

〈CONFERENCE PAPER〉

The Use of ICT in Social Studies Lessons: Comparing the Lessons Before and During the COVID-19 Pandemic in Japan

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Abstract

The COVID-19 pandemic has forced a significant shift in the Japanese educational setting. This study aims to explore the characteristics of ICT use in social studies lessons during the pandemic with a Japanese case study. Comparing classes held before and classes during the COVID-19 pandemic, there is a distinct trend visible. In lessons prior to the pandemic, the primary usage for ICT was to record lessons and search online. However, during the pandemic, lessons were remotely conducted using a web conferencing system and students used an online application for a simulated experience. This suggests that ICT may be positioned at the center of practice when considering lessons after the COVID-19 pandemic.

Keywords: ICT, Direct experience, Simulated experience

Introduction

Due to the spread of COVID-19, Japanese educational institutions temporarily closed their schools at the end of the 2020 school year through to the beginning of 2021. This resulted in the suspension of educational activities while also allowing teachers to rethink the future of education, such as using ICT in daily lessons.

The Ministry of Education, Culture, Sports, Science, and Technology (MEXT) had decided to implement the GIGA school concept, which was initially planned to be developed by the end of the year 2023, ahead of schedule by the end of the year 2021. This policy was to distribute one ICT terminal to all students residing in Japan, and this measure has clearly set out an educational policy that schools and teachers must examine the best mix of education that has been carried out in the past and ICT.

In Japanese social studies, a wide variety of practices have been developed to position “learning with concrete experiences including research activities such as visits and interviews” and “learning about social views and ways of thinking such as sharing one’s ideas, comparing and examining learning issues” in the learning plan. However, due to the various restrictions imposed by the COVID-19 pandemic, it is difficult to carry out these learning activities as before, and the challenge will be how to tackle them under these restrictions.

The key to this is to consider how to utilize ICT devices in social studies classes.

This article aims to examine how ICT can be used in post-pandemic social studies lessons by focusing on the different uses of ICT in social studies lessons before and during the pandemic. ¹

Lessons Before the Pandemic

In the year 2020, before the spread of COVID-19 worldwide, MEXT (2020) released a statistical survey related to the usage of ICT in primary and secondary schools. According to the survey, the number of children per computer in primary school was 5.5 and the maintenance rate of wireless LAN was 49.0%; it was suggested that ICT in Japanese education was not sufficiently implemented at that time. Taking Takehaya Elementary School attached to Tokyo Gakugei University as an example, the school had only 70 notebooks for 420 students, which when converted to the number of children per educational computer is 6.0. The school had provided free Wi-Fi, however there was a limit to the number of connectable units. There were 20 notebooks per floor, and only 35 inches television available in each class, as well as one projector for each grade. From this example, it is clear that the ICT environment was not well-developed at this point and far from being equipped for online classes. In this environment, two lessons, which were practiced by the author and published in books, were implemented to examine ICT usage in the lesson.

The first lesson to be implemented was called “Our Daily Life and Sales Work.” This lesson was planned as a 15-hour unit and was held from July 2012 to September 2012 in a face-to-face class for 40 third-grade students at Takehaya Elementary School attached to Tokyo Gakugei University. The main activity of this unit was to have students buy ingredients to make curry and rice by examining how shopping is done in their

Table 1. The lesson plan of “our daily life and sales work”

Unit (hours)	“Lesson title” and students’ learning flow and main activity
Unit 1 (2 hours)	“Let’s present your daily shopping routine.” The students present their shopping experiences in the classroom. They will notice different people have different ways of shopping and become interested in the shopping process.
Unit 2 (2 hours)	“Let’s look into the shopping habits of my family members.” Take up ingredients for making curry and rice. Students investigate “where they bought it”, “why they bought it on the spot”, “the price”, summarize what they found on using a table and present it to the class.
Unit 3 (1 hour)	“From the research results, let’s find out what family members think about when they shop.” Students summarize the findings of the shopping survey in a graph or table and think about and review the points to consider when buying products. When shopping, students read from the data that they consider price, expiration date, freshness, ingredients, and other factors when buying products and review their shopping methods.
Unit 4 (5 hours)	“Let’s go to the supermarket!” Students visit supermarkets and investigate how sellers sell their products, focusing on the perspectives consumers pay attention to when purchasing products, revealed in previous surveys.
Unit 5 (5 hour)	“Let’s become a master shopper and have a curry and rice party” Students plan and shop for making curry while thinking about the consumer’s point of view and the seller’s ingenuity to respond to the consumer’s point of view. The students write a newspaper article about the points they paid attention to when shopping and the store’s efforts to respond to them and summarize their learning.

households and how things are sold in supermarkets. The following table details the activities in the lesson. (Ueno, 2015, pp.97-108)

At the beginning of the unit, students shared their opinions about the shopping they had experienced so far, shared their shopping images, and engaged in an activity to investigate shopping within their own household to make note of any differences between shopping with their household members and shopping with others. Afterward through presentations on what they had learned from their research, students extracted what consumers think. Based on these findings, they were able to grasp what sellers emphasize when selling things through their visit to the supermarket. At the end of the unit, the students used what they had learned and understood about consumers' and sellers' respective approaches to shopping to purchase ingredients for making curry at the supermarket and were able to make the curry at their school.

According to the lesson plan, students' ICT use in the activity was not specified anywhere. Furthermore, only a few traces from lesson records can be found regarding the use of ICT, including the teacher using ICT when using a computer to save what was written on the board, and utilizing a digital camera to photograph the state of the investigation that the student could look back at as needed. This record suggests that the use of ICT in the development of lessons is not a high priority in teaching. Instead, the emphasis is on learning the content through direct experiences, such as conducting research in supermarkets, interviewing store clerks, and practicing shopping using what they have learned in this class.

Table 2. The lesson plan of "Tokyo air pollution lawsuit"

Unit (hours)	"Learning task" and students' learning flow and main activity
Unit 1 (1 hour)	"Pollution in Japan and Tokyo" Students learn about the four major pollution diseases in Japan and read about the "Tokyo Air Pollution Lawsuit" from various articles. They will gain interest in issues related to pollution in Tokyo.
Unit 2 (1 hour)	"Let's read the claims of the victims about the Tokyo air pollution lawsuit." Students read the plaintiffs' arguments in the Tokyo Air Pollution Lawsuit from the articles and summarize the case in a table.
Unit 3 (1 hour)	"Let's read the defendant's argument about the Tokyo air pollution lawsuit." Students read the defendant's arguments from the materials and overview the lawsuit. Students will present their thoughts on the positions of both the plaintiffs and the defendants to the class and listen to each other's opinions.
Unit 4 (1 hour)	"Let's talk about the damages caused by the Tokyo air pollution lawsuit and interview the plaintiffs." Students listen to the plaintiffs of the Tokyo Air Pollution Lawsuit talk about the history of the lawsuit and the effects of the damages. The students learn that the health damage caused by air pollution is a familiar problem to them and think about how the pollution problem is relevant to their own lives.
Unit 5 (1 hour)	"Did the settlement solve the issues of Tokyo air pollution lawsuits?" Students read about the settlement based on the materials and understand that the related organizations established the medical subsidy system. Students understand that not all the problems caused by the Tokyo Air Pollution Lawsuit have been solved, based on the "review after five years" in the settlement.
Unit 6 (1 hour)	"Consider the impact of the revision of the subsidy system and summarize your thoughts." Students review their understanding of the movements and thoughts of both the government and the patients' association based on the review of the "asthma medical expense subsidy system" established in the Tokyo Air Pollution Lawsuit. They express their thoughts on the issue.

“Tokyo Air Pollution Lawsuit” was another class conducted before the pandemic. This class was taught with face-to-face instruction for 36 fifth grade students at Takehaya Elementary School attached to Tokyo Gakugei University from October 2014 to November 2014. The purpose of this activity was to deepen students’ understanding of air pollution lawsuits in Tokyo, where they live, and to approach the issue of pollution diseases through understanding the process of lawsuits and listening to the voices of those who suffer from pollution. The main activities in the lesson (Ueno, 2016, pp.84-88) are detailed in the following table:

The Tokyo Air Pollution Lawsuit discussed in this lesson related to issues caused by air pollution from automobile emissions. Cars have become an essential part of life that it is difficult to imagine life without them. This issue is not only the social responsibility of the national government, the metropolitan government, and the automobile companies that sell and manufacture cars, but also the responsibility of those of us who use cars. This lesson was designed to make students aware of the pollution problem and the lesson plan shows that the teacher should emphasize two ways to make students aware of the issues.

The first way is to have students hear the stories directly from the plaintiffs. Since many patients developed asthma despite being otherwise healthy, students will learn about the difficulties of the plaintiffs’ lives derived from unexpected health issues. The class was designed to raise awareness surrounding the pollution problem in students and that they will see the relevance of the topic in their own lives. This leads them to think about the choice they make in their daily lives and their own health, even if they are otherwise healthy now. It also aims to deepen students’ understanding of pollution issues by asking them questions and attempting to solve them through interviews. The second way is to have students search for newspaper articles on the subsidies discussed during class and their own thoughts on the issue.

It is clear that the use of ICT to develop the class was not originally envisioned in the lesson plan. A review of the class records shows that a few students utilized computers to search for newspaper articles, but it was not possible to see the spread this activity to other students due to the limited number of computers available. The class records also show that teachers used ICT to record lectures and interviews, and to search for newspaper articles, but with no indication of emphasizing the use of ICT to develop the lesson.

With the two lessons as examples, we can conclude that in lessons before the COVID-19 pandemic, there was little to no emphasis on teachers designing lessons which actively utilize ICT. Additionally, the lesson plans show that teachers tended to emphasize the direct experience of students conducting fieldwork through surveys and interviews, rather than the use of ICT. This can be said as a characteristic of the lessons in social studies classes conducted prior to the pandemic. From these two lesson examples, it is evident that prior to the pandemic the relationship between social studies and ICT was minor and not emphasized, as use of ICT tools were found only in the use of recording and presenting materials.

The Lessons During the Pandemic

During Temporary School Closure

As mentioned earlier, there were 6.0 students per ICT device deployed in the school at the end of 2020, however the deployment rate of ICT devices in students’ homes was less than 1.0 students per device; thus, all students could access ICT devices at home. Two social studies classes were conducted by the school during the temporary school closure without the need of the ICT devices deployed by the school. These two lessons were able to be completed within one hour. Although they were not social studies classes taught through a unit like

the ones before the pandemic, analyzing these two chosen lessons can clarify the differences in the way ICT devices were used in social studies lessons before and during the pandemic.

The first class conducted during the temporary school closure was a remote class entitled “What is Tokyo?” for 35 fourth-grade students of Takehaya Elementary School attached to Tokyo Gakugei University in March 2020. This lesson aimed to share the images that students already have of Tokyo, recognize images of Tokyo that they had not thought of, and motivate them to do further research on the city. Since this practice was conducted as a one-hour class specially designed for remote teaching, it was structured as a unit that could be completed in one hour. The lesson plan (Ueno, 2020, pp.102-103) is the following:

Table 3. The lesson plan of “what is Tokyo?”

Students’ learning flow and main activity	ICT equipment is expected to be used
1. Enter the web conference system and prepare to take the class.	Web conference systems and tablets or PC
2. Enter what they know about the prefecture they live in through a Google Forms form and send it to the teacher.	Google Forms
3. Wait until the teacher copies the text of the responses from the students and analyze the information using text mining software available on the Internet.	Text mining software from the Internet
4. From the analysis results, check the opinions that emerged and think about the relevance of these opinions. Students will confirm that their views differ from their own.	Result of text mining
5. Based on the analysis results, students think of a theme to investigate the characteristics of Tokyo and other prefectures, and make a presentation.	Online storage services
6. Students will receive a summary from their teachers, use the outline to decide on a theme to research the prefecture and work on their research during the temporary school closure.	

The class started with all the students logged into the web conference system. The teacher asked students what they thought of when they thought of Tokyo, and students entered their own images of Tokyo using a Google form. The teacher used a text mining tool to visualize the commonalities among the words entered by students so that students could grasp the diversity of images of Tokyo. At the end of the class, based on the various images of Tokyo captured by the text mining tool, students could decide on a theme for their future research project on Tokyo.

As ICT devices were expected to be used as indicated in the lesson plan, both managing the class and using ICT devices are significant to the overall lesson. The lesson plan states that the teacher will not simply use a web conferencing system to conduct the class similar to the lessons before the pandemic, but will also utilize Google Forms to gather students’ opinions, as well as text mining software operated on the Internet. While it is impossible to conduct classes face-to-face, the lesson plan shows that attempts are being made to realize a system that allows interactive communication between students and teachers using ICT devices and software. Through the utilization of ICT devices in classes, students are able to undergo “learning of social views and ways of thinking, such as communicating one’s ideas and comparing examining learning issues” which is emphasized in social studies classes. The teacher summarizes the students’ discussions in the online class and redistributes them to the students so that they can reflect on the content of the class by themselves, allowing the students to

conduct their independent research and study on their chosen prefecture. This lesson can be characterized by the use of ICT devices which had not been utilized in the past, allowing the students to carry out their learning independently.

The second lesson that was conducted during the temporary school closure in May of 2020 was a practice titled “Waste Management and Utilization” again for 35 fourth-grade students in Takehaya Elementary School attached to Tokyo Gakugei University. This lesson was designed to raise interest in the waste collection through students discussing what they noticed and wondered based on the textbook’s photographic materials of waste collection sites. The lesson plan was created for only one hour class introduction, as the class was taught online just prior to classes resuming in person. The lesson plan (Ueno, 2021, p. 241) is the following:

Table 4. The lesson plan of “waste management and utilization”

Students’ learning flow and main activity	ICT equipment is expected to be used.
1. Students will download the worksheet for the online class from the online storage service in advance. 2. Students will write their findings and questions on the worksheet based on the photos of the garbage disposal. 3. Students will present their findings and questions. The teacher will present via a digital whiteboard.	Online storage service
4. The teacher will classify the students’ findings and questions on the digital whiteboard.	Digital whiteboard
5. Based on the text, students will choose an issue to pursue and create a hypothesis.	Digital whiteboard

This practice was planned to have students download worksheets from the cloud before class and use them in the online class. Students wrote down their questions based on pictures of the garbage collection site on the worksheet and then discussed them online. The teacher developed the lesson by recording and categorizing students comments so that the children could create their learning tasks related to the garbage disposal at the end of the lesson.

A feature of this practice is the use of a digital whiteboard to collect students’ opinions. The lesson plan includes using the digital whiteboard to replicate what has been done in face-to-face lessons in which the classroom blackboard is used to collect and categorize students’ opinions. In the actual lesson, the time spent by the students to write on the digital whiteboard was more than the teacher expected, so in the middle of the class, the teacher had students present their ideas, and the lesson proceeded with the teacher write on their behalf. The students could engage with the class content without any barriers because the lesson plan was in a format they had experienced in their previous studies held before the pandemic.

One of the standard features of these two practices is that the lesson plans are based on ICT use. In particular, one of the characteristics of these two practices is that they attempted to overcome the physical distance caused by the temporary closure of schools due to the pandemic by using ICT devices. Both the teacher and the students used ICT in classes, but the teacher took the lead in operating the ICT devices. For example, when the teacher operated the text mining tool and the students visually checked the tendency of what is said. It can also be seen from the class records of these two practices that student discussion activities, which were actively conducted before the pandemic, could be conducted using the web conferencing system. However,

direct experiences such as interview activities and field surveys were not realized at this moment. Additionally, it is difficult for teachers to instruct students regarding the operation of certain software and applications during remote classes to younger student. It may be necessary to provide advance explanations and instructions during face-to-face classes in preparation for remote classes. Through the two lesson conducted during the pandemic, the relationship between social studies and ICT has shifted through increased use of ICT devices. ICT has become more central to the activities and has a vital role supporting social studies classes.

After the Temporary School Closure

Although the three-month temporary closure was lifted and students returned to school, there were still restrictions which hindered students' school life. In addition to wearing masks, desks were distanced at equal intervals in the classrooms to ensure social distancing among students, making it difficult to engage in free discussion activities in all subject lessons. It was also difficult for students to go outside the school to visit museums and factories, conduct interviews and other such fieldwork. Lesson plans based on direct experience, which had been popular before the pandemic, were unlikely to be implemented at this time. The circumstances meant it was still difficult to conduct "learning with concrete experiences, including research activities such as visits and interviews," and "learning social views and ideas, such as communicating one's ideas and comparing and examining learning issues," which were actively conducted in social studies classes before the pandemic.

Under these circumstances, it is necessary to continue examining lesson plans that utilize ICT devices to implement social studies classes that balance "learning with concrete experiences" and "learning social views and ideas by communicating one's ideas and comparing and examining learning issues. As a solution, fourth graders worked on a web application lesson plan.

The title of this lesson was "Comparing Two News Stories", which was held in December 2019 and January 2020, for 35 fourth-grade students in Takehaya Elementary School attached to Tokyo Gakugei University. The purpose of this class was to watch two news videos, understand that the content of news differs depending on how the same event is cut up, and think about the equity of news using a web application. This web application, called "Let us make news," allows students to create a news story by selecting a collection of video interviews with citizens and politicians arguing for positive or negative positions on the leisure complex construction project.² This lesson utilized a hybrid format that mixed face-to-face classroom time with time spent using learning applications at home. The detail of the lessons (Ueno, 2021, pp.241-242) is as followed.

At the beginning of the unit, students watched news videos containing arguments for and against leisure development and discussed what is necessary to disseminate information. Based on the discussion, in the middle of the unit, students created their fair news videos at home, and each student were able to experience creating fair news on their own. At the end of the unit, students deepened their ideas about equity by discussing what they thought about when they were making the news.

One of the features of this practice is that by using web applications, watching and making news videos has become a shared experience activity for students. Through this shared experience, the class is designed to recognize "what is necessary to make a fair news program" as a common issue, leading to a deeper discussion. In actual classes, students are taught the importance of incorporating a variety of opinions when creating a news program, the difficulty of incorporating a variety of opinions into a short news program, and identifying differences in ways each student thinks about equity. Through this practice, students learn from a shared experience as they create their own news videos. During the temporary school closure, the lesson plan envisioned

Table 5. The lesson plan of “comparing two news stories”

Unit (hours)	Students' learning flow and main activity	ICT equipment is expected to be used.
Unit 1 (1 hours)	<ol style="list-style-type: none"> 1. Students think back to the experience of compiling information from previous learning activities. 2. A news video of the pro-leisure complex construction project is shown. 3. A news video of the opponents of the leisure complex construction project is shown 4. Students compare the two news videos and present their findings and questions. 5. Students discuss their thoughts on the factors that led to the creation of the two news videos. 6. Based on the factors discussed, students will watch the new news video, think of pros and cons, and explore the problems with the video watched at the beginning of the class. 7. Students write a reflection on the learning of this lesson. 8. Students confirm the operation of the web application to be used in the next lesson. 	<p>PC, and appreciation, projector, and screen.</p> <p>PC, and appreciation, projector, and screen.</p> <p>PC, and appreciation, projector, and screen.</p> <p>PC, and appreciation, projector, and screen.</p>
Unit 2 (1 hour) <i>*Conducted at home</i>	<ol style="list-style-type: none"> 1. Based on the learning from the first period, the class will create “students’ news” the leisure complex construction project using the chosen web application. 2. Students fill in the worksheet with the numbers of the videos the student chose and why they chose them. 	PC, and appreciation,
Unit 3 (1 hour)	<ol style="list-style-type: none"> 1. The teacher checks the students’ impressions from the first unit and share their awareness of the issues with the class. 2. Students watch the news video that was made the most by students. 3. Based on the videos they have watched, students will think and discuss how news should be presented as discussed in the first unit. 4. Based on the news videos made from a particular standpoint, share the reasons for making the videos and think about how news should be made, thereby deepening their thoughts on “equity”. 5. Write a reflection on the learning of this time. 	PC, and appreciation, projector, and screen.

creating a space similar to a face-to-face social studies class in real-time using ICT devices. However, the shared experience here was focused on discussing ideas about the learning issues, and not enough direct experience related to the learning that had taken place before the pandemic was prepared in the lesson plan. The use of web applications written in the lesson plan ensures students can have direct experiences related to their learning tasks.

The second feature of this practice is that the lesson plan is designed to use a web application to create news programs in students' home learning situations. As mentioned in the lesson plan, this practice consists of a unit divided into two parts: learning in class and learning at home. The strength of web applications is that anyone can use them by downloading the application from their own device. It also allows each student to create a news program at their own pace, which creates an environment in which students can adequately contemplate and reflect on fair and objective news programs. In this way, by positioning the use of web applications in the lesson plan, it may be possible to realize the "hands-on activities" and "learning through comparison and examination of one's ideas" that were conducted in social studies classes before the pandemic.

However, it may be argued that using web applications to create lesson plans does not solve all issues. This lesson plan is based on the assumption that face-to-face classes can be conducted and without regarding whether the same learning effects would have been generated in a situation like a temporary school closure period. In such case, it is assumed the plan would be to conduct remote classes using a digital whiteboard, however consideration of students' ability to operate ICT devices at home will be necessary. Assuming that all classes will be conducted remotely, preparing more tools to support classes other than a digital whiteboard will be essential. The relationship between social studies and ICT became more evident, especially with the use of ICT such as web applications being central to the social studies classes. The contrasts between before the pandemic, during the pandemic, and after the pandemic are evident, as explained in this article.

The Way Forward: Post-COVID-19 Pandemic

As the period of living with the COVID-19 pandemic has become elongated, the ICT environment in schools has changed dramatically. At the Takehaya Elementary School attached to Tokyo Gakugei University, the ICT hardware has also been improved. For example, every student has been given a PC, the school has installed a high-speed Wi-Fi environment with no limit on the number of connections, each floor has a large TV with one projector in each classroom, and software to support classes. As a result, it has become an everyday occurrence for teachers to plan lessons using ICT.

In the lessons planned for February 2021 and March 2021 for 35 fourth-grade students in Takehaya Elementary School attached to Tokyo Gakugei University, the following practice of social studies using ICT were implemented. The first is a social studies lesson in which students present their town by connecting Yamada Town in Iwate Prefecture and Bunkyo Ward in Tokyo via the Internet. This lesson aims to deepen students' understanding of Tokyo by reexamining the city and recognizing their limited understanding of Tokyo based on questions about the city from students in Yamada town. This practice was conducted as a face-to-face class with an online connection to a remote location. The lesson plan is as follows.

The unit consists of six hours. In the first unit, Takehaya Elementary School and Funakoshi Elementary School in Yamada Town were connected using a web conference system. Students from Funakoshi Elementary School gave a presentation about Yamada Town to capture the region's characteristics outside of Tokyo. Then,

Table 6. “Let’s introduce about Tokyo to the students of Funakoshi elementary school”

Unit (hours)	Students’ learning flow and main activity	ICT equipment is expected to be used.
Unit 1 (1 hours)	<ol style="list-style-type: none"> 1. Students from each school will introduce themselves using a web conference system. 2. Students listen to a presentation by students from Yamada Town about the attractions of Yamada Town. 3. Students ask questions to the Yamada students about Yamada Town. 4. The students from Yamada ask questions about Tokyo, and students in Tokyo answer the questions. 5. Students make a list of the questions they were unable to answer and make a plan to research Tokyo so that they can answer the questions at the next exchange meeting. 6. Students reflect on this lesson. 	<p>Web conference system, projector, screen, PC,</p> <p>Web conference system, projector, screen, PC,</p> <p>Web conference system, projector, screen, PC,</p> <p>Web conference system, projector, screen, PC,</p>
Unit 2 (4 hour)	<ol style="list-style-type: none"> 1. Based on the list of questions, students conduct an internet search on Tokyo. 2. Students use the Internet to search for information about Tokyo’s attractions in and around Bunkyo Ward that students would like to share with students in Yamada town. 3. Students prepare a presentation by summarizing what they have learned on a flip board. 	<p>PC, high-speed Wi-Fi service, printer</p> <p>PC, high-speed Wi-Fi service, printer</p>
Unit 3 (1 hour)	<ol style="list-style-type: none"> 1. Students use the web conference system to answer questions about Tokyo that they were unable to answer last time. 2. Students make a presentation on the attractions of Tokyo around Bunkyo Ward that they would like to share with the students of Yamada Town. 3. The class receives and answers questions about the presentation from students in Yamada Town. 4. Students reflect on this lesson. 	<p>Web conference system, projector, screen, PC,</p> <p>Web conference system, projector, screen, PC,</p> <p>Web conference system, projector, screen, PC,</p>

students of Funakoshi Elementary School asked questions about Tokyo. The focus of the activity was for the students of Takehaya Elementary School to reexamine the characteristics of Tokyo so that they could answer all the questions. Students researched Tokyo based on the questions and prepared a presentation in the second unit. In the third unit, an activity was planned to summarize the characteristics of Tokyo by connecting Takehaya Elementary School and Funakoshi Elementary School again via a web conferencing system and presenting what they had learned from their research.

A unique feature of this practice is that students from Iwate Prefecture, more than 500 km away from Tokyo, are able to connect via the Internet for a shared learning experience. Even before the COVID-19 pandemic, there were times when students connected to other schools via the Internet to hold exchange events. However, what makes this lesson plan significant is that due to a limited learning environment caused by the pandemic, the chance to hear directly about the local situation and ask questions about it from a remote school through an Internet connection can be seen as an activity that complements the direct experience of the interview activities that were conducted in social studies lessons before the pandemic. This practice also suggests that

students' learning does not have to be kept within the ICT devices at school. In this practice, the students discover new insights about Tokyo by being asked questions about the city from students of another school, they then proceed with their research activities. In the past, students have compared and discussed their ideas with those of others in the same classroom, but by using ICT devices, they were able to connect with other schools and compare their ideas with those peers. Even though the direct experience that played a central role in social studies classes before the pandemic is not sufficiently available at this point, this practice shows that ICT devices can be used to expand opportunities. The relationship between social studies and ICT changed from ICT having a minor role in lessons being used for recording to ICT being vital for connecting during the pandemic, especially with school closures. Even if restrictions caused by the pandemic are lifted in the future, the use of ICT to support learning in social studies lessons will continue.

Conclusion

This study examined the changes in the use of ICT devices in social studies classes before and during the COVID-19 pandemic. As a method, the purpose of using ICT devices was approached by extracting and comparing the way ICT devices were handled from the lesson plans of social studies classes conducted before and during the COVID-19 pandemic.

There are two main conclusions of this study. The first conclusion is that before the COVID-19 pandemic, the use of ICT devices was used as a "backup" and not used to conduct lessons, as seen in classes prior to the pandemic where ICT devices were mainly used to record lessons. However, after the pandemic, the use of ICT was included in lesson plans as necessary equipment for conducting activities. Through the use of ICT devices, students and teachers were able to deepen discussions and simulate direct experiences similar to those before the pandemic that they could not conduct during this time. The second conclusion is that ICT equipment allows us to expand the learning environment outside school. For example, the same learning can be carried out outside school by using web applications. In addition, by connecting to other regions via the Internet, students can directly listen to the ideas of people in other regions and compensate with interview research via the Internet the direct experiences that were not able to be realized. These two conclusions can be used in social studies lessons in after the COVID-19 pandemic to further the development of future social studies lessons.

Finally, the practices described in this study are only a few examples among many. From these examples, we can see that the role of ICT has become more emphasized, with the relationship between ICT and social studies becoming more evident. It will be necessary for social studies teachers to understand and learn about the relationship between social studies classes and ICT in the future.

Notes

1. This article is based on the manuscript of a presentation, "Issue Research I: Reconstruction of Social Studies in ICT and Digital Society with a View to the Post-COVID-19 Pandemic society", given at the 71st National Research Conference of the Japanese Association for Social Studies (JASS), held on November 28th, 2021. Related article is followed:

Ueno, T. (2021). Elementary School Social Studies Practice and the Use of ICT in the COVID-19 Pandemic -Focusing on the Transformation of the use of ICT in lessons before and during the Pandemic-,

The National Conference Presentation Papers' Collection of the Japanese Association for Social Studies, 17, 240-243.

2. The web application, "Let us make news," was created by NTT group and the editorial advisor was Dr. Seiji Kawasaki, professor of Tokyo Gakugei University. This lesson plan proceeded on December 15th, 2020 and January 13th, 2020, as a part of the project of "Fostering social equity judgment using ICT and web applications." This project was granted by the doctoral course of Tokyo Gakugei University.

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