

***International Students' Acceptance of Online Learning During Pandemic:  
Some Exploratory Findings***

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**Abstract**

The COVID-19 outbreak in 2020 has impacted campus life in many ways, including shifting to online mode of teaching and learning, restricting face-to-face communication and activities, and forming of new norms of education. This paper investigates impacts of the pandemic to the way international students taking class and doing research, the satisfaction level, and obstacles of international students in Japan to online learning, as well as the factors which may influence the students' acceptance of online learning. A questionnaire containing both Likert-style and open-ended questions were sent to all international students at a university in Japan. Almost half of the non-research international students reported that their taking class was impacted, while almost 30% of graduate international students reported that their doing research was impacted during the pandemic. Japanese proficiency, years of enrollment and family status are found to be associated with impact on taking class. Access to supportive information from university is found associated with satisfaction level of online learning. These findings imply further investigation may need to be conducted for more evidence on whether that acceptance of online learning could be associated with certain factors, and if online learning could be a new norm of education.

Keywords: International Student, Japan, Online Class, Pandemic, Satisfaction

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## Introduction

University students, especially international students must face many challenges during their campus life (Sherry et al., 2010). Since 2020, education sector witnesses to the ways that COVID-19 pandemic, with all of its impacts on classrooms and campuses (Dept. of Education USA, 2021). Since the beginning of 2020, university students in Japan are exposed to the impacts of Covid-19 pandemic (Tanno, 2020). So far, institutions and organizations in Japan have designed (Kondo, 2020) and implemented numerous schemes for supporting international students in Japan to cope with COVID-19, including providing daily life support, consultation, information (Nishiura, 2021). Some universities started to introduce new platforms for involving international students during the social distance period, such as photo contest (Tran, 2021), online exchange activities, stress prevention seminar for international students etc. Nevertheless, digital transformation at higher education and the future of online campus has been a long time topic for discussion (Haggans, 2016). The pandemic seems to be a strong trigger to push up this digital transformation process (Garcia-Penalvo & Corell, 2020).

In Japan until early 2021, university students already have experienced three epidemic waves of Covid-19 (Arima et al., 2021; Karako et al., 2021). During the first wave, certain anti-epidemic measures were introduced in campus, part of the classes have been canceled or shifted to online mode in short notice, academic staff and students have been not getting used to online class applications, as well as in campus internet access places has not been widely adjusted to meet the social distancing requirements. During the 2<sup>nd</sup> wave during the summer 2020, the campus life has seemed to adjust well to the online learning mode, and most of the students have been getting used to the online class. During the 3<sup>rd</sup> wave in the winter 2020, the burden of the pandemic has become heavier in Japan generally, but the situation has not changed too much in our target locality (Arima et al., 2021; Karako et al., 2021). Online class has become a new normal standard of campus life, as students have gained more and more adaptability with it. However, international students may develop anxiety (Takahisa, 2020), loneliness and stress (Katsuma, 2020) during the period of pandemic with online classes.

Tokushima University (TU) is a national university located at Shikoku Island in Japan. International students come from more than 20 countries consist of about 3% of the total of over 8.000 students enrolled. Like other universities in Japan, TU has had to face the same challenges during the pandemic such as online class, digital transformation, social distancing and isolation. Besides the impacts on the students at the campus, the pandemic interrupted the inbound and outbound flow of students, which admission of new international students impossible. Data from a survey conducted in November 2020 had shown some impacts of the pandemic on international students, including anxiety and low mental state (Tokushima University, 2021). However, it seems that international students have been well adapted to taking online classes over the time. The following two main research questions are addressed:

- (1) What is the international students' satisfaction rate with online learning experience supported by their university? What are the reasons they feel this way and how can they be best supported?
- (2) What, if any, are the associations between the international students' backgrounds and their satisfaction? Do they have any special needs?

This presentation aims to show: (1) impacts of the pandemic to the way international students taking class and doing research; (2) the satisfaction level and obstacles of international students towards online class; and (3) factors which may influence the students' acceptance of online learning.

## Method

A cross-sectional survey was designed using online questionnaire using Google forms. The questionnaire included 4 level Likert-like questions for quantitative analysis, and open-ended questions for qualitative analysis. Participants were recruited during March 2021 by direct announcement. All international students at TU, including undergraduate, graduate, research students, exchange students were eligible to participate in the survey. Participants could choose to ignore or join the survey by clicking on the link provided and agreeing on the informed consent. This survey was fully anonymous, as no data to identify the person were recorded. We made analysis quantitatively and qualitatively of the data obtained. Quantitative data were analyzed by SPSS Statistics version 27.0 for Windows (IBM Corp., Armonk, NY, USA). Qualitative data was analyzed by content analysis).

## Results

### Characteristics of Respondents

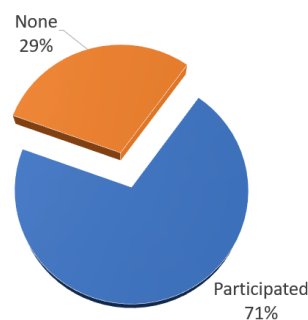


Figure 1: Response Rate

Since the onset of pandemic, the number of international students available on campus had become slightly decreased. This survey was taken place about a year since the pandemic had been announced. However, the response rate seems quite high as over two third (N=110) of total number of students (Figure 1).

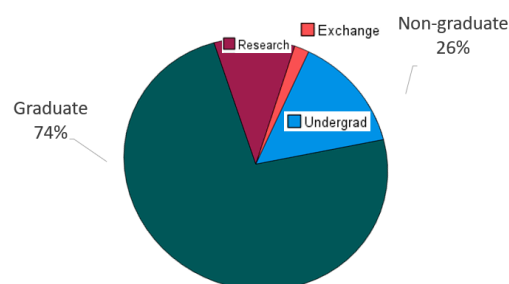


Figure 2: Enrollment Type

Looking at the characteristics of respondents (Figure 2), about three quarters of the total were graduate students, while the rest consisted of undergraduate students, research students and exchange students (hereafter, non-graduate students). This percentage is also proportionate

with the breakdown of international students before the outbreak. The types of respondents also infer about their common daily activities. Graduate students are the group of students who enrolled at master courses or doctoral courses, majorly work at laboratory spending a lot of time to do experiments under supervision laboratory member using mostly English. Graduate students must take some classes, but often at minimal portion of time. Graduate students also must spend a significant portion of time on reading papers, writing reports and preparing for scientific conferences. On the contrary, the non-graduate students, especially undergraduate students and exchange students, spend most of the academic time on taking classes. Research students are those who entered preparatory course, mainly be involved in taking Japanese language classes or learning basic laboratory skills before being enrolled officially.

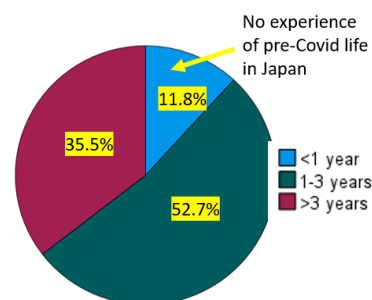


Figure 3. Duration of Life Experienced in Japan

As shown in Figure 3, more than a half of the total number of respondents had been staying in Japan for from one to three years, and around a third had been in Japan for over three years. The rest 11.8% of the respondents had been experiencing life in Japan for less than a year, which means that they had no experience of life in Japan before pandemic.



Figure 4: Timing of the Survey (author adapted from JHU CSSE COVID-19 data)

Referring to the Covid-19 pandemic transition in Japan (Figure 4), the latter group had been staying in Japan during the period between the first wave and the fourth wave.

### Perceived Pandemic Impacts and Satisfaction with Taking Class Online

The perceived impacts of pandemic to certain aspects of students' life are described in Table 1. The four-level scale ranked from not at all (--), not really (-), some (+) and a lot (++). For all categories of taking class, doing research or life, the 'not really impacted' level of impact was chosen by the highest number of respondents. For taking class, 16.4% replied with 'a lot impacted' but this rate was higher at non-graduate group. This could be understood because the graduate group has less class and therefore become less impacted. For impact on research, more people in the graduate group chosen 'a lot impacted' (9.9%), which could be explained by the fact that graduate group had more research work. However, we could not find statistically significant difference between the non-graduate and graduate group in relation to impact.

	Impact (%)	--	-	+	++
1	Taking class	31.8	34.5	17.3	16.4
	Non-graduate (29)	24.1	31.0	24.1	20.7
2	Research	35.5	39.1	17.3	8.2
	Graduate (81)	32.1	38.3	19.8	9.9

Table 1. Perceived Impacts of Pandemic to Some Aspects of Campus Life

Table 2 shows the results of online satisfaction perceived by respondents. We found that about two third of the total respondents had shown satisfaction, including 45.5% of respondents had shown “moderate satisfaction” and 25.5% of respondents had shown “a lot of satisfaction”. On the other hand, 8.6% of graduate students had shown “no satisfaction at all”. However, there was no significant difference between satisfaction mean scores of graduate students and non-graduate students (T-test,  $p>0.05$ ).

N	--	-	+	++
Total (110)	7.3	21.8	45.5	25.5
Non-grad (29)	3.4	17.2	51.7	27.6
Grad (81)	8.6	23.5	43.2	24.7

Table 2. Satisfaction with Taking Class Online

Table 3 shows the percentages of access to pandemic-related information as perceived by respondents. We found that about two third of the total respondents shown “have enough access to information”, including 48.2% of respondents had shown “moderately well informed” and 20.9% of respondents had shown “very well informed”. On the contrary, 7.4% of graduate students had shown “no access to information at all”, while none of non-graduate students had reported so. There was a significant difference between perceived information access mean scores of graduate students and non-graduate students (T-test,  $p=0.002$ ).

N	--	-	+	++
Total (110)	5.5%	25.5%	48.2%	20.9%
Non-grad (29)	0.0%	13.8%	48.3%	37.9%
Grad (81)	7.4%	29.6%	48.1%	14.8%

Table 3. Perceived Access to Pandemic Related Information

We investigated the correlation of independent variables including enrollment status (graduate and non-graduate), years staying in Japan (up to a year and over a year), Japanese proficiency level (beginner, intermediate and advanced), co-living with family members (no and yes), living in dormitory (no and yes), and self-perceived dependent variables in four-level scale including perceived impact on taking classes, perceived satisfaction of online class, perceived impact on doing research, and perceived access to information. The results of Pearson correlation test are shown on the Table 4.

		Enrollment Status	Years in Japan	Japanese proficiency	Living w. family	Living in dormitory	Access to Info
Impact on taking classes	Pearson	-.132	-.223*	.230*	-.232*	.018	.118
	p-value	.171	.019	.015	.015	.852	.220
Satisfaction of online class	Pearson	-.099	.111	.063	-.015	.019	.338**
	p-value	.303	.248	.513	.879	.844	.000
Impact on doing research	Pearson	.167	.083	.167	.016	.166	-.052
	p-value	.082	.387	.081	.870	.084	.588

Table 4. Correlation Between Independent and Dependent Variables

It was shown a significant association between satisfaction of online class and access to information. This relation could suggest that supporting students to have well access to information could lead to higher satisfaction of online classes. Students who have longer staying time in Japan tend to report less impact on taking classes, probably because these students already get used to taking class in Japan, including online and face-to-face classes. Students with higher Japanese language proficiency tend to report more impact on taking classes, probably because the students with higher Japanese proficiency are often undergraduate students who must take more classes than other students. Living with family shows less effect on taking classes, probably because students who live with family are often graduate students who don't have to take many classes.

		Satisfaction of online class	Impact on taking classes	Impact on doing research
Satisfaction of online class	Pearson	1	-.227*	-.1.27
	p-value		.017	.185
Impact on taking classes	Pearson	-.227*	1	.320**
	p-value	.017		.001
Impact on doing research	Pearson	-.127	.320	1
	p-value	.185	.001	

Table 5. Correlation Between Dependent Variables

Table 5 shows correlation between perceived impact on taking class and doing research with satisfaction of online classes. The results show more impact on taking class tend to lead to less satisfaction of online class, while there is no such a significance between doing research and satisfaction. On the other hand, more impact on taking class tend to be associated with more impact on doing research.

### Qualitative Findings on the Impacts of the Pandemic on Taking Classes

The students were asked to describe how their taking classes had been affected by the pandemic. Many voices mentioned in a neutral notion that there were many online classes, but no problem came with that. Some realized that there was a trend for shifting to online class including evaluations and examination. However, many respondents mentioned about limitation of communication as the most visible impact, as they could not communicate naturally with teachers or other students during online sessions. Technical issues were also mentioned such as sometimes it became confusing about schedule because some classes postponed, changed, or canceled, and guidance on mode of class was not given properly. Problem with network access was also mentioned, as sometimes students could not find a

Wi-Fi spots for taking class or might have frequent problems with device or connection. Less commonly, some students reported about having difficulty in learning Japanese online, becoming anxious to attend classes online, having difficulty to take online class at home because of the children, being unable to attend online classes for 1.5 months upon entering and taking quarantine in Japan.

In response to the question why not satisfied with taking online classes, majority of the respondents mentioned about lack of communication with teachers and other students. Some specified that for a foreigner, being in a face-to-face class could be much easier to understand the content and online class might be somehow less efficient since the students could not feel comfortably to practice live communication in Japanese. Technical problems such as poor internet connection or poorly provided guidance for online classes, getting tired from PC lessons for long hours, wanting to record the lesson, MLS notification had been confusing etc.

The students were asked to describe how their doing research had been affected by the pandemic. Impacts on the research were mainly affect the graduate students who had to do experiments at laboratory on site. Many voices reported that the research had been not progressing, their plans had had to change. During the lockdown, these researchers could not consult or discuss with teachers or colleagues about their research because they couldn't enter the laboratory, experiment was canceled or delayed, the experimental animals had to be disposed, attending academic conference had been canceled or gone online. Even for reading or writing papers, it was difficult to do research in the dormitory or at home because of no motivation and difficult to collect materials. Some said that being able to participate academic conferences online could be a good point.

The respondents also specified the need for support that they may expected. The international students realize about social barriers such as Japanese language and culture difference. As foreigners in Japan, they may share common difficulties such as little familiarity of Japanese social support system, especially regarding disaster prevention, medical services, social welfare, and therefore they may have less access to these services compared to Japanese students. The results also specified the need for improving environment for accessing online classes. Students who have difficulty in accessing internet at home may need to use in-campus self-study spaces for taking classes.

## **Conclusion**

This survey has been conducted at 1 year into the pandemic in Japan, when the students already have experienced three epidemic waves from 2020 through early 2021 (Arima et al., 2021; Karako et al., 2021). Online class has become a new normal standard of campus life, as students have gained more and more adaptability with it.

In this paper, the authors have developed a questionnaire containing both Likert-style and open-ended questions to investigate impacts of the pandemic to international students taking class and doing research, the satisfaction level, and obstacles to online learning, as well as the factors which may influence the students' acceptance of online learning. In short, the results show that about a half of non-research students have reported taking class has been impacted, while about 30% of graduate students have reported doing research has been impacted. Japanese proficiency, years of enrollment and family status are found to be associated with impact on taking class. About two third of respondents show satisfaction with online learning.

Access to supportive information from university is found associated with satisfaction level of online learning. The findings also suggest implications for providing support to international students.

The findings have also demonstrated the need for more evidence on if acceptance of online learning could be associated with certain factors, and if online learning could be firmly a new dominant norm of future education. This survey has several limitations regarding study targets such as low participation rate and not being able to make comparison with local Japanese students. The number of variables for investigation has been limited the minimum, therefore have not included some interesting factors such as nationality, scholarship status, age, gender, English language proficiency etc. Although it uses cross-sectional survey mode, there is a possibility of doing a follow-up survey for making comparisons over the timeline.



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