Using Online Lectures to Solve Real-World Learning Challenges During the COVID-19 Pandemic

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In response to the COVID-19 outbreak, the South Korean government mandated that all universities and schools deliver courses online to minimize transmission of the virus. In order to provide insight into the experiences of those implementing this sudden and drastic shift to online teaching, the vignettes of three educators are presented. Examination of these cases revealed three key themes. First, teachers should provide at least some portion of their class online at all times as a contingency plan for disasters necessitating fully online course delivery. Second, technology-enhanced communication experiences can enhance faculty members' online teaching ability and self-efficacy. Third, educational administrators also bear responsibility in enhancing the preparedness of institutions for the transition to online teaching in response to a disaster. The paper concludes with suggestions on how teachers and administrators can increase their preparedness for disasters like COVID-19 through the use of and support for online teaching.

Keywords: COVID-19, online teaching, Zoom, online lecture videos, Korea

INTRODUCTION

Although information communication technology has been posited as

a tool to facilitate greater agility in educational providers' response to pandemics, to date, advice remains sparse regarding the issues associated with the implementation of such a response (Ekmekci & Bergstrand, 2010; Heng, 2013; Joye, 2005; Murphy, 2006). This deficit is notable given that crisis management requires proactive strategies to counter the impact of crises such as pandemics on institutions and their stakeholders, that is, students (Henderson, 2002; Ritchie, 2004). Subsequently, the onus is on education providers to prepare contingency plans to offer clear directions to follow, given the chaos and challenges posed during a crisis such as the currently unfolding COVID-19 pandemic, where a deadly flu-like contagion rapidly spreads through human populations, necessitating social distancing. One of the contingency plans that has been implemented in response to the recent outbreak in South Korea is the mandated migration of offline courses to online format (Yonhap, 2020). However, as this contingency has been abruptly deployed, a number of critical issues inherent in online education may not be carefully reviewed and addressed, thereby limiting the effectiveness.

Despite rapid growth in online learning, ubiquitous access to affordable high-speed internet and pervasive use of computing devices in South Korea (Jung & Lee, 2018), challenges have persisted in producing accessible and affordable learning opportunities that are of sufficiently high quality to be part of traditional institutions (Lee & Lee, 2015). For example, students without an appropriate level of self-regulated learning skills have experienced difficulties with learning online due to a lack of social interactions and a low sense of social presence in their courses (Fanguy et al., 2018; Lee et al., 2019). The negative impact of these issues on students' learning experiences and motivation has been well-documented in the related literature (Lee & Choi, 2010). A number of previous studies that evaluated the readiness of teachers and students for the adoption of online education have also presented rather negative conclusions (Corry & Stella, 2018; Wingo et al., 2017). That is, there is a lack of adequate preparation for online education among multiple groups of educational stakeholders including teachers, parents, and students. In addition, there are many challenges to online learning, including the development of effective online learning materials that can match or surpass the quality of offline learning situations (Breslow et al., 2013). Nevertheless, the current COVID-19 outbreaks on a global scale have pushed schools and universities to quickly adopt online learning as an alternative to face-to-face teaching. Given the velocity of the shift to

online learning as a sudden contingency plan and the subsequent challenges experienced by many educators and students, it is important to take a close look at some of the successful examples of quick implementation of online learning in traditional education settings. To this end, a useful guidebook was recently produced by UNESCO on how to adapt education during the pandemic through examination of successful cases of online instruction in China (Huang et al., 2020), the first nation affected by the COVID-19 pandemic. Similar examination of how Korean educators successfully migrated their courses online seems warranted.

As South Korea was one of the first countries in the world to experience a widespread outbreak of COVID-19, it was one of the first to adapt its educational policies and practices in response. However, as the COVID-19 pandemic is still recent and ongoing at the time of writing, there have been few studies that have examined the experiences of educators in South Korea who were responsible for adapting their learning environments during this period. It is, therefore, useful to examine the early experiences of educators in this context who faced the prospect of creating and teaching courses online for the first time, as educators currently are facing this dilemma worldwide. Through identifying some shared characteristics of these positive scenarios and common challenges faced by the implementers, the present paper aims to provide useful recommendations and feedback to educators and educational administrators. The findings of the paper will be examined to further provide practical suggestions on how instructors and administrators can increase their preparedness for disasters like the coronavirus outbreak through the effective adoption of online teaching.

The Present Study: Research Context

On January 20, 2020, the first case of COVID-19 in South Korea was confirmed, with the second case occurring three days later (Korean Center for Disease Control, 2020). As the prevalence of the COVID-19 increased in early March of 2020, there was widespread panic among the population of Korea (Blatt, 2020). During an evolving pandemic, community contagion mitigation strategies such as social distancing are advocated in order to slow down virus transmission within educational settings and surrounding communities (Berkman, 2008; Qualls et al., 2017; Sadique et al., 2007; Weber & Stilianakis, 2008). Given that the

traditional classroom setting is a socially dense environment, cancelation of face-to-face classes is an advisable step when faced with a potential pandemic, necessitating that offline classes migrate to an online setting. Subsequently, the Korean government announced the nationwide closure of schools and universities, and a majority of education providers have elected to commence their semesters online rather than holding physical classes (Guilford et al., 2020; Park & Lee, 2020). South Korea seemed particularly well suited to handle this rapid and drastic change, as over the past few decades, South Korea has developed a strong e-learning infrastructure (Teo et al., 2020), having been ranked first among Asian nations in terms of ICT (ITU, 2017) and e-learning (UNESCO, 2011). However, a recent nationwide survey by the Association of Student Council Network indicated that 80% of Korean university students have concerns about the efficacy of substituting their offline classes with online delivery modes (Bahk, 2020). The results of the survey demonstrate the difficult challenge posed by this difficult and sudden migration to online courses during the pandemic; leading up to the Spring 2020 semester, there was substantial apprehension and doubt, even in a technically advanced nation with a strong history of technology-enhanced learning.

METHOD

To gain a deeper understanding of the quick online shift under the COVID-19 outbreaks and the subsequent concerns over the quality of online teaching, the present authors have embarked on a large-scale qualitative case study, investigating how the transition has happened in different educational contexts in Korea. As of the time of writing the present paper, a total of twelve teachers (including three administrators whose role is to lead a department or tutor team) have been invited to the project using a purposive critical sampling approach, in which a small number of cases are selected by researchers in order to reveal useful insights into other related cases (Creswell, 2014; Emmel, 2013). We purposely selected three cases from different EFL teaching contexts that are particularly helpful for us to construct a comprehensive understanding of EFL teachers who, as individuals and as a group, have transformed their practice in response to the challenges faced by the COVID-19 pandemic. The recruitment of participants continues using

snowball sampling strategies.

Following interpretive orientations towards case study, utilizing "naturalistic, holistic, ethnographic, phenomenological, and biographic research methods" (Stake, 1995, p. xi), qualitative data have been collected through conducting semi-structured interviews with the participant teachers. Participants have also been writing a short online diary entry each day to record and share their experiences of moving online. The ethics approval has been guaranteed by Lancaster University in the UK that oversees any ethical concerns that might emerge during the project period. It is important to note that the data presented in this paper are a selected summary of the authors' early findings drawn from a growing set of data. The research participants are still in the process of converting their classes into an online format and are in the early stages of teaching fully online after the outbreak. To provide a comprehensive outline of the fast evolving situation in Korea, the authors have chosen two teachers and one administrator from the twelve participants in different educational contexts. The selected participants' online educational experiences will be presented in the form of vignettes.

To increase the trustworthiness of our claims drawn from the three participants, we have shared the draft vignettes with the participants as a form of member-checking (Carlson, 2010; Creswell, 2014), and we have received more detailed accounts of their experiences and supporting evidence (e.g., screenshots).

Vignette 1: A Private Teacher's Perspective

Teacher X teaches supplementary English classes to Korean public school students in the evening after their regular school classes. The classes that Teacher X offers provide a way for students to improve their English abilities, specifically in reference to the Korean college entrance exam. These classes are generally small (only two or three students) and focus on the skills most commonly tested in Korea (grammar and reading). These classes are normally conducted in the instructor's home, with students coming and going according to their pre-arranged class schedules. While the students were given homework, this class previously had no online component. Although private English classes were not covered by the government mandate to desist with face-to-face meetings, concerns regarding students attending these classes were also prevalent among parents, students, and instructors. In this case, stakeholders were

in a situation whereby it would be better for all if classes were to continue, but meeting face-to-face carried some risk.

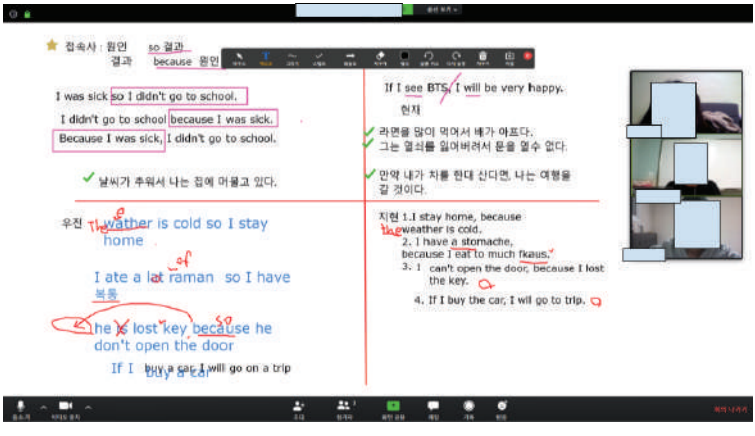
The teleconferencing program Zoom was chosen as it is easy to use and allows screen sharing with students and teachers being able to easily write over another's work in a shared document. Students were asked to download Zoom and, with some help from their parents and the instructor, were able to use it. Zoom allows the sharing of either the teacher's or the student's screen. The interface is easy to use, whereby students or the teacher can write over a shared screen PDF or a teacher's PowerPoint. For example, the teacher may share their screen containing a reading passage with cloze test items below it. The students can simply click on the "text" icon in Zoom, click on the place in the document they wish to, and write their answers. The teacher can follow a similar process to correct the student or give feedback. Students remained focused using the new technology, and the ability of the instructor to see the students easily through the shared video screen function helped her to keep them on task. It is worth noting that Teacher X's students were all 13 or older and that some of her peers who teach younger students reported that the students were too young to use the technology without a great deal of support, which rendered online teaching too difficult.

Teacher X reported that discipline was easier to manage as the students were physically separate from each other, so unfocused chatter was reduced. Some students had the issue of not having laptops with cameras, and this was solved by their parents rigging their desktop computer to share the screen and using their smartphone as a webcam. While Zoom is easy to use, troubleshooting issues like this require the help of the students' parents. It is worth noting that Teacher X's classes are English as a foreign language (EFL) and the shared screen along with typing matched well to the technology. This means online teaching may be easier to apply to certain subjects such as language teaching as opposed to other subjects as all that is required is a voice and typing function in general; for example, Teacher X reported that peers who taught private math lessons that require frequent writing of equations by hand found their lessons substantially impeded by the technology, as it requires all students to have a tablet. A possible workaround would be students first writing by hand and then uploading their work, though this would not be in real time and would limit the teacher's ability to correct the students as they go through an equation, for example.

Initially these classes were seen as a stop-gap measure, something

that was "better than nothing"; however, both the instructor and students found the classes to be better than offline classes in some ways. Specifically, as heavy users of the internet and smartphones, the students found that being able to type their answers was a more familiar means of communication. A number of students noted that being able to type increased both the length and clarity of their answers. Teacher X noted that typing also increased the participation rates of shy students in class discussions, a result that has been noted repeatedly in the research (Hirschhel, 2012; Shana, 2009). Furthermore, students' use of font colors made the work much easier to identify, check, correct, and give feedback to, as shown in Figure 1. Students and instructors are able to choose their colors for typing into a document (e.g., green for student A, red for student B, and purple for the teacher). This allows for an easy-to-read document that the students and the teacher find easier to comprehend. Despite the challenges in setting up the lessons, the online classes have been a success overall, and there are plans to continue with some online lessons after the COVID-19 outbreak has subsided. Make-up classes are often run on the weekend, and in discussion with parents and students, it was decided that these make-up classes would be online in the future. Furthermore, Teacher X has recently enrolled her first online student. This student and Teacher X have never met face-to-face, with

FIGURE 1. Teacher X's Live Online Video Lecture



Note. Boxes and underlining in upper-left and upper-right quadrants are in violet, and checkmarks are in green. Larger font size in lower-left quadrant is in sky blue, and handwritten marks in lower-left and lower-right quadrants are in red.

the student living in another city. Teacher X and this student have resolved to continue to study together online regardless of the progress of COVID-19.

Vignette 2: University Teacher's Perspective

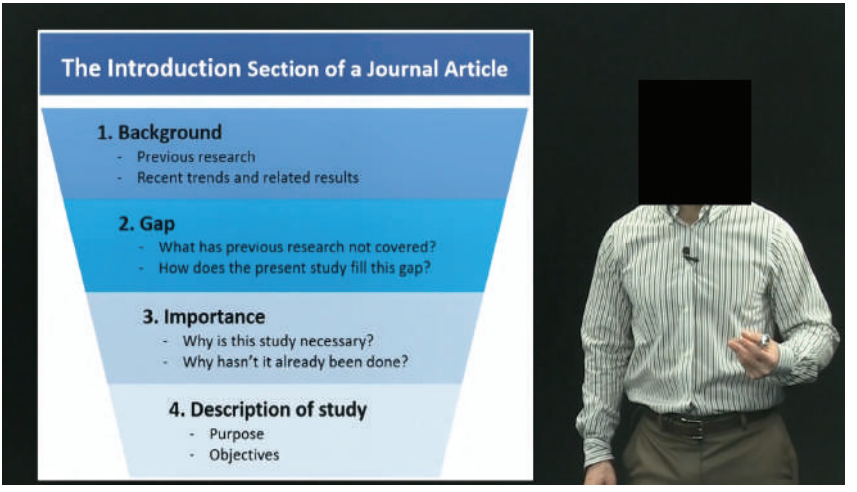
Teacher Y leads a graduate Scientific Writing course at a university in South Korea. In order to provide greater access to graduate students, Teacher Y's course is offered in a flipped format. Instead of presenting live lectures to a smaller number of students using Zoom, as was the case in Teacher X's private class, pre-class lectures in Teacher Y's flipped Scientific Writing class are presented asynchronously in the form of online videos (see Figure 2) so that students can watch them before the once-weekly, face-to-face class meeting. On February 27, 2020, just two and a half weeks before the start of the new semester, the provost of Teacher Y's university sent an email informing the faculty members and students of the government's decision to move all course instruction online and that teachers could do so by using teleconferencing software such as Zoom and/or by creating prerecorded online video lectures. On March 3, the university administration provided all teachers with a manual for creating and delivering online courses. The university also provided a license for Zoom teleconferencing software so that live lectures could be given online.

As faculty at the university where Teacher Y is employed had varying degrees of familiarity with blended and online instruction, there were a variety of reactions to the government's decision to move all courses to an online format. Those who had previous experience delivering online and flipped instruction felt more comfortable with the change, while those who had never delivered instruction online felt that the change was too sudden and difficult. One difficulty often mentioned was the need to learn how to use new software, such as Zoom. Many professors felt intimidated by the new software and instead elected to try prerecording audio lectures using software they were more familiar with, namely Microsoft PowerPoint. By narrating a lecture with a timed slide presentation, these professors could create online lectures in a relatively short amount of time. While this method of creating course materials is quite efficient and easy to learn for novice creators of online content, there are some issues to consider. One such consideration is that narrated presentations made in this manner do not show the instructor's face.

Prior research has shown that video lectures that show the instructor provide learners with important social cues and emphasis through the instructor's use of body language and gestures (Fanguy et al., 2017; Fanguy et al., 2019; Kizilcec et al., 2014).

Although Teacher Y had never taught a fully online credit course, he felt relatively well prepared to manage this top-down directive to suddenly change the instructional style of his course due to his experience with teaching flipped courses. While teachers offering their courses only in traditional formats would have to entirely change the mode of instruction from offline to online, Teacher Y felt that his adaptation of a flipped course into a fully online course would be somewhat easier. Teacher Y's production of the course videos took place before the onset of the epidemic, so that he was able to provide any further supplemental videos that were needed without the need to rush. As shown in Figure 2, the quality was considerably higher than the quick and easy "narrated slideshow" videos described earlier and utilized by some faculty members of the university. Teacher Y's face and hands are clearly visible to the students to provide emphasis and social cues during the lecture. Since his course was already a relatively even blend of online and offline instruction, it was only necessary to adapt the group and peer writing activities that were traditionally done during the face-to-face component of his course. Teacher Y decided to have students complete these activities in Google Docs shared with him and the fellow group members. In this way, he could monitor and provide assistance to students working in groups while maintaining the collaborative atmosphere of the course.

FIGURE 2. Screenshot of an Online Lecture Video in Teacher Y's Flipped Scientific Writing Course



Note. Teacher Y's face was visible in the actual online lecture videos of the course.

Vignette 3: University Administrator's Perspective

Dr. Z is the chair of a large academic department at a university in South Korea whose department will move approximately 80 courses from offline to online due to the outbreak of COVID-19. The preceding vignettes highlighted implications of this response for teachers who are responsible for the delivery of the newly required online courses, while this section focuses on issues associated with the management of this mass transition from offline to online instruction. During a crisis such as the COVID-19 outbreak, university administrators such as Dr. Z are responsible for the institution's state of preparedness and to remedy deficiencies in this preparedness once a response to a crisis has been initiated. In regard to the transitioning of offline courses to online modes, Dr. Z has two primary concerns: the existence of the required technology infrastructure and the preparedness of the teachers to be able to effectively utilize this infrastructure. With regard to the former, given the widespread utilization of online courses in Korea, including at his own institution, he presumes Korean universities have an adequate technology infrastructure to facilitate the rapid deployment of courses to an online format. In regard to the latter, Dr. Z envisages the human component as likely to be the bottleneck in the effectiveness of this

transition to online teaching.

Dr. Z is aware of the gap in general between the existence of technology and the human acceptance and adoption of that technology (Chau, 1996; Chau & Hu, 2001; Surendran, 2012), and Dr. Z has observed this gap to vary greatly amongst his faculty. Although online delivery has increasingly been adopted by a number of his faculty, the traditional classroom setting remains the dominant teaching method used in his department. Consequently, Dr. Z has to manage a proportion of faculty through this crisis who have no or limited experience with any form of online course delivery. Due to variance in the levels of preparedness, Dr. Z foresees that he will not be able to apply a homogeneous strategy to ensure faculty readiness for online courses. Although ideally Dr. Z would have put in place proactive training for online course development and delivery prior to the crisis, in the present rapidly developing crisis, he is aware that more reactive training and support interventions will be required.

A compounding issue for Dr. Z in facilitating the faculty's transition to online delivery was that during a pandemic, students cannot gather and interact in a classroom. As a result, faculty would be unable to attend physical courses to assist them in the transition to online delivery. In addition, as faculty also telecommuted from off campus during this period, peer knowledge sharing related to online delivery between faculty members was also impeded. Thus, he implemented alternative measures to address relevant faculty skill gaps, including adequate online instructional resources, appropriate communication channels, and appropriately staffed call centers able to assist faculty with issues related to their transition to online course delivery. To support these initiatives, Dr. Z enlisted the support of faculty members experienced in online education to mentor less experienced faculty through the transition to online course delivery.

In order to effectively facilitate this transition, Dr. Z was required to acknowledge a variance in faculty preparedness for online course delivery. In recognition of this variance, three potential modes of online delivery coupled with appropriate assessments were advised: Mode-1, live-streamed, interactive lectures via Zoom (preferred); Mode-2, prerecorded lectures available online with integrated PPT via LearningX (the university's online learning management platform); and Mode-3, online self-study utilizing secondary resources, that is, publicly available online content generated by other providers (least preferred). The prescribed hierarchy

of delivery mode preference is based on the premise that a live interactive delivery mode will more closely replicate the learning dynamic of an offline class, whereas the provision of static learning resources online will provide a relatively poor substitute for face-to-face classroom interaction. Dr. Z accepted that a lack of standardization between courses might be problematic but also understood that due to the time constraints, this was an effective means for faculty to provide quick online content to students.

As aforementioned, Dr. Z faced an additional issue when seeking to facilitate his faculty's transition to online delivery, as faculty would be telecommuting to work during this period in order to comply with social distancing directives. Thus, Dr. Z was concerned regarding the limitations this lack of physical presence imposes, for instance he was aware that an integral part of an effective telecommuting program is the ability to access and provide feedback on the performance of off-site employees. Hence, at minimum, he required a mechanism to ensure online courses were being delivered appropriately by faculty in order to be able to provide feedback and corrective actions as required. The university guidance was that faculty should utilize the university's online learning platform, LearningX, allowing for enrolled students and faculty accounts to be linked automatically whilst providing functionality and consequently a degree of transparency to university administrators. However, some faculty were unfamiliar with this platform and had previously utilized alternative online channels for their classes (e.g., Facebook Groups, Google Classrooms, or email). Hence, they were resistant to move to the university-prescribed channel for their online courses, thus providing Dr. Z with no real-time means to monitor online delivery and provide feedback. Therefore, Dr. Z mandated that these alternative online channels had to be used in tandem with the university learning platform; for example, the links to external content should be provided though the university channel and core interactions with students conducted via this platform. Doing so was helpful in reducing the complexity and burden of learning on several platforms simultaneously for both students and teachers in an already anxious context. For an administrator, finding the balance between flexibility and standardization is a key consideration in the successful transition from traditional to fully online instruction.

DISCUSSION

The array of technological tools available to educators is ever widening (Castañeda & Selwyn, 2018). Learning management systems, such as Google Classrooms, provide excellent platforms to connect with students online free of charge. Free software, such as Zoom and Skype, allows for synchronous communication with students, while video editing software, such as Camtasia, allows teachers to provide students with online lecture videos. Online word processors, such as Google Docs and Microsoft OneNote, provide spaces for students to write collaboratively online, both synchronously and asynchronously. While the availability of such tools can be a great boon to educators, online teaching requires more than simply learning and using tools. Despite the time pressure of the prompt shift in their instructional format, the three participants in this study have been able to manage the shift more smoothly than would normally be expected. Table 1 highlights the primary changes made by each of the three participants and the motivations for implementing them. There are three themes emerging from the observations of these three vignettes.

The first is that it is likely easier for teachers to move from a blended to a fully online course rather than starting from a fully face-to-face format. Particularly in such a pandemic situation, to properly but rapidly select technological tools, teachers need to have some previous experience using those tools, not necessarily for pedagogical purposes but at least for social purposes (e.g., using Skype to talk to family abroad). That is, a basic level of familiarity with one or more online teaching tools is a shared condition among the actors for their successful online transition. This can also be explained by the notion of teachers' self-efficacy (Holzberger et al., 2013; Klassen & Chiu, 2010; Klassen & Tze, 2014; Tschannen-Moran & Hoy, 2007) − teachers' belief about their ability to carry out a particular course of action successfully. Considering this, teachers would be well advised to include at least one online learning component in their courses.

TABLE 1. Overview of Instructors' Online Adaptions in Response to the COVID-19 Outbreak

Case	Context	Status Quo	Adaptation Due to COVID-19	Reason
Teacher X	Private English class taught at home	Face-to-face class meetings with no online component	Fully online classes presented via Zoom	Teacher X and parents decided this solution was acceptable given the risk of viral transmission.
Teacher Y	Scientific Writing class presented in flipped format at a university	Online lecture videos viewed asynchronously	N/A	Government and university directives forced all classes to be given online. Lecture videos were already made for the flipped version of the course and were available for use in the online course.
	Scientific Writing class presented in flipped format at a university	Face-to-face collaborative group writing	Collaborative group assignments completed by students via Google Docs	Teacher Y wanted to maintain collaborative aspects of the course because online learning can be isolating for students.
Dr. Z	University department	Face-to-face course delivery with supplemental online resources such as PPT files	Three options of instructional delivery offered to teachers: **Mode-1:** Online classes delivered via Zoom in real time followed by online assessment via LeaningX **Mode-2:** Video lectures with integrated PPT, downloadable via LearningX and	Mode-1 is the mode advised by the university and encouraged by Dr. Z to faculty, as this model most closely replicated face-to-face class delivery. However, Dr. Z understands that this mode may be difficult to implement for some faculty and for large classes. Thus, Mode-2 and Mode-3

	followed by online assessment via LearningX **Mode-3:** Learning resources made accessible online, coupled with an online assessment via mixed online channels.	were in order of preference and were offered as alternatives.

The second theme is that all three vignettes focus on enabling and facilitating online communication and interaction between teachers and students. That is, the participants in this study have not approached online learning as teacher-centered, mono-directional lecturing. The private English teacher, Teacher X, encouraged students to write (type) answers and ask questions during Zoom lessons; the university teacher, Teacher Y, enabled students to engage with collaborative writing tasks on Google Docs; and the university administrator, Dr. Z, organized mentoring exercises between experienced and novice online teachers while providing faculty members with multiple online communication channels. Such technology-enhanced/-mediated communication experiences can positively impact faculty members' online teaching ability as well as self-efficacy (Gilakjani, 2013; Koh & Frick, 2009; van Dinther et al., 2011).

The third theme from the vignettes of Teacher Y and Dr. Z is that in large educational institutions such as universities, the burden of ensuring proficiency in online teaching should not fall in its entirety on course teachers, as educational administrators also bear a responsibility in enhancing preparedness for the transition to online teaching in the event of a crisis. Even in non-crisis times, inexperienced instructors are often charged with migrating their offline courses to online formats (Cicco, 2013; McQuiggan, 2012). Prior research has shown that preparing instructors for online teaching for the first time is crucial in creating effective courses and in enabling students to succeed in these environments (Baran & Correia, 2014; Cicco, 2013). This may take the form at an institutional level of mandating that a percentage of all offline courses are delivered online at all times and, as has been suggested in prior research, providing adequate support and incentives for developing

such components (Hoyt & Oviatt, 2013; Kebritchi et al., 2017). At a departmental level, teaching and administrative workloads may need to be reallocated to better recognize the time required for developing online courses, as prior research suggests that instructors may prefer a decreased workload to monetary incentives when developing online courses (Herman, 2013; Parker, 2003). As mass cancellation of classes due to pandemics or other unforeseen events, such as natural disasters, may recur in the future, contingencies including a transition to online course delivery should be integrated proactively into an education provider's crisis management planning. This planning may require designated faculty members on a university and departmental level and/or a committee to be responsible for enhancing preparedness for large-scale online course delivery and to act as a focal point for managing this transition to online delivery during a crisis when attending physical classes is neither a feasible nor prudent course of action for educational providers.

CONCLUSIONS

The findings stress the importance of the wider adoption of online learning in non-emergency circumstances, meaning that at least some components of instruction should be provided online in traditional face-to-face courses. Doing so is advisable for two reasons. The first is that when contents are provided online, particularly asynchronously, this can increase students' opportunity to access the materials. Online videos, online lecture notes, and online quizzes provide students with access to meaningful learning resources that they can access at their convenience. Particularly when learners have other social obligations, such as work or family, online components in traditional classrooms can be a valuable tool. The second reason for including online activities is that doing so may be an appropriate precaution for disasters. By including online elements into traditional courses, teachers will have more opportunities to use and become proficient with learning technologies and in turn will be able to help familiarize students with online learning. Doing so will better prepare students for the changes that may be necessary during the occurrence of disasters, including global pandemics like the COVID-19 outbreak.

While the present study offers a useful opportunity to examine how

online instruction was implemented in South Korea, one of the first nations affected by the COVID-19 pandemic, there are a number of limitations that must be considered. The three contexts that were examined were all quite different from one another. Specifically, one context deals with the after-school instruction of young learners, while the second and third cases deal with higher education contexts. Moreover, the first two cases relate stories of how teachers implemented online instruction, but the third case relates more to teacher training and department-level management. Such differences offer a wide-ranging perspective on the adaptations taking place in learning contexts in South Korea but also limit the number of specific conclusions that can be drawn from them. Nevertheless, it is hoped that this paper has provided useful and generalizable examples of how educators can adapt their instruction to an online format during crisis situations, such as the COVID-19 pandemic.

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