Summary of Research Results

on Effective Online Education and Evaluation Criteria and Perspectives (2019-2021)

1.Survey Purpose

The COVID-19 pandemic has been promoting to the use of ICT in education in countries worldwide. Japanese universities have also adopted various methods such as interactive classes and streaming video classes through a process of trial and error. As the research on these teaching modalities progresses, and as they become more successful in helping student learning, online education is expected to further develop as the new normal in the post-COVID era.

However, there are still issues that need to be addressed in the future. For example, there are some issues regarding educational methods to enhance the effectiveness of student learning, fair examinations, and rigid grading. Similarly, there are several issues that require improvement, such as difficulties in supporting student learning and building relationships between teachers and students, as well as technical problems such as the Internet connection environment. Thus, further efforts are needed to make the new normal a reality. In this context, JUAA organized a research project team at the Research Institute for Quality Assurance of Higher Education (RIQAHE) to conduct a survey.

This study aimed the three following points:

- To propose an effective online education that leads to enhance learning outcomes.
- To explore the potential of online education to advance student learning, which cannot be achieved by in-person classes as well as to explore the hybridization of online and in-person classes.
- To clarify the basis of the evaluation standards while it is necessary to review them and conduct evaluation appropriately as a certified evaluation and accreditation agency.

2. Research members

Position	**Name**	**Institution Name**
Department Chairman	Reiko YAMADA	Doshisha University
Research Fellow	Yuji SHIRAKAWA	Chiba University
〃	Katsuaki SUZUKI	Kumamoto University
〃	Yusuke HORII	Kanazawa University
〃	Yusuke MORITA	Waseta University.
〃	Shinichi YAMAMOTO	(Former) Tsukuba University

※Term of office: July 1, 2020 to March 31, 2022

3.Research methodology and timeline

In this research study, we reviewed previous research and case studies to identify key factors, and then conducted questionnaire surveys and interview surveys as the main pillars. In addition, we conducted questionnaire surveys for overseas QA agencies as a supplemental survey.

The schedule for conducting the research study is as follows.

28 August 2020	1st meeting	Discuss research policies, plans, and methods
30 September	2nd meeting	Discuss survey methods and detailed items to be included in the survey
23 October	3rd meeting	Examine the questionnaire survey form
2 December	4th meeting	Examine methods of analyzing survey
16 December – 15 February 2021	Questionnaire Survey	Sent questionnaires to all universities in Japan with undergraduate programs
30 March	5th meeting	Discuss questionnaire results and interview survey Share upcoming schedules and issues to be addressed
14 June	Interview Survey	Osaka University
18 June		University of Shizuoka
23 June		Toyota Technological Institute
24 June		Kumamoto University
28 June		Waseta University
6 August	6th meeting	Summary of Survey Results Discuss report content
30 August	7th meeting	Summary of Survey Results Discussion report content

4. Research results

4.1 Questionnaire survey for universities in Japan

We examined how the rapid development of online education in the COVID-19 pandemic affected universities and how they responded (response rate: 58.2%; national universities: 68.3%, public universities: 63.7%, private universities: 56.1%). The current situation, including challenges that were identified in this survey, is as follows.

[Teaching]

- There is some confusion about the instructional methods of online classes, especially for

experiments, practical training, and skills training.

- The students' learning progress is not easily monitored, which causes excessive amounts of assignments.
- Faculty members' workload increased because they had to conduct online classes under the unexpected circumstances of the COVID-19 pandemic.
- About 86% of the respondents answered that they would like to utilize online education more in the future.
- Many universities are interested in flexible class design by combining of face-to-face and online courses after the end of the COVID-19. On the other hand, many universities consider grading, quality of classes, facilities, and technical support to be more problematic than before 2019, and this is a challenge for future development.

[Student Support]

- Almost all universities implemented campus access restrictions. On the other hand, many universities made exceptions and allowed students with special reasons to enter the campus.
- About two-thirds of the universities took different activities than in usual years to promote interaction and communication among students.
- The support for students was divided into "financial support" and "support for learning environment for remote classes," with 70% of the former and 90% of the latter universities taking some kind of program in this area.
- About 70% of the universities were reported to have expanded online and face-to-face student counseling services, but few universities strengthened their systems by increasing the number of staff in charge of such services. It can be said that the expansion of human resources is a potential issue for most universities.

[Facilities & environment]

- Information and communication environments at student's homes differ widely, and many universities provide support for learning environments.
- Some universities maintain systems for information management, security, copyright protection, etc., while others do not.

[Written answer: General comments]

- There are few negative views about online education itself, and many universities have a positive perspective on the future of university education.
- Many of the responses indicate that there are a number of tangible and intangible issues that need to be solved in order to promote online education.

- The responses indicate that universities have various plans and prospects toward the digitization of education, and are seeking to prepare for it.

4.2 Interview survey of universities in Japan

Based on the results of the questionnaire survey, the interviews were conducted (5 universities) to identify individual specific qualitative studies. The interview survey highlighted the actual situation that was revealed in the questionnaire survey, i.e., the reality of trial and error in the implementation of online education. For example, there were cases in which video materials were used while experiments and practical training were difficult to conduct, and cases in which exams were given not to assess knowledge per se but to assess practical skills, so that grading could be done sufficiently even in a non-personal environment and fraud prevention could be achieved. In addition, there was a glimpse of a direction to take the necessity of online education due to the COVID-19 as a positive opportunity, and to aim for a hybrid type of class, considering the advantages and disadvantages of online classes and hybrid classes.

4.3 Questionnaires survey for overseas QA agencies

For this survey, we also conducted a questionnaire survey of overseas evaluation organization. We tried to find out about evaluation criteria and methods, but many overseas quality assurance agencies had not changed their underlying principles even as online education has progressed. This made us realize that we should not focus only on the technical issues that characterize online education.

5. summary

Considering the above, we suggest how universities will be required to meet the demands of online education as it continues to progress.

- To enhance support for faculty members to promote their ICT skills.
- A help desk for students and faculty is essential, and continuous training of personnel involved in ICT-related support is required.
- For grading methods that are difficult to define uniformly due to their dependence on academic fields and the nature of classes, faculty members should work to collect and share good practices among themselves.
- To collect good practices for ensuring opportunities for student communications.
- To assist students who take online education by monitoring their telecommunication environment. In addition, to ensure adequate technical support concerning the online education environment.
- To enhance opportunities to foster understanding among faculty members and students of the importance of protecting students' privacy, sensitivity to information security, copyright

protection and prevention of infringement, and protection of the proliferation of information.

Furthermore, in order to find practical tips, we have explored recommendations and guidelines from overseas, and found examples of their proposals by quality assurance organizations. After examining the appropriateness of such examples for Japan, suggestions should be further provided by JUAA.

It should be noted that the development of online education in the future will not only require efforts by individual universities. In this survey, several systematic issues were pointed out by the universities. It is important to rethink what kind of systematic design is desirable in the future, while identifying the key points in quality assurance, and to take necessary actions, including those of the Japan government.