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What do We Learn from Collaborative Learning with Overseas? - The Role of Outside Supporters -

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This study is concerned with a learning activity of intercultural understanding conducted with the approach of collaborative learning with overseas *and ICT. It was done among Japanese primary school pupils with the collaboration of the Palestinian pupils in Syria. Social/contextual support (e.g., from outside supporters) was included in the instructional design since collaborative learning with overseas does not go on as planned. When contradictions may occur during such a learning activity, carrying out* intervention *is important to achieve learning goals. This study aims to clarify when and how intervention should been done during the learning process. In this respect,* activity system *was applied as a conceptual tool to visualize the activity. As the effect of intervention, it was found among the Japanese pupils that they understood more about Syrian culture, they took more learning responsibilities and their way of shooting video considering intercultural differences was improved.*

Keywords: Collaborative Learning with overseas, Instructional strategy, Design research, Activity System, ICT

Background

Collaborative learning with overseas

In Japan, since Information and Communication Technology (ICT) was advanced, most schools have been equipped with computers connected to internet. Under this circumstance, collaborative learning between schools (between domestic schools as well as between Japanese and oversea schools) has gained popularity. Pupils use ICT tools such as video conferencing, discussion forum and e-mail for communicating in collaborative learning context. Furthermore, Japanese Ministry of Education, Culture, Sports, Science and Technology encourages schools to promote intercultural understanding as a part of integrated studies to understand other culture, acquire global and multiple perspectives (Kume & Hirai, 1998). Collaborative learning with ICT tool is an effective method to learn different culture directly between learners not through a

teacher. The pupils are required to take part in the activity, and learn what they should do in the practice to achieve shared objectives. For instance, the pupils can help each other for knowledge building (Scardamalia & Bereiter, 1996) by sharing understanding and processing concepts and information more thoroughly when multiple opinions, perspectives or beliefs must be accounted for across a practice. To design this kind of collaborative learning, learning should be naturally tied to authentic activity, context, and culture (Jonassen, 1999).

However, simply collaborating students does not promote higher achievement or more positive relationship among students (Johnson & Johnson, 1996). And just using ICT tools does not always promote student interaction.

Many research works on Computer Supported Collaborative Learning (CSCL) have tried to discover the factors and design interface for promoting interaction in collaborative and computer-based condition (Masukawa, 1999; Nishimori, 2001; Sugimoto, 2002). For example, Carol (1996) reported that as long as the students don't recognize the lack of knowledge and do not have question about the problem, they do not understand the concept and information well although they work in a group. Kishi (2007) reported that much different competencies in computer literacy, knowledge and discussion skills could hinder pupils' motivation rather than interaction of one another.

Thus, when we conduct collaborative learning with overseas, it is necessary to consider instructional strategies to promote interaction among the students. No one, however, has suggested how to design instructional strategies for collaborative learning with overseas. The U.S. Department of Education (2008) provides guidelines for teachers how to conduct collaborative learning, but the guidelines are merely descriptive so that they may not gain explicit ideas of designing strategies. Inagaki (2007) suggests how to design collaborative learning with step-by-step methods for both domestic and overseas, but he did not deeply consider cross-cultural contexts.

Teachers need outside supporter(s) for designing collaborative learning

In conducting collaborative learning, we need to consider the design of how to involve social/context support (Jonassen, 1999). It is reported in Japan that teachers often face many difficulties particularly in conducting collaborative learning with developing countries because of two reasons. One is concerned with educational perspective, technical and cultural gaps (Tanaka, 2000). These gaps become barrier for interaction between domestic and foreign students. Secondly, communicating in foreign language is considered as one of the factors hindering this practice. Due to these two reasons, it is difficult for the teacher participants in such a learning activity to improvise the activity according to the students' situation in stead of following the schedule which they have agreed in advance (Sawahashi, 2004). As mentioned above, the benefit of collaborative learning is to promote interaction between students. Some researchers suggested as one of the ways to overcome the difficulties in such a learning activity to take advantage of outside supporter(s) such as university and NPO/NGO. Mima (1997) reported that outside supporter(s) can assist teachers and pupils in solving problem and facilitating in respect of collaborative learning with overseas. In addition, outside support helps in finding appropriate partner(s) for the practice, solving a communication problem between

teachers or pupils, scaffolding pupils' activity and designing learning activity with teachers (Sasao, 2007). Furthermore, some of outside supporter(s) are familiar with a particular country. Therefore, they can adequately provide information to pupils reflecting their learning situation and interest as to motivate them and make them understand (Shimizu, 2006). Thus, an instructional strategy for the collaborative learning with overseas can be designed under cooperation and collaboration between teachers and outside supporter(s).

On the other hand, implementing collaborative learning with overseas does not go on as planned because sometimes contradictions of activity may occur in the practice. However, there are few findings from previous research studies about how to form and develop collaborative learning with overseas under cooperation and collaboration with outside supporter(s). The studies reported by Mima (1997) and Sasao (2007) do not give ideas about when and how outside supporter(s) can support the practice.

In this study the authors with experience of conducting research on CSCL with overseas for more than 5 years played a role of outside supporters, and worked together with the teacher participants in order to design and conduct a lesson activity.

Research Objective

This study tried to describe why the outside support is necessary in implementing collaborative learning in Japanese schools with overseas. This study aims to clarify the following two questions:

1. When do contradictions occur in practice? And when and how should a teacher and outside supporters intervene to improve and develop the practice?
2. What are the outcomes of intervention?

This study is scoped with data analysis and interpretation only for the Japanese side.

Research Methodology

Design research

This study applied "design experiments" approach. The term "design experiments" was introduced by Ann Brown (1992) and Allan (2004). More recently, the term "design research" has been applied to this kind of work.

Design research is called intervention research, which aims to conduct research as well as to form and develop the practice. Generally in design research, a teacher and professional researcher(s) work together to design the practice.

Activity System

Activity system was applied as a conceptual tool to visualize the learning activity in respect of clarifying when and how intervention should been done during the learning process. Activity system is the unit of analysis in studying human mediated activity. It visualized the community of actors who have a common object of activity (Engeström, 1987). The collective activity system as unit of analysis connects the psychological, cultural and institutional perspective to analysis. Activity system stands for the practice characterized by division of labor and rules mediating the interaction between the individuals. Engeström advocates that contradictions of the activity occur in practice, the practitioner can intervene properly as to solve the problem and develop the practice.

Data Collection and analysis

Data were collected with the following seven methods and both quantitative and qualitative analyses were done.

Free description on thinking tool: Pupils' critical thinking
In order to obtain required information helpful in intervention and confirmation of the pupils' critical thinking improvement, their free description on thinking tool was collected.

The thinking tool was distributed to the pupils when they watched the video. The thinking tool contains three topics, what do you know from the video? What do you know by comparing your own culture with the target peers' culture? and what do you want to ask to the target peers? In data analysis, the pupils' critical questions descried on thinking tool was categorized in terms of possible source from which the question came out---either from the content of the video movie of N school or from outside supporters' scaffolding.

Video movie contents in the first-time and in the second-time shooting experiences
To find out the pupils' improvement in the way of shooting video, contents in the first video movie they developed and contents in their second movie were compared.

The pupils' mind maps
To find out the number of the pupils who improved understanding about Syria, the data of performance on mind maps done before and after twice video production was used.

Contents of newspaper the pupils developed
To find the pupils' understanding Syrian culture, the contents of newspaper they developed at the end of the whole lesson activity (two-time video production) were qualitatively analyzed.

Interview of two home-room teachers
Informal interviews to the teachers were conducted several times during the practice and formal interview at the end of the practice. The interview data was for seeing changes in pupils' learning motivation and attitude as well as deciding when and how intervention should be done for learning improvement.

Class observation
The classroom action was recorded by video camera while the outside supporters were joining in the lesson. The data of class observation were used to support the result from the interview data.

The pupils' questionnaire: Confirmation of the results
A questionnaire with the following four items was administered to the pupils in order to confirm the findings of thinking tool, interview and class observation.

Q1: I want to know more about Syria.
Q2: I improved the expression skill by referring to the way of target peers
Q3: I was able to make questions by watching movie.
Q4: I was able to make critical and curious questions by talking with supporters.

Outline of the project

The project aimed to nurture primary school pupils (Grade 3) from both N and S schools of intercultural understanding through making stories collaboratively using video movie by digital camera. The authentic context helps activating their relevant prior knowledge. The authors selected the topic which was very relevant with the 3rd grade pupils; that is, about their school such as school games, school study and school meal. In the practice, the pupils were imposed with built-in expectations. They had mission to broadcast the pupils in other countries about their school.

The instructional strategy of this practice was referred to the model developed by Inagaki (2008). That model shows how to plan the collaborative learning. In this practice, 5 pupil-groups were formed because Inagaki insists the importance of communication between learners and suggests forming small groups for communication such as "The Jigsaw Method" as to foster communication. The project was conducted with the procedure as shown in Figure 1 by group.

(1) Have the pupils from both countries choose any kind of topics about school.
(2) Have them gather information about the topics by group.
(3) Have they shoot video movie with digital camera under the support of the supporters.
(4) After sending a video movie done by the Japanese pupils to the Syrian school, have the pupils in Syria continued developing a video movie based on the story made by the Japanese pupils.
(5) After receiving the video movie from Syrian school, have the Japanese pupils watch the video movie and make questions related to its content. And then, have them look for information to know about Syria comparing with Japanese culture

The pupils repeated from step 3 to 5 and exchanged the video movies twice. After exchanging video movies, the Japanese pupils published newspaper based on what they learnt in the whole project to present their parents. In practice, in engineering the learning activity developed with the application of Inagaki's model, notions in Brown's (1992) model were taken into consider. Brown's model is consisted of the following components: (a) Contributions to learning theory, (b)Input and (c)Practical feasibility. Description of these components is as follows.

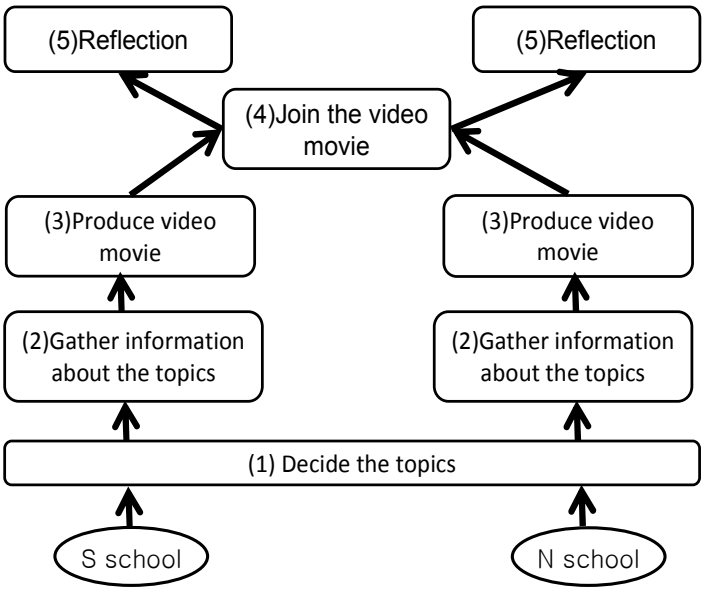

Figure 1. *The procedure of the project*

(a) Learning Theory contributing the practice

・Story Telling

Story telling is known as one of the ways to make learners reflect their own cultures (Saso, 2007). In addition, when the pupils make story with others collaboratively, they try to include different perspectives (Natuhori, 2005). Thus, collaborative story telling encourages pupils an opportunity to reflect their own culture from the different perspective.

Furthermore, pupils are encouraged to link the new information to their experience and their life by making stories. Collaborative learning with overseas provides pupils with a wide range of information but a tendency of pupils' forgetting the fragmentary information of different culture they are learning (Tanaka, 2006). Kerstin (1988) discusses based on the research of Robert (1995) on how stories, knowledge and memory are inter-related and summarized the role of stories in individual and social understanding processes in three propositions,

1. Human knowledge is based on stories constructed around past experiences,
2. New experiences are interpreted in terms of old stories (we know what we tell and we tell what we know)
3. The content of story memories depends on whether and how they are told to others, and there reconstituted memories from the basis of the individual's remembered self.

He also suggests that shared story memories within social groups defined particular social selves, which may bolster or compete with individual remembered selves. Thus, Story making can support pupil to connect the fragmentary information to link their life and experience and promote them memorize.

・Computer-Mediated Communication (CMC)

Collaborative learning strategies in the Computer-Mediated Communication (CMC) setting can positively affect learning outcomes --- greater increases in elaboration, higher-order thinking, meta cognitive processes, and divergent thinking. The characteristics of CMC environment appear to provide enhanced opportunities for dialogue, debate and potential for a sense of community (Collins & Collins, 1996; Naidu, 1997; Oliver & Omari, 2001). Furthermore, asynchronous communication provides times to learners to consider and articulate their ideas and tasks that are difficult for them to accomplish extemporaneously (Jonassen, 2007). Therefore, the authors took advantage of developing video movies which create asynchronously communicate.

(b) Input (Classroom ethos etc.)

Participants in this study were 60 pupils in 2 classes of Grade 3 of S school in Japan and 90 pupils of N school in Yarmouk Palestinian refugee camp in Syria. This project was implemented in Japanese "integrated study period" twice a week from January to April 2008. The Japanese pupils were interested in Syria because they had met one who came from Syria before the project. Accordingly, they were stimulated to study about Syria. The same lesson procedure was done in the Syrian classroom. The outside supporters were graduate school students with long research experience on CSCL.

(c) Practical Feasibility (dissemination)

The practical feasibility was understood from two homeroom teachers of S school by informal interview and discussion. The teachers described the following practical feasibilities:

(1)The pupils are not accustomed to "think" such as predict, compare and relate with their experience and prior knowledge. It would be difficult for the pupils to watch critically.
(2) The pupils do not know how to shoot and edit video movie.
(3) The pupils study English and know how to greet, but do not know more than that.
(4) The pupils are interested in Syria because of the visitor from Syria. They want to communicate with him.
(5) Some students are too shy to speak in front of others, but they might speak in front of video.
(6) Because of the limited intercultural exposure of the pupils and their parents, their perception and understanding of different culture seem to be narrow.
(7) A vision of S school is to conduct international collaborative learning activities with oversea volunteers among the pupils participated in this study when they will be in Grade 6.
(8)The pupils have experiences of observing the action of their seniors at same school in communicating with overseas using ICT.

Findings

As findings of the study, "when contradiction occurred during the learning activity" and "what and how teachers and outside supporters intervened against the contradiction" were described as follows.

Contradictions in the practice and intervention

After analyzing the interview data from the Japanese teachers and the outside supporters, data of class observation and the pupils' response to the additional questionnaire, it was found that four contradictions occurred in practice and consequent interventions carried out (See Figure 2).

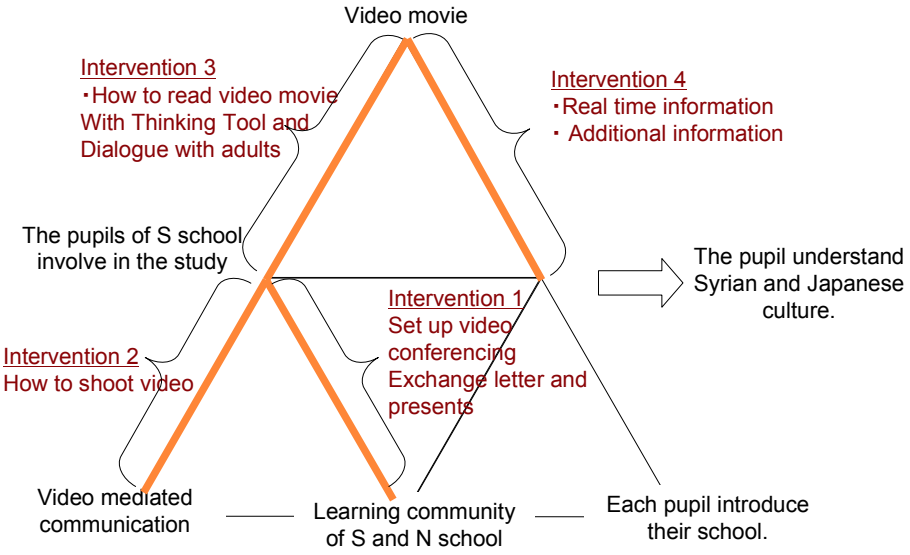

Figure 2. *Activity system in the practice*

Contradiction Ⅰ and Intervention Ⅰ
(Video conferencing and video message exchange)
The Japanese pupils were looking forward to producing video movies together with the pupils in Syria. However, the pupils did not recognize with whom they were communicating. In other words, in their image, they would communicate with some ones in Syria but they would not recognize who they were. Therefore, the supporters set up video conferencing and made the pupils from both sides introduce to know each other. In addition, the personal message cards and video letters were exchanged to know each other more.

Actually, at the beginning Japanese teachers considered to apply the way of communication through BBS for pupil self-introduction. However, the outside supporters' knowledge about the situations of N school and its pupils (i.e., only one computer with internet connection at the school next to N school and the pupils of N school have no IT skills) was helpful to finally decide the appropriate way of communication for pupil self-introduction.

Contradiction Ⅱ and Intervention Ⅱ
(Scaffolding the pupils of the way to shoot video)
In producing video movie, the pupils faced the difficulties to shoot video. It was not difficult for the pupils to use digital camera but hard to shoot in good way to express others clearly what they want to tell. Therefore, the supporters set up workshop how to shoot good movie. After the

workshop, the pupils helped each other to shoot a good video movie. For the first time, the movie taken by the pupils was quite bad to show others. However, under coaching and scaffolding of the supporters, the pupils started to know how to make a good video movie understanding the way of clearly describing what really want to be shared with the target peers belonging to different culture. Furthermore, through discussions among the pupils and by watching the video movie came from N school, the pupils in S school tried to imitate better ways of shooting of N school.

Contradiction Ⅲ and Intervention Ⅲ
(Scaffolding the pupils of the way to read the video)
When the video movie came from N school at the first time, the pupils in S school were pleased and motivated to know Syrian culture. But, it was obviously seen that the pupils could not retrieve the information enough from the video movie. One of the reasons why was that although Japanese pupils get used to watch a movie, it seems to be still difficult for them to watch it with critical mind. In fact, the pupils were easily able to be aware of what were shown in the movie. For example, the Japanese pupils noticed from the movie "Syrian pupils have big eyes.", "They want to be doctors." and "They are wearing uniforms." However, it was found that only very limited pupils could consequently think critically about "*Why*" and "*How*" of *What* they watched in the movie by comparing with their own cultural experience. Here, such critical thinking is one-step behind "what actually watched" in the cognitive mind.

Against the contradiction, the interventions were pertained to stimulating pupils' questioning. Here, three approaches were used: providing key question words, providing thinking tools, and group dialogue. Therefore, the supporters promoted the pupils to watch the video movies critically and have questions. Initially, the supporters provided them with keys question words (5W1H: What/ When/ Where/ Why/ Whom/ How)" (see examples in Table 1).

Just providing key question words to the pupils did not work well to stimulate critical thinking. For example, the pupils' questions like "Why is the window in their classroom?" and "How do they wear uniform?" did not address to critical thinking mentioned above.

On the other hand, the approach using thinking tools was helpful in the stimulating pupils' critical questioning (see Figure 3). It could arouse the pupils to make own curious questions based on "What you could understand from the movie" and "think of what you watched comparing with Japan".

In addition, it was found that the group dialogue approach was also helpful in stimulating the pupils of critical questions.

Contradiction Ⅳ and Intervention Ⅳ
(Additional information for promoting the pupils' understanding of video message)
After getting a video movie from N school, the pupils of S school sent the same video movie adding some critical questions. However, the questions are too complicated for the Grade 3 pupils in N school to answer. For example, "Why N school has 2 shifts at school?", "Why basically coeducation does not exist in your country?" and "Why don't you have school meal?" Against the contradiction, one of the supporters who worked in Syria for 5 years provided the

Japanese pupils with a lecture as feedback of critical questions they developed.

Table 1. *Dialogue of pupils with supporters*

Case (1) S: What did you know from video content? P1: He (one pupil of N school) wants to be a soldier. S: Anything else? P2: Another (another pupil of N school) also wants to be a soldier. S: How about you? Do you want to be a soldier? P3: No (with loud voice) S: Why? P: (no answer) S: Why do they want to be soldiers? P2: I will be killed…I do not know why they want to be a solder. Do they want to be die? S: How about asking your friends why they want to be a soldier. P2: Yes, I see. I am going to ask!
Case (2) **P4**: (reading the titles on the movie.) I (one pupil of N school) will fight to take back our home country…. S: What does it mean? **P4**: Hun? Why do they (Palestinian) want to take back their home country? **P5**: I know. They have war. **S**: What is the relation of taking back their home country to the war? **P4.5.6**: (no answer) **S**: When you say "take back", it means originally they possessed their own country before, right? **P6**: What? **P5**: Because they had war, and they lost their land. **P4**: I see! I understand, that is why they said (in the video movie) that they want to protect Palestine. **P6**: I also understood! **S**: If you want to know, how about asking them more questions about it?

Note: S stands for supporter, and P stands for pupil.

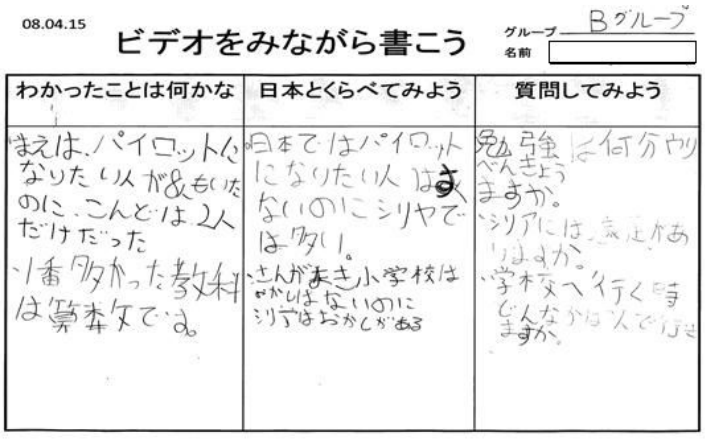

Figure 3. *Thinking tool*

Outcomes

The following findings were found from the analysis of data of class observation and interview.

(a) The way of shooting video
When comparing the contents in the first video movie the pupils developed and those in the second movie they developed, improvement in their video shooting skills was found. Table 2 shows an example of changes in such skills of one pupil group.

Table 2. *Changes in the pupils' way of shooting video between the 1st and the 2nd video production (Parts of data of one group)*

1st video production	2nd video production
Fixed camera and ran across in front of the camera when they finished their turns of speaking	Panned the digital camera and focused on the speaker
Read script without seeing video camera while speaking	Memorized script and spoke while seeing video camera.
Shot in the dark place so that pupils' face was not shown clearly	Shot in the bright place so that pupils' face was shown clearly.
Did not show real life things when explaining own culture (i.e., successful communication in intercultural context for video production could not be seen)	Showed real life things when explaining own culture (i.e., successful communication in intercultural context for video production could be seen)

The finding was supported by the questionnaire response of the pupils. 76 % evaluated themselves either strongly or very strongly "improved the expression skills using video camera".

The finding implies that such skill improvement would come out from the learning process of comparing their developed video movie production with the one developed by the target peers. Actually, they learnt this merit action by noticing it by themselves while watching the video movie of N school pupils (see an example in Picture 1).

Picture 1. *Video movie from N school*

(b) Creating critical questions

The qualitative of analysis of the Japanese pupils' contents mentioned on thinking tools showed the improvement of their competence in making critical questions.

(c) Taking learning responsibility

The interview data of both of the two Japanese teachers indicated that it was clearer of their pupils' taking responsibility in this lesson practice than previous learning activities done in the integrated study period. For example, (1) taking responsibility of exchanging what each group had done before with other groups to successfully accomplish the final task in the lesson activity (i.e., creating newspaper), and (2) taking responsibility of finding out answers of what they want to understand by asking other members in the group in stead of directly asking the teachers.

This is because of three reasons: a clear mission for the pupils of why the learning activities should be done, feedback via the video production of the target peers during the learning process, and the interplay assignment within five groups of the Japanese pupils of developing five sets of newspaper.

(d) Group understanding about Syria

Analysis of the pupils' performance on mind maps done before twice video production shows 46% pupils who could mention about Syria more than 3 words. On the other hand, analysis of the pupils' performance done after twice video production indicates that 84% pupils could describe more than 5 words with concrete content. The finding implies the pupil individual improvement in understanding about Syria.

The pupil group's comprehensive understanding about Syria was found in the qualitative analysis of content of newspaper. Examples of their comprehensive understanding are shown in Table 3.

Table 3. *Part of the contents written in the newspaper*

We understood more about N school through their meal in video movie. First of all, we know that they eat food by hands. *Secondly they have not got a school meal. Because their school is two shift: morning is boys' school and then girls school after noon.* When they get hungry, they go to school canteen for buying drink and food. There are snacks, too. (Group A)
Japan has a sand play ground at school, but Syrian is concrete one. *One of the reasons is it costs a lot for making sand play ground. It means they have not got a lot of money to make it.* If they slip on the concrete play ground, it will be harmful, but at the same time, they never make their shoes dirty even when it rains. (Group B)
In Syria, they have not got a school meals. So they bring their lunch from their house. If they forget bringing lunch, they can buy sandwich at school canteen. I like sandwich, so I want to try Syrian sandwich. Syrian sandwich is round one not like Japanese triangle one. I prefer a Syrian round sandwich than a Japanese triangle one because it is difficult to eat. I was really surprised to know that. (Group D)

Note The underlined shows what they could know from the video movie and *italic* shows what they got from outside supporters. (The pupils actually understood about Syria comprehensively from outside supporters' scaffolding in which the clues the pupils caught from the video movie were applied.)

Discussion

The overall findings of the study reveal important role of outside supporters in successful implementation of a collaborative learning activity with overseas. The study could indicate the following three types of support.

Technical support: Time-to-time designing lesson to move forward successfully

In this practice, from the very first step of selecting the appropriate overseas school to be involved in the lesson activity to the end of the activity, the outside supporters worked together with the teacher participants. In order to move the lesson forward successfully, the lesson activity was time to time required to design again and again. That is, the lesson needed to design again for the appropriate intervention when contradiction occurred. However, without experienced outsiders' support in designing, it is difficult for the teacher participants to recognize contradiction by themselves, and about what and how intervention should be appropriately done against contradiction. In time-to-time lesson designing in the activity, the outside supporters' experience and knowledge regarding how to design collaborative learning with overseas, how to recognize contradiction occurred in practice and how to intervene properly against contradiction was importantly applied.

Support in coordination between both-side of schools

Generally, in implementing such a lesson with an overseas school, it is required to meet an agreement in setting the lesson objectives between both-side of schools. A lesson activity should be designed to be beneficial for both-side of schools. Outside supporter(s) need to know the situations of both-side of schools including curriculum, school objectives, students' and teacher's interest, and national educational framework. And the role of outside supporter(s) plays in adjusting lesson objectives. In this practice, with outsiders' coordination both-side of the teacher participants agreed the lesson objectives ---- nurturing the pupils intercultural understanding.

Moreover, for successful implementation of intervention during the lesson activity, not only technical knowledge but also knowledge of both-side of schools' situations (e.g., student academic level, school facility and student IT level) need to be considered. Here the important role of coordination of the outside supporters who have knowledge of both-side of schools' situations or/and skill to collect information of the situations is seen in conducting successful intervention. In this practice, the outside supporters supported to enable to implement successful intervention considering both-side of schools' situations.

Support in creating the pupils' interaction encouraging their attempt to read the video content describing culture

Some of collaborative learning with overseas are kind of temporary events and do not promote students' intercultural understanding. (Kimura, 1999; Yamagishi, 1997) The possible causes are:

teachers themselves do not have enough knowledge and experience of intercultural understanding and the particular country's culture, and they do not know how to answer students' questions curious about different culture.

Outside supporters support in creating students' interaction encouraging their attempt to retrieve cultural content from the target peers' production (e.g., posters, homepages and video). Here supporters' background knowledge and experience of the particular country's culture play a critical role. In this practice with the pupils' video production, the outside supporters could commit such kind of support.

It can be said that the outside supporters could take their role in this practice as they possess technical skills and knowledge about culture belonging to N school pupils, about history of the particular country and about the situations of both-side of schools. In real situation, it is not easy to find supporters with such knowledge and skills. Future research in the same field is more needed in order to identify common characteristics regarding contradictions occurred during the process of lesson activity and intervention. In this respect, the findings of this study provide those of one case.

In conclusion, it is considered that finding out such common characteristics tends to lead Japanese school teachers to conduct a successful lesson of intercultural understanding through collaborative learning with overseas by themselves even without outside supporters' assistance.

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