

# Survey on Japanese University Students' Learning Experiences with ICT and Open Sources for International Collaboration

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**Abstract:** The purpose of this research is to report university students' learning experiences with information communication technology (ICT) and open educational sources (OES) for global learning in Japan. The survey of 327 Japanese university students included seven multiple-choice items and 16 open-ended questions about students' learning experiences. The results showed that the most frequent use of ICT, including computer-mediated communication, is a discussion function of Blackboard for formal collaborative learning and LINE for informal learning. Learning with OES is less popular; only one student had taken a two-month course via YouTube provided by a Japanese university, and only two students had learned with foreign students online. The students' preferred activities for future international collaborative learning included project-based learning, casual chats and conversation, discussion, and e-mail exchange. Favored topics were ones related to their majors, international situations, the environment, cultural differences, and school life. Language proficiency, communication, cultural differences, and values and beliefs caused the most anxiety and concern for international collaboration, but the time gap, legal issues, and infrastructure were also considered.

**Keywords:** global learning, information and communication technology (ICT), computer mediated communication (CMC), open educational sources (OES)

## 1. Introduction

The globalization of society requires Japanese university students to acquire skills to communicate and work collaboratively and creatively with foreigners. Efforts to promote the internationalization and global human development of university education are strongly encouraged in Japan (Central Council for Education, 2010). Information Communication Technology (ICT) and Open Educational Sources (OES) allow people to learn at their own pace and communicate with each other without the restriction of time and space and in turn enable us to provide more global learning opportunities for our students. The use of ICT in collaborative learning among multiple nationalities in Japan has been documented (e.g., Sugiyama et al., 2005) but is uncommon and not yet a tool provided by many universities.

The goal of our research project is to design and develop a support system for international collaborative learning for learners as active learners and for teachers as facilitators. To attain this goal, we investigate the current problems for international collaboration via ICT in Japan, especially from the students' perspectives. Students' responses to the researcher-designed questionnaire focus on the use of ICT for both formal and informal learning, use of OES, the collaborative learning experience with foreign students, preferred activities, and topics for future international collaboration.

## 2. Research Method

The survey-type research method was employed in this study. Three hundred sixty-nine students registered to four computer-assisted language learning courses were asked to participate in the survey.

The students were all sophomores at a national university in Japan and were registered in the departments of Pharmacy, Social Environment, Information Technology, and Mechanical Engineering. Excluding Pharmacy, the students' English proficiency level was at the university average (444 to 480), with TOEIC-IP score averages from 412 to 450 over the last five years. Students in Pharmacy had scores averaging from 465 to 525 over the last five years, which was slightly above the university mean.

The researcher-designed questionnaire was used to collect the data in this study. The survey consisted of seven multiple-choice items and 16 open-ended questions about students' learning experiences and was divided into three main sections: frequency of ICT use for formal and informal collaborative learning, OES, and learning experiences and opinions for international collaborative learning. The questionnaire was conducted with an assessment function of Blackboard, a learning management system, in one of the computer assisted language learning (CALL) classes during the first semester. The CALL classroom was equipped with one computer per student, and the students responded to the questionnaire via their assigned computer for about fifteen minutes.

The data collected were analyzed descriptively per section. For ICT use in collaborative learning, graphs were created to compare ICT applications used by the students. The responses of the last two questions related to future international collaborative learning and were organized with KJ methods.

### 3. Results

The results on the frequency of ICT use for formal collaborative learning are shown in Figure 1. There were ten alternatives in the multiple-choice question; Mixi, Facebook, Twitter, Google+, Wiki, Cybozu, LINE, ChatWork, Blackboard, Moodle, and Other. The number and percentages above the bars in the figure indicate the number and percentage (of total) of students who selected the targeted alternative. Blackboard was reported as the most frequently used ICT technology for collaborative learning in a formal educational setting. Google+, Wiki, LINE, and Moodle were among the group in the second most frequently used (21.71% to 27.22%). Figure 2 illustrates the frequency of ICT use for informal collaborative learning. LINE ( $n = 299$ , 91.44%) was the most frequently used, followed by Twitter ( $n = 210$ , 64.22%) and then Facebook ( $n = 155$ , 47.40%). In contrast to the formal setting results, Blackboard and Moodle were less popular in informal settings. Skype, Viper, Pinger, and Yahoo Answers were included as "Other."

As learning experiences with OES, only one student out of 327 students (0.31%) responded as having experience with open educational sources for learning. Over a two-month period, this student had studied the course content, which was provided by one of the best universities in Japan. He considered the course to be challenging but interesting. Related to learning experience from international collaboration, only two students (0.61%) answered "yes" regarding collaborative learning experiences with foreign students via ICT and CMC. Student A had had conferences with Skype for three years during middle education. He discussed some topics with foreign students over Skype. A positive point of the activity was that he could communicate with foreign students

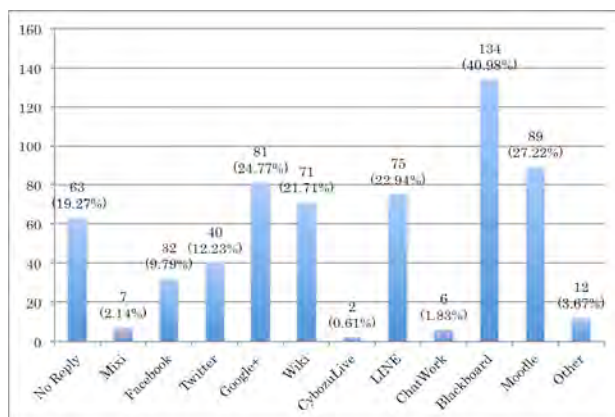


Figure 1. Frequently Used ICT for Collaborative Learning in a Formal Setting.

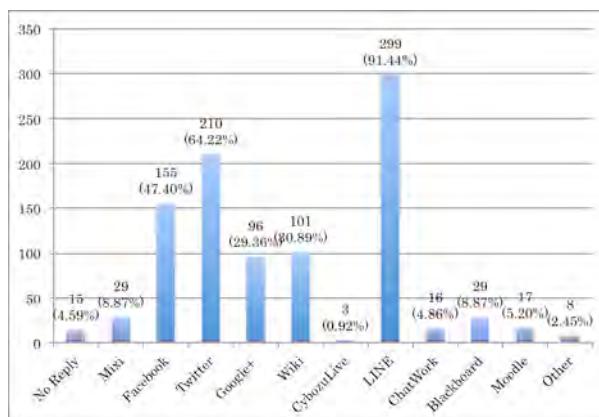


Figure 2. Frequently used ICT for Collaborative Learning in an Informal Setting.

face-to-face via Skype, while the negative points included the difficulty in time management because of the time gap and summer time. Student B had a school trip to New Zealand during high school. In order to prepare for this trip, he exchanged mail with the foreign students who were assigned to his group. He reflected on his learning experience as an enjoyable learning activity.

Table 1 summarizes the results of preferences and expectations for future international collaborative learning, and Table 2 organizes the results related to anxieties and concerns. The students' preferred activities for future international collaborative learning included project-based learning, casual chat and conversation, discussion, and e-mail exchange. Their favorite topics were ones related to their majors, international situations, the environment, cultural differences, and school life. Language proficiency, communication, cultural differences, and values and beliefs were reported as anxieties and concerns for international collaboration, and time gap, legal issues, and infrastructure were also considered.

Table 1: Students' Preferences and Expectations for

Future International Collaborative Learning		
	Categories	Number of Respondents
Activities	Conversation & Chat	28
	Project	25
	Creation and Manufacturing	13
	Group Discussion	2
	Mail Exchange	1
	Research	1
Topics	Specialty	25
	Environment	14
	International Issues and Trends	12
	Language/ English Learning	7
	Value Difference	2
	Hobby	1
	Human Rights	1
	Others	16
	No Preferences	15
	Negative Attitudes toward International Collaborative Learning	6
	No Response	88

Table 2: Anxiety for Future International

Collaborative Learning		
	Categories	Respondent Number
Anxiety	Language Proficiency	153
	Communication	64
	Culture Differences	15
	Time Gap	8
	Nonverbal Communication	5
	Value Difference	5
	Legal Issues	2
	Others	11
	No Anxiety	11
	Cannot Imagine and Don't Know	7
	Negative Attitudes toward International Collaborative Learning	4
	No Response	66

#### 4. Discussion and Future Research

The survey revealed that not many students had opportunities to learn with foreign students via ICT. Only one student had used OES to study one university course via YouTube. The results highlight the crucial need of Japanese universities to provide more meaningful opportunities for university students to collaboratively learn with foreign students. In order to design a course and activities for international collaborative learning, the students' preferences and concerns, as documented in this research, should be considered to implement a feasible, sustainable, and learner-centered collaborative learning experience. Similarly, in the design of facilitation for collaborative learning activities, students' needs are significant and should be considered based on the results of this research.

In future research, not only students' expectation and concerns but also those of teachers and stakeholders should be considered. This fundamental survey should also be implemented in other countries to examine cultural differences. Through several pilot and experimental projects, we would like to develop and improve a facilitation model for multiple foreign teachers dispersed in different places.

#### Acknowledgments

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