Response and Reflection on COVID-19: The case of Japan and a University

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Abstract
The COVID-19 pandemic has significantly disrupted higher education worldwide. In this regard, multiple issues have emerged that affect the stakeholders, including school administrators, staff, faculties, students, and their parents. Facing tremendous changes, it is imperative to ensure that the quality and equality of education remain unaffected, to create an effective and supportive educational environment. This study reports the experience of a small private university in Japan. During the spring semester of 2020, the school employed three modes of instruction, namely home assignments, online classes, and face-to-face. These modes were adopted in response to the threat posed by COVID-19 and is a departure from solely face-to-face instruction practiced earlier. Descriptions of each type of instruction, including its aims and planning, implementation, and evaluation phases are presented. The survey was conducted on 200 students to reveal their perceptions, experiences, and difficulties during the semester. The survey data were entered in SPSS for descriptive approaches as well as correlational analysis. The ultimate goal of this study is to identify the major challenges faced by universities and to propose possible solutions through information sharing. Amidst the uncertainty over when the pandemic would end, there is an increasing necessity for the reconceptualization of higher education. Furthermore, it is crucial to build a sustainable education model for the future with the innovation and cooperation of the stakeholders. It is hoped that this study will aid in developing a better understanding of the current situation and lead to the formulation of constructive measures.

Key words: Higher Education, COVID-19, Online Instruction

Introduction

According to Johns Hopkins University & School of Medicine, 91,669,273 COVID-19 cases have been reported in the world as of January 13. This pandemic has gained momentum day by day and shows no signs of slowing down. At the beginning, when the pandemic started spreading globally, the situation forced most governments globally to close schools and other educational institutions in an attempt to control the spread.

Likewise, the Japanese government requested the closure of all public primary and secondary schools on February 17, 2020 and the private schools were also followed the government request. On April 7, the government declared a state of emergency, under which almost all schools remained closed and students were assigned home-based learning. Some schools provided online classes, while others provided take-home assignments. After the government lifted the state of emergency on May 25, these schools resumed classes. However, universities in Japan had different experiences than the primary and secondary schools did. This study will first provide an overview of the response in higher education to the COVID-19 situation in Japan, followed by the presentation of the current case study.

There have been various studies related to COVID-19 published by international organizations such as the United Nations (UN), Organization for Economic Co-operation and Development (OECD), and United Nations Educational, Scientific and Cultural Organization (UNESCO). They report the impact of COVID-19 in terms of health problems, the economy, environment, and society, as well as the education. Other global organizations, such as the International Association of Universities (IAU), Salesforce org., IPSOS, and The Chronicle of Higher Education have focused especially on higher education globally, reporting government responses, instructional reactions, and students' experiences. The above-mentioned studies used survey methods to examine the conditions of higher institutions and their students. Although these global studies have provided limited information on Japan, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) has also published various reports involving surveys, discussion groups, and interviews to gain a picture of the nation's condition. Meanwhile individual universities have conducted their own surveys (Tokyo University, Waseda University, Ritumeikan University, etc.), examining their students' academic work, daily lives, and physical and mental health. Although the topic itself is still new to the field, numerous studies of higher education during the COVID-19 pandemic have been published.

A review of the above-mentioned studies found that comparisons of two surveys of the same population at different times remain very limited. Moreover, there are as yet no studies focusing on English online instruction. Therefore, this study also aims to present the case of online English instruction at a small private university, including survey results. The current study involves two surveys, one administered in the spring semester and the other in the fall semester, to the same sample population. It is intended to reveal students' perceptions and experience of online English instruction. As mentioned, this area of research is in an early stage; therefore, we believe that up-to-date specific information will help show a clear picture of the field, allowing us to identify the issues and challenges that English education faces. Ultimately, using such information would lead to proposals for effective measurement as well as

building new educational models, not only for English instruction but also for higher education in general.

Purpose of the Study

There are two purposes of this study. First, the study surveys the response of higher education to the COVID-19 pandemic in Japan. Second, this study presents the case of a small private university, including survey results.

Methods

To achieve the first purpose, a review of recent literatures and documents issued by MEXT was performed.

For the second purpose, the survey was administered as described below.

Students' surveys were conducted at the ends of the spring and fall semesters.

Aim: To reveal students' experiences and perceptions of online English instruction

Methods: Survey questionnaires were prepared using Microsoft Forms. of the questionnaire comprised 55 questions, including 2 background information questions, 51 multiple-choice questions scored on a 5-point Likert scale, and 2 open-ended (like/dislike) questions in the spring and 3 more multiple-choice questions added for the fall semester.

Sample: The participants comprised 94 1st-year students and 78 2nd-year students in the spring, and 101 1st-year students and 77 2nd-year students in the fall.

Analysis: The survey data were entered in SPSS for descriptive and correlational analyses.

The presentation of this study follows the manner in which two purposes are explained.

Purpose 1. Overview of the Reaction to COVID-19 in Higher Education in Japan

First, we provide an overview of the responses to and reflections on on higher education in Japan with regard to the COVID 19 pandemic.

Although the COVID 19 pandemic had a great impact on higher education in Japan, the responses of universities were different from those of primary and secondly schools in Japan.

There are 781 universities in Japan, 80% of which are private. All universities are under the jurisdiction of MEXT, which has overall control, imposing more restrictive regulations than the U.S. or other European countries although MEXT has been expanding universities' autonomy since in the middle of 1980's. However, the pandemic forced MEXT to shift from the traditional routine and regulations, allowing the decision regarding starting time or forms of instructions to be made by individual

universities. Meanwhile, it relaxed regulations over online and other remote lectures. MEXT also allocates a supplementary budget for individual institutions and students, ensuring learning opportunities and setting up an environment for distance learning classes.

At almost all schools in Japan, including universities, the school year starts in April. However, in the 2020 fiscal year, around 90% of universities postponed the start of regular classes and reinvented the learning environment, implementing some forms of distance learning.

The followed two charts show the transition in the forms of instructions at higher education from May to July.

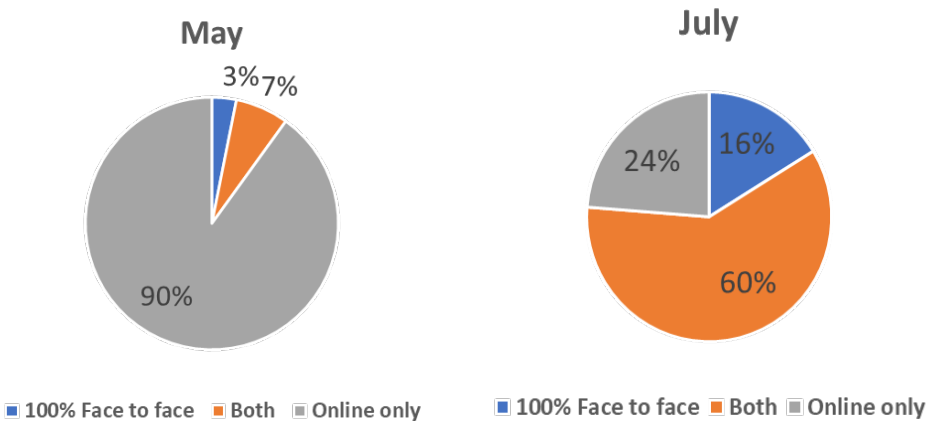

Figure 1: Forms of Instructions

Source: MEXT

As shown in Figure 1, in May 90% of universities used only distance learning, while 7% used both distance and face-to-face instruction and 3% only face-to-face instruction. In July, when the state of emergency was lifted, 24% remained distance learning only, 60% used both forms of instruction, and 16% resumed regular classes.

MEXT conducted a survey in August, asking universities about their fall plans.

About 56% reported more than 50% face-to-face instruction, while the rest (377 universities) reported less than 50%. In fact, as MEXT has been encouraging individual universities to offer about 50% face-to-face classes, MEXT focused on these 377 universities with less than 50% face-to-face classes and checked their status in October, finding that 49.6% (187 universities) remained at less than 50% face-to-face instruction. The majority of these are located in the Tokyo metropolitan area and neighboring prefectures, reporting a large number of COVID-19 cases. Although MEXT issued a warning that these universities that did not achieve a 50% level would be announced in public, this regulation came in for criticism from the field, and 160 of these 187 universities defended their instruction management, claiming that they obtained students' approval to continue online classes, as shown by surveys.

Purpose 2. The Case of the Studied University (Health Science University)

Health Science University is a small private university in the prefecture neighboring Tokyo to the west. It has two majors: health science, for students wishing to become physical therapists, occupational therapists, and social workers; and nursing. The total number of students is around 1,200.

Usually, the school year starts in April, but this year the university only had three school days at the very beginning of April, during which the first-year student orientation, course guidance for individual majors and years of study, PC setting support and technical training for distance learning, textbook sales, and instructions for online registrations were provided. The school then started distance learning for the first semester. During April and May, home-based learning was implemented. Every week, instructors sent a guideline for the lesson, overview, goals, content explanation, and assignments. The assignments were to be submitted a week later, and the instructor then sent feedback to the students by the next class. Each session was designed to cover 90 minutes of class plus pre- or post-self-study period.

During this period, the university provided faculty training for online instruction using Microsoft TEAMS. Individual instructors had to make syllabus modifications which would fit with distance learning during the first semester. At the same time, the university set the risk management framework to ensure students' health and the quality of education as well as minimizing the impact of the pandemic.

After the state of emergency was lifted on May 25, the school started providing interactive online classes using Teams software, while some classes resumed as face-to-face instructions. The university provided limited face-to-face instruction to minimize the risk of infection. Occasional orientations for students of each major at different years, classes involving practical training and upper-level seminars, and final examinations were held as face-to-face classes.

In the fall semester, in consideration of the numbers of students and the unavailability of classrooms meeting the requirements of the risk management framework, a combination of online instructions and face-to-face instruction was inevitable. However, there were increases in face-to-face instruction in some subject areas that involve practical training, upper-level seminars, and national examination preparations.

English Instruction

English I and II for the first- and second-year students are required courses. They consist of content-based ESP (English for Specific Purpose) using an original ESP textbook. Activities include vocabulary and expression learning, reading, listening, writing and grammar practice. There are 15 sessions (90 minutes) per semester. Normally these sessions are held in the form of face-to face instruction. However, in 2020, the form of instruction in English was shifted to online classes.

Online English Instruction

First, a syllabus change was made to adjust for the emergency situation. Basically, the aims, contents, and grading system remained the same. However, each session emphasized feedback to ensure interactive instruction. Besides feedback, posing questions to all students, asking questions of individual students, providing frequent comments on students' responses, actively using mail and chat functions, and encouraging pair or group activities were also emphasized to enhance the interactive nature. Questions and comments were accepted in any time during and outside class and instructors responded as soon as possible. The recording function was also used so that students who were absent from the session or who needed clarification of the contents could review the recording at any time.

The following describes the routine of each session:

1. The preparation assignment for each session, which included completing vocabulary sheets or answering pre-reading questions before class, was provided. Before instruction started, students could ask any questions regarding the assignment via mail or chat.
2. Instruction is conducted. During the session, frequent use of PowerPoint, handouts (supplemental materials, including vocabulary sheets and exercises, preparation for quizzes, and study sheets for the final exams), in class quizzes for each unit and quiz feedbacks were provided. Different types of group or pair activities for discussion and working materials such as writing or reading questions were also provided. Students are allowed to send chats or mails in anytime during the class and responses are made promptly.
3. Homework is assigned. Students review the content and submit review questions online, and complete it by the following session.

The following modifications for the fall sessions were made after reviewing the spring survey:

- ✓ More frequent use of PowerPoint
- ✓ More frequent distributions of handouts
- ✓ More group/pair activities
- ✓ Increased feedback for individual students
- ✓ Clarification of the grading system and information for individual students' up-to-date scores so that students could understand their academic achievement up to that point.

Survey results

This section presents the study results under the following four points:

1. Perceptions of online instruction (satisfaction, understanding, environment/health issues)
2. Perceptions of materials and software functions used through online instruction (PowerPoint, handouts, video recording, screenshots, notetaking, chat/mail)
3. Perceptions of activities (chat, pair- group work) and workload (self-study amount, attitudes)
4. Perception of face-to-face instruction

1. Perceptions of Online Instruction (Satisfaction, Understanding, Environment / Health Issues)

First, students were asked if they are satisfied with online instruction, and the results are shown in Figure 3.

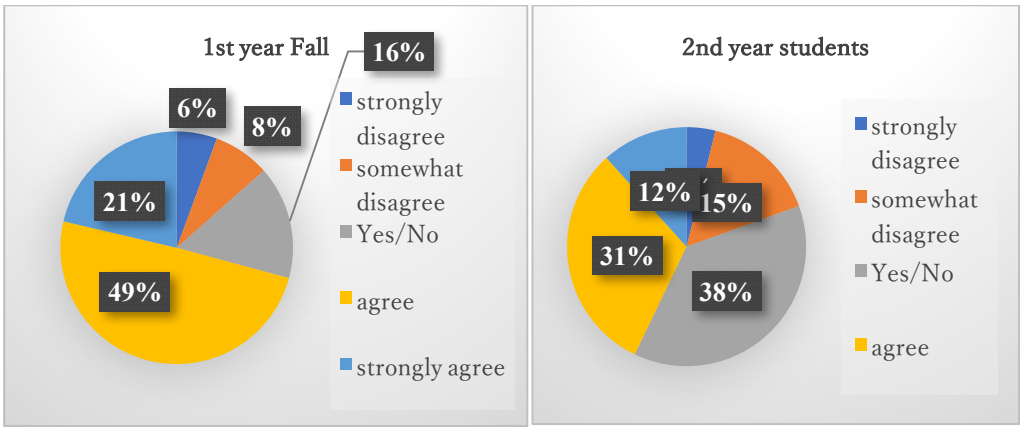

Figure 2: Satisfaction of Online English Instruction

As indicated in Figure 2, over 70% of the first-year students and 34% of the second-year students reported being satisfied with the instruction, while 13% of the first-year and 19% of the second-year students were not satisfied with it.

Moreover, the first-year students satisfied with the instruction increased from spring to fall.

Regarding students' level of understanding, many agreed that the instruction was easy to understand, and increases were shown from spring to fall.

To examine the relationship between the level of satisfaction and understanding, correlational analysis was performed for the first-year students (Table 1) and second-year students (Table 2).

		satisfaction	understanding
satisfaction	Pearson correlation	1	.216*
	Sig. (2tails)		.030
	N	101	101

* p < .005

Table 1: Correlational analysis of the levels of satisfaction and understanding (1st-year students)

		Satisfaction 2	Understanding 2
satisfaction 2	Pearson correlation	1	.164
	Sig. (2tails)		.147
	N	80	80

Table 2: Correlational analysis of the levels of satisfaction and understanding (2nd-year students)

A weak correlation (.216, $p < .005$) was found between the levels of satisfaction and understanding only among the first-year students.

Students were asked if they experienced stress in their Internet environment; 38% of first-year and 39% of second-year students reported experiencing some stress. Students also responded about their health conditions in relation to online classes, and more than half (64%) of the students had some kind of health problems, such as eye fatigue, headaches, backaches, and stiff shoulders.

In order to examine these factors, a correlational analysis of students' satisfaction, IT environment, and health problems was performed. The results for 1st and 2nd-year students are given in Tables 3 and 4, respectively.

		satisfaction	environment	health
satisfaction	Pearson correlation	1	-.414**	-.216*
	Sig. (2tails)		.000	.030
	N	101	101	101
environment	Pearson correlation	-.414**	1	.488**
	Sig. (2tails)	.000		.000
	N	101	101	101

** $p < .001$* $p < .005$

Table 3: Correlational analysis of the levels of satisfaction, IT environment, and health (1st-year students)

		satisfaction 2	environment 2	health 2
satisfaction 2	Pearson correlation	1	-.386**	-.228*
	Sig. (2tails)		.000	.042
	N	80	80	80
environment 2	Pearson correlation	-.386**	1	.432**
	Sig. (2tails)	.000		.000
	N	80	80	80

** $p < .001$* $p < .005$

Table 4: Correlational analysis of the levels of satisfaction, IT environment, and health (2nd-year students)

As evidenced, a moderate negative correlation ($-.414$, $p < .001$ for the first-years and $-.386$, $p < .001$ for the second-years) was also found between satisfaction and environment. A weak negative correlation ($-.216$, $p < .005$ for the first-year students; $-.228$, $p < .005$ for the second-year students) was found between satisfaction and health. Students with higher satisfaction reported less frustration with their IT environment and better health conditions. Moreover, a moderate correlation (.488, $p < .001$ for the first-year students; .432, $p < .001$ for the second-year students) was found between the environment and health.

2. Perceptions of Materials and Software Functions Used in Online Instruction (Powerpoints, Handouts, Video Recording, Screenshots, Notetaking, Chat/Mail)

When students are asked about the use of PowerPoint, most students agreed on the usefulness of PowerPoint, and an increase from spring to fall is evident in this graph. In terms of the students' perception on the handouts provided as supplemental materials in class, 64% of the first-year and 36% of the second-year students felt that handouts were useful.

Next, students' responses regarding the functions of TEAM software are explained.

Figure 3 shows students' use of the recording.

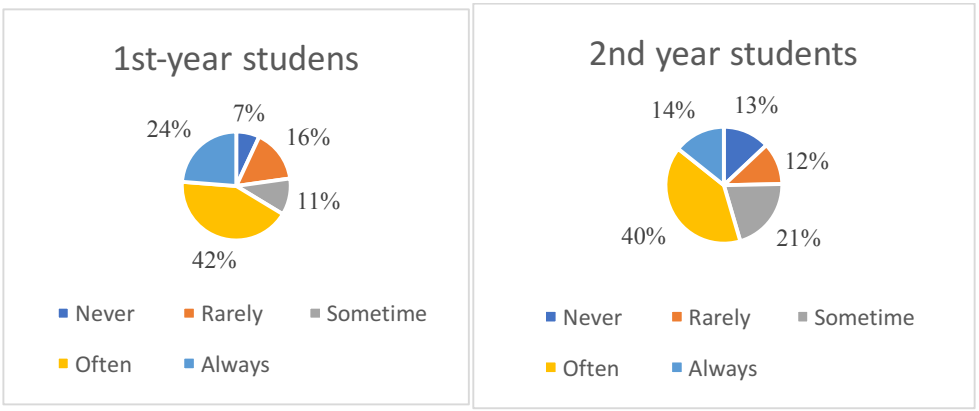

Figure 3: Use of Recording Function

66% of the first-year students and 54% of the second-year students reported that they always or often used the recording function. In terms of screen shots, 41% of the first-year students and 51% of the second-year students always or often used screen shots. It was also found that such use of screen shots increased from spring to fall.

Next, responses on note-taking activities are presented. Among the second-year students, less than 5% always take notes and less than 25% often take notes. On the other hand, over one-quarter of the second-year students and one-third of the first-year students never or rarely take notes. When we examine the changes from spring to fall, we find that the number of students who always take notes decreased in both years.

The presumption was made that the more students use screen shots or recording, the less they take notes. In order to examine this, a correlation analysis was made of these three factors. Table 5 present the results for the first-year students and Table 6 for the second-year students.

		video	note	screen
video	Pearson correlation	1	.205*	.186
	Sig. (2tails)		.040	.062
	N	101	101	101
note	Pearson correlation	.205*	1	-.014
	Sig. (2tails)	.040		.887
	N	101	101	101

* $p < .005$

Table 5: Correlational Analysis of Video Recording, Note-Taking, and Screen Shots. (First-Year Students)

		video 2	note 2	screen 2
video 2	Pearson correlation	1	-.149	.057
	Sig. (2tails)		.188	.613
	N	80	80	80
note 2	Pearson correlation	-.149	1	-.042
	Sig. (2tails)	.188		.711
	N	80	80	80

Table 6: Correlational Analysis of Video Recording, Note-Taking, and Screen Shots. (Second-Year Students)

A weak correlation (.205, $p < .005$) between recording and note-taking was found only for first-year students, which means that those who review the recordings more often take notes.

Regarding the chat function, students use chat to send messages or questions during and outside class, and 68% of the first-year and 46% of the second-year students consider the chat functions useful. It was also found that compared to the spring survey, more first-year students felt the usefulness of the chat function in the fall, suggesting that the first-year students became more comfortable sending messages than in the spring, when they might have felt more anxiety.

3. Perceptions of Activities (Pair/Group Work) and Workload (Self-Study Amount, Attitudes)

Pair or group work

In the spring survey, about 45% of first-year students did not want group work, while 66% of the second-year students claimed that they disliked group activity, although only a few group or pair activities were implemented in spring semester. Despite their dislike of group work, more group activities using various Teams functions were implemented in the fall. The fall survey found that 74% liked the group activities while 10% disliked them among first-year students, and 48% of the second-year students liked the group activities and 23% disliked them.

Workload (self-study)

Students were asked if they spent more time on self-study than during previous English instructions (in the case of the first-year students, “previous learning” meant English in high school); 47% of first-year and 50% of second-year students believed that their self-study time had increased. In terms of their attitudes toward self-study, 52% of the first-year and 40% of the second-year students believed that their self-study attitudes had improved.

4. Perception of Face-to-Face Instruction

Figure 4 shows students’ wish for face-to-face instruction, indicating that 40% of the first-year students and 34% of the second-year students wished to move to face-to face instruction while the others were ambivalent or against such a shift.

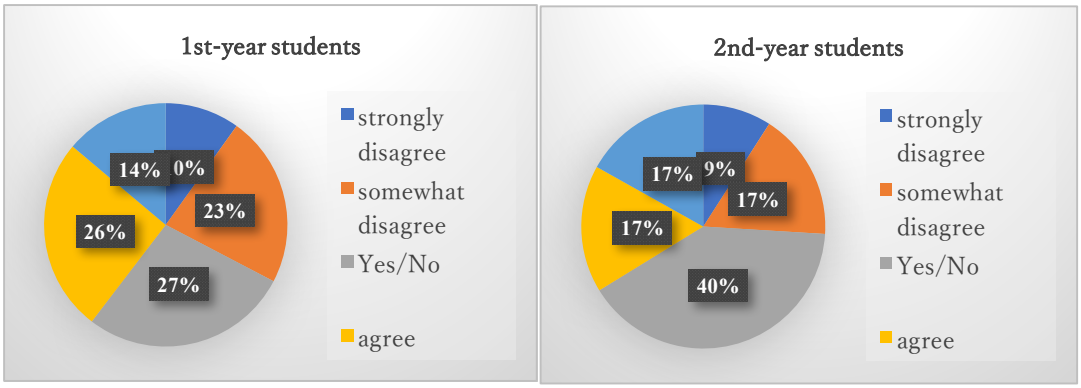

Figure 4: Students' Wish to Shift to Face-to-Face Instruction

Conclusions

Main findings

The followed are the main findings:
1. Most students were satisfied with online English lessons
2. About one-third of the students did not wish to move to face-to-face instruction.
3. Students' self-study hours were increased and their attitudes toward self-study were also improved.
4. Some experienced technical difficulties as well as health problems such as backache and eye fatigue in online lessons, which are correlated with students' level of satisfaction.
5. Students frequently use the functions of recording, screen shots, and chat.
6. One-third of the students never or rarely took notes during class hours.
7. Students perceived the chat function, handouts, and PowerPoint as useful.
8. Students felt PowerPoint (providing written materials) and handouts to be useful.
9. The majority of students indicated liking group or pair work activities.

Limitations and Implications of the Study

Limitation of the study

Since the current study is a case study involving a limited number of students (N < 200 for each survey), the study or correlation analysis may not be generalizable. However, it should be noted that the findings of the current study are in general agreement with the results of surveys conducted in previous studies with much larger sizes.

Implication

To ensure successful interactive instruction, instructors should be competent not only in the subject area but also in IT technics. Skills and knowledge of online instruction, including software applications becomes critical. Such skills and knowledge should be constantly brushed up and instructors should keep up to date with software technologies. Therefore, on-going training for instructors is inevitable. At the same time, instructors should react to and reflect upon the situations arising in class. Monitoring students' reactions, responding to students' questions and concerns, and providing effective feedback at appropriate times are all important. Continuous review

and evaluation of their strategies, materials, and students' reactions are necessary, and being flexible for necessary modifications is also important.

Meanwhile, it is crucial to build students' sense of responsibility for their learning and sense of participation for learning in online instruction. In on-demand classes in which pre-recorded instructions are provided, students are likely to be passive learners. On the other hand, interactive online instruction encourages students to be active learners when the following points are attained: Providing pre-and post-assignments, posing questions during class, providing timely, appropriate, and frequent feedback, having students work more actively through pair or group activities, and providing quizzes and feedback all help students to build a strong sense of responsibility and participation that can be expected to increase their motivation for further learning.

It is also important to reduce students' anxiety and stress, which may stem from the Internet environment, health conditions, and lack of understanding. This study found that some students feel stress in their Internet environment, while others report health problems. Meanwhile, some students wish for all contents and instructors' responses to be presented in written form using PowerPoint. Instructors should be sensitive to individual needs, as students may face different needs or difficulties in dealing with online instruction.

Recording the session is recommended. Such recording helps not only students but also instructors. The current study found that many students make use of recordings for review, especially before quizzes and examinations. Such recording also helps absentees to learn materials on their own. Meanwhile, recording would provide great opportunities for instructors to review and reflect on their own instructional methods and for learning students' reaction.

At the moment, there are no signs that the pandemic will recede; therefore, it is critical to make efforts to accommodate to the current condition. It can be said that higher education is now facing a critical phase for survival and for providing quality education. There is an increasing need for reconceptualization, creating sustainable models to adjust to the new normal during and after COVID-19. With reliable and variable data and information sharing, more accurate pictures of higher education in various contexts can be revealed, which will lead to the actualization of an effective model. The innovation and cooperation of stakeholders in the field are urged.

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