

Scrutinizing Cooperative Learning Principles in Project-based Film-Making Activity Through Students' Journals¹

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Abstract

To examine the relationship between Cooperative Learning (CL) principles and students' motivation toward English learning through Film Making Activity (FMA), we report our findings from analyses of seven-point Likert scale post-questionnaires after FMA, students' journals during FMA, and interviews from three participants after FMA. The data were examined by cluster analysis, content analysis and correspondence analysis. The results particularly as supported by analyses of their journal writing revealed that the degree and type of CL differed among students.

1. Introduction

In this era of globalization, MEXT (2014) suggested the reform of English education in Japan in a richer and practical way (e.g. to enhance learning span, contents and teacher's skills). However, as many Japanese university students have difficulty envisioning themselves using English in their future, they lack the motivation or interest in learning English in class. As Tono (2016) has also pointed out, Japanese people will face difficulty in working without English-speaking skills at an advanced level in the near future, as the pace of globalization is expected to increase rapidly before 2050.

To cope with this situation, MEXT (2017) recommends the implementation of proactive, interactive, and deep learning, namely active learning. Indeed, several studies (e.g. Hiromori & Tanaka, 2006; Maekawa & Yashima, 2012) have suggested that group work with project-based learning has the potential to enhance students' intrinsic motivation toward English learning, largely because a learner-centered approach encourages student autonomy in the process of learning through various project tasks such as problem-solution, decision-making, and research activity (Thomas, 2000).

For this reason, we conducted group work with project-based learning for Japanese EFL students, namely Film-Making Activity (hereafter, FMA), as detailed in Section 2. The aim of the current study was to identify the effectiveness of FMA in an EFL setting. The participants were students in seminar classes in two Japanese private universities over the past three years. In

particular, we attempt to identify to what extent and how FMA affects Japanese EFL students and to examine the process of Cooperative Learning (hereafter, CL) by focusing on CL principles and various student feedback from this activity.

2. Literature Review

2.1. Film-Making Activity (FMA)

As a teaching approach utilizing the CL concept, we assigned the students the task of making a short film in English during a 15-week semester. FMA can enhance English language learning (Carkin, 2004), non-verbal communication (Dickson, 1989), cultural awareness (Hearthcote & Bolton, 1998), group cooperation (Elgar, 2002), and student motivation (Dodson, 2000; Yoshimura *et al.*, 2017). Also, FMA enables students to establish a cohesive interaction structure within a meaningful context that captivates student imagination and enhances their motivation (Egbert & Hanson-Smith, 2007). Dörnyei (2007) also points out that students working as a cohesive group have an effective motivational strategy. Since CL promotes interaction among learners, it can help maximize their learning (Johnson, Johnson, & Holubec, 1993).

For our FMA project, we designed the following stages for this activity: (1) selecting a Japanese drama, (2) writing the script, (3) translating the Japanese script into English, (4) casting and scheduling (plans for shooting), (5) memorizing the script and rehearsing (focusing on body language, emotion, and pronunciation), (6) acting (performance in English) and shooting, (7) film-editing with a video editor software (e.g. i-Movie) including the addition of Japanese subtitles for each scene, and (8) public showing in and out of the university in two areas in Japan (i.e. Kobe and Osaka). In each of these stages, the students were encouraged to work together in groups both inside and outside the classroom. The length of time of the English short film created through FMA is normally 30 to 45 minutes. At stage (8), each film was viewed both in and outside the class by an audience, followed by evaluations from the participants, including teachers, with respect to the film contents, performance, editing, translation and other features.

2.2. Eight Basic Principles of Cooperative Learning (CL)

Several studies have suggested the basic principles of CL (e.g. Kagan, 1994; Johnson, Johnson, & Holbec, 1991; Jacobs, Power, & Loh, 2002). For the current study, we adopted the principles proposed by Jacobs, Power, & Loh (2002) and Jacobs & Seow (2015) because the Jacobs studies focus on the maximum number of eight principles, as compared to the four of Kagan (1994) and the five of Johnson, Johnson, & Holbec (1991). This enabled us to scrutinize “what happens” in the process of CL through FMA in detail.

According to Jacobs, Power, & Loh (2002) and Jacobs & Seow (2015), the eight basic principles

of CL have the potential to increase human motivation: *heterogeneous grouping, (teaching) collaborative skills, group processing [autonomy], simultaneous interaction [maximum peer interactions], equal participation [equal opportunity to participate], individual accountability, positive interdependence, and cooperation as value*².

3. Research Questions

The research question for the current study was to what extent and how CL principles function in the process of group work in FMA and affect Japanese EFL student attitudes towards learning English. As introduced in Section 2.2, the current study utilizes the eight basic principles of CL suggested by Jacobs, Power, & Loh (2002) and Jacobs & Seow (2015). In order to find the answer to this question, we utilized the data of questionnaires, student journals and interviews discussed in the following section.

4. Methodology: Data and Methods

The data for the current study was obtained from participants working on FMA in 2016-2018. The total number of participants for the current study was 54 university students at two Japanese private universities (N = 16 in 2016, N = 22 in 2017, N = 16 in 2018); this was more than the 38 in Yoshimura *et al.* (2019). The English levels of all participants were A 1-A 2 in The Common European Framework of Reference for Language (CEFR) based on TOEIC[®] L&R scores.

Data analyses for the current study were conducted in two ways: (1) Post questionnaire (seven-point Likert scale) survey³: students' attitudes towards CL by cluster analysis; (2) Students' journals (writing logs): students' opinions on CL in FMA by content analysis and correspondence analysis.

Table 1 summarizes the descriptive statistics based on the post questionnaire survey for the CL principles and English learning items (7 is very good and 1 is very poor). As compared to Yoshimura *et al.* (2019), the SD is likely to decrease in some cases (e.g. 1.00→0.70 in *Cooperation as a Value*).

Table 1 Descriptive Statistics

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Items regarding cooperative learning				
Cooperation as a Value (Item 1, 2)	5.82	0.70	3.50	7.00
Heterogeneous Grouping (3, 4)	6.22	0.68	4.00	7.00
Positive Interdependence (5, 6)	6.29	0.89	3.00	7.00
Individual Accountability (7, 8)	5.10	0.97	2.50	7.00
Simultaneous Interaction (9, 10)	6.15	1.01	1.50	7.00
Equal Participation (11, 12)	5.27	1.44	1.50	7.00
Collaborative Skills (13, 14)	5.56	1.11	3.00	7.00
Group Processing (15, 16)	5.61	0.95	3.50	7.00
Items regarding English learning				
Linguistic self-confidence (Item 17, 18, 19)	5.21	0.86	3.00	7.00
Interests in the English language (20, 21, 22)	5.59	0.84	4.00	7.00
Attitudes toward learning English (23, 24)	5.65	0.90	4.00	7.00
Video editing technique (25)	5.44	1.55	2.00	7.00

As a preliminary phase before conducting journal writing analyses, three groups were generated by a cluster analysis (squared Euclidian distance, Ward's method) based on participants' answers for CL questionnaire through FMA. Group 1 includes 11 participants, showing relative low scores of CL principles compared to other groups. Group 2 includes 27 participants in which CL relatively worked in a positive way. Group 3 includes 16 participants in which CL worked very well. The size and ratio of participants differs from that in Yoshimura *et al.* (2019).

Table 2 The number of participants in each group

	Yoshimura <i>et al.</i> (2019)	The current study
Group 1	4 (10%)	11 (20%)
Group 2	23 (61%)	27 (50%)
Group 3	11 (29%)	16 (30%)
Total	38 (100%)	54 (100%)

Figure 1 shows the summary for the average point of CL sub-scales in the participants in each group. Many principles were working well in Group 2 and 3 (80%), as compared to Group 1 (20%). In particular, *Equal Participation* in Group 1 scored the lowest. In terms of questions about English Learning (hereafter, EL) such as *linguistic self-confidence*, *interests in the English learning*, *attitudes toward learning English* and *video technique*, Group 3 also showed the highest average points, Group 2 did the second highest, and Group 1 is the lowest. Based on the three groups in Table 2 and Figure 1, students' journals during FMA were analyzed in the next section, supported also by several comments from oral interviews from three students A, B and C⁴.

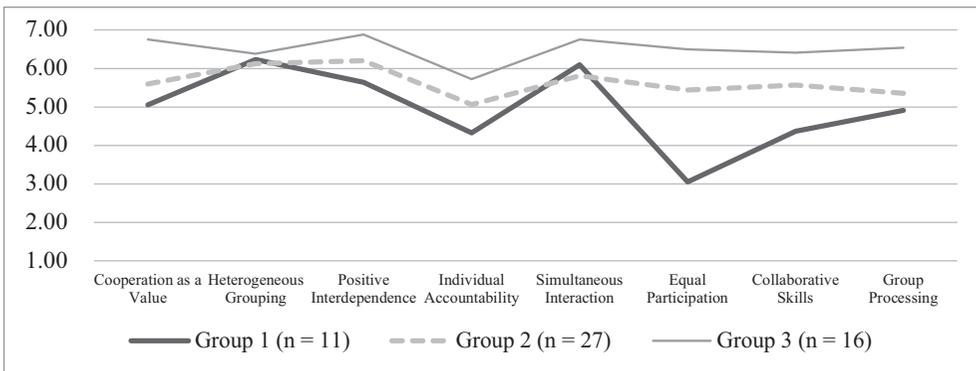


Figure 1 Cluster Analysis

5. Students' Journal Writing Analyses

5.1. Frequency and Ratio by Week (Total)

Based on each group generated by cluster analysis with post-questionnaires, the sections 5.1-5.3 summarize to what extent and how each CL principle had worked in FMA based on the findings from journal writing analyses. Figure 2 and 3 below show the summary for the frequency and ratio of CL principles described in students' journals for each week in total.

As in Figure 2, the frequency of CL principles drastically increased in the first and final quarters, with especially high frequencies in week 6 and at the reflection. Around week 6, shooting film had started and the students appeared to face difficulties and realized the importance of group processing through actual collaborative learning via FMA with group members. At the time of reflection, the film was already completed, giving students enough time to reflect on how CL went well or not, noticing various factors contributing to CL for the success of the project.

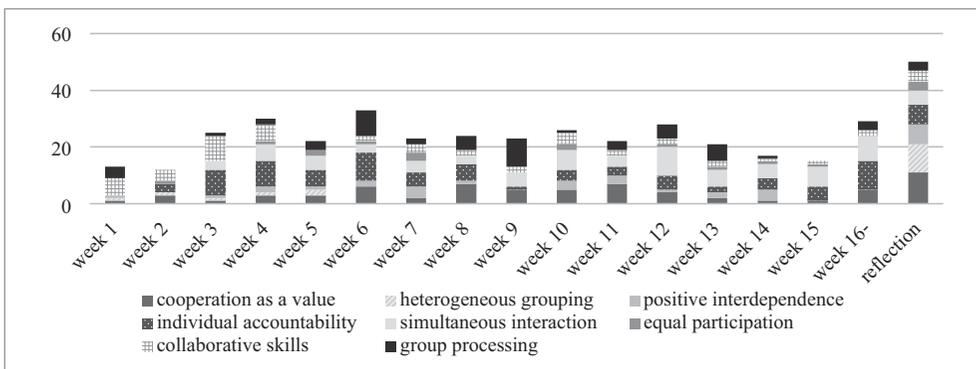


Figure 2 Frequency of eight basic CL principles used in students' journals by week

Figure 3 shows the ratio of the comments of each CL principle mentioned in students' journals

each week. Several observations can be made: (1) the ratio of *group processing* is high in week 1, 6, 9 and 13, and so this principle is required at every important point in the CL of FMA; (2) the ratio of *individual accountability* is high on average except in week 1, 9 and probably 13, suggesting that this principle is regularly required; (3) the ratio of *collaborative skills* is particularly high in the first quarter (i.e. week 1, 2, 3, 4), indicating that this principle was not so important as the work advanced; (4) the ratio of *simultaneous interaction* tended to increase week by week, showing that students may have noted its importance in this activity; (5) the ratio of *heterogeneous grouping* was focused at the time of reflection, when students noticed the importance of this principle for the first time by reflecting on the whole activity; (6) *equal participation* may be not so important in the CL of FMA. Other observations are possible, but the important findings are the six noted here. The figures for the frequency and ratio of CL principles in students' journals by week for each group are in the Appendices⁵.

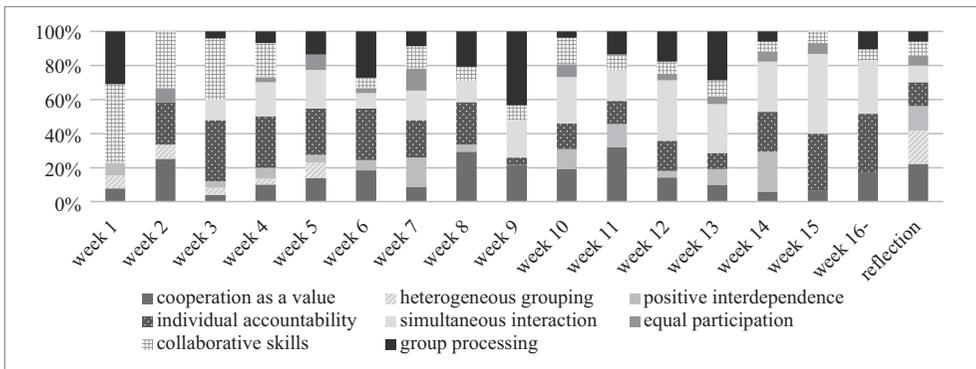


Figure 3 Ratio of eight basic CL principles used in students' journals by week

5.2. Comparison of Each Group for Frequency of CL principles in Students' Journals

This section discusses the details of findings from the analysis of students' journals by comparing three groups generated by cluster analysis. Figures 4 (Group 1), 5 (Group 2) and 6 (Group 3) summarize the comparison of the total frequency of each CL principle. Some comments from the oral interviews are added to support the findings from these figures in the following discussion.

As can be seen from Figure 4, *simultaneous interaction*, as compared to other principles, functioned highly in the process of FMA in Group 1. According to Jacobs & Seow (2015, p.32), peer interaction “encourages more student-student interactions”, and students would be “more active during student-student interactions”. By interacting with other members, students believe that CL is facilitated and the project can proceed in a successful way in order to achieve the goal set. Student A in Group 1 also commented in the interview, “when an actor was saying an incorrect

line, a fellow student X assisted at that point because X had memorized all the lines” and “group members actively discussed some lines with each other, noticing the different translations from each member”, both of which may be categorized as *simultaneous interaction*. Another comment, “a student Y was busy in his part-time job, but he used his spare time to remember all the lines for his role”, categorized as *individual accountability*, ranked in the second place in Figure 4. On the other hand, the three principles of *positive interdependence*, *heterogeneous grouping* and especially *equal participation* were not working well during FMA in this group. This result is more or less different from the data in Figure 1.

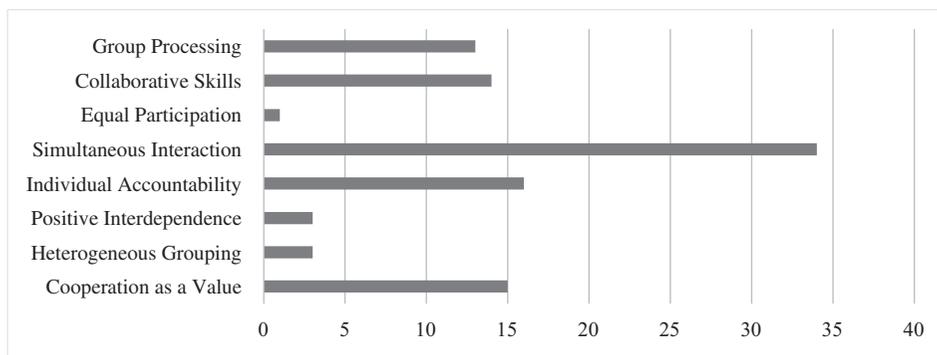


Figure 4 Frequency of each principle (Group 1: n = 11)

As shown in Figure 5, *individual accountability* functioned the most in the process of FMA in Group 2. Since *individual accountability* “puts pressure on members to do their fair share in the groups” (Jacobs & Seow, 2015, p. 32), whether each group member owns responsibility for achieving the film-making project was prioritized. This point is inextricably linked to the principles ranked in the 2nd place (*cooperation as a value*) and the 3rd (*collaborative skills*) in which students notice cooperation and collaboration with other members as important factors for the success of this project-based activity. As similar in Figure 4, *equal participation* does not seem to be an important factor for the CL of FMA.

Comments from the oral interviews also support the findings from students' journals. Student B in Group 2 commented in the interview, “there were students who did not memorize lines for some scenes, so if they had prepared well in advance, I believe that film-making would have gone more smoothly” (*individual accountability*), “there was no problem in communication among group members, but some members did not put their individual tasks into action” (*individual accountability*), “group members had various opinions about translation and shared them, and we did notice what would be good translation and pronunciation of each line” (*cooperation as a value*). Student C in Group 2 also commented in the interview, “some students did not complete

the task by the deadline, so I needed to cover such members' tasks sometimes" (*individual accountability*), "I noticed that everyone had to have individual accountability for the film" (*individual accountability*). As commented in the interviews, the top two principles particularly worked in this group through FMA.

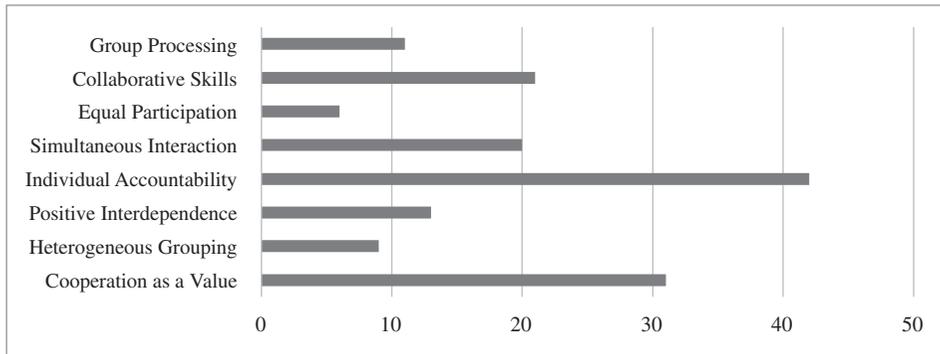


Figure 5 Frequency of each principle (Group 2: n = 27)

As seen in Figure 6, Group 3, the most positive group towards FMA in CL and EL, had an overall tendency towards accepting four principles as important factors during FMA but not the two principles of *heterogeneous grouping* and *equal participation*. According to this result, the key assumption to succeed in FMA is whether students can care about other group members “when they need help or want feedback” (Jacobs & Seow, 2015, p.31). On the other hand, both the variety of “fellow students” (p.30) and “equal opportunity” (p.32) to participate in the activity are considered as not so important matters. The low frequency of these two principles also appeared in the other two groups as in Figure 4 and 5 as well. Unfortunately, no interview data was available for this group.

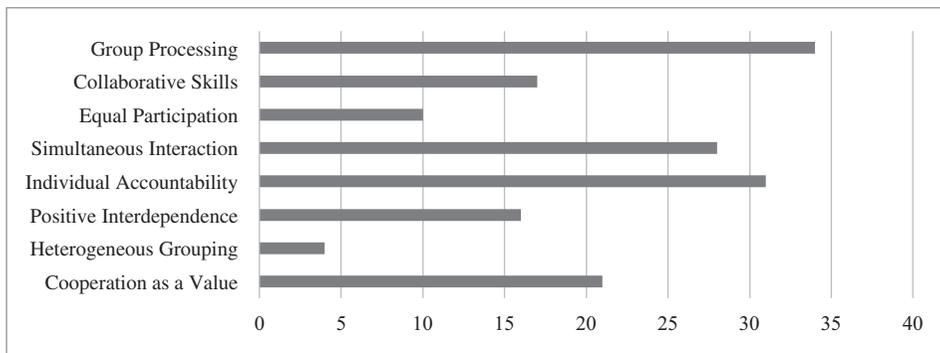


Figure 6 Frequency of each principle (Group 3: n = 16)

Each group was also related to students' interests and attitudes toward learning English as well. Overall, Japanese EFL students strongly believe that *individual accountability* and *simultaneous interaction* are the key factors for successful CLs in FMA, irrespective of which students belong to the group. At the same time, *heterogeneous grouping* and *equal participation* did not seem to matter in any of the groups, as shown in the results in Section 5.1.

In addition to these findings, *simultaneous interaction* was the strongest principle in Group 1, the two CL principles of *individual accountability* and *cooperation as a value* were valued highly in Group 2, and the four principles (esp. *group processing*), but not the two principles of *heterogeneous grouping* and *equal participation*, worked well in Group 3. These findings are more or less supported by the results from correspondence analysis based on the seven-point Likert scale post-questionnaires.

Since Group 1 and 2 were less successful than Group 3, there may be much to be learned from the results of these two groups when planning in the future syllabus for FMA. Also, based on the comments in the interviews, the syllabus design should include how each student can own and live up to the responsibility of his/her role in FMA. For instance, each student should be assigned a specific role in the first week; time-scheduling should be managed properly; the deadline should be kept for each task including the translation; active communication is recommended among the group members in and out of the class using SNS and other means. All of activities should be under the direction of the group leader and sub-leaders.

Finally, we found some comments applied to *competitiveness* which might be a new CL factor in FMA. For instance, a few students commented: "I was surprised when we watched the film created by X university. The quality of the film was far better than ours. Next time, I'll do my best to make a better film". While cooperation produces more positive outcomes than competition, there may be a condition in which the reverse of this assumption is true (Johnson & Johnson, 1999). Including the value of "intragroup competition" (Dörnyei, 2001) should be a topic for future study.

7. Concluding Remarks

The current study investigated how students tackled a project-based FMA from the CL theory viewpoint. Students were divided into three groups based on their profiles of CL principles in the post-questionnaire survey. The results revealed that participants in each group showed the differences in the degree and type of CL principles working in the activity, supported by analyses of their journal writings. Participants in each group also presented different interests and motivation toward English learning.

The main limitation of the current study is the small number of participants. Future research should thus investigate the effects of FMA on large numbers of Japanese EFL students at various

English levels. In addition to questionnaires and journals, interviews for every member should also be conducted to delve into student observations and emotional and motivational shifts during CL of FMA.

Also, we recommend that teachers who choose to try FMA have the knowledge and ability to appropriately guide the students during the shooting, editing and performing of the activity. Both verbal and non-verbal communication (e.g. pronunciation) are needed to guide the students.

Finally, one interesting observation meriting further work is the extent and nature of how *competitiveness* positively or negatively works in CL. This could shed light on whether FMA is (in)effective as one of the CL methods in an EFL setting, and under what circumstances. Overall, we strongly believe that the findings of this work would promote future studies in the relevant fields of CL, FMA and also Mobile Assisted Language Learning (MALL).

Acknowledgements

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Appendices

- 1 This study is my original paper extended from a presentation entitled “Motivating EFL students with project-based film-making activity: The Cooperative Learning Theory viewpoint” given at the conference of American Association of Applied Linguistics (AAAL) held in Atlanta, USA, on March 9-12, 2019.
- 2 The summary of each principle from Jacobs & Seow (2015, pp.30-33) is as follows: (1) *Heterogeneous grouping* “involves students forming CL groups with fellow students who are different from themselves” (p.30); (2) *Teaching collaborative skills* “means devoting class time for students to learn about and reflect on their use of collaborative skills” (p.31); (3) *Group autonomy* “encourages students to look first to their group mates when they need help or want feedback” (p.31); (4) *Maximum peer interaction* “encourages more student-student interactions and fewer teacher-student interactions, as students may be more active during student-student interactions” (p.32); (5) *Equal opportunity to participate* “is the CL principle that specifically addresses such situations” (p.32); (6) *Individual accountability* “puts pressure on members to do their fair share in the groups” (p.32); (7) *Positive Interdependence* “is the CL principle which most prominently encourages sharing among students” (p.33); and (8) *Cooperation as a Value* “builds on Positive Interdependence and seeks to spread the feeling of “One for all; all for one”” (p.33).
- 3 The post questionnaire items for FMA were as follows: 1. All members worked hard for a goal. 2. We all willingly helped the members in need. 3. Group members had a wide range of English skills respectively. 4. The character of members varied in personality and views. 5. It would not have been possible to get the task done by myself. 6. We had a strong relationship among group members. 7. It would not have been possible to achieve the goal without me. 8. Each member played a specific role. 9. We had a lot of

opportunities to meet each other for the task. 10. Networking services such as LINE and Google-group were utilized to communicate among members. 11. The frequency of participation of members was almost equal. 12. All members were actively involved in the task. 13. We shared our views with each other. 14. A conflict of ideas was properly handled in the group without spoiling the atmosphere. 15. There was advice from our teacher or others about how to work on the project. 16. We sometimes self-reviewed what we had been doing in group. 17. My confidence in English has increased through working on the project. 18. My understanding of English has increased through working on the project. 19. Barriers against English communication have been removed. 20. Interest in and motivation towards studying English have been enhanced. 21. I like the atmosphere in which we worked on the project. 22. Sense of barriers to using English has been reduced. 23. I now feel more enjoyment when studying English. 24. I now want to study English more. 25. I was able to learn how to edit films.

- 4 Oral interviews were also conducted with three students in 2017. Student A is categorized in Group 1 (24:12), Students B in Group 2 (13:57), and C in Group 2 (19:36). Since the interview was conducted soon after completing of the films, it was unknown at the time into which group the student would be categorized.
- 5 Frequency and ratio of CL principles in students' journals by week in each group are shown in the Figures 8-13 below.

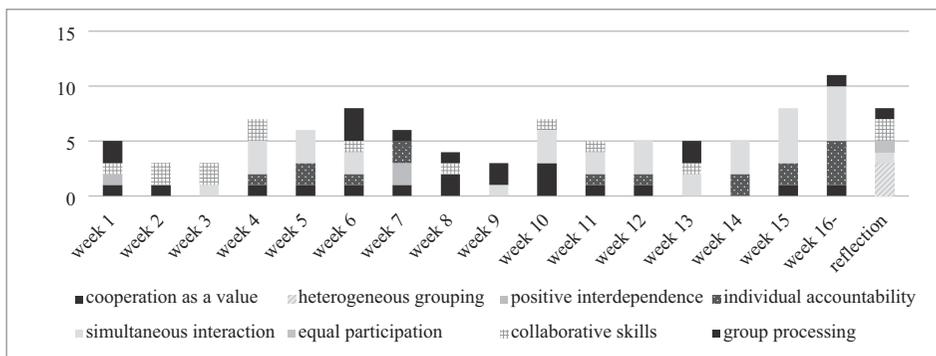


Figure 8 Frequency of CL principles in students' journal by week (Group 1)

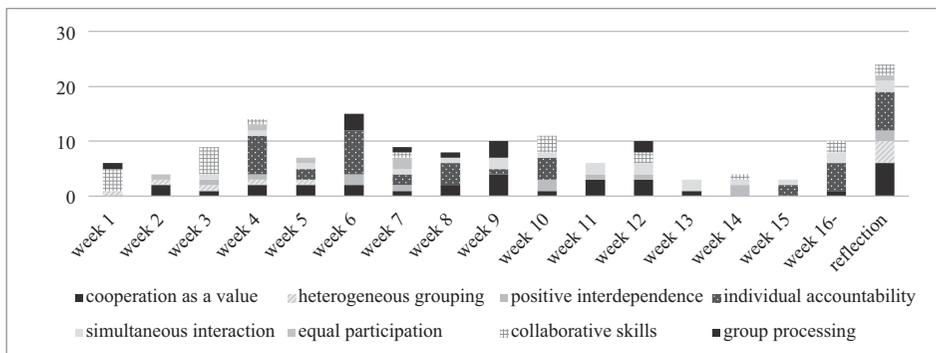


Figure 9 Frequency of CL principles in students' journal by week (Group 2)

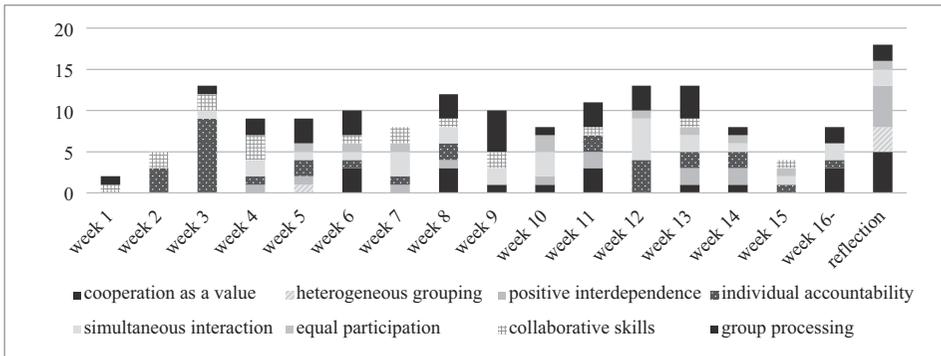


Figure 10 Frequency of CL principles in students' journal by week (Group 3)

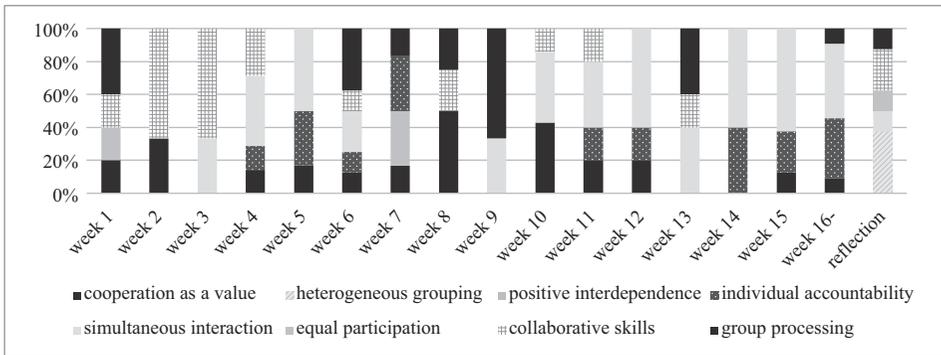


Figure 11 Ratio of CL principles in students' journal by week (Group 1)

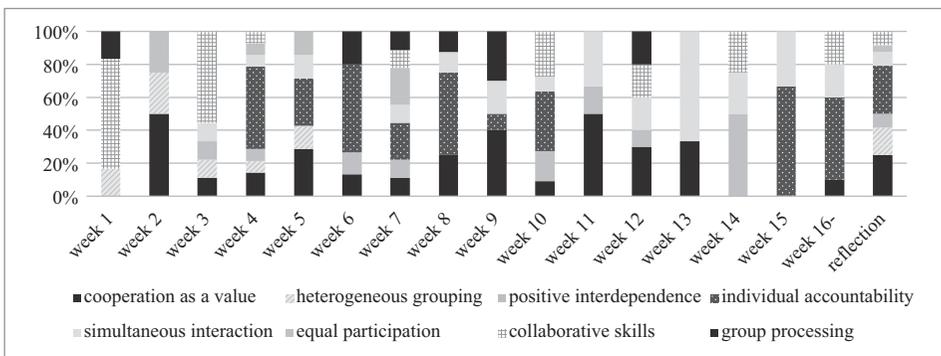


Figure 12 Ratio of CL principles in students' journal by week (Group 2)

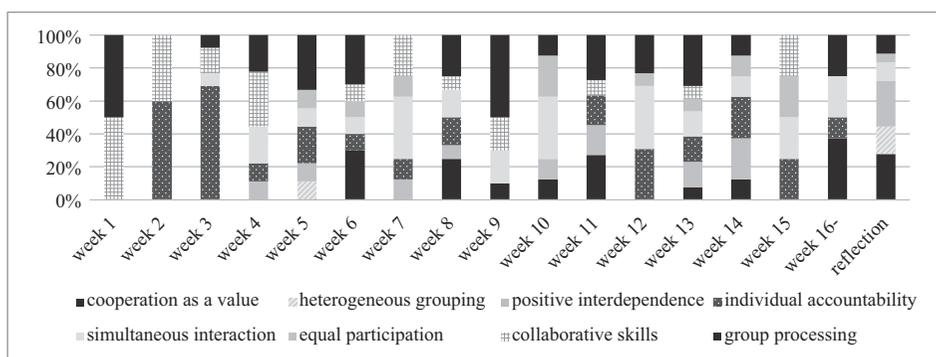


Figure 13 Ratio of CL principles in students' journal by week (Group 3)

6 As Clausen (1998) suggests, a vector direction rather than a position of samples and variables should be prioritized in the interpretation of a two-dimensional plot produced from a correspondence analysis.

References

- Carlin, G. (2004). Drama for pronunciation. *The Essential Teacher: Compleat Links 1*(5).
- Clausen, E. (1998). *Applied correspondence analysis*. SAGE.
- Dickson, P. S. (1989). Acting French: Drama techniques in the second language classroom. *The French Review* 63(2), 300–311.
- Dodson, S. L. (2000). FAQs: Learning languages through drama. *Texas Papers in Foreign Language Education* 5(1), 129–141.
- Dörnyei, Z. (2001). *Motivational strategies in the language classroom*. Cambridge: Cambridge University Press.
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative and mixed methodologies*. Oxford: Oxford University Press.
- Egbert, J., & Hanson-Smith, E. (2007). *CALL environments: Research practice and critical issues* (2nd ed.). Alexandria, VA: TESOL.
- Elgar, A. G. (2002). Student playwriting for language development. *ELT Journal* 56(1), 22-28.
- Heathcote, D., & Bolton, G. (1998). Teaching culture through drama. In M. Byram and M. Fleming (Eds.), *Language Learning in Intercultural Perspective: Approaches through Drama and Ethnography* (pp.158-177). Cambridge: Cambridge University Press.
- Hirromori, T., & Tanaka, H. (2006). Instructional intervention on motivating English learners: The Self-Determination Theory viewpoint. *Language Education and Technology*, 43, 111-126.
- Jacobs, G., Power, M., & Loh, W. (2002). *The teacher's sourcebook for cooperative learning: Practical techniques, basic principles, and frequently asked questions*. Thousand Oaks, CA: Corwin Press.
- Jacobs, G., & Seow, P. (2015). Cooperative learning principles enhance online interaction. *Journal of International and Comparative Education*, 4(1), 28-38.
- Johnson, D. W., & Johnson, R. T. (1999). *Learning together and alone: Cooperative, competitive, and individualistic learning* (5th ed.). Boston, MA: Allyn and Bacon.
- Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1991). *Cooperation in the classroom*. Edina, MN:

Interaction Book Company.

- Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1993). *Circle of learning: Cooperation in the classroom* (4th ed.). Interaction Book Company.
- Kagan, S. (1994). *Cooperative learning*. San Clemente, CA: Kagan Publishing.
- Maekawa, Y., & Yashima, T. (2012). Examining the effects of presentation-based instruction on Japanese engineering students' attitudes towards learning English. *JACET Kansai Journal*, 14, 17-28.
- MEXT (2014). English education reform plan corresponding to globalization. Retrieved from http://www.mext.go.jp/en/news/topics/detail/__icsFiles/afieldfile/2014/01/23/1343591_1.pdf.
- MEXT (2017). Overview of the Ministry of Education, Culture, Sports, Science and Technology. Retrieved from http://www.mext.go.jp/en/about/publication/__icsFiles/afieldfile/2017/02/15/1374478_001.pdf.
- Thomas, J. (2000). *A review of the research on project-based learning*. San Rafael, CA: The Autodesk Foundation.
- Tono, Y. (2016). How can CAN-DO be utilized for Japanese English education?, Lecture given at SIG for English Education Reform. Retrieved from http://www.shigaku.or.jp/training/special/h28/report_20161111.pdf.
- Yoshimura, M., Hiromori, T., Kirimura, R., & Nishina, Y. (2017). Motivating EFL students through the use of project-based cooperative learning. *ThaiTESOL Journal*, 30(1), 41-57.
- Yoshimura, M., Hiromori, T., Kirimura, R., & Nishina, Y. (2019). The Motivational Effects of a Project-based Film-making Activity Through Cooperative Learning. *JACET Kansai Journal*, 21, 23-44.