交流学習における日本と韓国の語学学習者の
自己効力感と学習不安の比較研究

吉田広毅*,谷　誠司**,内田智子***,増井実子**,中山　晃****

A Comparative Study of Japanese and Korean Language Learners'
Self-efficacy and Anxiety in Online Cooperative Learning

Hiroki YOSHIDA*, Seiji TANI**, Tomoko UCHIDA***,
Jitsuko MASUI**, Akira NAKAYAMA****

常葉大学教育語学部*，常葉大学外国語学部**，
長崎国際大学人間社会学部***，
愛媛大学教育・学生支援機構英語教育センター****

抄　　録

Development of computer-mediated communication technology has enabled cooperative learning in virtual pedagogical settings. Online cooperative learning facilitates learners in a distance collaborate and achieve a common goal. However, previous studies note that learners' personal traits such as self-efficacy and anxiety have influence on their behavior and achievements in cooperative learning. Therefore, this study purposed to identify Japanese and Korean university students' self-efficacy and anxiety for online cooperative learning in advance of the implementation of online cooperative learning activities. Results of the study show that Korean students had significantly higher self-efficacy in utilizing computers (t (27) = 3.89, p < .01) and communicating with Japanese (t (27) = 2.42, p < .05) compared with Japanese students, while there was not a significant difference in participants' online learning self-efficacy (t (27) = 0.13, .05n.s.). Furthermore, Japanese students had higher computer anxiety (t (27) = 2.96, p < .01) and online learning anxiety (t (27) = 3.65, p < .01), while there was not a significant difference in communication anxiety (t (27) = 0.13, .05n.s.). Results suggest that Korean students are quite confident and are not so much anxious in using computers for learning, their achievements in online learning, and communicating with Japanese students. On the other hand, Japanese students are anxious in using computers,

and are ambivalent in their achievements. Given the findings of the study, it is necessary to develop online facilitation skills that reduce specific learners' anxiety and promote their self-efficacy in order to enhance the quality of online cooperative learning.

Keywords: 交流学習，オンライン学習，自己効力感，学習不安
Cooperative learning, Online learning, Self-efficacy, Anxiety

1. Introduction[1]

Development of the knowledge society has brought a substantial change in teaching and learning. In order to deal with the structural change of the society, school systems are required to recognize the significance of learning objectives such as social competence, critical thinking, knowledge sharing, and cooperation techniques (Punie, et al., 2008), and to implement learning methods that require active interaction among the learners such as cooperative learning.

With the development and diffusion of computer-mediated communication (CMC) technology, cooperative learning is no longer limited to traditional classroom settings (Chuang, et al., 2012) but is now implemented in virtual pedagogical settings. Online cooperative learning enables learners who are far away from each other collaborate and achieve a common goal. Bliss and Lawrence (2009a; 2009b) reported that team work through CMC resulted in significant increase of students' participation, frequency of interaction, and the quality of conversation. However, few works have focused on learners' educational, psychological, and personal aspects that affect their behavior, attitude, and achievements in online cooperative learning.

In the field of computer/online education, previous studies have identified several personal traits that influence learners' behavior and performance. Among these traits, self-efficacy and anxiety has consistently affected achievement in online learning (Hauser, et al., 2012). It is therefore significant to identify learners' self-efficacy and anxiety in advance of the online cooperative learning process so as to provide appropriate facilitation to the learners. Especially, participants in this study were students from two different countries who never communicated with each other before. In such a situation, it was anticipated that students might feel anxious about learning cooperatively via the Internet with new acquaintances. Therefore, this study aims to identify Japanese and Korean students' self-efficacy and anxiety in online cooperative learning.

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[1] This is a substantially revised and extended paper of an abstract and poster presented at the Second Asian Conference on Education for Sustainability held at KKR Hotel Hiroshima, Japan: March 23, 2015.

2. Purpose

The purpose of this study is to identify Japanese and Korean university students' self-efficacy and anxiety for online cooperative learning in advance of the implementation of online cooperative learning activities.

The research questions to be addressed in this study are: 1) What do Japanese and Korean students feel confident in online cooperative learning?, 2) What do Japanese and Korean students feel uneasy or fearful in online cooperative learning?, 3) What are the differences in Japanese and Korean students' self-efficacy and anxiety for online cooperative learning?

3. Method

The study was conducted from October 15th to 26th, 2013 with the purpose of identifying Japanese and Korean university students' self-efficacy and anxiety in online cooperative learning.

3.1 Participants

Participants were 29 Japanese university students who participated in Korean language classes and 27 Korean university students taking Japanese classes. Participants experienced project based cooperative learning via the Internet. During the Internet-based cooperative learning session, participants worked in a group of five or six students: two or three Japanese students and two or three Korean students.

3.2 Questionnaire

Participants completed a questionnaire that assesses their self-efficacy and anxiety in online cooperative learning. The questionnaire consists of 15 questions with three subscales that measures self-efficacy in online cooperative learning and 13 questions with three subscales that measures anxiety in online cooperative learning, both on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree).

Self-efficacy questions were made by reference to computer/e-learning self-efficacy scales developed by Compeau and Higgins (1995), Eastin and LaRose (2000), Eachus and Cassidy (2006), Lin and Overbaugh, and Mohamen and Abdul Karim (2012). The 15 questions were:

1. I would be able to proactively post my comments in Facebook.
2. I would be able to solve any computer problems I may have.

3. I feel confident in using the Internet to gather information.

4. I would be able to establish positive interdependence with the group members.

5. I would be able to open or activate a conversation in order to facilitate communication.

6. I would be able to learn effectively through online cooperative learning.

7. I would be able to share ideas and thoughts through interaction with the group members.

8. I would be able to use Facebook even if there is no one around to show me how to use it.

9. I would be able to promote cooperation among the group members.

10. I would be able to use Facebook if I ask my teacher or friends when I am in trouble.

11. I think I can efficiently learn if the group members cooperate with each other.

12. I feel confident in what I can learn though the online cooperative learning activities.

13. I feel confident to download files from and upload files to Facebook.

14. I would be able to manage or resolve conflicts among the group members.

15. I am skillful enough to post and reply to messages in Facebook.

Anxiety items were decided after a preliminary research based on a self-report questionnaire sheet, which was a written form of free-response style (Yoshida, 2013). The 13 questions were:

1. I feel apprehensive about learning via the Internet.

2. I am worried if I can tell others what I want to say.

3. I am tense and nervous while participating in group discussions.

4. I feel apprehensive about using computers.

5. I am worried if I can accomplish the learning objective.

6. I fear of making mistakes I cannot correct.

7. I am worried about my achievements in online cooperative learning.

8. I am worried if I can communicate effectively with other learners.

9. I am worried if I can properly operate the system.

10. I am worried if I can understand computer-related terms.

11. I fear of hitting the wrong key or clicking the wrong hyperlink.

12. I fear of communicating with a new acquaintance.

13. I am worried if I can gather needed information.

3.3　Procedure

Participants first got lectured about the process and goals of the Internet-based cooperative learning activity they were to experience. Then, they were instructed how to operate the SNS they were to use.

During the cooperative learning session, firstly, the Japanese students and Korean students discussed and decided what topic they want to talk about and study. Secondly, participants explained the actual conditions in their countries. Then, participants conducted a survey on each topic and exchanged their findings. Lastly, they exchanged impressions and ideas, drew conclusions about the topic, and wrote research reports. While the participants learned cooperatively via the Internet, teachers facilitated creative conversation and provided students technical support. All of the participants' comments and teachers' comments were stored online.

After the cooperative learning session, the participants answered to a questionnaire on their self-efficacy and anxiety in online cooperative learning.

4. Results

Among the 56 participants, 54 valid responses (27 Japanese and 27 Koreans) were collected which means that the response rate was 96.43 percent. Hereinafter, the results of the 54 answers will be introduced and used for data analysis.

4.1 Participants' Profile and Descriptive Statistics

Table 1 Profile of Participants

Profile of participants		Japanese		Korean	
		Frequency	%	Frequency	%
Gender	Male	6	22.22%	8	29.63%
	Female	21	77.78%	19	70.37%
	Total	27	100.00%	27	100.00%
Experience of communicating with a Japanese/Korean	Yes	6	22.22%	10	37.04%
	No	21	77.78%	17	62.96%
	Total	27	100.00%	27	100.00%
Experience of using Facebook	Yes	16	59.26%	19	70.37%
	No	11	40.74%	8	29.63%
	Total	27	100.00%	27	100.00%

Table 2 shows participants' self-efficacy and anxiety in online cooperative

learning. The mean was calculated by giving each of the Likert scale points a number value, where strongly disagree=1, disagree=2, agree=3, and strongly agree=4.

Table 2 Participants' Self-efficacy and Anxiety in Online Cooperative Learning

Items	Japanese		Korean	
	mean	SD	mean	SD
Online cooperative learning self-efficacy				
Computer self-efficacy				
2. I would be able to solve any computer problems I may have.	2.11	0.75	2.81	0.86
8. I would be able to use Facebook even if there is no one around to show me how to use it.	2.37	0.84	3.15	0.93
10. I would be able to use Facebook if I ask my teacher or friends when I am in trouble.	3.19	0.62	3.63	0.55
13. I feel confident to download files from and upload files to Facebook.	2.56	0.85	3.30	0.85
15. I am skillful enough to post and reply to messages in Facebook.	2.70	0.91	3.30	0.76
Online Learning self-efficacy				
3. I feel confident in using the Internet to gather information.	2.81	0.79	3.07	0.47
6. I would be able to learn effectively through online cooperative learning.	3.11	0.64	3.11	0.57
11. I think I can efficiently learn if the group members cooperate with each other.	3.33	0.55	3.33	0.54
12. I feel confident in what I can learn though the online cooperative learning activities.	2.78	0.70	2.96	0.64
Communication self-efficacy				
1. I would be able to proactively post my comments in Facebook.	2.44	0.64	3.07	0.72
4. I would be able to establish positive interdependence with the group members.	2.81	0.56	3.15	0.65
5. I would be able to open or activate a conversation in order to facilitate communication.	2.67	0.62	2.74	0.64
7. I would be able to share ideas and thoughts through interaction with the group members.	2.93	0.78	3.22	0.68
9. I would be able to promote cooperation among the group members.	2.74	0.71	3.15	0.52
14. I would be able to manage or resolve conflicts among the group members.	2.56	0.75	2.81	0.61

Online cooperative learning anxiety				
Computer anxiety				
4. I feel apprehensive about using computers.	2.65	0.83	1.85	0.89
6. I fear of making mistakes I cannot correct.	2.43	0.84	2.33	0.90
9. I am worried if I can properly operate the system.	2.65	0.83	2.00	1.02
10. I am worried if I can understand computer-related terms.	2.61	0.79	2.04	0.84
11. I fear of hitting the wrong key or clicking the wrong hyperlink.	2.87	0.80	2.22	0.83
Online Learning anxiety				
1. I feel apprehensive about learning via the Internet.	3.00	0.78	2.30	0.81
5. I am worried if I can accomplish the learning objective.	2.91	0.68	2.67	0.72
7. I am worried about my achievements in online cooperative learning.	2.76	0.70	2.33	0.54
13. I am worried if I can gather needed information.	2.57	0.57	2.00	0.72
Communication anxiety				
2. I am worried if I can tell others what I want to say.	2.94	0.71	3.11	0.74
3. I am tense and nervous while participating in group discussions.	2.74	0.51	2.93	0.60
8. I am worried if I can communicate effectively with other learners.	2.78	0.49	2.81	0.77
12. I fear of communicating with a new acquaintance.	2.43	0.69	2.11	0.83

Results of the questionnaire survey suggests that Japanese learners are confident (M > 3.00) in using Facebook if they ask their teacher or friends when they are in trouble (M = 3.19), learning effectively though online cooperative learning (M = 3.11), and learning efficiently if the group members cooperate with each other (M = 3.33). On the other hand, results suggest that Korean learners are confident (M > 3.00) in using Facebook even if there is no one around to show them how to use it (M = 3.15), using Facebook if they ask their teacher or friends when they are in trouble (M = 3.63), downloading files from and uploading files to Facebook (M = 3.30), posting and replying to messages in Facebook (M = 3.30), using the Internet to gather information (M = 3.07), learning effectively though online cooperative learning (M = 3.11), learning efficiently if the group members

cooperate with each other (M = 3.33), proactively posting their comments in Facebook (M = 3.07), establishing positive interdependence with the group members (M = 3.15), sharing their ideas and thoughts through interaction with the group members (M = 3.22), and promoting cooperation among the group members (M = 3.15).

Results of the questionnaire survey also indicates that Japanese learners are anxious (M > 2.75) in hitting the wrong key or clicking the wrong hyperlink (M = 2.87), learning via the Internet (M = 3.00), accomplishing the learning objective (M = 2.91), their achievements in online cooperative learning (M = 2.76), telling others what they want to say (M = 2.94), and communicating effectively with other learners (M = 2.78). At the same time, results indicate that Korean learners are anxious (M > 2.75) in telling others what they want to say (M = 3.11), participating in group discussions (M = 2.93), and communicating effectively with other learners (M = 2.81)

4.2 Comparison of Participants' Self-Efficacy and Anxiety in Online Cooperative Learning

The differences of Japanese and Korean students' self-efficacy and anxiety in online cooperative learning were examined by using student's t-test. Table 3 shows the differences of Japanese and Korean participants' self-efficacy and anxiety in online cooperative learning.

Table 3 Comparison of Japanese and Korean Students' Self-efficacy and Anxiety in Online Cooperative Learning

	Japanese		Korean		df	t	P
	mean	SD	mean	SD			
Self-efficacy							
Computer self-efficacy	12.93	2.92	16.19	3.23	51	3.89	0.00
Online learning self-efficacy	12.04	2.23	12.48	1.53	46	0.85	0.40
Communication self-efficacy	16.15	3.07	18.15	3.00	52	2.42	0.02
Anxiety							
Computer anxiety	13.20	3.16	10.44	3.68	51	2.96	0.00
Online learning anxiety	11.24	1.88	9.30	2.03	52	3.65	0.00
Communication anxiety	10.89	1.84	10.96	2.21	50	0.13	0.89

Results indicate that Korean students had significantly higher self-efficacy in utilizing computers (t (51) = 3.89, p < .01) and communicating with Japanese (t (52)

= 2.42, p < .05) compared with Japanese students. However, there was not a significant difference in participants' online learning self-efficacy (t (46) = 0.85, .05n.s.).

On the other hand, Japanese students had higher computer anxiety (t (51) = 2.96, p < .01) and online learning anxiety (t (52) = 3.65, p < .01) compared with Korean students, while there was not a significant difference in communication anxiety (t (50) = 0.13, .05n.s.).

5. Discussion

The purpose of this study was to identify Japanese and Korean university students' self-efficacy and anxiety for online cooperative learning in advance of the implementation of online cooperative learning activities.

Regarding the first research question "What do Japanese and Korean students feel confident in online cooperative learning?," results of the questionnaire survey show Japanese students are confident (M > 3.00) in the online learning process, while Korean students are confident (M > 3.00) in using computers, the online learning process, and communicating with Japanese students.

Regarding the second research question "What do Japanese and Korean students feel uneasy or fearful in online cooperative learning?," results indicate that Japanese students have relatively high anxiety (M > 2.75) in the online learning process, while Korean students mentioned that they are not so much anxious in learning cooperatively online.

Referring to the third research question "What are the differences in Japanese and Korean students' self-efficacy and anxiety in online cooperative learning?," results show that Korean learners have significantly higher confidence in using computers and communicating with Japanese students. On the other hand, Japanese learners had significantly higher anxiety in using computers and the online learning process.

6. Conclusion

Results of the present study suggest that Japanese and Korean learners have different kinds of self-efficacy and anxiety in online cooperative learning. Results show that Korean students have higher self-efficacy than Japanese students in using computers and communicating with others, while Japanese students have higher anxiety than Korean students in using computers and learning online.

Since participants of the current study are Japanese and Korean university students who major in foreign studies, using other samples from elsewhere is expected for future generalization of the items.

Given the findings of the study, it is necessary to develop online facilitation skills that reduce specific learners' anxiety and promote their self-efficacy in order to enhance the quality of online cooperative learning. Earlier studies suggest the significance of online facilitators in online learning (McVay-Lynch, 2002; Packham, et al., 2006). It is expected to specify the roles and responsibilities of online facilitators with the aim of helping learners who learn cooperatively and effectively.

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