# Issues and Difficulties of Online Education among International Students who Possess Only a Smart Phone with Low Study Motivation and Language Barrier at Vocational Colleges Based on Teachers' Interviews in Japan

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Abstract. This paper reveals how vocational college teachers can manage to teach and what issues they face through online lessons with the international students' low study motivation and language barriers in Japan. Due to Covid19, vocational college international students are obliged to take online lessons on their smartphones. Normally, most international students studying at Japanese vocational colleges do not possess personal computers or tablets, and a few of them do. Most Japanese vocational colleges do not possess personal college international students aim at earning money instead of studying in Japan. Because most international students come from developing countries, many international students in vocational colleges must earn money for living and tuition fees in Japan. They can not afford to buy personal computers due to their small income. Most international students prioritize working, not studying. Thus, their motivation is appreciably low.

Keywords: International student, online education, smartphone, issues, personal computer

## **1** Introduction

It takes nearly three years for COVID-19 to be reported in China for the first time. Human beings are about to overcome the corona pandemic in the world. We have already been vaccinated against the coronavirus. Most countries opened borders in the summer of 2022. People can go and come all over the world except in parts of some countries. Thanks to vaccinations against the coronavirus, we have been recovering from Covid19 and going back to

normal daily life. Looking at the higher educational fields in Japan, 99.3% of the universities in Japan conduct over 50% of the face-to-face lesson in the classroom. According to [1], 95.8% of the universities in Japan conduct over 70% of face-to-face lessons. Most universities reduced the ratio of online lessons and dramatically increased the ratio of face-to-face lessons in 2022.

Although the Japanese Ministry of Education, Culture, Sports, Science, and Technology in Japan disclosed universities' lesson situations, it did not disclose a survey of vocational college lesson situations in 2022. Though figure details for online or face-to-face lessons in vocational colleges in 2022 are unknown, it is considered that vocational colleges will also go back to the face-to-face lesson as well as schools from primary, junior high, and high school and universities. Nearly two years under COVID-19, Japanese students from primary school to university have been able to prepare personal computers and WIFI for online lessons with the subsidiary of the Japanese government [2][3]. In contrast, international students in vocational colleges have been left with the disadvantageous situation to study remotely. International students from developing or newly emerging countries such as Vietnam, Bangladesh, Myanmar, Nepal, and China cannot afford a standard life in Japan because of their low income. They are compelled to prioritize working and earning money [3].

#### 1.1 High educational institution situation under COVID-19 in Japan

[4][5] declared the Coronavirus outbreak a pandemic on 30 January 2020. 88.7% of universities and approximately 60% of vocational colleges suspended the spring semester start. Although normally spring semester starts middle of April, most universities and vocational colleges were delayed to start from April to May 2020. In addition, most universities and vocational colleges shifted face-to-face lessons to all online lessons between May 2020 and March 2021. From April 2021 to September 2022, 99.3% of the universities in Japan conducted over 50% of face-to-face lessons in the classroom. According to a survey in 2022 done by [1], 95.8% of universities conducted over 70% of face-to-face lessons.

# 1.2 Why does this research focus on the issues and difficulties through online lessons among the international students who possess only a smartphone in a vocational college Based on the teachers' interviews?

Compared to primary, junior high, high schools, universities, and vocational colleges in Japan, vocational college students have a considerably low possession ratio of personal computers, particularly international students [5][6].

Moreover, international students usually are obliged to use only a smartphone to take online lessons. Also, vocational colleges cannot afford to rent a personal computer, tablet device, and mobile WIFI for these students because of tight budgets and limited human resources of information technology expertise.

Furthermore, international students' motivation and attitude to study are worse than university international students'. International students at vocational colleges in Japan prioritize earning money over their studies.

In the case these assumptions are correct, vocational college teachers face difficulties. First, the teachers must teach the international students who do not have personal computers and tablet devices. Second, the teachers must teach the international students who do not have high motivation to study because their priority is earning money in Japan. In addition to the above two difficulties, there are language barriers between the teachers and international students which hinder communication.

The educational situation of international students at universities during the COVID-19 pandemic has been reported in many previously conducted research, whereas the situation of vocational college international students' case reports and research were very limited numbers. Therefore, this research seeks to clarify the issues and difficulties to teach international students who possess only a smartphone with low study motivation and language barrier to face in taking online lessons under Covid-19 when the teachers give lessons.

Through this research results, many teachers and headteachers who teach international students at vocational colleges can refer to issues and difficulties surrounding international students in the future. Also, they can design the best yearly curriculums for international students and prepare them for online education. Moreover, this paper will raise issues which are relevant to the international students at vocational colleges as part of labour in the Japanese ageing society to policymakers such as national politicians and the educational bureau in Japan.

## **2 Literature Review**

# 2.1 Personal Computer Possession Ratio of Vocational College International Students and Difficulties to Take Online Lessons

[6] reported that international students in Japanese language schools and vocational colleges in Japan possessed only smartphones and. did not necessarily possess their personal computer. Besides, a survey done by [7] investigated that 44% of vocational college international students did not possess personal computers. In contrast, only 5% of university students did not possess computers, and 95% of them possessed desktop or mobile computers [3]. The ratio of personal computer possession by the international students is overwhelmingly low. Currently, with only using a smartphone device, Microsoft Word, Excel, and PowerPoint are not available fully [7]. Moreover, with a tiny display in a smartphone, a certain two-way video conference software such as Zoom is not utilized the same as the level of a personal computer [7].

#### 2.2 International Students' Motivation to Study at Vocational Colleges

Previous research [8] illustrated that most vocational college international students' priority was working in a part-time job, not studying. Those international students ignore the Immigration Control and Refugee Recognition Act for overtime work and violate the law [8][9]. Considering the previous research, vocational college international students' studying motivation can be low and their attitude to take lessons cannot be better than the university students'. It is reported that vocational college international students between 75 and 90% work over their legally allowed working time to gain more money [8]. Additionally, a lot of vocational college international students focus on working not studying [8]. The above research and data clearly illustrate that the vocational college international students' motivation to study is lower than to work.

## 2.3 Assistance for International Students in Higher Education with Japanese Students

Universities and the national institute of technology colleges adopted Japanese students' tutor system for international students. Whenever international students are in trouble, they can solve the problems by communicating it with Japanese students in their daily life. Thanks to this system, the international students' Japanese language abilities were improved. Additionally, they were not isolated from Japanese society during Covid-19 pandemic by communicating with Japanese students online and face to face [9]. [10] illustrated that most national institutes of technology have a system to support international students to improve the Japanese language with the help of Japanese students' tutors. Some national institutes of technology urge students' clubs to socialize with and assist international students. There are dormitories for international and Japanese students to live together at the national institutes of technology, where they can communicate with each other casually.

According to [11], during Covid-19 pandemic, the Japanese university students' online supports through conversations with international university students gave positive results. The international university students got feedback in the form of the opportunities to get relationships with Japanese university students, improve their Japanese language abilities, and share Japanese and international university students' countries' cultures [11]. The Japanese students' support strengthened the international students' language ability and mentality in Japan.

## 3 Method

#### 3.1. Research question

1. What percentage do the international students in vocational colleges possess their personal computers and tablet and do they feel difficulty in taking online lessons?

2. What kind of issues and difficulties do the teachers face during online lessons with the international students who possess only a smartphone with low study motivation and a language barrier at vocational colleges?

#### 3.2. Research design

A sequential transformative strategy was adopted for this research. Firstly, a questionnaire as a quantitative research method for international students was used to obtain the basic information, such as nationalities, possession ratio of personal computers or tablets, the reasons not to possess computers, and the difficulties to take an online lesson by using a smartphone only. The questionnaire delivered to the international students used five closed questions. The reason for only using five closed questions was due to their low Japanese language abilities that they can comfortably and anonymously answer. The questionnaire was using Google Forms.

Secondly, interviews were also conducted as a qualitative research method for the Japanese teachers at a vocational college to obtain their teaching contents, issues, difficulties, international students' study motivation, attitudes, and Japanese language level during online lessons for the international students who only possess smartphones.

The concrete interview questions for the teachers in the vocational college are mainly five questions below.

Why do you need to teach your subject online?

What content do you teach in your lesson?

What is the most difficult thing for the international students who only possess a smartphone in your lesson at a vocational college?

How are the international students' study motivation, attitude and language barriers between you and them online?

If vocational colleges rent personal computers for international students, can they manage computers by themselves properly?

The research was conducted through the interviews with the teachers because the number of teachers was considerably limited to only seven. The Interviewees were so cooperative, so that the researcher could elicit their honest opinion because the researcher is a teacher in the same vocational college as well. The researcher has been building up a good relationship among the interviewees for five years. They could mention reliable and honest opinions with deep insight about their international students. Because the interviewees have worked for at least three years in the vocational college, they have abundant information on the international students and the vocational college curriculum. Their interview time was from approximately 30 to 60 minutes. The interviews were conducted in an available room in the vocational college after their lecturing hours .

In terms of the reliability and validity of the interviewees' opinions, a co-researcher who is also a member of the teacher in the vocational college confirmed the interviewees' opinions objectively. Additionally, a teacher, who was not a member of this vocational college and worked in some vocational colleges and universities made sure the interviewees' opinion and findings discussion and the conclusion in this research.

Concerning the ethical issues, the international students', interviewee teachers' and the vocational college names were anonymous for their security and not disclosed to the public. All respondents were informed that they were just volunteers and could withdraw the questionnaires and interviews at any point in the proceedings. For the interview section, the questions which would not cause the interviewee discomfort or anxiety were chosen. If the researcher suspected the interviewee was struggling during the process, the interview was immediately suspended.

## 3.3. Data collection

The data collection was conducted for international students and Japanese teachers in a vocational college in metropolitan Tokyo, Japan during the first semester from September to October 2022. This vocational college has two main courses. The course mainly aims at teaching creating games, animation, figures, voice training, and novel for Japanese students. One other course mainly aims at teaching Japanese and English language, Cross Culture Communication, Business manners, and Microsoft Office software, such as Excel, Word, and PowerPoint for international students to work on business in Japan. 88 international students out of 123 answered the closed questionnaire and seven teachers who work in the same vocational college were interviewed face to face. The researcher took memos and obtained permission for their statements.

#### **4 Findings and Discussion**

This chapter showed two things; first is the results of the international students of questionnaire and its analysis, and second, the interview statements of teachers and analysis based on the questionnaire result of the international students.

#### 4.1 International Students' Questionnaire Result

The respondents were 94.3% Vietnamese, 3.4% Chinese, and 2.3% Bangladeshis..75% of the international students did not possess a personal computer or tablet device. Only 25% of them possessed these devices. 69.3% of the international students hoped to buy personal computer or tablet devices. 30.7% of them did not plan to buy them. 69.3% of the international students hoped to buy personal computer or tablet devices. 30.7% of them did not plan to buy them.

**The reasons for not buying a personal computer or tablet devices.** 47.3% of the international students could not afford to buy personal computer and tablet devices due to limited budgets. 18.9% of them did not feel it was necessary to buy any of these devices. 17.6% of them felt that a smartphone was more user-friendly than a personal computer and tablet to take an online lesson. 16.2% of them showed other reasons.

**The difficulties in taking online lessons using a smartphone.** 51.1% of international students felt that taking an online lesson through a smartphone was difficult. 26.1% of them could not judge which device was the best; a smartphone or a personal computer. 22.7% of them answered taking online lessons by using a smartphone was not hard.

**International Students' Survey to Ponder.** From the survey results above, in this vocational college, the majority of the international students were Vietnamese. Compared to [7] research, the personal computer possession ratio by international students in this vocational college was 31% lower. This survey disclosed that majority of the international students did not possess a personal computer. Although approximately 70% of them hoped to purchase a personal computer in the future, they were had low income to purchase it. Approximately half of the international students felt the necessity of personal computers for online lessons. However, they must take online lessons without a personal computer due to their income.

# 4.2. Teachers' Interviews on the Issues and Difficulties of Online Lessons among the International Students, Including Their Study Motivation, Attitudes, and Language Barriers.

The head of the teachers at the vocational college asked all the teachers to conduct online lessons during the Covid-19 pandemic in the first semester of May 2020. During the interviews with the teachers of information technology subject, the teachers mentioned that they deeply considered the lesson contents conductedthrough Zoom for the international students who only possessed a smartphone and did not have a personal computer.

A female teacher who teaches Microsoft Word was obliged to teach them how to write and change alphabets to Japanese words on paper. She asked them to write the alphabet in Japanese pronunciation to change Japanese own characters, Hiragana, Katakana and Kanji, for typing on a keyboard. By only using smartphones, inputting Japanese characters was not proper enough to reply speedily.

She additionally stated that international students' verbal Japanese language ability was too low to understand what she explained in Japanese. Consequently, she was obliged to give up instructing how to use Microsoft Word in oral Japanese words. Even though she asked the international students some questions in Japanese, they could not understand and answer at all.

Moreover, she assumed that the international students did not have sufficient ability to keep and maintain rented personal computers. She illustrated that they did not bring stationery as well, such as pencils and notebooks. They always lost handouts that teachers gave for the next lesson. After the lesson, they left lots of garbage and items in the classroom. These situations testified to their poor abilities to handle items properly. Also, some of them suddenly were absent from vocational college and disappeared for a long time. Some students cut off their communication with their class teachers. It was too risky for the vocational colleges to rent personal computers for them.

Another female teacher who teaches Microsoft Excel showed some mathematical functions in Excel to them through Zoom. She just had to show them how to use some functions from one

side for them and urged them to read and answer questions of the Excel examination for a license. They just listened and watched her instructions and operations on their smartphone display and read verbally Excel questions in Japanese. She also implied that the hardest thing was the preparations for online lessons. She had to make the materials on the computer for displaying on students' small display smartphones. Her preparation time for an online lesson was 1.5 times or twice longerthan a face-to-face lesson. She stated that she should have utilized Excel instructions in YouTube videos to lessen the preparations time.

# 4.2.2 Interviews with the teachers of Liberal Arts, Japanese Language, English Language, Cross Culture Communication, International Relationships, and Politics subject.

In the Japanese language teacher's interview, she did not mention the difficulties in lessons when the international students used smartphones to take online lessons instead of their personal computers. However, since international students' motivation was low, she forced them to turn on the camera on their smartphones during lessons. She prevented them from disappearing from the online lessons after the teacher checked the attendance.

In the Cross Culture Communication teacher's interview, he illustrated several problems. He did not force the international students to turn on the camera on their smartphones because he respected their privacy. Consequently, some students disappeared from lessons or did not answer anything after he checked their attendance. In the case of their disappearance during an online lesson, he could judge if they had problems with their internet connection or if they were absent. He also mentioned that Japanese and international university students did not disappear during online lessons at all.

Moreover, some vocational college international students answered the questions through Zoom while they were walking outside or riding on public transportation somewhere to do errands. They did not positively join the lesson at all. This case also happened in online lessons in other subjects.

He was obliged to express that the international students' motivations were considerably low. And their motive for being admitted to vocational college is to obtain a proper student visa to work in Japan. The vocational colleges had to accept these international students who had low motivation to study and high motivation to make money. That was a reason why vocational colleges cannot acquire enough Japanese students due to to the low birth rate and ageing Japanese society. The relationship between the vocational colleges and the international students was a win-win relationship. The vocational colleges could secure the tuition fees and the international students could obtain a student visa for working and making money thanks to being admitted to the vocational colleges.

Furthermore, in his lesson, he was supposed to hand the class teachers the handouts which the international students would read for a lesson on a weekly basis and the class teachers had also handed them to the international students a few days ago before classes. The vocational college did not purchase textbooks for international students. Also, the vocational college did not officially utilize assistance websites for online lessons to manage students, such as Google Classroom to communicate with students, upload lesson material, and give the assignment. Even though he could upload his handout and educational materials on the website, the international

students could not look and read properly due to the tiny smartphone display. He also testified that the vocational college's budget and computer expertise were considerably limited and low. Vocational colleges did not emphasize the education for the international students.

Judging by the teacher's interview, at least four vocational colleges did not rent personal computers, tablets, and mobile Wi-Fi for Japanese and international students. Most vocational colleges did not have enough budget and human resources of internet experts to prepare for online lessons properly. Therefore, their international students had to study on their smartphones which had tiny displays to reflect the limited information and were not adequate to respond to the messages from the teachers. On the other hand, Japanese vocational college students utilized their personal computers in their families.

#### 4.3 Teachers' interview to ponder

Regarding the international students' study motivation, attitude, and language level through the teachers' interviews, there were three elements which caused teaching difficulties. Those three negative elements were improper devices for online lessons, the international students' low study motivation, and the language barrier negatively synergized predicament to teach Information Technology subjects. [7] pointed out that by only using smartphone devices, Microsoft Word, Excel, and PowerPoint are not fully available. These interviews revealed that the ICT teachers agonized to teach Word and Excel with their long-time preparation or their creativity for the international students who had only a smartphone device. However, it was considerably problematic for the ICT teachers to teach a part of Word and Excel. In contrast, in lessons on liberal arts subjects, improper devices such as the smartphone and language barriers are not the primary obstruction to an online lesson. Vocational colleges and liberal arts subjects teachers will be able to focus on stimulating the international students' motivation and create a suitable content for the lesson.

The international students' low study motivation obstructed learning online apparently. In online lesson cases, the teachers could not convince them to study in front of smartphones and decided the places where they took the online lessons with concentration. Once they turned off the camera, teachers could not know what they were doing. To make matters worse, teacher guidance online was weaker than face-to-face.

Due to the poor language abilities of the international students, the ICT teachers were forced to assign them monotonous tasks, for example writing the alphabet in Japanese pronunciation on paper to change Japanese own characters for typing on a keyboard, and just reading verbal Excel questions. The Japanese students' tutor support with face to face and online way were effective to enhance the international students' language abilities [9][10][11]. Therefore, if their Japanese language level is improved, there will be a room to broaden the teaching content in ICT subjects in smartphone-regulated function.

4.4 Methods of eliminating the three negative elements; improper devices for online lessons, the international students' low study motivation, and the language barrier

The three elements, which were the international students' improper devices for the online lesson, international students' low study motivation and the language barrier badly affected teacher teaching online. Regarding improper device online lessons, in teaching Information Technology subjects, such as Microsoft Word, Excel, and PowerPoint, the vocational colleges are obliged to open computer rooms with applying a strict prevention to infectious diseases, rent personal computers, suspend the ICT online lessons, or develop applications for smartphones.

Concerning the improvement of the international students' low study motivation and poor language abilities, the systematic college assistance, such as the Japanese students' tutor system will be effective and essential in improving international students' study motivation and language abilities. These systems can encourage them to improve their Japanese language and acquire the chance to talk to Japanese students as well as build up the personal relationship between international and Japanese students. Personal relationships will lead to the opportunities to converse in Japanese, not only in school but also outside school.

# **5 CONCLUSION**

This research has five points of conclusion. First, the majority of the international students in the vocational colleges did not possess computers to take online lessons adequately at their homes. A small display smartphone was not a proper gadget to take remote lessons in all subjects. The vocational colleges in Japan should spare the budget for the internet communication technology devices, such as renting the computers, tablets, and mobile WIFI for the international students, although they are likely not able to manage the personal computers rented by the vocational colleges. If the vocational colleges could not rent the devices for them, they should consider suspending the ICT lesson until Covid-19 is suppressed or open computer room with applying a strict prevention to infectious diseases in school.

Second, the ICT subjects were the most difficult subject to teach to the international students through online lessons. First, because they did not possess a personal computer, the ICT teachers could only show how to control a computer from one side. They just looked at the teachers controlling their smartphones and did not get to practice with computers. Second, since smartphone is available with only a part of the function of Microsoft Word, Excel, and PowerPoint, the international students could not use them perfectly. Third, the ICT teachers could not show how to operate personal computers immediately by closing international students. Another reason was due to the international students' low Japanese language abilities, the ICT teachers could not explain procedures using verbal communication. In teaching computers, there are many procedures to control the keyboard and mouse, such as typing, clicking, drugging, and so on. Also, the progression of each student for practice varied. The ICT teachers need to show how to manipulate computers in front of them.

Third, the liberal arts subjects' lectures were completed with international students' smartphones, although the lectures were not ideal for their understanding without their personal computers. The teachers in liberal arts subjects normally explained with textbooks or handouts. If these materials were distributed to the international students, the online lessons were successful.

Forth, from the teachers' interview, the international students' motivation to study were considerably low during online lessons. Compared to the face-to-face lessons, the teachers gave a warning, and the communication were weaker and more ineffective for the international students during online lessons than face-to-face. It was very easy for the students to ignore, not listen, or pretend to study by judging from the rest of the teachers' interviews. Teachers' educational guidance online was more difficult than a face-to-face lesson.

Fifth, the international students' language abilities were low and greatly affected the communication and understanding of online lessons. In the ICT online lessons, their language skills caused a barrier to understand the lessons, because the procedure to manipulate computers are many, and the teachers' explanations and instruction were complicated. However, if the Japanese students' assistance tutor system will be adapted to vocational college for a long time, they can improve their Japanese communication skills and studying motivation. If they face necessity to speak Japanese with native Japanese students periodically, they will possibly enhance their learning motivation and Japanese language abilities. Their motivation will be expected to improve too.

In conclusion, online lessons by the teachers of liberal arts subject could be completed to a certain extent among the international students to take lessons through smartphones, even though their motivation and language levels were very low. However, online lessons by the teachers of information technology subject had lots of difficulties, considering the low study motivation and language barrier existing among the international students without personal computers during the COVID-19 pandemic. Regarding the vocational college students' motivation and language level, their motivation and language level would not improve under the current situation, because vocational colleges aim to obtain tuition fees from international students and international students aim to obtain student visas for making money in Japan. This relationship is one-way mutual benefits. Ministry of Education, Culture, Sports Science and Technology in Japan should rebuild the educational system for vocational colleges and their international students.

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