Online Collaborative Language Learning for Enhancing Learner Motivation and Classroom Engagement

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ABSTRACT

This study examines the impact of online collaborative English language learning to enhance learner motivation and classroom engagement in university English instruction. The role of learner motivation and classroom engagement has gained much attention under the premises of current constructivist framework of English as a foreign language education. To promote learner motivation and classroom interaction in English instruction, participants in this study engaged in integrative English learning activities through online group collaboration and peer-tutoring. They exchanged productive peer response and shared their learning experiences throughout the integrative English learning activities. Digital technology played an integral role in motivating the learning process of the participants. Data for this study were gathered through an online questionnaire survey and semi-structured interviews. The data were analyzed based on the ARCS motivational model of instructional design to identify the motivational aspects of integrative English learning activities. This study reveals that participants of this study regarded online collaborative English learning activities as the positive and motivating learning experience. The online collaborative English reading instruction had positive effect on improving EFL university students' learning performance. Participants of this study also identified affective and metacognitive benefits of online collaborative EFL learning activities for learner motivation and classroom engagement. This study reveals that the social networking platform in online group collaboration played a crucial role for the participants in understanding the integration of online group collaboration as the positive and effective language learning strategy. This study may have implications in suggesting the effective instructional design for promoting learner motivation and classroom interaction in EFL education.

Key words: *Online Collaborative Learning, ARCS Motivational Model, Learner Motivation, Classroom Engagement, EFL.*

1. INTRODUCTION

The development of various online learning management systems and interactive online tools such as social networking systems has made it possible for the teachers to implement new technological features into the traditional language classroom to enhance the motivation of language learners as well as group collaboration and the classroom interaction. The motivational benefits of collaborative and cooperative learning have gained much attention among educators in the second and foreign language education over the last several decades [1]. In the context of collaborative learning, group members bring together their own motivational beliefs, attitudes, and aspirations and these factors would play a leading role in their actual classroom performance in the group activity [2]. In this sense, collaborative learning is closely related to the concept of motivation for the success of the group learning. The

motivational and supportive language learning environment is based on the constructive learner relationship with each other as well as on the teacher's encouraging rapport with their students.

Collaborative learning activities through online communication can bring more dynamic classroom interaction, which motivates the improvement of language learning as well as learning of concepts and contents [3]. The concept of the group as an effective mutual learning community has a prevailing influence on its group members' successful learning experience.

Students can engage in the classroom activities best when they are learning by teaching their knowledge to their group members. They can also learn best by joining collaborative group activities in which they can learn from their peers [4]. Therefore, fostering positive group dynamics can be surely relevant to promoting motivational condition in classrooms. Two aspects that can influence motivational group dynamics can be defined as group cohesiveness and group norms [5]. Maintaining a cohesive learning group and creating affirmative learning-oriented group norms can greatly contribute to group motivation and eventually to the learning success of the individual member of the group.

The development of information and communication technology (ICT) has been also closely connected with collaborative learning. Implementing information and communication technology into the collaborative learning method can be effective instructional strategies to supplement limitations of traditional curriculum [6]. In other words, incorporating information and communication technology into the collaborative learning process is regarded to be one of the most effective teaching methods that can cultivate learning motivation while enhancing the learning goals and satisfying the needs of learners in the digital era.

This study attempts to examine how implementing online collaborative learning with integrative English learning activities can nurture learner motivation and foster Korean university students' language learning experience in EFL instruction. The research questions of this study are as follows.

First, can the implementation of online collaborative learning with integrative English learning activities into university EFL reading instruction help develop students' English performance?

Second, does online collaborative English learning activities have positive effects on the learner motivation, satisfaction, interest and self-confidence?

2. RELATED RESEARCH

2.1 The role of online collaboration in language learning

With the facilitation of new digital technologies, educators have tried to provide language learners with the effective online learning platform through which learners can join groups, experience collaboration, and solve problems [7], [8]. Recently, research on collaborative learning has increased dramatically owing to the influence of constructivistic social dimension of learning in EFL education. In the context of social constructivism, learners would support the learning performance each other. Especially in the web-based online environment, mutual assistance with linguistic and strategic information could lead to the positive perception of collaboration among the learning community [9]. According to some research, learners collaborating with other students tended to retain more affirmative perceptions and appreciate the value of online based mutual learning activities because they could feel more connected to each other or be more likely to feel a sense of belonging into the same learning community [10]. The language learning outcomes of collaborative learning activities would be influenced by the degree to which collaborative learning groups actually take part in dynamic classroom interactions such as explaining, discussing, negotiating, and mutual tutoring [11]. An important way of ensuring that language learners can take part in productive collaboration is to guide them to engage in meaningful interactions.

Designing and applying new kinds of online language learning activities reinforced by new digital technologies is an interconnected classroom practice that promotes instructional innovation for educational technology instructors and researchers [12]. Hence, to develop successful collaborative language learning context and activities, collaborative learning should be supported by appropriate scaffolding whether the case is a face-to-face classroom interactional experience or a collaborative online learning setting. Some researchers have envisioned the pedagogical development of prototypical models for the online collaborative classroom learning activities supported by mobile devices, which has aimed to boost learner motivation, classroom participation, autonomous and active learning, and collaborative interdependence [13], [14]. Collaborative effort among the group members can lessen the intellectual burden caused by the limited working memory and help the learning process. The collective cognitive knowledge and affective aspects of cooperative activities help the language learners to construct higher level of schemata in their meaningful learning. This learning experience can boost the positive impact on retaining the in-depth knowledge for accomplishing the given tasks. In the process, language learners can promote their metacognitive learning strategies by planning, monitoring, and self-evaluating their learning outcome. Figure 1 shows the basic components and conditions upon which the pedagogical design of online collaborative learning is formulated as follows.
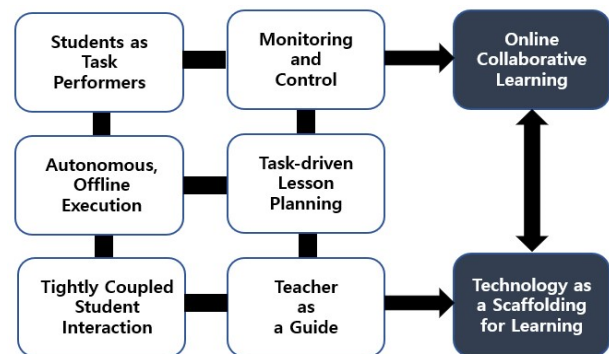

Fig. 1. Components of online collaborative learning

As task performers, the roles of learners are imperative because they are responsible for their own language learning while engaging in the online collaboration within the group. To complete the given learning tasks, learners are required to work collaboratively as well as individually [13]. Appropriate physical environment such as Internet access should be provided since the technical failure should not hinder language learners from performing classroom learning activities [15]. Since collaborative language learning activities involve the coordinated support from other students within the groups in accomplishing the shared learning objectives, group member's practices could interactively influence the learning outcomes. Therefore, the collaborative online instructional design should be integrated while educators consider the technological scaffolds as a means for implementing the efficient classroom procedures, coordinating the group members' roles, supervising allocation of participation and providing the learners with their reciprocal learning community [7]. Online collaborative social interaction encourages learners within the same group to understand or appreciate other group members from the new perspective, so they can be more likely to participate in productive and meaningful process of language learning [16], [17].

2.2 The role of learner motivation in language learning

Recently, research on collaborative learning has increased dramatically thanks to the influence of social constructivist perspectives in the second and foreign language educational field, compared to competitive and individualistic classroom learning tasks of traditional learning. In the context of collaborative learning, each member brings together their own motivational beliefs, attitudes, and aspirations and that these factors would play a foremost role in their actual performance in the group activity [2]. This paradigm has led to solid notional and empirical support for the motivational advantages in cooperative learning [18]. Students with strong motivational orientation can engage in the productive learning performance through collaborative interactions and can share meaningful social interaction [19]. To promote motivational teaching practice in the second and foreign language education, four motivational factors should be maintained: building the primary motivational conditions, creating initial motivation, retaining and keeping motivation, and boosting affirmative reflective self-evaluation [5]. Creating a cohesive learner group is imperative for successful collaborative and motivational teaching practice because the success of shared learning tasks entirely depends on group members' commitment to the group collaboration [2]. In turn, motivational factors of group members can influence cohesive and collaborative group spirit. Figure 2 shows the four interrelated factors of motivational teaching practice in the language learning classroom.
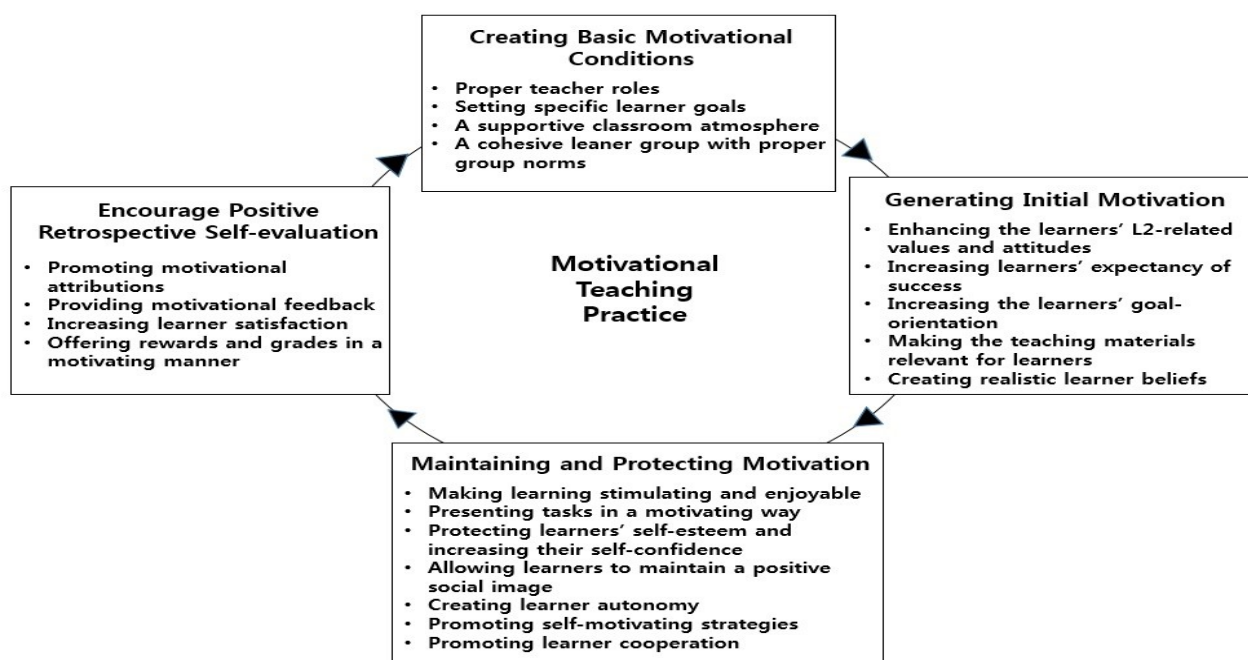

Fig. 2. Components of motivational teaching practice in the L2 classroom

The components of motivational instruction design can be categorized into four subcategories. The first factor to foster motivation is to maintain learner attention by utilizing learning materials appealing to the target students. The next feature is to integrate instructional techniques and strategies relevant to the needs and interests of the learners. It is also imperative to encourage learner confidence by offering clear course goals and inspiring positive self-attribution for success. Learner motivation can be promoted if the results of the learner efforts match their expectation and the learners are satisfied with the results [20]. Compared to the conventional learning methods, which is based on teacher-centered learning model, collaborative learning methods through promoting social interaction among students have some advantages. Meaningful classroom interaction has affirmative impact on overall English language improvement of EFL learners [21]. Due to the increasing interests in adopting collaborative learning methods in EFL education, there have been a lot of research results which introduced the implementation of such techniques in the classroom teaching practice. Some researchers stated that collaborative learning had great effect on promoting EFL learners' linguistic skills as well as improving their learning attitudes and motivation [22]. Integrative English learning activities such as Jigsaw activity was an integrative instructional technique that could maximize the interactive concepts of collaborative learning [23]. Integrative English reading activities are regarded as a type of learning technique that can cultivate individual responsibility in the learning process. Integrative English reading activities are effective classroom teaching techniques to achieve the instructional goals. Teachers allocate learners into small groups with diverse members and assign them particular tasks about the classroom learning activities on each student. As the peer-tutoring tasks, each student is required to help other group members as a peer tutor and in turn, vice versa. Researchers suggested the vital components of collaboration in integrative English learning activities and categorized these factors into six key components: positive interdependence, group processing, equal opportunity for success, equal participation, promotive interaction, and individual accountability [24], [25].

The integrative English learning activities is based on collaboration among the learners, so equal participation is a significant component for positive interdependence and individual accountability [26]. Positive interdependence and individual accountability help learners strive for equal opportunity for success through group processing and supportive classroom interaction. The sense of positive interdependence and individual accountability can support motivational and affective features in students' learning and self-growth [24], [25]. The collaborative learning experiences encourage learners to appreciate the values of shared learning group. The features of collaborative learning activities can enhance the essential instructional goals that contribute to cultivating students' metacognitive, cognitive, strategic awareness in learning languages and contents while engaging in peer tutoring in the small group. In this collaborative pedagogical approach, the relationship between learners and teachers can be also dynamic and interactive, which together leads to building up an intimate and interactive classroom atmosphere [1]. Among motivational design teaching models that promote learner motivation and classroom engagement, Keller's ARCS model is recognized as the most systematic and easy to apply model. The ARCS model divides the learner's motivational characteristics into four categories: attention, relevance, confidence, and satisfaction. Under each category, there are sub-categories, providing a basic framework to show the systematic features of motivational strategies in the instructional design process [20]. Figure 3 shows the components of ARCS motivational instruction design for collaborative language learning.
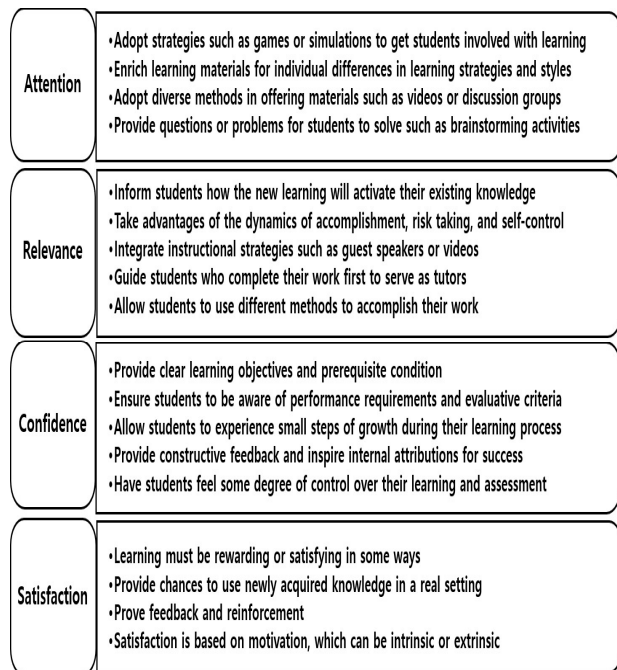

Attention
- Adopt strategies such as games or simulations to get students involved with learning
- Enrich learning materials for individual differences in learning strategies and styles
- Adopt diverse methods in offering materials such as videos or discussion groups
- Provide questions or problems for students to solve such as brainstorming activities

Relevance
- Inform students how the new learning will activate their existing knowledge
- Take advantages of the dynamics of accomplishment, risk taking, and self-control
- Integrate instructional strategies such as guest speakers or videos
- Guide students who complete their work first to serve as tutors
- Allow students to use different methods to accomplish their work

Confidence
- Provide clear learning objectives and prerequisite condition
- Ensure students to be aware of performance requirements and evaluative criteria
- Allow students to experience small steps of growth during their learning process
- Provide constructive feedback and inspire internal attributions for success
- Have students feel some degree of control over their learning and assessment

Satisfaction
- Learning must be rewarding or satisfying in some ways
- Provide chances to use newly acquired knowledge in a real setting
- Prove feedback and reinforcement
- Satisfaction is based on motivation, which can be intrinsic or extrinsic

Fig. 3. Components of motivational instruction design

3. RESEARCH CONTEXT AND METHOD

3.1 Research context

The participants involved in this research were 64 Korean university students in the middle part of Korea. The participants took this course as a requisite English course and all of the participants were freshmen. The focus of this course learning objectives was to promote university students' English communicative competence through the integrative language instruction using online collaborative English learning activities. The course was a three-credit compulsory course over the 15 week period during the semester. The majors of the participants of this study were diverse such as Food science, Life science, Christian Studies, Creative writing, English Language Literature, Foreign Language Literature, and Philosophy Counselling. Table 1 shows the information about the participants for this study.

Table 1. Participants of the study by majors

Majors	Respondents (N)	Respondents (%)
Food science	14	21.9
Life science	17	26.6
Christian Studies	4	6.3
Creative writing	9	14
English Language Literature	10	15.6
Foreign Language Literature	5	7.8
Philosophy Counselling	5	7.8
Total	64	100

According to the scores they gained in the placement test before the semester, the English proficiency level of the participants was low intermediate. which was almost at the same level among the participants in terms of English academic abilities. As integrative English reading activities, participants of this study were engaged in integrative collaborative English learning activities such as a Jigsaw activity or an information gap activity during the class time. They exchanged productive peer-feedback from each other and shared learning experiences throughout the group interaction. Digital technology along with the course management system was also utilized as an effective learning management tool for sharing and uploading learning outcome, which also took an important part to motivate the learning process.

3.2 Data collection and procedures

The data of this study were collected through online questionnaire survey and semi-structured focus group interviews. Among the 64 participants, 57 students took part in the online questionnaire, so 7 students who did not respond to the survey were excluded from the data analysis for this study. The collected data were analyzed based on the ARCS motivational model of instructional design such as attention, relevance, confidence, and satisfaction [20]. The questionnaire survey consisted of 15 items; 9 items with five Likert-scales (1 for highly disagree and 5 for highly agree), 3 multiple choice items and 3 open-ended items. The classroom instructional implementation of integrative English reading activities was divided according to the different collaborative steps: Learning

by motivating (Attention), Learning by sharing (Relevance), earning by teaching (Confidence), and Learning by interacting (Satisfaction). After taking part in three in-class collaborative learning stages, the participants of this study were given opportunities to get involved in online collaborative English learning activities such as completing the collaborative summary tasks through Google docs, uploading the voice recording on Kakao Talk and exchanging feedback each other, and engaging in the group tasks on the course management system provided by the coursebook publisher and the university. Table 2 displays the collaborative learning stages according the motivational instructional procedures.

Table 2. Stages of motivational instructional procedures

Stages	Motivational Instructional Design
Collaborative Learning Stage 1	*Attention: Learning by motivating* -Performing home group pre-activities -Create the interests about the topic -Activate the schema -Provide key vocabularies
Collaborative Learning Stage 2	*Relevance: Learning by sharing* -Performing expert group activities -Working to set up collective intelligence -Building interdependence to complete the collaborative tasks -Foster individual accountability
Collaborative Learning Stage 3	*Confidence: Learning by teaching* -Performing group reconvening activities -Engaging in the peer-tutoring activities -Building autonomy and responsibility through learning by tutoring other group members -Review the grammar points from the task
Collaborative Learning Stage 4	*Satisfaction: Learning by interacting* -Performing online collaborative tasks -Completing collaborative summary using Google online documents -Uploading voice talk recording and exchanging feedback each other -Reflecting on the tasks and self-evaluating

4. RESULT AND DISCUSSION

This research revealed that participants of this study regarded the collaborative language learning activities using online collaboration as the positive and motivating learning experience. The collaborative language learning experience based on the ARCS motivational model had positive effect on improving the accomplishment of EFL university students' language learning. According to the data from the questionnaire survey, most of the participants of this study thought they needed to improve their English knowledge in terms of English sentence structure (75.4%), English vocabulary (71.9%), English grammar (47.4%), and background knowledge for topics. The motives that the participants took this English course were diverse: to fill the mandatory requirement for graduation (52.6%), to improve English skills (38.6%), to

prepare job market (5.3%), to get help for their major subject (5.3%), and to prepare English proficiency test (8.8%). This data shows that the participants had no intrinsic motivation to study English other than extrinsic motivation. Table 3 displays the basic statistical data about students' response from the questionnaire survey based on the ARCS motivational model.

Table 3. Basic statistics of the questionnaire based on ARCS motivational model.

	Category	Mean	SD
Attention	I think that online collaborative learning has made me more interested in learning English.	3.86	1.01
	I think that online collaborative learning activities are motivating.	4.02	0.69
Relevance	I think that online collaborative learning has helped build the positive learning atmosphere.	4.04	0.79
	I think that online collaborative learning is engaging.	3.42	0.82
Confidence	I think that online collaborative learning has allowed me to study English with a more responsible attitude.	4.16	0.75
	I think that teaching my peers through collaborative activities has helped me improve my English skills.	3.65	0.88
Satisfaction	I think collaborative learning activities of this semester are appropriate for my level of English.	3.79	0.88
	I think learning from my peers through online collaborative learning has helped me improve my English skills.	3.35	0.88

According to the research results, most of the participants of this study showed insecure attitude toward their English proficiency level at the beginning stage of the semester. Among the participants, only 7% of the students responded that they thought their English proficiency level was good. This result showed that it was important to implement collaborative language learning activities using ARCS motivational strategies in this English course to enhance and sustain learners' motivation and interest. Figure 4 shows the participants confidence level for their general English proficiency.
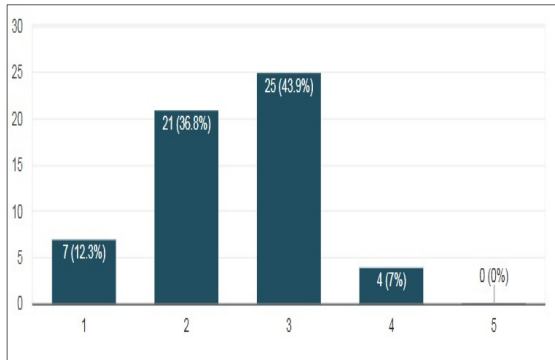
Fig. 4. Confidence level for students' English proficiency

According to the participants, 80.7 % of the students responded that they could realize the importance of individual accountability for the successful completion of the collaborative language learning activities for the course. Figure 5 shows the participants' response about the individual accountability in the online group collaboration and classroom interaction.
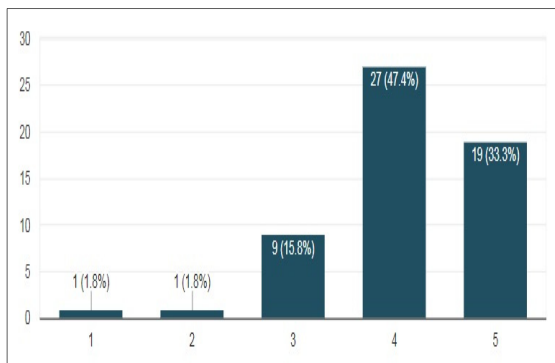

Fig. 5. Individual accountability in the group collaboration

After engaging in integrative English learning activity through online group collaboration and in-class peer-tutoring activities, participants responded that they could appreciate the value of their reciprocal learning community. They could understand that individual accountability and positive interdependence actually helped them strive for equal opportunity for success through group processing and supportive classroom interaction. Some of the participants responded,

> I felt more involved in the class with the responsibility of teaching the group members. As I study English through online collaboration, I think my English is improving. (Data from open-ended questionnaire)

> We learned how to take responsibility in our own learning. We could focus on our study because we were well aware of that my successful task completion could affect my peer's successful learning, and vice versa. (Data from semi-structured interview)

This result confirmed the previous research result that the sense of positive interdependence and individual accountability could support motivational and affective features in students' learning and self-growth [24], [25].

Among the participants, 77.2 % of the students responded that online collaborative learning activities could nurture their language learning and promote classroom interaction and good relationship. Figure 6 shows the participants response about the effect of collaborative learning activities on online group collaboration and classroom interaction.
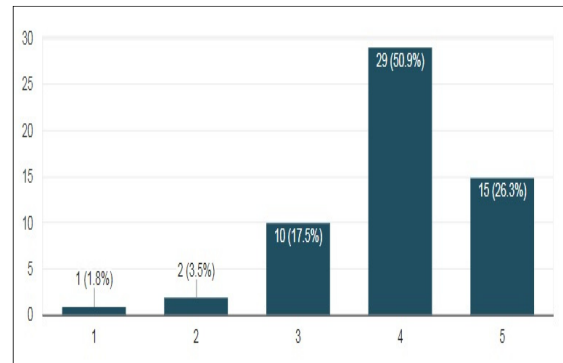

Fig. 6. The effect of online collaborative learning on classroom interaction

Students of this study responded that they felt less isolated by actively interacting and actively participating in the collaborative language learning activities. The atmosphere of caring and encouraging peers had a positive effect on reducing their learning anxiety and enhancing their learning. Some of the participants responded,

> It was great to have a chance to get to know group members through group learning activities. If I had studied alone, there would have been some difficult parts, but it was good to be able to study well in a group activity because I worked together with the help of the other group members in a group activity. (Data from open-ended questionnaire)

> It is wonderful to be able to study in a comfortable atmosphere while talking with people who match their own level, and it is also good that the level of online collaborative learning activities is not challenging thanks to the collaborative learning experience. Since there are only a few members, I can talk in an interactive manner. I feel less distressed. (Data from semi-structured interview)

This result confirmed the previous research result that students with strong motivational orientation can engage in the productive learning performance through collaborative interactions and can have meaningful collaborative learning experience [19], [27].

According to the response of the participants, 75.5 % of the students responded that the integrative English learning activities through online collaboration and reciprocal tutoring could help them motivated to study English with eagerness and

willingness for their successful group learning. This result confirmed other research result that creating a cohesive learner group was imperative for successful and motivational teaching practice because the success of shared learning tasks entirely depended on group members' commitment to the group collaboration [2], [28]. In turn, motivational factors of group members could influence cohesive and collaborative group spirit. Figure 7 shows the participants' response about the motivating features of online collaborative English learning activities.
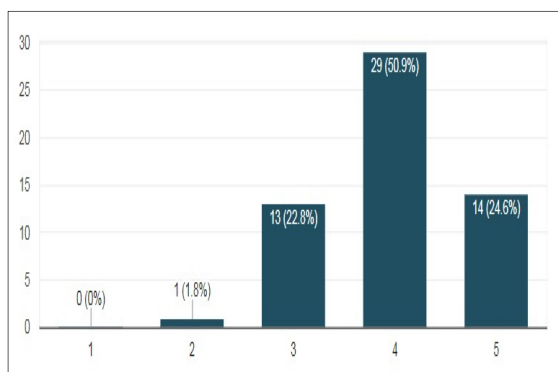

Fig. 7. Motivating features of online collaborative learning

The integrative English learning instruction through online collaboration and peer-tutoring had positive effect on improving the accomplishment of EFL university students' learning performance. The motivational level of the participants was also significantly developed. For the open-ended questionnaire items and interview, some of the participants responded,

> I had less time to study on my own when the instructor alone gave all the lectures during the whole class time. Through group activities, I could develop more confidence in self-initiated learning. (Data from open-ended questionnaire)

> This class was never boring because I could collaborate with my group members to complete the integrative English learning tasks in and out of the classroom. I could acquire a lot of new vocabulary and spend my study time more efficiently. (Data from semi-structured interview)

Participants of this study also identified metacognitive, affective, strategic benefits of motivation and classroom engagement for their EFL learning. This result confirmed the previous research result that the relationship among learners and teachers through the collaborative pedagogical approach could be also dynamic and interactive, which together led to building up an intimate and positive classroom atmosphere [1].

5. CONCLUSION

This study investigated university students' learning experience and their viewpoint toward the roles of online collaborative learning to enhance learner motivation and classroom engagement for their English learning. Participants of this study took part in online collaborative language learning activities, exchanged productive peer response each other, and shared their learning experiences throughout the integrative English learning activities. The result was analyzed based on the ARCS motivational model of instructional design to find out the motivational aspects in integrative English learning activities using online collaboration.

This research discovered that participants of this study considered online collaborative English language learning activities as the encouraging and motivating learning experience. The integrative English learning instruction using online collaboration and mutual peer-teaching had affirmative effect on supporting the achievement of EFL university students' learning performance. Participants of this study responded that they had positive perspectives to the collaborative language learning process of this course. The results of this study revealed that the integration of online collaborative language learning enhanced the self-directed learning, decreased learner anxiety and increased students' confidence in their learning process. Participants of this study also acknowledged the affective and metacognitive benefits of motivation and classroom engagement for their study in their EFL learning through their learning experience. The feedback of the participants also revealed that the motivational level of the students was also meaningfully improved. This study may have implication to suggest the effective pedagogical strategy for promoting learner motivation and classroom engagement through the use of online collaborative instructional design for university EFL education.

REFERENCES

[1] J. Meng, "Jigsaw Cooperative Learning in English Reading," Journal of Language Teaching and Research, vol. 1, no. 4, 2010, pp. 501-504. doi: 10.4304/jltr.1.4.501-504

[2] S. Järvelä, S Volet, and H. Järvenoja, "Research on Motivation in Collaborative Learning: Moving Beyond the Cognitive–situative Divide and Combining Individual and Social Processes," Educational Psychologist, vol. 45, no. 1, 2010, pp. 15-27. doi: 10.1080/00461520903433539

[3] P. Dillenbourg and D. Traum, "Sharing solutions: Persistence and grounding in multi-modal collaborative problem solving," Journal of the Learning Sciences, vol. 15, 2006, pp. 121-151. doi: 10.1207/s15327809jls1501_9

[4] T. Iiskala, M. Vauras, and E. Lehtinen, "Socially-shared metacognition in peer learning," Hellenic Journal of Psychology, vol. 1, 2004, pp. 147-178. doi: https://doi.org/10.14786/flr.v3i1.159

[5] Z. Dörnyei, *Motivational strategies in the Language Classroom*, Cambridge: Cambridge University Press, 2001.

[6] H. Salovaara and S. Järvelä, "Students' strategic actions in computer-supported collaborative learning," Learning Environments Research, vol. 6, 2003, pp. 267-285. doi: https://doi.org/10.1023/A:1027379824485

[7] M. Nussbaum, F. Gomez, J. Mena, P. Imbarack, A. Torres, M. Singer, and M. E. Mora, "Technology-supported face-to-face small group collaborative formative assessment and its integration in the classroom," In *Innovation in Educational Psychology: Perspectives on Learning, Teaching and Human Development*, Springer, New York, 2010, pp. 295-323.

[8] P. Mulholland, T. Collins, M. Gaved, M. Wright, M. Sharples, C. Greenhalgh, C. Kerawalla, E. Scanlon, and K. Littleton, "Activity guide: an approach to scripting inquiry learning," International Workshop on Intelligent Support for Exploratory Environments at AIED 2009, Brighton, UK, 2009.

[9] G. Kessler, D. Bikowski, and J. Boggs, "Collaborative writing among second language learners in academic web-based projects," Language Learning & Technology, vol. 16, no. 1, 2012, pp. 91-109. doi: http://dx.doi.org/10125/44276

[10] C. Kennedy and T. Miceli, "In piazza online: Exploring the use of wikis with beginner foreign language learners," Computer Assisted Language Learning, vol. 26, no. 5, 2013, pp. 389-411. doi: 10.1080/09588221.2013.770035

[11] P. Dillenbourg, S. Jarvela, and Fischer, "The evolution of research on computer-supported collaborative learning," In N. Balacheff, S. Ludvigsen, T. Jong, A. Lazonder, and S. Barnes (Eds.), *Technology-Enhanced Learning*, Springer, Netherlands, 2009, pp. 3-19.

[12] D. Spikol, M. Milrad, H. Maldonado, and R. Pea, "Integrating co-design practices into the development of mobile science collaboratories," Proceedings of the Ninth IEEE International Conference on Advanced Learning Technologies, 2009, pp. 393-397. doi: https://doi.org/10.1109/ICALT.2009.175

[13] J. Roschelle, K. Rafanan, G. Estrella, M. Nussbaum, and S. Claro, "From handheld collaborative tool to effective classroom module: embedding CSCL in a broader design framework," Computers & Education, vol. 55, no. 3, 2010, pp.1018-1026. doi: 10.1016/j.compedu.2010.04.012

[14] C. Alvarez, R. Alarcon, and M. Nussbaum, "Implementing collaborative learning activities in the classroom supported by one-to-one mobile computing: A design-based process," The Journal of Systems and Software, vol. 84, 2011, pp. 1961-1976. doi: https://doi.org/10.1016/j.jss.2011.07.011

[15] G. Zurita and M. Nussbaum, "Computer supported collaborative learning using wirelessly interconnected handheld computers," Computers and Education, vol. 42, no. 3, 2004, pp. 289-314. doi: 10.1016/j.compedu.2003.08.005

[16] P. S. Tsai and C. C. Tsai, "College students' experience of online argumentation: Conceptions, approaches and the conditions of using question prompts," Internet and Higher Education, vol. 17, 2013, pp. 38-47. doi: https://doi.org/10.1016/j.iheduc.2012.10.001

[17] N. Storch, "Collaborative writing: Product, process and students' reflection," Journal of Second Language Writing, vol. 14, 2005. pp. 153-173. doi: https://doi.org/10.1016/j.jslw.2005.05.002

[18] N. M. Webb, K. M. Nemer, and M. Ing, "Small-group reflections: Parallels between teacher discourse and student behaviour in peer-directed groups," Journal of the Leaning Sciences, vol. 15, no. 1, 2006, pp. 63-119. doi: https://doi.org/10.1207/s15327809jls1501_8

[19] C. Van Boxtel, J. van der Linden, and G. Kanselaar, "Collaborative learning tasks and the elaboration of conceptual knowledge," Learning and Instruction, vol. 10, 2000, pp. 311-330. doi: 10.1016/S0959-4752(00)00002-5

[20] J. M. Keller, "Development and use of the ARCS model of instructional design," Journal of instructional development, vol. 10, no. 3, 1987, pp. 2-10.

[21] A. Mackey, *The Conversational Interaction in Second Language Acquisition*, Oxford: Oxford University Press, 2007.

[22] H. C. Liao, "Cooperative learning and EFL education: The past, the present, and the future," Journal of National Taichung University: Humanities & Arts, vol. 23, no. 2, 2009, pp. 87-108.

[23] M. Kazemi, "The Effect of Jigsaw Technique on the Learners' Reading achievement: The Case of English as L2," MJAK, vol. 4, no. 3, 2012, pp. 170-184. doi: 10.24093/awej/vol7no1.27

[24] J. Cooper and P. Robinson, "Small-group instruction in science, mathematics, engineering and technology," Journal of College Science Teaching, 1998, pp. 1-12. Retrieved from http://archive.wceruw.org/cl1/cl/resource/smallgrp.pdf

[25] D. W. Johnson, R. T. Johnson, and E. J. Holubec, *Cooperation in the Classroom (7th ed.)*, Edina, MN: Interaction Book Company, 1998.

[26] F. Pattanpichet, "The effects of using collaborative learning to enhance students' English speaking achievement," Journal of College Teaching & Learning, vol. 8, no. 11, 2011, pp. 1-10. doi: https://doi.org/10.19030/tlc.v8i11.6502

[27] K. O. Jeong, "Integrating a web-based platform to promote creativity and authenticity in language classrooms," International Journal of Knowledge and Learning, vol. 11, no. 2/3, 2016, pp. 127-136. doi: https://doi.org/10.1504/IJKL.2016.079752

[28] H. Kwon, K. Chang, Y. Kim, B. C. Lee, and Y. J. Jeon, "Factors for Successful Implementation of Extensive Reading Program Using Online/Offline Blended English Library System in Schools," International Journal of Contents, vol.13, no.4, 2017, pp. 63-69. doi: https://doi.org/10.5392/IJoC.2017.13.4.063

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