

## **A Study of a Scaffolding Support Strategy for Effective Global Interactive Learning: Global Interactive Learning Practice between Japanese Children and Korean Adults**

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*Information and Communication Technology (ICT) possesses the potential for drawing out an effective understanding of other cultures by supporting interactive exchange through its use. Cross-cultural awareness education which utilizes ICT comprises learning activities that are conducted remotely by connecting Japanese schools with foreign schools through advanced ICT tools. The international exchange education aims at 'understanding other cultures,' which is a necessary ability for living in a diversified global community. However, in the case of children, the question has been raised whether understanding of different cultures has actually been accomplished, or whether it remains a surface-level information exchange. This study investigates scaffolding as a means to promote active, high-level learning activity to solve these problems. In order to achieve the research goals, a qualitative research method was chosen to study a one month global interactive learning process between Japanese children and Korean graduate students. The effectiveness of a scaffolding strategy provided by the Korean graduate students, who served as the adults of the partnering nation, was studied. The effective scaffolding support strategies resulting from this research are as follows: first, proper questions must be provided so that the partnering children can learn through self-direction; second, the scaffolding must be provided by considering the intellectual capabilities, performance, comments, and motivations of each partnering child; and third, the provision of scaffolding is more effective if the provider possesses abundant knowledge regarding the cultures of both countries and has diverse life experience which can stimulate the learning process.*

**Keyword:** scaffolding, global interactive learn, ICT, scaffolding strategy, cross-cultural awareness education

### **INTRODUCTION**

#### **Global Interactive Learning That Utilizes Information Communication and Technology (ICT)**

With the recent rise of internationalization, the field of education in Japan has focused actively on cross-cultural awareness. Japan had already proposed a goal for cross-cultural awareness in its 1996 "The Status of Our Country's Education, Foreseeing the 21<sup>st</sup> Century." Cross-cultural awareness is seen as important for bringing up children who understand culture with a broad outlook and who have a cooperative attitude toward people of different cultures. Cross-cultural awareness is being promoted in various forms including the use of foreign instructors, exchange through partnerships with schools of an

opposing country of exchange, and exchanges utilizing ICT (Information and Communication Technology, abbreviated as ICT from here on).

Cross-cultural awareness education which utilizes ICT comprises learning activities that are conducted remotely by connecting Japanese schools with foreign schools through advanced ICT tools. Doi and others (2002) proposed interactive learning which utilizes ICT, and classified its goals as largely the development of communication skills and strengthening of collaboration efforts. Also, Tanaka (2000) proposed focusing on the growth of learners at the lesson level via interactive learning which uses networks. In contrast, the goals of the international exchange education and lessons proposed for the project both aim at "understanding other cultures," which is a necessary ability for living in a diversified global community. "Understanding other cultures" goes beyond simply knowing knowledge and information about other cultures. It means possessing the disposition to reflect on one's own culture through the perspective of another culture, to acknowledge other cultures without assuming superiority of one's own culture, and to cooperate together in the global community where diverse races are mixing (Furuta et al., 1999).

Learners need to interact with people from different social and cultural backgrounds to achieve the ultimate goal of global interaction learning, true understanding of other cultures. Although the people from different cultures are not able to meet directly, ICT has the potential to draw out an effective understanding of other cultures by supporting interactive exchange. Practical research is being conducted in the field of education in Japan on the potential of ICT-based global interaction learning.

### **The Goals and Limits of ICT-Based Global Interactive Learning**

ICT-based global interactive learning is related to understanding other cultures, understanding one's own culture and improving diverse communication skills. Kakehi and Syuichi(1991) state that the understanding of other cultures is achieved through comparison, interpretation and ascription of meaning. That is, the learners would go through high-level and active thought processes while interacting with people from different cultures. Through these thought processes, learners would understand the other culture from the perspective of their own culture and would achieve "an understanding of the other culture." However, in the case of children whose developmental level is lower, these thinking activities are not at all easy. It is all the more difficult because this high level thinking activity must be accomplished while focusing on both the background of that different culture and the subjects living in that culture, neither of which the children have ever experienced directly themselves.

Whether children are capable of high level thinking is an important factor that influences the success of global interactive learning, and it has been suggested that existing global interactive learning practices have remained at the level of surface interactions where the children of both countries are simply introduced to each other's culture(Yamagishi, 1995; Mizukoshi & Tanaka, 1995), acquiring information on the culture of both countries which could easily be earned through books or a web search. To gain true understanding, high level learning activities focusing on global interactive learning must be conducted. As an example, Author (year) found that the ICT-based global interactive lesson implemented in 2007 between Neyagawa municipal north elementary school of Japan and Gun-yong elementary school of Korea didn't go beyond learners providing detailed explanations to each other's questions, introducing the already-known culture of the partner country, and learning subsidiary information on the partner country's culture.

### **Providing Instructional Scaffolding for Successful ICT-Based Global Interactive Learning**

As explained in the above, children may experience difficulty in conducting the high level thinking activities which are required to understand other cultures. Therefore, in order for ICT-based global interactive learning to go beyond being simply an information exchange and achieve its ultimate goal of understanding other cultures, scaffolding, which increases learning abilities and includes high level thinking activities for children, is necessary. Scaffolding means various supports such as assistant,

software, resource or strategy that is provided temporarily when learners cannot execute a mission with their own ability (Brush & Saye, 2001).

Vygotsky (1978) claimed that when children face a difficult assignment which exceeds their capabilities, they can accelerate their thinking abilities through social interaction with people around them, including adults and peers who have better capabilities. That is to say, when children try to solve an assignment, they can solve the problem by receiving the proper help, through interaction with people with better abilities than themselves (like adults), boosting their abilities to accomplish things that are beyond the level of what they can achieve on their own. Morisawa (2004) understood scaffolding as a systematic and temporary support provided by the teacher, which enables the learner to achieve assignments that could not be achieved on the learner's own and develops high level comprehension in situations where learners try to develop new understandings, concepts or abilities.

If adults can provide proper questions as scaffolding to let children attain high level thinking, we believe this would ultimately lead to a higher level of understanding of other cultures. This may be especially true when the adult providing the scaffolding is from the partnering nation, because then proper scaffolding questions can be suggested based on what background the children are from and what their current learning abilities are. Thus, the purpose of this research is to reveal what type of scaffolding the adults provide and how the children react to that scaffolding in a global interactive learning situation between children and adults in an ICT-based global interactive learning situation. We hope this study will contribute to scaffolding strategies for future ICT-based global interactive learning projects.

## **Research Questions**

The research questions established to clarify the research purposes are as follows:

- 1) What type of scaffolding do the adults provide in ICT-based global interactive learning?
- 2) How do the children who have received the adult's scaffolding in ICT-based global interactive learning react?
- 3) What is the scaffolding supply strategy for effective ICT-based global interactive learning?

## **RESEARCH METHOD**

### **Outline of the Research**

The subject of this research was an ICT-based global interactive learning activity between Japanese fourth graders at Horimizo Elementary in Osaka, Japan and graduate students majoring educational technology at Hanyang University in Korea. The research subjects were a class of 30 children in Japan, and five graduate students majoring educational technology in Korea. The activity studied was "making a story." The 30 Japanese students were divided into five groups and each group was assigned to one Korean graduate student. The particulars of the actual activity are summarized in the table below.

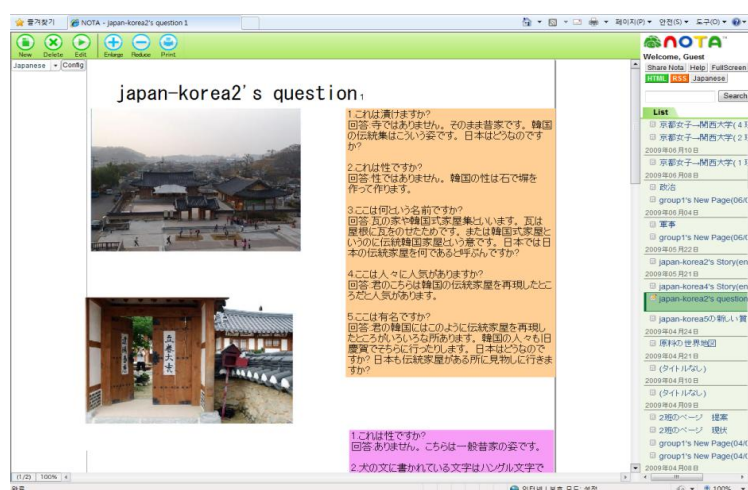
### **Research Procedure**

The ICT-based interactive learning activity was conducted by having the Korean graduate students send thematic pictures to the children and letting them ask questions about and respond to each picture. The children then made up a story about travelling in Korea by creating a fictional character, using the information derived from the exchange with the Korean graduate students.

The learning activity was conducted in this order: 1) choosing a theme; 2) Question and Answer; 3) making the story; 4) revising and completing the story; 5) making a presentation.

**Table1. Outline of the Exchange Situation and Activity**

Participants	Japan: 30 4 <sup>th</sup> grade elementary school students Korea: 5 graduate students(majoring in educational technology)
Period	June 20 ~ July 20, 2009
Subject	Japanese Language(2 hours a week) total: 10 hours
Goal	Write a story about the similarities and differences between Korea and Japan with the Korean graduate student and communicate the completed story to a friend in another class.
Purpose of Interaction	Developing an ability to understand different cultures by understanding Korean culture and understanding one's own culture from the perspective of the other country.
Children's ICT skills	Most of the children had low ICT handling skills because they were not ordinarily exposed to computer use during class.
ICT tool	An Automatic translation website: multilingual NOTA (NOTA: Multi-language automatic translation web site)
Support System	7 Kansai graduate and undergraduate students exchanged the necessary information for ICT with the Koreans and provided minimal support for the classes.



**Figure 1. Photos of story-making activities using NOTA environment**



**Figure 2. Completed version of stories made up using NOTA environment**

- ① Choosing a theme: A theme was chosen by asking the children of the five teams the question, ‘what would you like to do in Korea?’. The themes selected were travel and food. The graduate students then uploaded 4 to 5 photographs onto the NOTA message board according to the theme decided upon. The children of each group chose three photographs and used them to make a story.
- ② Q&A: The children of each group then asked questions about the three photographs and received answers from the Korean students. The Q&A sessions between the children and the Korean graduate students were conducted twice for each group.
- ③ Making the Story: The children made up stories using photographs and photo-descriptions posted by the Korean graduate students. At that time, a main story line was provided as a guideline to the children. The story that the children had to make was that a Japanese character visits Korea, meets a Korean, experiences Korean cultures such as tourist attractions and foods through his guidance, and returns back to Japan.
- ④ Presentation: The three story segments created by each pair in the student groups were connected and completed, and a presentation was given by the students in front of the next door class.

## **Data Collection**

In this study, the data collected for the study’s investigation goal are as follows;

- ① The comments of the Korean graduate students on the stories made up by the children under NOTA environment.
- ② The stories additionally modified by the children after seeing the comments of the Korean graduate students.
- ③ The contents of the study note recorded during the process of the researcher’s observation participation (Focused on the children’s learning activity)

## **Data Analysis**

To find out what types of scaffoldings were provided to the children by the adults, the Korean graduate students, and what the reactions of the children for such scaffoldings were, an analysis of the comments that the Korean graduate students provided to the Japanese children and the stories made up by Japanese children was made. The procedure of the data analysis was as follows;

- ① Extracting the contents of the Korean graduate students’ comments that were reflected on the children’s story.
- ② Numbering on the extracted comments and analyzing the contents of the comments.
- ③ Marking the classification according to the type of scaffolding out of the content analysis result.
- ④ Extracting the portion of the story added or modified by the children after seeing the comments of the Korean graduate students.
- ⑤ Conducting interviews with the children who made great modification of the story to find out the cause of such additional modification and extracting the types of scaffoldings provided by the Korean graduate students.

## **RESEARCH RESULT**

The comments which the Korean graduate students provided in order to help the children make the story were divided into the following five categories:

1. Questions to the children
2. Pointing out the misconceptions of the children and suggesting a story which revised them
3. Suggesting the story itself
4. Giving a detailed explanation of Korea

## 5. Complimenting the Children's stories

### **Questions to the Children**

The Korean graduate students, after reading the stories made up by the children, asked questions which induced the children to research where the attractions of Korea were located, questions which induced them to compare traditional crackers of Korea and Japan, questions which promoted research into the similarities and differences of Korean and Japanese culture and also questions which asked them to ascribe a meaning to Korean culture.

\* The comments provided by the Korean graduate students.

- Investigate and explain where Mt. Seorak is located.
- What is the similarity and difference between Korean and Japanese traditional costumes.
- Jeju Island is a famous travel site. Recommend three travel sites in Japan that should be surely visited.

### **Pointing out the misconceptions of the children and suggesting a story which revised them**

The Korean graduate students spotted misunderstandings and misconceptions in the children's stories and asked questions which induced thinking that would lead to revising these misconceptions. They provided detailed explanations about things that the children did not know well, suggesting a story revising these mistakes.

\* The comments provided by the Korean graduate students

- People in a region near the sea do not eat Korean mixed rice Bibimbap often. Seafood is not put into Bibimbap.

### **Suggesting the Story Itself**

The Korean graduate students commented about revisions after reading the stories, but also suggested renewing the basic structure of the story itself when they judged "that the story itself needed rethinking." In these situations, the Korean graduate students did not unilaterally designate or provide a new basic structure, but provided comments that induced the children to agree with the necessity for a new story structure and promoted thinking which enabled the children to think up a new story themselves.

\* The comments provided by the Korean graduate students

- Park and I saw Nanta in Korea. In Nanta, there are story of cooks and beautiful music & dance using many tools. If we make our own Nanta, let's make a discussion what kind of story and tools can be used.

### **A Detailed Explanation of Korea**

When more detailed information on Korea was deemed necessary after reviewing the children's stories, the Korean graduate students deepened and broadened the information of the children by providing comments that included new photos, explanations, and examples.

\* The comments provided by the Korean graduate students

- The expression 'traditional Korean-style house' would be better than the expression 'old house' described in the story. This house is Korean traditional house that Korean people have lived since long time ago.

### **Complimenting the Children'S Stories**

The Korean graduate students provided comments complimenting detailed parts of the children's stories in order to arouse and maintain their interest.

\* The comments provided by the Korean graduate students

- You read the story well! The conversation of the heroes is so real and warm. It seems you become to know much about Korea.
- It is a story for the events from the morning till the afternoon. The deep interest in Korean foods was well expressed.

The Korean graduate students provided a total of 30 comments. The children applied 15 of those comments into their stories. After reading the comments, in order to revise their stories, the children used geography books for research or asked their home room teacher or the Kansai university students for additional information. When they were asked why they revised their stories during the interview, the children answered that it was to reflect the comments of the Korean graduate students into their stories.

Some examples of the interviews of Japanese children who reflected the Korean graduate student's comments are as follows;

- ① Child A: After I received a comment to investigate the Korean tourist site Mt. Seorak, I asked to a student of Kansai University but could not get the answer, so I referred to the textbook of geography and other geography books.
- ② Child B: After I received a comment to introduce Japanese tourist sites, I investigated the information about Mt. Fuji and Lake Bipain Japan. I found out the height of Mt. Fuji and compared that with Mt. Halla in Korea and added a story how much Lake Bipa will take up the space of that city.
- ③ Child C: After I received a comment on my story about Korean cold noodle whether I could explain the Japanese cold noodle, I added the characteristics of Japanese into the story. Cold noodle is available both in Korea and Japan but I stressed the fact that they have differences.
- ④ Child D: After I received a comment that the people in a region near the sea do not eat Korean mixed rice Bibimbap often, I changed my story that the people eat seafood often.

Based on such reactions of Japanese children, it can be deemed that the comments provided by the Korean graduate students gave an influence on their method and content of learning, in other words, they promoted the children to investigate by themselves or promoted high level thinking such as thinking the similarity and differences between two countries or assigning meanings of their own.

## CONCLUSION

As adults of the partnering country in this research, the Korean graduate students provided questions, criticism, suggestions, explanations, and compliments as a means of scaffolding according to the learning abilities of the children. The children who were provided with this scaffolding tried to revise or add parts deemed insufficient according to the comments of the Korean graduate students; they did this by searching their textbooks and other books, or by asking their home room teacher or the Kansai University students. The children in this research were able to experience a high-level of thinking activity which went beyond a simple exchange of information between the two countries and included comparing the two countries and understanding and ascribing a meaning to the other culture, revealing that the scaffolding which the Korean graduate students provided according to the abilities of the Japanese children was what enabled the children to learn by themselves and think high-levelly.

It is possible to surpass the surface level interaction like information exchange for the understanding of different cultures, because it was the effective scaffolding provided by the adults of the partnering country. It can be told that the scaffolding supported by adults in partnering country in this study encouraged Japanese children able to do high-level thinking to make it happen with effect as Kakehi and Syuichi (1991) suggested the high-level thinking in cross-cultural education like comparison, interpretation and ascription of meaning comparison.

Scaffolding strategies resulting from this study to achieve ICT-based global interactive learning between Korea and Japan effectively are as follows.

First, Korean graduate school students participated in the interactive learning have understandings or experiences about Korea and Japan, and they can facilitate for Japanese students to think in a variety of different ways rather than to obtain fragments of information. Therefore, it is possible to suggest the subject who has understanding and experience about both countries in the interactive learning as the one scaffolding strategy. Second, Korean graduate school students looked at the stories made by Japanese children commented each on them according to the level of the children. Therefore, it is possible to suggest the adult subject who can make comments depending on the characteristics of individual learners as the one scaffolding strategy. It is because that it was possible to provide comments considered upon the level of the children in the other country and to speculate on the possibilities of mistakes of misunderstanding they can make, and supporting of adults who can provide suitable supports for correcting and supplementing them take an important role in the interactive learning. Thirdly, it is possible to suggest the providing the questions for facilitating high-level thinking like comparison, interpretation and ascription of meaning comparison of Japanese children about the cross-culture as the one scaffolding strategy. Fourthly, the support of environment is needed to support smooth learning activities of people in the different countries far from each other. It is the one of the scaffolding strategies, the application of the environment where non-real time communication is possible, especially like NOTA in which an automatic translation of various languages and co-authoring are possible.

In global interactive learning, people can experience different cultures. However, unlike ordinary learning activities and unlike the direct experiences of the children, global experience is contextually far apart from the actual lives of the children, so true understanding is difficult to attain. By providing actual information from the context of a different culture, and at the same time using that information as a basis for scaffolding which promotes high-level thinking (like comparing cultures and ascribing a meaning by one's own interpretation) through the interaction of adults, this project demonstrated effective and efficient scaffolding strategies for the successful understanding of different cultures. The Japanese children, who received scaffolding from adults, were able to expand their thinking abilities on their own so that they could carry out the assignment of understanding different cultures, and it was revealed that they were learning actively with self direction while conducting high level thinking activities during that process. The scaffolding strategies suggested in this study have limitations on that the effectiveness can be different according to adults' abilities of the partnering nation, that it did not reveal whether the learning makes the shift of knowledge possible even though it shows it is beyond the stage of simple information exchanges, and that it could not carry out the abilities of adult scaffolding providers. Nevertheless, the result of this study can be made available for the scaffolding for success of future ICT-based international exchange education in various forms. Based on it, it can be expected to be developed more various scaffolding strategies.

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