

Introduction

In the Spring of 2020, the COVID-19 pandemic forced most universities around the world to shut down their campuses indefinitely and move their educational activities to online platforms.

This had a serious impact on students, instructors, and educational organizations around the world (Mailizar, Almanthari, Maulina, & Bruce, 2020).

Many universities were not prepared for such a transition and their online teaching / learning process evolved gradually.

The consequent nationwide lockdown (State of Emergency) enforced to contain the pandemic affected the mental health of many students who are suffering from stress and anxiety (Cao et al., 2020).

Such psychological issues often hinder students from adapting to online education, and, significantly, not all students have equal access to and expertise on digital technologies.

Study Aims

- To find out students' attitudes towards learning online during the 2020 academic year.
- Specifically, the study investigated students' behaviour, self-motivation, and overall satisfaction towards doing online learning classes during the COVID-19 pandemic.
- Japanese students at a university in Hiroshima were asked to respond to a questionnaire asking about their opinion on different aspects of online education during the ongoing pandemic.
- Responses from 140 students were received in the **Online** group
- Responses from 125 students were received in the **Face-to-face** group

Questionnaire Responses

Q1. How useful was it to use the course textbook online / face-to-face?

Question 1	Online	Face-to-Face
1 Not useful	0	0
2	2.1	0.8
3	10.7	13.6
4	36.4	33.6
5 Very useful	50.8	52



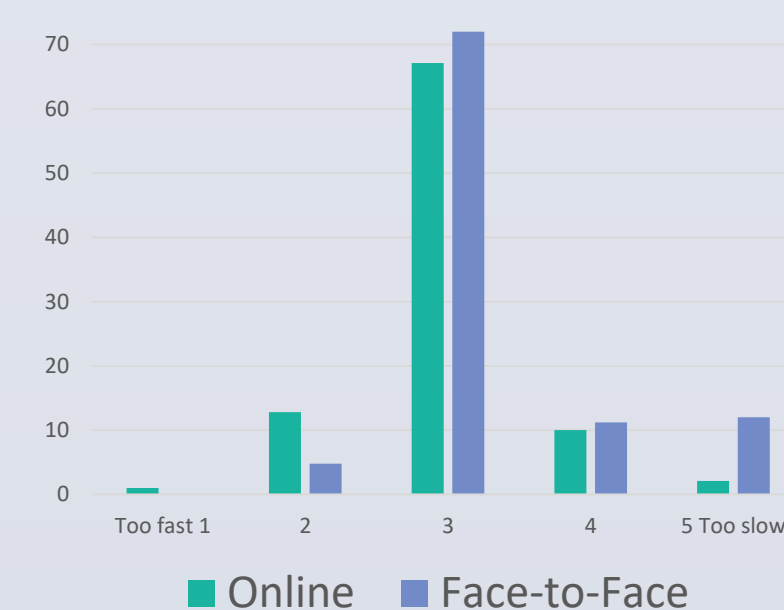
Q2. How clearly did the instructor explain the course material?

	Online	Face-to-Face
1 Not clearly	0	0
2	1	1
3	3.5	10.4
4	32.1	20
5 Very clearly	63.5	68.8



Q3. Was the speed with which your instructor presented the material too fast or too slow?

	Online	Face-to-Face
1 Too fast	1	0
2	12.8	4.8
3	67.1	72
4	10	11.2
5 Too slow	2.1	12



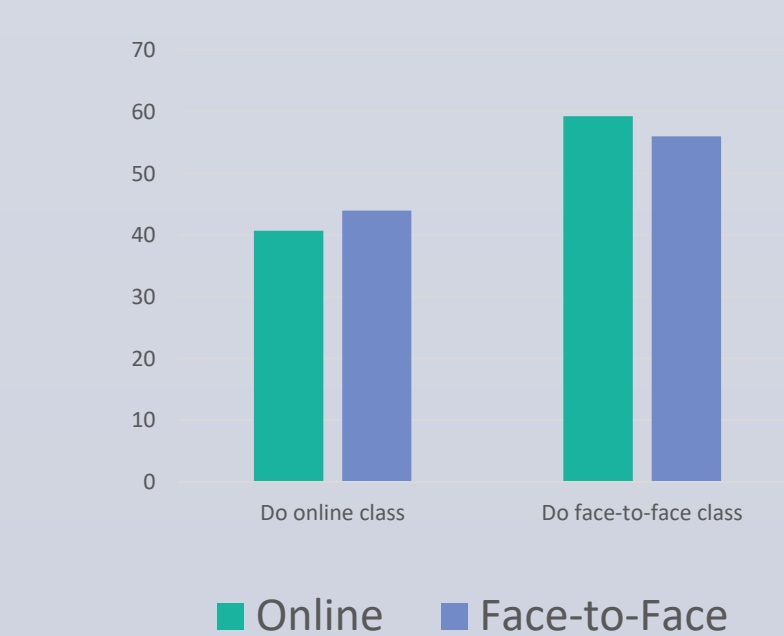
Q4. How easy or difficult was it for you to do classes online / face-to-face?

	Online	Face-to-Face
1 It was easy	11.4	9.2
2	27.8	31.9
3	31.4	31
4	20.7	17.6
5 It was difficult	8.5	10



Q5. Would you like to continue doing online classes next semester or do face-to-face?

	Online	Face-to-Face
Do online class	40.7	44
Do face-to-face class	59.3	56



Questionnaire Responses

Q6. How well did your teacher answer student's questions?

	Online	Face-to-Face
1 Not at all well	0	0.8
2	3.5	0
3	10	9.6
4	22.8	28
5 Very well	63.5	61.6



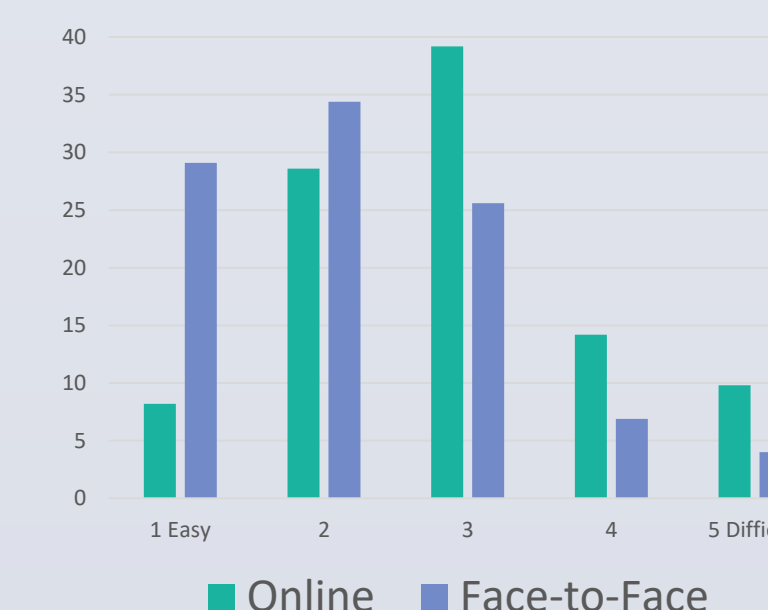
Q7. How comfortable was it for you to say your opinion in your class or group?

	Online	Face-to-Face
1 Not comfortable	1.4	0.8
2	7.1	4
3	39.2	25.6
4	34.2	36
5 Very comfortable	18.8	34.4



Q8. Was it easy or difficult to motivate yourself to do online / face-to-face classes?

	Online	Face-to-Face
1 Easy	8.2	29.1
2	28.6	34.4
3	39.2	25.6
4	14.2	6.9
5 Difficult	9.8	4



Q9. Overall, were you satisfied with this course?

	Online	Face-to-Face
1 Not satisfied	1	1
2	3.5	1.6
3	10.7	4
4	30.7	24.5
5 Very satisfied	54.2	69.6



Q10. Do you have any comments about this course?

- How does learning online effect my grades?
- How will I be assessed for this course online?
- I didn't get to know my classmates very well.
- I enjoyed chatting with my classmates but I could only meet a few.
- It was difficult for me to study on my own
- Studying at home was good but my family was noisy.

Methodology

- The questionnaire was conducted twice, once at the end of the Spring semester of 2020 (classes online), and the then at the end of the Fall semester (face-to-face)
- Both questionnaires consisted of the same set of questions.
- Respondents were comprised of nine different classes taught by the author, and consisted of an equal measure of both 1st and 2nd year students (although there were a couple of re-takers in their 3rd and 4th year).
- Responses from 140 students were received on the first questionnaire (online classes) and 125 students on the second questionnaire (face-to-face classes).
- Allowing for this difference in the number of respondents the data was calculated as a percentage.

Response Summary

Although the students felt that they learn better in physical classrooms (65.9%) than through an online platform the findings also identified three underlying components that were a concern for the students: **engaged learning, agency, and assessment.**

Overall, students appreciated the software and online study materials being used to support online education, however, they felt that online education is stressful and affecting their health and social life. As this pandemic has led to a widespread adoption of online education the lessons we learn now will be helpful in the future.

References

- Bojovic, Z., Bojovic, P. D., Vujosevic, D., & Suh, J. (2020). Education in times of crisis: Rapid transition to distance learning. *Computer Applications in Engineering Education* in press.
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, *287*, 112934.
- Mailizar, Almanthari, A., Maulina, S., & Bruce, S. (2020). Secondary school mathematics teachers' views on e-learning implementation barriers during the Covid-19 pandemic: The case of Indonesia. *Eurasia Journal of Mathematics, Science and Technology Education*, *16* (7), em1860.