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## Developing Language and Teaching Skills through Videoconferencing and Collaborative Projects : A Case Study of English Teacher Training Programs in Japan

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## **DEVELOPING LANGUAGE AND TEACHING SKILLS THROUGH VIDEOCONFERENCING AND COLLABORATIVE PROJECTS: A CASE STUDY OF ENGLISH TEACHER TRAINING PROGRAMS IN JAPAN**

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This case study explores the effect of videoconferencing in English teacher training and how it can be implemented to strengthen language proficiency, cultural knowledge, and teaching techniques. Videoconferences were incorporated into the teacher training class as an extension of microteaching. Sixteen videoconferences were conducted with five collaborating institutions: Vienna and Budapest Japanese Schools, Budapest Public High School, University of Hawaii, and University of Guam. Student teachers gathered information on a topic related to the regional culture, created reading materials and slides, and prepared for live microteaching and show-and-tell sessions. The findings indicate that the participants considered the interactive experience extremely rewarding and motivating for improving language, communication skills, teaching and presentation techniques, content materials, and cultural awareness.

**Keywords:** English teacher education, Microteaching, Videoconference, Collaborative learning, Experiential learning.

### **Introduction**

Pre-service teachers need to acquire strong background knowledge of the subject matter and gain meaningful experience in developing skills for effective teaching, as well as for the growth of the teaching profession as a whole. Microteaching is an important component of trainee teachers' preparation for the complexity and reality of teaching. However, in-class activities and simulations lack some features of actual classrooms, such as authentic feedback, by which they see the effect of their teaching, challenge their assumptions, and consider alternative perspectives (Johnson et al., 2006).

With the advancement of Information Communication Technology (ICT), numerous scholars have explored the benefits and challenges of integrating technology, especially videoconferencing, in teacher education programs (Frey, 2008; Hixton & So, 2009; Holstrom & Weller, 2007; Johnson et al., 2006; Kent, 2007; Malewski et al., 2005; Pierson & McNeil, 2000; Wu & Lee, 2004).

According to Wu and Marek (2010), videoconferencing offers opportunities for authentic interaction with people from various cultures that can be incorporated into the classroom environment. Lafford and Lafford (2005) indicated the importance of students acquiring language in meaningful contexts and experiencing the actual negotiation of meaning through cross-cultural exchanges in videoconferences. O'Dowd (2000) attempted to adopt videoconference-enhanced learning models for effective intercultural exchanges in foreign

language classrooms so as to build global cultural awareness and improve linguistic ability. Passmore et al. (2005) employed the device to provide authentic, multiple, and virtual teacher training lessons from which student teachers acquire effective pedagogical and content knowledge. Videoconferencing is expanding, and the feasibility of virtual environments facilitates practicum in teacher education (Frey, 2008).

Within the framework of the wider research discussed above, the present exploratory study aspires to expand and enrich English language learning and teaching, in order to enhance pre-service teachers' professional knowledge and growth through authentic videoconferencing and collaborative material development project work.

## **Research Background**

One of the essential objectives of teacher education is to provide various experiential opportunities for student teachers to organize and construct their professional knowledge of teaching (Beattie, 2006). A vital aspect of learning that needs to be underlined is the constructivist notion that emphasizes the creation of knowledge through experience (Slavin, 2003). Learning in the "constructivist" setting is characterized by "active engagement, problem solving, and collaboration with others" (Johnson et al., 2006, p. 60). Through discussion, clarification, and evaluation with peers, student teachers collaboratively develop critical thinking skills and construct new knowledge (Pulkkinen & Ruotsalainen, 2001).

Therefore, teacher preparation programs must incorporate practical, hands-on courses so that students can expand their repertoire and thus become effective teachers (Hammerness, 2006).

Kolb's (1984) theory of experiential learning shed light on acquiring knowledge or skills through direct experience, revolving around the following modes: "1) concrete experience, 2) reflective observation, 3) abstract conceptualization, and 4) active experimentation" (p. 42). The integration of empirical experience gained from exposure to reality and reflective practice is an ideal way of initiating in pre-service teachers a deeper understanding of their own teaching and, eventually, helping them find approaches to effective teaching techniques (Kohonen, 1992).

Regarding the constructivist viewpoint, Hayashi (2002) describes participant involvement in different classroom situations and illustrates the effectiveness of a student-centered multidirectional type of class that incorporates collaborative project work and experiential, problem-solving activities to enhance learner autonomy (Table 1). In other words, in a multidirectional class wherein students become collaborators, they become the primary actors and utilize a broad range of skills in pursuing a task. Therefore, students have a greater chance of developing critical thinking skills and constructing their own knowledge, which leads to building a sense of consciousness, responsibility, and commitment through active involvement in collaborative projects and problem-solving tasks.

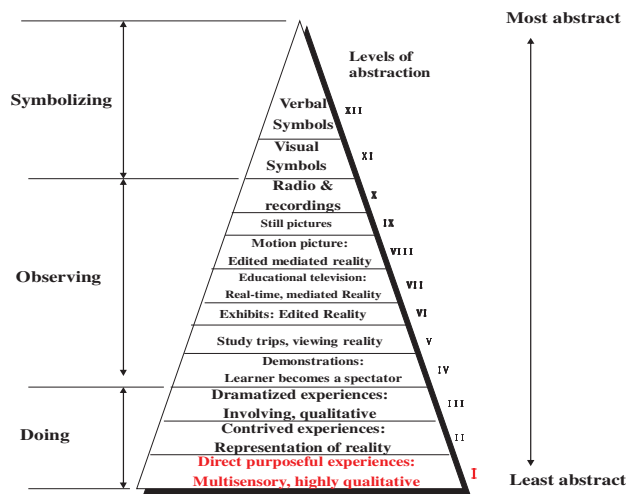
**TABLE 1: 3 Types of Education based on Participation**

		<i>Mono-directional type</i>	<i>Bi-directional type</i>	<i>Multi-directional type</i>
<b>Students</b>	<i>Role</i>	<i>audience</i>	<i>casts</i>	<i>collaborators</i>
	<i>Main activity</i>	<i>attendance</i>	<i>participation</i>	<i>commitment</i>
	<i>What is learned</i>	<i>knowledge</i>	<i>recognition</i>	<i>consciousness</i>
<b>Teacher</b>	<i>Role</i>	<i>lecturer</i>	<i>coordinator</i>	<i>supervisor</i>
	<i>Main activity</i>	<i>teaching</i>	<i>adjusting</i>	<i>co-learning</i>
	<i>Decision making</i>	<i>teacher's discretion</i>	<i>consulting with students</i>	<i>democratic discussion</i>

Hayashi (2002: 201) *Sankaku Kyoiku to Sankaku Riron* (Education based on Participation and its Theory)

Passmore et al. (2005) indicate that although authenticity in the practicum is ideal, it is almost impossible to make a smooth transition from the artificialities of training classrooms to the realities of the teaching classrooms. Through their research, though, they found that a virtual practicum experience utilizing videoconferences provides various teaching and presentation opportunities for pre-service teachers and assists in the application of learning theories to actual teaching. Thus, videoconferencing has the potential to provide gradual transition.

Along this line, Simonson, Smaldino, Albright, and Zvacek (2003, p. 89) interpret Dale’s (1946) cone of experience as “media permit the educator to bring sights and sounds of the real world into the learning environment” (p. 88), and further state that “this approach to learning would be very realistic, effective, and authentic” (p. 90). As illustrated in Figure 1 below, stage I is represented as a direct, purposeful experience that is multisensory and concrete. Videoconferencing can be categorized in this stage since it provides authenticity and reality.



**Figure 1: Dale’s Cone of Experience.**

Adapted from Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2003, p. 89).

Focusing on the supplementation of language teaching with technology, Butler-Pascoe and Wiburg (2003) summarized the following guidelines for “attributes of successful

technology-enhanced language learning environment (TELLE)” (pp. 15-19). Categories (1), (4), (5), (7), (9), (11), and (12), which are underlined below, were the focus of the present project.

Attributes of a successful technology-enhanced language learning environment (TELLE)

- 1) Provides interaction, communicative activities, and real audiences
  - 2) Supplies comprehensible input
  - 3) Supports the development of cognitive activities
  - 4) Utilizes task-based and problem-solving activities
  - 5) Conducts student-centered classes to promote autonomy
  - 6) Provides technology to support language and academic development
  - 7) Facilitates the development of English language skills
  - 8) Uses multiple modalities to support various learning styles and strategies
  - 9) Supports collaborative learning
  - 10) Meets the affective needs of students
  - 11) Fosters the understanding and appreciation of target and native languages
  - 12) Provides appropriate/encouraging feedback and assessment
- (Butler-Pascoe & Wiburg: 2003, pp. 15-19)

On the basis of the various theories discussed above and primary and secondary experience (Yogi, 2012a & 2012b), the present study explores a videoconference-enhanced microteaching project that offers pre-service teachers opportunities to develop and present their original teaching materials in a realistic context, interact and gain feedback from counterpart participants, simulate their pedagogical skills and cultural knowledge, improve their language and teaching ability, and grow professionally.

## **The Study**

Drawing from the basic principles of the theories above, the author implemented a pilot project in a teaching methodology class to organize an effective and motivating event and videoconferencing, provide an authentic environment where trainee students could introduce collaboratively created teaching materials related to their regional culture, deepen professional pedagogical understanding, cultivate language and communication skills, improve teaching and presentation techniques, and harness cultural awareness.

Adding on the evidence gained from the previous two studies (Yogi 2012a & 2012b), the present study describes the outcome of the third year, building upon and supplementing earlier findings.

## **Methods and Procedure**

Table 2 below contains information on schools, participants, classes, schedules, and devices of the videoconference for the pre-service student teachers. Sixteen collaborations were realized with five institutions during three semesters (2010–2012). The synchronous interactive videoconference using audio and video communication via desktop computer and freeware (Skype), a videoconference device (SONY), and the GoToMeeting conference system made interactive communication possible in different physical locations.

**Table 2:** Videoconference Project in a Pre-service Teacher Training Class.

	Videoconference Collaboration (2010–2011)	Videoconference Collaboration (2011–2012)	Videoconference Collaboration (2012–2013)
Schools	University of the Ryukyus (English Majors, n=29) University of Hawaii (Telecommunications Faculty and Staff, n=10) Vienna and Budapest Japanese Schools (Junior High School Students, n=12 and English Teachers, n=3) Budapest Public High School (Japanese Class Students, n=15 and Japanese Teacher, n=1)	University of the Ryukyus (English Majors, n=20) University of Hawaii (Telecommunications Faculty and Staff: 3) Vienna Japanese School (Junior High School Students, n=3 and English Teachers, n=2)	University of the Ryukyus (English Majors, n=30) University of Guam (Telecommunications Faculty: 1)
Classes/Subjects	Junior High School English International Understanding University English Language Teaching Methodology Hungary Senior High School Japanese Language Course	Junior High School English International Understanding University English Language Teaching Methodology	University English Language Teaching Methodology
Schedule	2010–2011 Fall Semester: Dec. 8, 15, 22; Jan. 12, 19, 26; Feb. 2, 9 (12 Sessions)	2011–2012 Fall Semester: Dec. 14, 21; Jan. 18, 25 (4 Sessions)	2012–2013 Fall Semester: Dec. 12, 19 (2 Sessions)
Time	Vienna and Budapest: 10:00–10:50 am Hawaii: 3:30–4:30 pm Okinawa: Morning Session 10:30–11:30 am Okinawa: Night Session 6:00–6:50 pm	Vienna 10:00–10:50 am Hawaii: 3:30–4:30 pm Okinawa: Morning Session 10:30–11:30 am Okinawa: Night Session 6:00–6:50 pm	Guam: 11:30 am–12:30 pm & 7:00 pm–8:00 pm Okinawa: Morning Session 10:30–11:30 am Okinawa: Night Session 6:00–7:00 pm
Technology/Devices	Desktop Computer, Logical Desktop Web Camera, Freeware (Skype), Screen, Digital Video Camera, Sony Video Conference Device (SONY PCS-11)	Desktop Computer, Logical Desktop Web Camera, Freeware (Skype), Screen, Digital Video Camera, Sony Video Conference Device (SONY PCS-11)	Mac Desktop Computer, Screen, Digital Video Camera, GoToMeeting Conference System

Explicit tasks and precise instructions were provided by the instructor regarding the contents, tasks, and topics of the videoconference collaboration (Table 3). The students gathered information on topics such as lifestyles, culture, language, school life, nature, festivals, arts and crafts, music, food, animals, tourist attractions, customs and traditions, dance, stories, etc. Then, in pairs, they prepared manuscripts that introduced school and culture, a cultural quiz, self-introduction show-and-tell, cultural reading materials, activity worksheets related to the region, slide presentations, and question-and-answer (Q&A) quizzes. The due date for the student-created products was usually a week before the videoconference collaboration to give the instructor time to check the organization, content, expressions, and grammar of the materials. The final products (created materials and slides) were sent to their counterparts in advance to allow time for preparation. However, with the GoToMeeting conference system, which was utilized during the third year for the collaboration with Guam, it was not necessary to send the slides in advance because they could be displayed on the spot. After each session, the students

were asked to write in reflection journals about their impressions and what they learned through the various interactions. The instructor exchanged e-mails with his/her counterpart instructors to obtain comments on the content, performance, and technical issues, with the aim of improving the program. All the sessions were recorded for reflective learning. At the end of the semester, questionnaires were administered to obtain student feedback. The details of the student project work, tasks, and procedures are listed below.

**Table 3:** Contents of Videoconference-enhanced Microteaching Project Work.

Content	Introduction to School, Cultural Quiz, Self-introduction Show-and-tell, Cultural Reading Materials, Activity Worksheets, PowerPoint Presentation, Q&A topics: Lifestyles, Culture, Language, School Life, etc.
Tasks	The university created reading materials and questions on topics related to Okinawa, power point presentation slides, reflection journals, thank-you letters, and university introduction slides.
Topics/ categories	Nature and Environment, Festivals, Arts and Crafts, Music, Food, Animals, Tourist Attractions, Culture and Tradition, Dance, Stories, etc.

#### Material development procedures for project work

- 1) Brainstorm on possible topics related to the regional culture
- 2) Gather information on the content and collect supplementary materials
- 3) Discuss and negotiate with partners to collaborate on the ideas for content materials
- 4) Create teaching materials and questions related to the content of the manuscript (reading passages or dialogues) and create original slides
- 5) Organize the presentation procedure and content, practice and rehearse English expressions, infer possible questions expected from the counterpart audience
- 6) Experience the actual live presentation in the teleconference (an extension of microteaching)
- 7) Evaluate the presentations (done by the members of the whole class—peer evaluation)
- 8) Hand in reflection journals (comments, improvements, and future applications)
- 9) Write thank-you letters or e-mail messages at the end of the semester

An excerpt from student-developed material (reading script) and slides are presented in the appendix.

### Participants

There were 128 participants in the pilot study: 79 junior and senior English majors from the University of the Ryukyus, who were enrolled in the undergraduate English teaching methodology course; 13 Telecommunications faculty, staff, and students from the University of Hawaii; 1 Telecommunications faculty from the University of Guam; 9 junior high school students and 2 English teachers from the Japanese School at Vienna, Austria; 7 junior high school students and 1 English teacher from the Japanese School in Budapest, Hungary; 15 high school students and 1 Japanese language teacher from the Budapest Public High School.



### Findings and Implications

The purpose of this study was to implement videoconferencing in a teacher training course in order to provide student teachers with an authentic environment, cultivate language and communication skills, improve teaching and presentation techniques, collaboratively create teaching materials, and enhance professional knowledge and skills.

As shown in Table 4, there were four types of collaboration with distinctive characteristics and a differentiated use of devices. Through the diverse collaboration, the student teachers obtained unique input and output, resulting in an extraordinary experience.

**Table 4:** Types and Characteristics of Videoconference Collaboration

	Types and Styles of Collaboration	Characteristics	Technology
I	A) Pre-service Teachers and B) Japanese Junior High School Students and English Teachers in Europe A) Presentation in English and B) Presentation in English A) University of the Ryukyus and B) Vienna and Budapest Japanese Schools	Opportunity for pre-service teachers to touch on the reality of teaching. Carefully prepared teaching plans, materials, and visuals to suit the needs and levels of the junior high students. The micro-lesson serves as an authentic simulation practice for their future teaching career. Valuable advice from the English teachers (acting as mentors) on effective teaching techniques.	Skype: Free and convenient system but had occasional problems with sound and visual quality
II	A) Pre-service Teachers and B) Hungarian Senior High Students and Japanese Language Teacher A) Presentation in English and B) Presentation in Japanese A) University of the Ryukyus and B) Budapest Senior High School	Budapest students presented in Japanese and University of the Ryukyus students presented in English. Superb cultural exchange expanding global perspectives, but there were some problems concerning the English proficiency and comprehension levels.	Skype: Free and convenient system but had occasional problems with sound and visual quality
III	A) Pre-service Teachers and B) Native English-Speaking University Students, Staff, Faculty A) Presenter (One-way Presentation) and B) Audience A) University of the Ryukyus and B) University of Hawaii	Tremendous exposure to natural English, building communication skills through real communicative interaction. Encouraging responses and feedback from the audience. Spontaneous language practice and improved presentation skills for pre-service trainees. However, the presentations were one-way, coming from the pre-service students.	Sony System: Fabulous sound and visual quality but expensive and booking arrangements for the equipment had to be made
IV	A) Pre-service Teachers and B) Native English-Speaking Lecturer A) English Presentation and B) English Presentation A) University of the Ryukyus and B) University of Guam	Educational opportunity to communicate and present in front of a native English-speaking professional, having a real-time interactive conversation, learning valuable cultural and professional information, opening up global horizons through the counterparts' expertise and presentations.	GoToMeeting: Clear sound and vision, instant display of slides or other presentation materials, relatively reasonable cost

Survey questions were developed by the author to obtain the overall evaluation of the videoconference, pre-service teachers' self-assessment of their presentations and teaching materials, and how the videoconference influenced their learning, knowledge, and perspectives. Specifically, the questionnaire was designed to contain the following viewpoints: videoconference evaluation, global and cultural awareness, process and outcome of the collaborative material development project work, effects of interaction with counterparts (e.g.,



positive mentoring), issues on language and teaching skills, change in attitude and notions (e.g., raising a sense of consciousness, motivation, commitment, etc.), and career model and paths.

The survey consisted of 30 questions formatted in a four-point response scale (1: strongly disagree to 4: strongly agree). The results of the university pre-service students' reflection are listed in Appendix A: Table 8. The percentage under each question shows the number of students whose response to each item was "agree" or "strongly agree."

Table 5 contains an outline of the positive effects found in the present study, including elements A to G, with excerpts from the questionnaire results.

**Table 5:** Effects of Videoconference-enhanced Microteaching and Project Work.

Seven Elements and Sample Questionnaire Items		Class 1 2010–20 11 n=29	Class 2 2011–20 12 n=20	Class 3 2012–20 13 n=30
A	Promote autonomy, reflection, interpretation, and application through the implementation of student-centered collaborative project work (Q28) The collaborative pair-work was challenging and stimulating, and it built reflective skills and autonomy.	90%	91%	84%
B	Foster awareness and appreciation of language, culture, and global issues; and broaden perspectives (Q3) I realized the importance of introducing one's own culture as well as absorbing others. (Q5) The videoconference exchange broadened my global perspective.	100% 97%	100% 100%	90% 100%
C	Provide an authentic context with real audiences that raise consciousness, gain professional content knowledge, and enhance understanding and growth (Q9) It was a wonderful opportunity to develop my knowledge and teaching skills through this practical and authentic experience.	93%	100%	100%
D	Cultivate language, communication, presentation, and teaching skills (Q17) I think the multiple interactions with the foreign participants enhanced my pedagogical knowledge and skills.	96%	100%	100%
E	Obtain appropriate and encouraging feedback, and positive mentoring from the counterpart participants (Q14) The direct feedback from the audience stimulated my mind and raised the consciousness to look at my material from multiple angles.	100%	89%	97%
F	Transformation of attitude and notions, motivation, confidence, stimulation, satisfaction, accomplishment, responsibility, and commitment (Q20) The sense of mission and responsibility toward a future teaching career was reinforced by this event.	86%	100%	93%
G	Expand models, goals, and ideas of the future teaching profession (Q8) It gave me a chance to look into my potential for a teaching career.	96%	89%	97%

The pre-service trainees' remarks shown below are extracts from their reflection journals.

#### **Pre-Service Trainees' Written Reflections on the Videoconference (Excerpts)**

- The counterpart participants were very considerate and warm. It felt like we were communicating next to each other. It's really fascinating to think that we actually shared the

same time and space together. A strong determination arose to learn English to become a better communicator for my future profession as a teacher.

- It was so exciting to interact with an enthusiastic live audience. I am glad that my presentation went well and the students seemed interested in my topic. I am thankful for their thoughtful comments and questions.
- I was astonished and fascinated by the technology and was thrilled to have spontaneous exchange. It felt like a dream to be able to speak to people in faraway locations and share the same moment with them. It was such a motivating experience for me. I would like to try this kind of teleconference when I become a teacher to be able to contribute to global education.
- The cultural exchange was very beneficial. I enjoyed preparing for my presentation since the audience was live and eager to learn from us. I appreciate their valuable comments and questions. I must work hard to improve my English language skills so that I can communicate better next time.
- It was inspiring to see the junior high school students exposed to another culture and able to communicate in English much better than us. I was embarrassed by my poor vocabulary and expressions. I must brush up on my English skills to become a better speaker and teacher. Also, I really appreciate the English teacher’s valuable advice on our teaching materials.
- It was very educational to do research about our own culture and create teaching material in English. It was a wonderful opportunity to send an important cultural message to our counterparts. My motivation to learn and become a teacher was strengthened.
- I obtained so much information from the presentations our counterparts. The Vienna junior high students’ project presentations on environmental issues were very educational and enlightening.
- The Budapest high school students’ storytelling was extremely compelling. I admire their effort to learn Japanese and apply it to their presentations.
- The Budapest junior high school students’ show-and-tell was amusing and their Hungarian dance performance was an eye-opener. I appreciate the wonderful cultural experience.
- Interacting with the Guam professor was such an amazing learning experience. He provided us with unique information regarding the culture, customs, environment, and academics in Guam. The authentic content we learned from his presentations was definitely valuable.
- The junior high school teacher in Vienna was like a mentor to us and provided guidance and support for constructing effective lessons. His professional input and genuine educational perspectives were such a beneficial input.

**Table 6:** Excerpt from Partial Questionnaire Results of the Counterpart Participants.

Counterparts:	Vienna (n=10), Budapest (n=7), Hawaii (n=13), and Guam (n=1)	Total respondents=31
	(percentage of agreed and strongly agreed)	
1)	Did you enjoy participating in the interactive videoconference with the University of the Ryukyus students?	
	Agree (19%, n=6) Strongly Agree (81%, n=25)	
2)	Did you become interested in Okinawan culture after hearing the university students’ presentation?	
	Agree (23%, n=7) Strongly Agree (77%, n=24)	

**Comments from Counterpart Participants (Excerpts)**

Q) What did you think of the students' presentations on Okinawan teaching materials?

- The presentations were very interesting, as they gave me new information about Okinawa. The presenters spoke very well and professionally. Their English was excellent and I understood everything they said. I appreciate the effort they put into the presentations.
- I really enjoyed the students' presentations, especially the illustrations of some of their stories. I was able to follow and understand them clearly.
- I thought the students' presentations were informative, interesting, and very educational. We gained a lot of information about Okinawan culture. The English speaking level was excellent.
- I thought the presentations were well done, well-rehearsed, and overall, pleasing to see. The students were able to use proper English and even inject humor very well. Some need to work on their pronunciation and confidence.
- All of the presentations were very informative and effective teaching materials for several reasons. The topics of the students ranged from somewhat familiar to completely new to the Hawaii audience. The materials were presented in a very interesting and entertaining way, with very creative visual support. For example, the artwork was really well done and it enhanced the presentations very much. The music and photographs used also helped explain the topic very well. The quizzes were effective in providing the listeners in Hawaii some guidance in identifying and remembering the key topics of the presentations. The questions were not too difficult and helped the audience reflect on the key points of the presentation.

The survey results and comments of the pre-service teachers and counterpart participants reveal that the majority of the participants were satisfied with the content, tasks, and outcome of the videoconference collaboration. Owing to this invaluable experience, a number of students made progress in improving their language and cultural knowledge, communication, and teaching and presentation skills, all of which are unavoidable components of a successful language teacher.

However, among the overwhelmingly favorable results, A: Q28 (84%) from academic year 2012, F: Q 20 (86%) from 2010, and E: Q14 (89%) and G: Q 8 (89%) from 2011 indicate a slightly low agreement level. Regarding category A (Q28), it was supposedly because collaborative group work did not always result in good conditions among the members. Some wrote in their descriptive responses that not all members were cooperative and eager to create a product together. Every group may have a member with a fairly low level of cooperative learning principles, which are "1) positive interdependence, 2) individual accountability, 3) face-to-face interaction, 4) social skills, 5) team processing and reflection" (Johnson, Johnson, & Holubec, 1993, p. 9). Thus, instructors need to constantly encourage and guide students throughout the project. For result F (Q20), perhaps it can be assumed that a single project was not enough for realizing and building a sense of mission and a clear path to their future teaching careers. Question 14 from category E may be blamed on the trainees' not having enough presentation opportunities to practice and gain perspectives for their future and analyze their potentials. Therefore, planning longitudinal experiences with multiple collaborative projects may increase their awareness of these factors and stimulate their consciousness.

As student teachers climbed the multiple phases of the present project, they made progress through the layers of positive effects provided by the videoconference interaction and material development, and accumulated crucial knowledge and skills for their future teaching career.

Beattie (2006) describes the teacher training procedure as “1) experience, 2) reflection, 3) interpretation, and 4) application” (p. 17). We can examine evidence of student teachers going through this productive recurrent cycle throughout the whole project.

Below are the activities, processes, and outcomes of the videoconference-enhanced microteaching model:

- 1) Experience authentic context and tasks
- 2) Research and material development (of home culture)
- 3) Presentation practice (served as extended microteaching)
- 4) Obtain feedback and mentoring
- 5) Processing the cycle of reflection, interpretation, and application
- 6) Acquisition of professional knowledge
- 7) Transformation of attitude and notions (awareness, motivation, commitment, etc.)
- 8) Seek models and goals for a future teaching profession

Traditional microteaching is beneficial as a preparation stage for building foundations to connect theory and practice. In addition to the traditional approach, a videoconference may serve as a bridge between the various theories and practice, extend traditional microteaching practices, familiarize the students with the teaching career, deepen knowledge of multiple cultures, obtain mentoring support, insure guidance for a reflective practice, develop creative presentations, build communication skills, improve teaching techniques, etc. It could be considered one of the supplementary approaches that may stimulate students’ learning and reinforce their professional knowledge and potentials.

As shown in the pre-service teachers’ reflections (Appendix A: Table 8), the majority of the participants reacted quite positively and were satisfied with their activities and outcomes of the project. However, in conjunction with the positive outcomes of the project, the author faced various challenges and limitations in the organization of this study. Table 7 describes the advantages and organizational tips for future collaborations.

**Table 7:** Videoconference-enhanced Microteaching Collaboration.

Advantages	Tips
<p>It provides presentation opportunities in an authentic environment.</p> <p>It gives the task a specific purpose—to develop effective and creative teaching materials.</p> <p>Students will be committed to the task and project throughout the whole process; make progress in becoming capable, reliable, and responsible individuals; and increase their enthusiasm for teaching.</p> <p>Students can improve their communication and presentation skills, and test out their teaching materials through actual classroom simulation.</p> <p>Students raise their consciousness of the teaching profession and build cultural and professional awareness.</p> <p>Students gain effective teaching skills and pedagogical knowledge.</p> <p>Students can obtain valuable feedback, encouragement, and advice from the enthusiastic live audience, who may serve as mentors.</p> <p>Interaction with their counterparts is beneficial for</p>	<p>Finding a counterpart (inquiries and approaches)</p> <p>Scheduling (time difference)</p> <p>Setting the theme (common aims and goals)</p> <p>Negotiation and discussion (compromising beneficial content for both or multiple ends)</p> <p>Preparation and organization (thoroughly checking the student products and outline of the collaboration)</p> <p>Frequency of collaboration (single, multiple, or continuous)</p> <p>Technical issues (quality of visuals and sounds)</p> <p>Tandem approach recommended; collaborating with a counterpart with similar scopes and objectives, simultaneously supporting and contributing knowledge for the benefit of both sides. cf. Cziko (2004)</p>

<p>building effective communication skills of the students, which will maximize their future teaching techniques.</p> <p>It can provide models or ideas for a future teaching career.</p> <p>It is a stimulating and motivating alternative to traditional artificial microteaching.</p>	
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With relevant implementation, videoconference can “facilitate knowledge transfer and foster the enactment of newly acquired knowledge” (Dal Bello, Knowlton, & Chaffin 2007, p. 40). Through this experience, students can build “the foundation of professional identity, goals, responsibilities, teaching styles, effectiveness, level of satisfaction, and career paths” (Kosnik & Beck, 2009, p. 130). As Kent (2007) emphasizes, “Interactive videoconferencing is a powerful tool that teacher education programs can utilize to help prepare new teachers to meet the many challenges inherent with educating students today” (p. 51).

## Conclusion

The objective of the present study was to implement an authentic, interactive, and collaborative environment through videoconferencing and material development project work. This is expected to improve the quality of microteaching experience in the English teacher training program and enhance student teachers’ professional growth.

On the basis of the findings, it is possible to conclude that videoconferencing may be highly effective in a teacher training course, facilitating unique learning opportunities and extending professional growth, thereby producing competent language teachers.

Lawson and Comber (2010) pointed out that when “used appropriately, videoconferencing can play a significant role in improving attitudes to learning, in raising self-confidence and skill in speaking and listening, extend subject knowledge and understand and develop greater cultural awareness” (p. 324).

According to Dowlatshahi (1999), for a successful learning experience to take place, it is crucial for instructors to coordinate with educational institutions that have similar interests and goals to derive maximum advantage from the overall experience.

Furthermore, in reforming teacher education programs, it is indispensable to create authentic, collaborative, and content-based learning environments for future teachers to expand their content knowledge, teaching pedagogy, and technology tactics for developing their skills in teaching (Pierson & McNeil, 2000).

Consequently, the implementation of an innovative approach in teacher training programs may have the potential to provide firsthand experience and strengthen professional knowledge, which may generate promising individuals for the global society.

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## Appendix A

**Table 8:** Pre-service teachers' reflections on videoconference microteaching and materials-development project.

Questionnaire Results: (1st: 2010-2011, n=29), (2nd: 2011-2012, n=20), (3rd: 2012-2013, n=30) (Translated from the original Japanese version, percentage of agreed and strongly agreed)	1st N=29	2nd N=20	3rd N=30
1) Videoconferencing was a valuable experience that provided an authentic context.	100	100	97
2) I felt the significance of English language in this global society.	100	100	100
3) I realized the importance of introducing one's own culture as well as absorbing others.	100	100	90
4) I became interested in the language and culture of the foreign participants.	97	100	100
5) The videoconference exchange broadened my global perspective.	97	100	100
6) My motivation heightened for learning English and other content knowledge essential for becoming an English teacher.	89	100	100
7) My interest in the teaching profession rose tremendously.	93	89	94
8) It gave me a chance to look into my potential for a teaching career.	96	89	97
9) It was a wonderful opportunity to develop my knowledge and teaching skills through this practical and authentic experience.	93	100	100
10) I realized the necessity for thoroughly planning and creating teaching materials for effective teaching.	97	100	90



11) I was able to utilize the English and content knowledge that I learned to prepare and conduct the presentation.	93	77	87
12) I felt a sense of achievement having a chance to present my materials in front of a live native English-speaking audience.	90	100	93
13) I felt a sense of happiness, accomplishment, and commitment since I had a chance to present my original teaching material in front of the foreign participants and was able to have direct responses.	90	100	96
14) The direct feedback from the audience stimulated my mind and raised the consciousness to look at my material from multiple angles.	100	89	97
15) I was encouraged and motivated by the questions and comments from the foreign participants.	93	100	97
16) My motivation heightened during the materials preparation stage, just imagining the native English-speaking audience.	100	100	97
17) I think the multiple interactions with the foreign participants enhanced my pedagogical knowledge and skills.	96	100	100
18) I felt a sense of joy though the various interactions and sending a cultural message to the foreign participants.	97	100	94
19) Preparing for this event, organizing my presentation, and performing helped improve my oral presentation skills and instructional knowledge.	96	100	100
20) The sense of mission and responsibility toward a future teaching career was reinforced by this event.	86	100	93
21) There were various discoveries during the preparation stage that broadened my professional knowledge.	89	100	97
22) I can definitely utilize this experience in my future teaching career.	93	100	100
23) The interaction with the native English speakers gave me a foundation for improving oral English expressions that can be applied to my future teaching career.	86	78	100
24) I would like to organize and realize this type of teleconference in the future.	93	100	97
25) The videoconference experience provided me with a test of my teaching materials and simulated effective teaching techniques.	93	100	100
26) I felt the need to build my vocabulary and to develop the ability to respond spontaneously and skillfully in English.	100	100	100
27) I was impressed by the advanced technology that made this authentic interactive learning experience possible.	100	100	94
28) The collaborative pair-work was challenging and stimulating, and it built reflective skills and autonomy.	90	91	84
29) The process of collaborative project work was valuable for creating original teaching materials with my partner and deepened my understanding.	93	92	84

30) I am satisfied that the material we developed through collaborative project work can be applied in future teaching situations.	89	90	100
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## Appendix B

### A Sample of Student-Developed Teaching Materials (Reading Script) and Slide

#### *Okinawan Coral Reefs*

Okinawa is proud of the world class clarity of its ocean. The warm “Kuroshio current” also flows through this area providing a suitable environment for coral reefs. It is said that around 200 of the world’s 800 species of corals live in the ocean around Okinawa. In addition, the complex shapes of the coral reefs serves as important homes for fish to live in. You can find beautiful scenes of tropical fish swimming among the colorful coral reefs.

However, coral reefs are facing many threats. For example, since the 1970s the number of crown of thorns starfish has increased abnormally, and they are destroying coral reefs. Also, as a result of rapid land development, red soil runs into the sea when it rains and changes the balance and nutrients of the sea, affecting the propagation of star fish.

Global warming is also one of the causes of harming coral reefs. It is the warming of the surface of the earth or when the earth’s temperature rises to an unusual level. The ocean covers over 70% of the earth alone and the heat created by global warming is stored in the ocean. This causes the water to evaporate, which leaves the coral above water. Coral will not be able to breathe above water level and will eventually die.

Consequently, we really need to consider how to be environmentally friendly and take positive action in order to preserve the nature’s beauty.

< Questions >


1. How many kinds of coral reefs exist around Okinawa?
2. What is the cause of the reduction of coral reefs?
3. What can we do to protect coral reefs? What is your idea?

### Okinawa’s Coral Reefs




### What can we do to protect our coral?

Not to litter



Reduce CO2 emissions



There should be various ways to solve these problems.  
Let's start from what we can do individually !