resulted in larger portions of coursework being assigned for homework and more emphasis being placed on self-directed learning. Many students found it difficult to handle an increase in the workload and manage their schedules. In a survey conducted at Bunkyo University in June 2020, 37% of the

students considered homework load to be the most difficult aspect of online learning (Bunkyo University, 2020b). In another survey conducted by Mukogawa Women's University in July 2020, about 69% of the university students and 73% of the junior college students felt that the number of assignments was very high or quite high.

All in all, lack of training, lack of time to adjust, and the pressure to use technology that was not built for the job made a shift to remote classes a difficult and painful experience for teachers and students alike. Japan is now in the middle of its second year of the pandemic and, as experience has been gained, new routines have been established and some improvements in teaching practices have been made. Yet, new challenges have also emerged. In an attempt to bring back some sense of normality while responding to concerns for safety, many universities in Japan have opted for *hybrid* classes, which allow students to choose whether they want to take their classes online or on campus. However, this flexibility has posed new technological and pedagogical challenges for instructors. It is not unusual to have a class that one or two students are taking remotely while the other 30 are physically present in the classroom. For online students to be able to follow class work, hear the teacher, see the blackboard or the screen, and interact with their classmates, all pieces of equipment—computers, projectors, cameras, microphones and speakers—must be connected and work smoothly. In practice, that means that teachers often have to spend breaks between the classes connecting and disconnecting different cables, always apprehensive of what may go wrong. At one of universities where I teach, all applications downloaded on classroom computers are automatically deleted every 24 hours for security reasons. This includes applications like Zoom as well. As teachers often teach in different classrooms, they may have to go through the downloading "ritual" several times in a single day. Inclusion of remote students in face-to-face classes also requires prior uploading of all instructional materials for each class as well as preparation of online tests or other forms of assessment that will not put remote students at a disadvantage (or give them an unfair advantage). Instructors also need to monitor performance and meet the needs of the students in class and those working online simultaneously. Camera angles may have to be adjusted multiple times during a single class depending on the location of the speaker and the nature of the activity. Further feedback and clarification outside of the regular class time may also be required. All this places extra cognitive load on the teachers and puts pressure on their time.

In short, COVID-19 created havoc for Japanese universities as they struggled to grapple with online education. With the end of the pandemic nowhere in sight, classrooms remain testing grounds for teachers' flexibility, patience and endurance. While all the frustrations and struggles may make many teachers feel they just want to go back to the old ways, in our increasingly digitally networked world, the demand for online and blended learning in higher education is certain to continue after the pandemic ends. Therefore, it is important that "COVID lessons" are not forgotten, but rather used as stepping-stones to improve remote education opportunities once the pandemic is over.

The next section will provide some insight into strategies and practices that can improve the quality of online classes based on the literature review and personal experience. Special attention will be given to

teacher development, student training, and technology integration in blended and fully online courses.

4. Online Teaching—Lessons Learned

4.1 Teacher Development

One reason the shift to online learning proved so challenging was that teachers had no prior training in online teaching pedagogies. Online courses were developed as replicas of the traditional on-campus classes. Teachers tried to follow the existing syllabi as closely as possible. The handouts that had been used in face-to-face classes were shared online and video lessons were recorded as substitutes for on-campus lectures. The support that teachers received was limited and primarily concerned the functions of different software applications and tools available on different LMS platforms. As teachers varied in their levels of technical literacy and experience with online teaching tools, advice on software implementation was certainly welcome. However, what teachers never received, but which they also needed, was instruction in effective pedagogical strategies. Learning how to make a test in Google Classroom or how to assign students to breakout rooms in Zoom can be done relatively quickly by watching any of the thousands of available YouTube training videos. However, learning to design materials and activities that will promote student engagement and learning in a virtual classroom requires more time, knowledge and experience. Online teaching does not mean recreating a physical classroom in a virtual space. Online teaching involves more than pointing a camera at the teacher who is lecturing and uploading videos on a university LMS. Teachers must learn how to deliver online lectures without causing student fatigue, how to design activities that promote student motivation and interaction, how to facilitate and assess student learning, and how to integrate online components in face-to-face classes. To this end, courses that focus on online teaching practices should be included in pre-service teacher curricula as well as being offered as ongoing professional development options for in-service teachers. Organizing professional development courses at the institutional level can help increase the collective knowledge of faculty, which in turn can lead to better programmes, greater student satisfaction and the higher ranking of the institution as a whole. Teachers should also take advantage of educational opportunities outside their institutions. Free Massive Open Online Courses (MOOCs) such as *Learning to Teach Online*, offered by the University of New South Wales on the Coursera platform or *Teaching English Online* offered by Cambridge Assessment English on the Future Learn platform can help instructors develop a better understanding of educational technologies and acquire effective general and subject-specific online teaching strategies. That should give teachers confidence, improve their professional practice, and increase their job satisfaction. As a general rule, instructors who are new to blended or online teaching should start simply. Rather than designing a fully online course, they should begin by integrating online activities that support the learning objectives. They should also not hesitate to ask for peer and expert advice to help them choose contextually appropriate technology and use it successfully. A teacher must be comfortable with technology for online learning to be implemented successfully. This means that institutions interested in offering

online programmes on a regular basis must be prepared to invest not only in technical infrastructure but also in human resources. Instructors may be experts in their fields, but that does not mean they have the technical skills necessary for the development, implementation and sustenance of online courses. Ongoing support of IT departments and collaboration with educational designers is essential.

Time is another issue of concern. Development and preparation of online courses requires more time than preparation for on-campus courses. Baehr (2020) reports that preparing for online tutorials can take instructors up to 20 percent more time than preparation for face-to-face classes and reminds that the time it takes instructors to master new technologies should also be taken into account. Even before the pandemic, the lack of recognition for the increase in workload associated with online teaching and a lack of institutional support were identified as two significant barriers in online education (Bolliger & Wasilik, 2009). During the pandemic, disregard for teachers' workload became even more visible. Many institutions seemed to presume that providing instructors with a Zoom account and a 10-day notice that classes would be taught online was sufficient to get everything ready for the semester. Under the "new normal", teachers were supposed to heroically "go into the battle" and make online classes work no matter the cost. However, relying on a "teacher-martyr" is not a sustainable approach for the future. Embracing online education requires that institutions recognize the time invested in the development of online courses and class preparation, for which instructors should be compensated either through reduction of other workload duties or adequate remuneration.

Teachers themselves should also learn to manage their time in online environments. The fact that materials are accessible 24 hours a day does not mean that they must be "in the classroom" 24/7. Some boundaries must be set or there is a risk of burnout. An assignment may be due on Monday morning, but that does not mean teachers have to answer questions about it on Saturday afternoon. It is very important that teachers communicate to the students the times when they will and will not be available for consultations and support.

4.2 Student Training

Attention must also be given to the digital literacies of the students and the development of their study skills. Young people are often referred to as 'digital natives' because of their heavy reliance on the Internet. However, growing up with smartphones and video games does not mean that students have the digital competencies required for academic work. A body of research has shown that young people often lack the skills and strategies needed to use technology in education (Brown & Czerniewicz, 2010; Helsper & Eunon, 2010). At the outbreak of the pandemic, a considerable portion of teachers' time was taken up answering questions about LMS registration procedures, uploading of the assignments or sharing files via Google Drive. In order to be able to use digital technologies in a school curriculum, students must be exposed to them. Specifically, they must receive adequate training in the use of institutionally supported technologies (LMSs), develop general computer skills and, most importantly, learn how to learn in an online environment. Students who have been used to teacher-centered approaches may find the transition to independent learning particularly challenging as they need to

learn not only new technologies, but also how to locate information, manage their schedules and regulate their learning. Although instructors should not be responsible for technical support, it is advisable that they devote some portion of the course time to technology training. Some students are apprehensive about using new technologies and they may need ongoing training and support. Some of my courses were taught asynchronously, and at the beginning of the semester, I offered short 30-min orientation session on Zoom during which I shared the LMS window on the screen and explained to the students where to find the lecture videos, information about assignments and supplementary materials. The students also had an opportunity to ask questions about the weekly course work and assessment. Information about the course was also available in writing, and the video recording of the orientation was uploaded on the university LMS. Yet, even with the course introduction session, some students still needed support throughout the semester although the procedures were the same for every lesson.

4.3 Technology Improvement

Technologies themselves should be improved. Video conferencing software such as Skype, Zoom and Google Meet can be used for online teaching, but they were not designed for this. Further improvements are needed to the functions available. The same can be said of LMSs. Although these applications have been designed for educational purposes, they still have many limitations in terms of the file size that they support, annotation tools, opportunities for collaborative work and the choice of questions that can be used for student assessment. For automatically graded tests, teachers need to be careful to fill in all acceptable answers at the test set-up stage accounting for variables such as case sensitivity, use of contractions and spelling variations. Even with extra caution, a student may give a correct answer that the computer marks as wrong due to extra spacing between words and similar issues. Therefore, it is advisable that instructors go over the responses whenever answer typing is required.

However, even with these limitations, automatic answer assessment tools embedded in LMSs have many potential benefits, and instructors should take advantage of them. Automatic grading saves teachers many hours of tedious marking, while students can get the results immediately. No time needs to be wasted on printing and, once made, the tests can be reused easily. Technology can also be very helpful in tracking students' progress over time. LMS tools give instructors an overview of the whole class and individual student's performance. They also make it easy to identify the questions that students had difficulties with and that require further attention in class. The tests can also be personalized to match each student's progress or randomized, thus making it more difficult for students to cheat.

While institutionally endorsed LMS platforms may not always meet all teachers' needs, in my experience, it is better to stick to those systems rather than rely on open access technologies. First, with the use of institutionally supported systems, instructors and students are more likely to be able to receive IT department assistance when needed. Furthermore, while open web systems such as Twitter, Flickror Blogger may be more suitable for certain tasks, these platforms will require new registration

and passwords, and possibly additional student training. Moreover, the terms of use may change unexpectedly, and security may also be an issue. Finally, the adoption of different technologies may become overwhelming for the students. One teacher may prefer Google Classroom while another may prefer Moodle; the third may like Blackboard best. If each instructor introduces their own preferred software, students will have to learn to navigate several different platforms, which may be challenging and pose additional difficulties in terms of managing coursework. The result may be confusion and frustration rather than enrichment of a learning experience.

4.4 Digital Pedagogies

Regardless of the learning platform they adopt, instructors should remember that the technology should support the pedagogy, not the other way around. Technology should only be used if it improves the learning experience and the learning outcomes. Teachers should know the capabilities of different systems and applications, so that they can choose the best ones to complement their courses. Course content and teaching strategies should be adjusted; what works well in the conventional classroom may not work well in the online environment. Online materials should be made in relation to curriculum alignment and course objectives. If students do not perceive activities as relevant and meaningful, they will not engage with coursework.

4.4.1 Blended Courses

Blended courses and fully online courses must be approached differently. When teaching a blended course, instructors should be particularly careful about task selection and sequencing. Online activities should complement class work, not duplicate it. Furthermore, not every lesson in a blended course needs to have an online component; technology should be used only if it enhances learning and teaching experience (Watson (n.d.), Module 3). Thinking and typing should take place at home, while class time should be used for group work and hands-on experiences. Furthermore, teachers should also reconsider whether some traditional classroom activities may work better in an online environment. For example, I observed that Japanese students, who are often reluctant to give critical comments to their classmates, provided more detailed and constructive feedback on peer paragraphs using LMS chat tools. Another advantage of this approach was that I was able to see all contributions that students had made, which is something that was difficult to achieve in a physical classroom.

4.4.2 Asynchronous Online Courses

For fully online courses, a different approach is required for asynchronous and synchronous classes. Asynchronous classes are self-paced and give learners more flexibility. However, learners' ability to regulate their learning is essential for success. As online environments make it more difficult for students to maintain their concentration (Paiz, 2020), the length of pre-built course components is an important issue to consider. Guo, Kim and Robin's (2014) study of the optimal videos for MOOCs suggests that shorter videos of up to six minutes can help maintain students' concentration. They argue that is not necessary for instructors to slow-down their speaking rate, but they should try to project enthusiasm. Displaying instructor's head in the video can also help students to stay focused and make

the lectures feel more personal. Making a recording in an informal setting also had a positive effect. Khan Academy style videos with instructors drawing freehand on a digital tablet were also found to be more engaging than PowerPoint slides. Guo et al.'s (2014) study was based on analysis of students' engagement with instructional videos in math and science courses offered on the edX platform. However, their conclusions may not be fully applicable to all fields. Short videos are effective when the goal is explaining a specific point, for example, a grammar rule. However, dividing a regular lecture into videos under six minutes would result in a series of 10-15 short recordings. Not only may this feel unnatural for the lecturer, but it may also be demotivating for the students. Many videos posted all at the same time may give students a perception of a bigger workload and make them take unnecessary breaks throughout the lecture. In my experience, for lectures in humanities and social sciences, a TED talk style works best. The maximum length of TED talks is 18 minutes. The 18-minute limit was adopted based on data from neuroscience, which showed that longer speeches tend to result in information overload and loss of attention (Gallo, 2017). As TED curator Chris Anderson said, "Eighteen minutes is long enough to be serious and short enough to hold people's attention" (Gallo, 2014). TED talks are simple and concise. They are educational and inspiring. They often include a story that captures the attention of the audience. They use no or few slides and they appeal to emotions, making the narrative more memorable. Delivering university lectures in TED talk style requires a lot of preparation in terms of selection of the content and presentation rehearsals; however, less time needs to be spent on making PowerPoint slides and there is no need for expensive technology. Adopting a TED talk format does not mean that instructors have to condense a 90-min lecture into an 18-min talk. One lecture can be broken into two to three TED style talks, and the rest of the content can be covered through reading materials if necessary.

One of the challenges of asynchronous online teaching is a lack of student collaboration. While isolation is commonly reported as one of the problems of online learning, many students do not know how to avoid it or deal with it. Engagement with other students has both pedagogical and affective benefits; therefore, online courses should include tasks and activities that will encourage students to collaborate. Participation in online discussions can make students feel they are members of a learning community and help them overcome loneliness and feelings of isolation. Peer feedback through LMS 'comment' and 'chat' tools can also be an effective learning and bonding strategy. It is important to make students understand from the very beginning that they are expected to communicate and collaborate with one another, and that class participation is tied to assessment. Instructors should also be explicit about the criteria that the students are expected to meet and provide examples of what would constitute a satisfactory contribution.

One of the courses that I taught during the pandemic was an EFL listening and speaking class, which, due to the institutional policy, could not be taught synchronously. While the listening, grammar and vocabulary activities were covered by recording short instructional videos and sharing the model answers with the students, creating opportunities for students to speak in an asynchronous online class

proved more difficult. I decided to introduce short video presentations as part of the weekly homework. First, I recorded a short video with instructions about the presentation topic each week. The topics were linked to the textbooks and did not require specialized knowledge (e.g., free time activities, online dating, getting ready for a job interview, athletes' salaries, etc.). The students were asked to record a short 2-min video in which they shared their experiences and opinions on the topic and upload it onto the university LMS. A 2-min time target was selected because the students were low-level, and the university LMS did not support files larger than 50MB. After the students uploaded their responses, they were asked to watch the videos of their group members and upload another video with their feedback. The groups consisted of 4-5 students and members were rotated every week. The videos were part of the course assessment, and the students earned points for both their responses to the topic and peer feedback. As the projects were submitted via LMS, it was easy to keep track of students' submissions. Each student got my feedback on their response every other week, which was also provided via a short video. In addition to the individual feedback, I also shared short videos with the comments for the whole class. The general comments covered some common errors in the textbook-based homework, issues related to time management and meeting deadlines, the quality of video responses, and peer feedback and academic honesty. I believe that the video projects promoted students' learning and helped them meet the primary course objective, which was the improvement of listening and speaking skills. Furthermore, the end-of-the-course survey showed that students generally liked them. They enjoyed watching the responses of their peers, and they felt they could get to know their classmates even though the course was online and asynchronous. I also believe that providing my feedback via a video recording made communication feel more personal and less critical, especially when suggestions for improvement had to be made. Finally, I also found that making video commentaries was less time-consuming than writing comments to the students, which made it possible for me to interact with individual students more frequently and provide ongoing feedback on their performance.

Introducing group projects can also promote student collaboration. Communications skills and teamwork are considered essential skills for success in twenty-first century society and the workplace. Therefore, it is important that students learn to work in teams and collaborate. However, many students find group projects difficult. Some challenges involve logistics of where and how often to meet up as a group, differences in expectations, uneven distribution of workload, potential for conflict, and concerns about the fairness of assessment (Watson (n.d.), Module 7). In an online environment, these difficulties are compounded by physical distance among the students and sometimes by limited access to a stable and fast internet connection. In addition to the usual criteria used for assessment of group projects such as collaboration, communication, and problem-solving skills, for online classes, Watson suggests strategies such as regular monitoring of teamwork, peer assessment where team members evaluate one another's work, and the allocation of marks for individual contributions. If students have not had an opportunity to meet face-to-face, teachers should introduce a task which will give team members an

opportunity to get to know one another and build mutual trust (Watson (n.d.), Module 7).

Feeling the teacher's presence is another important factor. In asynchronous online classes, students do not meet the teacher at a set time; therefore, they are often apprehensive about their progress. To sustain their motivation and engagement, students must feel that the teacher wants them to collaborate, follows their communication, shows interest in their opinions and values their contributions. The teacher's presence can be established by providing detailed information about the course, participation in discussions and regular feedback. Students who seem disengaged from the course should be reached out to and reminded about the importance of class participation. Those who are struggling with coursework should be offered additional assistance and support.

4.4.3 Synchronous Online Courses

Synchronous online classes are conducted in real time with all learners and the teacher joining the same session at the fixed time. Therefore, they are more similar to physical in-person classes. Earlier studies suggest that synchronous online learning has a number of advantages over asynchronous virtual learning environments, which include greater flexibility, increased interaction between the teacher and the students, more opportunities for collaborative learning, and timely feedback (Racheva, 2018). Synchronous learning can also help maintain a sense of community and personal connection (Gedera, 2014; Weitzel, 2020). However, many of these benefits are lost if students attend virtual classes with their cameras switched off.

Webcam use in online teaching has been an issue of division among scholars. Some scholars see them as a culturally insensitive form of intrusion of students' privacy (Finders & Muñoz, 2021), a factor behind students' fatigue (Nicandro, Khandelwal, & Weitzman, 2020), or even a cause of students' trauma (Costa, 2020). While having a camera on does not automatically mean that the student is academically engaged, I believe that being able to see students while teaching has both pedagogical and affective benefits. Switching on cameras during online classes allows students to benefit from nonverbal cues making communication feel more natural and personal. Earlier studies showed that nonverbal cues account for about two-thirds of human communication (Hogan & Stubbs, 2003). Eye-contact was found to play a particularly important role in interaction and maintaining students' attention (Snyder, 1998; Zeki, 2009). Nonverbal cues are important indicators of students' understanding as well as their emotional state. They can help instructors adjust their teaching practices as well as promote mutual trust and group cohesion. Mottet (2000) found that instructors who perceived more nonverbal cues during videoconferencing built closer relationships with their students and had more positive perceptions about online teaching in general. Students also reported that being able to hear and see their peers in real time helped them build a "more complete picture" of each other (Falloon, 2011), and that cameras made online classes feel more like normal classes (Kalman, Esparaza, & Weston, 2020). Therefore, I believe that teachers should strongly encourage camera use in synchronous classes.

That said, it is important that students feel safe and comfortable in their online classrooms just as they

would in the traditional classroom. To be able to address students' concerns, it is important that instructors learn the reasons why students feel reluctant to turn on their cameras, so they can develop appropriate strategies to change their attitudes. In 2020, Castelli and Sarvary surveyed 283 biology students at Cornell University about their camera use practice and found that the main reason for keeping the camera off was a concern about appearance (41%), followed by a concern about other people being seen in the background (26%). Other common reasons were a weak internet connection (22%), physical location being seen in the background (17%), discomfort about being watched all the time (17%) and concerns about causing distraction to classmates (17%) or the instructor (12%). The analysis of students' responses in the category of "Other" (open-ended responses) revealed that 'following the norm' was the most common reason for switching the camera off. The students felt uncomfortable to turn their cameras on if everybody else had their camera off (Castelli & Sarvary, 2021). A survey of 91 Japanese university students that I conducted in April 2021 revealed that the most common reason for turning off the camera was conformity to group norms. Students were hesitant to turn their cameras on when other students had their cameras off. Worries about appearance also ranked high (Vasiljevic, in press).

The results of these surveys suggest that many of the concerns that students have could be resolved through discussions and small adjustments in classroom practices rather than the elimination of cameras. Data from both Castelli and Sarvary's (2021) and my own survey showed that many students kept their cameras off because they did not want to stand out from their peers. I had some students taking three of my courses. In some they had their cameras on all the time; in others, never. They said they were reluctant to turn them on when "nobody else did so". Group norms can be a powerful determinant of student classroom behaviour. Therefore, it is very important to establish camera use as the norm early in the course. This can be done by describing camera use policy in the course syllabus and discussing the importance of non-verbal cues in communication. Students need to understand that by turning their cameras off, they are creating a cold, impersonal and monotonous learning environment. Concerns about other people and physical location being seen in the background can be addressed by teaching students how to use Zoom virtual backgrounds and encouraging them to communicate with their family members about the need not to be disturbed during the class time.

Teachers should address the importance of defining a work-from-home routine and maintaining clean personal appearance in the virtual classroom. Students should be reminded that the way people dress affects their confidence, as well as the image they project and their performance. However, counselling is also important. Students should be made aware of what Gillovich and Savitsky (1999) referred to as the "spotlight effect"; that is, people's tendency to overestimate the extent to which they are watched and evaluated by others.

Like other pedagogical decisions, rules about camera use should be based on what is best for student learning. As Castelli and Sarvary (2021) warn, some students may have specific and very sensitive reasons for turning their cameras off. They deserve empathy and understanding. Therefore, rather than

penalizing students for not turning their cameras on, teachers should look for alternative ways to create an inclusive classroom environment where all students can learn comfortably. They should promote camera use by setting up activities in which visual cues promote understanding and interaction among the participants. Some examples are the "rock, paper, scissors" game or a body language rubric in a presentation peer assessment sheet. Greeting students individually and engaging in short conversations when they join the class can help increase their trust and make them feel closer to the teacher. To make ice-breaking easier and facilitate interaction, students should be asked to sign in with their names rather than student numbers or initials. Private messages in a chat can also serve for this purpose. Castelli and Sarvary (2021) suggest that using polling activities or the chat window regularly will make students less likely to turn off their cameras and get engaged with other things. They also suggest letting students take short breaks to help them maintain their concentration.

The breakout room option on Zoom is extremely useful for promoting student bonding and collaboration. An opportunity to work with classmates without the constant presence of the teacher gives students a sense of "privacy" and makes it easier for them to engage in communication with their peers. In a small group environment, students are more likely to share personal information, exchange views and offer peer support. Students should be made aware that active class participation requires preparation. This is true for all classes, but it is especially important in synchronous classes where language proficiency can be a barrier. Silence and long pauses slow down communication in a physical classroom; in a cyber class, they break group dynamics and may kill the activity or even the whole lesson.

5. Conclusion

The COVID-19 pandemic has caused possibly the most severe global education disruption in history. School shutdowns, mobility restrictions and concerns over the safety of students, teachers and staff forced many institutions to make the big leap to online learning. For many, it was a survival strategy rather than a choice.

However, virtual learning offers many potential benefits which should be preserved after the pandemic. The future of online learning will depend on how well we can make the technology support the pedagogy. Adding the latest technology to the classroom does not mean that students are acquiring twenty-first-century skills and having a successful learning experience. Technology is just a means to an end. If it does not support the content or if it does not stimulate learning, it becomes a gadget that will not sustain itself.

For virtual learning to succeed, all the parties involved—teachers, students and institutions—must believe in it. Although change is often trumpeted as a sign of progress, something positive and exciting, the truth is that it is also upsetting, and many people are wary of it. Teachers and students are not an exception. In order to be comfortable in an online learning environment and truly benefit from it, they must receive adequate training and support. That support should go beyond technical advice. While

teachers and students need to understand the options available on their LMS platform to use the system effectively, technologies change quickly. Therefore, it is more important for teachers to develop knowledge of online pedagogy and for students to acquire the skills necessary for self-directed learning than to know all the ins and outs of a particular software package.

Like traditional face-to-face courses, online courses also need to be evaluated and revised. Decisions about the changes should be made based on both qualitative data such as student surveys and reviews of postings on discussion boards as well as quantitative data from LMS learning analytics (completion rates, log-in history, total time spent on activities, quiz and test scores, etc.). Being able to track students' performance can help instructors to identify students' interests as well as the areas that they have problems with and make further improvements to the courses.

Finally, institutions and instructors themselves should understand that technology, no matter how advanced, cannot replace a teacher. Teacher involvement and guidance are essential for successful online learning. There is no "killer app" that will make a classroom a wonderland of knowledge. The "killer app" in education will always be the teacher.

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