Action Research of Collaborative Online International Learning based on Educational Technology theories

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Abstract This study aims to find out the effects of COIL which was conducted in April 2022 between Academic English classes at a Japanese university and a JFL class at an American university. Theoretical framework includes Transactional Distance, Interaction, Social Networking Approach, and Social Emotional Learning. COIL has been spreading rapidly among language teachers, and there are many reports on their practices. However, studies of the effects of COIL based on rigid educational technology theories are scarce. The number of the Japanese students was thirty-five, and that of the students at American University was six. This study was qualitative Action research with the observation of the students in the process of the COIL project and used the students' and the teachers' reflections. The results revealed psychological issues and instructional design issues. However, there is a huge potentiality for preparing for active personnel in a globalized online society.

Keywords: COIL, Distance Education, International collaboration, Action Research, Language Learning

Introduction

COIL

Collaborative Online International Learning (COIL) is a distance education that transcends time and space. It promotes learners' online collaboration in a global community. The Ministry of Education, Culture, Sports, Science, and Technology proposed the grant "Support for Forming Collaborative Programs with U.S. Universities through Collaborative Online International Learning" (Japan Society for the Promotion of Science, 2022). These accepted projects are unique in the sense that they have a broader framework than an online international class, with such programs as international exchange. The COIL project by Tokyo University of Foreign Studies (TUFS), International Christian University (ICU), Aoyama Gakuin University, and the University of California, Irvine, is one of the successful examples of getting over time and space (Anzai & Fukuda, 2021). In this study, COIL is defined as an instructional design which includes four elements: Collaboration, Online, International, and Learning, so that COIL type of instruction can be promoted widely to the hands of individual teachers, not only the well-equipped institutions.

ZOOM for COIL

Due to the COVID-19 pandemic, traditional walled classrooms changed into online classes (MEXT 2020, 2021). There are two types of online communication: asynchronous and synchronous online communication means that communication between or among the participants occurs at different times. Such examples include emails and SNS. On the other hand, synchronous communication means that communication is happening at the exact moments between the participants, wherever they are. ZOOM is the most popular tool as a web conferencing system to realize synchronous communication. Moreover, ZOOM incorporated breakout sessions so that interactions between the participants could be more active than before. This study chose ZOOM because it is user-friendly and would give students opportunities for authentic language learning.

Transactional Distance

Transactional distance, an influential concept in distance education proposed by Moore (1993), refers to the psychological distance between learner and teacher. It suggests that, although separation by space and time is the most prominent characteristic of distance education, transactional distance is the fundamental guiding principle. The constructs consist of three variables: dialog, structure, and learner autonomy (Moore 1993). This theory suggests that learners may perceive the other learners closely at one moment, and at another moment, they may be far apart. By integrating Web technologies, learners can now join, interact, and collaborate in a Planetary community (Anzai, 2006).

Interaction

Learning has become very interactive with newly emerged web conferencing systems such as ZOOM. Moore (1989) identified three kinds of interactions in teaching and learning. They are learner-learner interaction, learner-teacher interaction, and learner-content interaction. Interaction is an important key element in online communication since it influences the motivation and outcome of the students' learning.

Social Networking Approach

Social networking approach （Tohsaku, 2021） is a new approach to teach and learn foreign languages in order to face many issues in the 21st century. It is a timely guide for language teachers, and anyone interested in language pedagogy. Dr. Yasuhiko Tohsaku proposed an innovative approach to language instruction that goes beyond the communicative approach. The approach is a global view of language education for 21 century (Shimizu,2017). Tohsaku claimed that the 21st century world is called the VUCA World. VUCA is an acronym for "volatile, uncertain, chaotic, and ambiguous." One of the factors for VUCA is the development of technology. We can access almost all information on the internet. There are also a growing number of global problems in the 21st century. We need students who have good problem-solving and critical thinking skills. To solve problems for many people in the world, it is important to have communication skills to interact with each other collaboratively. It is important for us to be flexible and develop the ability to adapt to changes. In the globally connected world, there is more expectation that we will be able to work with people who have diverse cultural backgrounds (Tohsaku, Nazikian, & Park 2021). We have to have more cultural awareness than before. The goal of the social networking approach is to create a global citizen who can contribute to the society in which they can collaborate with people beyond language, ethnicity and religion and culture.

Social Emotional Learning

There are lots of definitions of social emotional learning (SEL). Twenty-six years ago, the Collaborative for Academic, Social, and Emotional Learning (CASEL) first introduced the term "social and emotional learning (SEL)" to the education world. We adapted the definition of social emotional learning as: an integral part of education and human development. SEL is the process through which people acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions. Performance in SEL consists of self-awareness, self-management, social awareness, relationship skills, and problem-solving skills. Orientations of CASEL's components of SEL and Related Formative Five Skills are self, other, and collaborative. Competencies of self consists of two abilities. Competency of others consists of two skills. One skill is social awareness to be able to understand others. The other skill is to maintain a positive relationship with others. Competency of collaboration is the ability to make productive choices and solve problems.

Research Design & Methods

Action Research

Action Research consists of "action" and "research," which explains the core of this research method. Kemmis and McTaggart (1982) claimed that Action research is trying out ideas in practice as a means of improvement and increasing knowledge about the curriculum, teaching, and learning. As a result, teachers and researchers can improve the teaching practice and articulate and justify the educational rationale of what is happening. Numan (1989) identified six steps in Action Research. Step 1 is Problem Identification, Step 2 is Preliminary Investigation, Step 3 is Hypothesis, Step 4 is Plan Intervention, Step 5 is Outcome, and Step 6 is Reporting. This study follows Numan's six steps.

AE Context in Japan of Action Research

The COIL was conducted in the first semester of 2022. The Japanese students have been studying Academic English.. They are freshmen, juniors. The course intends to help students understand media in education and develop their English communication skills by offering them opportunities to participate in language and communication activities. They are expected to enhance listening skills, speaking skills, reading skills, writing skills, and auxiliary skills. In the past years, the students learned Academic English in the computer language lab with advanced technologies.

JFL Context in the USA of Action Research
The COIL was conducted as a project in the second semester of the third year-Japanese language course in 2022. The purpose of the course is to learn the intermediate to advanced level of contemporary Japanese language and culture. The course focuses on developing proficiency in reading, writing, listening and speaking skills and Japanese culture.

Results

STEP 1. Identifying the problem

Japanese students generally lack authentic communication using the language in the natural context. They also lack the authentic experience of how Web technologies are used for global communication, though the purpose of the classes is to study various kinds of media such as print media, and audio-visual media. To give the students a positive experience of language and media, the Japanese instructor implemented COIL in the semester. In Week 1, the students had Introduction to class; in Week 2 they prepared for COIL. In Week 3, they had COIL, and Week 4 Reflection. For the rest of the semester, the classes learn Academic English and learns about media. The teaching method was a student-centered approach based on Constructivism.
American students could not have the opportunity to be involved in authentic two-way communication and exchange cultural information about Japan. They have almost no chance to communicate with Japanese students of the same age on campus. The COIL is considered to provide opportunities for students to interact with Japanese native speakers for communicating with them and getting cultural information from them. They had COIL on Week 12 and 13 in America, there were 14 hours differences between the two countries.

STEP 2. Preliminary Investigation.

It was difficult to have an actual preliminary investigation because COIL was scheduled in April. April was the only time that the two instructors could arrange their COIL in the first half of 2022 due to the difference in their academic calendars. Japanese schools start in April, whereas American schools are almost at the end of the second semester. Thus, the two instructors used their previous COIL experiences as a preliminary investigation, and they also had frequent online meetings to finalize the instructional design.

STEP 3. Hypothesis Research questions

Based on the instructors' previous COIL experiences and meeting over ZOOM, the research questions were posed as follows. 1) How can we solve the problem that the students lack authentic language and communication with the COIL project? 2) What are the outcomes of the COIL project?

STEP 4. Plan Intervention

4.1. Teaching practice 60 min. COIL

At the beginning of the COIL session, two instructors made introductions to the COIL. Then, American students introduced themselves to all Japanese students in Japanese on ZOOM. Each student introduced himself for two minutes by showing a video that the student had already recorded before the class. They introduced their dorms and campus, their college life, and their hobbies. One of the volunteer students introduced the international residence hall. Following the American side, the Japanese side made breakout sessions. They had a group of about five students and one American student. Each group made English presentations about Tokyo and Japanese students' university life and had questions and answers. At the end of the session, they came back to the main room of the ZOOM and wrapped up the COIL.

4.2. Syllabus

The instructors needed to adjust their syllabuses. The first semester is more difficult to deal with than those in the second semester since the period of overlaps between Japanese classes, and American classes are much shorter in the first semester than in the second semester. In Japan, April is the beginning of the first semester, while in the U.S.A., they are almost at the end of the second semester before the break. So, they decided to carry out the COIL on Week 3 in Japan and on Week 13 in America, which was the best timing when taking into both syllabuses.

4.3. Imbalance of the number of the students

There was a significant imbalance in the number of students enrolled in Japan and the U.S.A. Japanese AE classes were one required class and one elective class, so there were thirty-five students in total. However, there were six students in the American class. Four students are living in the International House of the University, and one of them took the Advanced Japanese in 2021. The other student is a senior who took advanced Japanese in 2020.

4.4. Management of time difference

The time difference was another issue that the instructors solved. There were 14 hours differences between the two countries. The two Japanese classes were originally scheduled between 9:00 and 10:30, and 11:00 and 12:30, which were between 19:00 and 20:30, and 21:00 to 22:30 in the U.S.A. So, the American class took a step forward to shift the class to the evening in the U.S.A., which is in the morning in Japan. The time difference is a key that the instructors should overcome to realize COIL.

4.5. Studying environment

The instructors developed a learning environment that would make an effective COIL for students. The Japanese classes changed face-to-face to an online classes so that the participants could comfortably keep mutual distance and avoid microphone feedback. American students joined the ZOOM from their rooms in the residence hall to meet Japanese students for the project. Since the date and time for the class had changed, a new classroom could not be reserved. Thus, the instructors should be flexible enough to design their instructions.

4.6. Preparation for COIL to the students

Japanese students needed preparation for COIL and their instructor needed to ensure they could handle the platform smoothly. In addition, she should guide the students' group work within one week to complete the PowerPoint and make English presentations in front of the American students. The time was short but sufficient to satisfy the preparation just in time. American students had experienced zooms with Japanese students before. so they did not need much preparation. American had assignments to record a video for two minutes to introduce their college life. Three students introduced their residence halls. one volunteer student showed her TikTok performance.

STEP 5. Outcome

5.1. AE classes in Japan

In Japan, English education starts in junior high schools, which means that they have at least seven years of English language learning. Despite the length of the education they received, most of the Japanese students stated that this COIL was the first experience that they used English directly to communicate with foreign people. So, the COIL was a significant first step toward global interactive communications. They felt anxiety at first in the main room session but enjoyed the small-group discussion in breakout rooms. One of the students, for example, commented that the breakout rooms are an excellent tool for introverted students who might lack the confidence to express themselves in a larger class setting. Another student commented that she wished she could have talked more because they found that they both liked the same singer. They also stated that they could feel more friendly to the American students in the small groups since they could see American students' facial expressions and could understand their interest in their presentations. Facial expressions such as nodding or smiling are important cues to facilitate communication (Anzai, Shimizu, Kitazawa & Akahori, 2021). The results of the action research are consistent with the findings of the empirical study in a laboratory setting by Anzai (2021). Thus, small group discussions in COIL worked well to get over the distance and get more interactions among both sides of the students.

5.2. JFL class in the USA

American students learn Japanese language and culture mainly from textbooks and online materials. They studied Japanese as elective courses. Few students took Japanese in high school. The current COIL project using ZOOM provided the authentic opportunity to communicate with Japanese students synchronously. Impromptu conversation with Japanese native speakers was a thrilling and little nervous experience for them. The students experienced more realistic communication and motivated them to learn more Japanese language and culture. There were some unexpected issues happened during the breakroom presentation, one of the groups did not finish their presentation because of technical issues and time restriction. They solved the problems.

5.3. Social networking approach and social emotional learning

Tohsaku claimed that educators help students to prepare for the 21st century world in which we face "volatile, uncertain, chaotic, and ambiguous." One of the factors for this is the development of technology. We need students who have good problem-solving and critical thinking skills. In our COIL project, students in both Japan and America were flexible for the adjustments for changes to make the project pursue and complete. Performance in Social Emotional Learning (SEL) consists of self-awareness, self-management, social awareness, relationship skills, and problem-solving skills.

  AE students in Japan described their experience as a fascinating learning experience. They recognized their emotional state objectively: for example, their nervousness. They had to cope with their presentations and questions and answers through self-management. They recognized other participants' presence, and social awareness. They used verbal and non-verbal cues to communicate and learned they needed to improve their relationship skills. They also experienced problem-solving skills through developing and delivering presentations. Thus, the COIL gave the students a first-hand opportunity for SEL.

Six students in America described their experience for the COIL project positively. Some students said they wanted to have more time for interaction and deep discussion in a small group. They commented that students in the Japanese university spoke English really well. One student was happy to hear that his Japanese was well received. He realized he has to improve his listening skill after the project. Another student commented that he wanted Japanese students to ask more difficult questions. American students seemed to have self-awareness and self-management skills. Five students seemed to control their emotional status, showed good relational skills, and achieved their goals. One student did not participate in this project and did not complete the assignments. He told his instructor that he was overwhelmed by assignments for his major.

STEP 6. Reporting

Nanun (2006) claimed that "the key difference between reflective practice and research is that the results of the process, the outcomes or products, must be published. What he meant by "publish" is to make it publicly available to others for critical scrutiny. In this regard, this presentation at ICoME is a significant opportunity to report the action research. Moreover, as Nanum states, another cycle of COIL should be followed with the second hypothesis and

second-round action and observation. Thus, it would be desirable to conduct another COIL to develop better understanding of COIL and the instructional design.

Discussion and Conclusion

This study posed two questions. Firstly, it asked how we can solve the problem that the students lack authentic language and communication with COIL project. Secondly, it asked what the outcomes of the COIL project are. Regarding the first question, the action research revealed that COIL projects would solve the problem with the following teaching strategies.

1. By using a Web conferencing tool as ZOOM, now we can carry out synchronous communication. That provides the students an interactive language environment in a global community.
2. These Web conferencing systems have a video function, so that the participants can watch other participants non-verbal behaviors, in addition to their verbal behaviors. Smiling and nodding are some of the examples in the COIL.
3. The Web conferencing system has breakout sessions, so that the participants can be divided into small groups. Thus, they can interact with other students with less anxiety than in the main room.
4. The topics of the students' presentations are relevant to the audience. Japanese students wanted to know the life-style of American students, while American students wanted to know about Japanese culture.
5. American students commented that the communication on ZOOM enabled them to know more about the diverse lifestyles of Japanese college students directly from native speakers without going to Japan. They seldom have a chance to talk to native Japanese two-way communication.

Regarding the second question, the instructors in Japan and the USA observed the following outcomes.
The AE instructor in Japan made comments as:

1) COIL was a good experience that English is used as a Lingua Franca in an authentic language environment. Since most of the Japanese students were freshmen, it was their first experience communicating with foreign students directly using in English, even though it was online.

2) They recognized the importance of eye contacts. During the presentations, they read prepared manuscripts, but during the questions and the answers, they needed to respond spontaneously, so that they could give more eye contacts to the participants.

3) They also recognized that tone of voice is very important for presentation, particularly in online communication since they cannot use body language. The Japanese students learned the importance of rehearsal with the same software and similar situations. Once the online presentation had started, everything should move according to the time schedule. This time, some of the Japanese groups could not make presentations due to technical problems and the tight schedule. Through their disappointment, they learned fundamental issues to work online.

4) They felt emotionally close to the students in the USA when they spoke in Japanese, instead of English. This is probably because they could understand each other's feelings by using the foreign languages.

In addition, the JFL instructor in the USA made comments as:

5) American students learn Japanese language and culture mainly from textbooks and online materials. The current COIL project using ZOOM provided the authentic opportunity to communicate with Japanese students synchronously.

6) It was a significant experience for students to have more realistic communication.

7) This experience motivated them to learn more Japanese language and culture.

8) One of the American students said that he could not hear the presentation well when noise disturbed the presentation. He said he should have announced his problem. Although American students tend to be relaxed and not to be shy of talking in front of people. one of the students told the instructor that he was very nervous during the interaction. Overall, the students stated they enjoyed authentic communication.

In sum, COIL provided authentic language and cultural experience in the natural context to both the students in Japan and the USA. The COIL project was a dynamic and lively experience for Japanese and American students. As Moore claimed (1993), the distance was transactional between and among online learners. They felt close to each other during the COIL, and they enjoyed online interactions and collaboration in the Planetary Community (Anzai, 2006). It was also Social Emotional Learning for the students to prepare for the 21st-century globalized world. To carry out COIL successfully, the teachers need to be flexible to tackle unexpected technological and/or other issues which do not happen in the conventional classroom. For example, some may start talking without unmuting a microphone, or they may feel the anxiety to control the technologies. Problems may arise at any time, but one thing

is certain: COIL brings students real international communication that they cannot experience in the regular classroom.

Acknowledgement

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