Why Does Collaborative Learning Scaffold the Regulation of Out-of-Class Individual Learning?

研究論文

Why Does Collaborative Learning Scaffold the Regulation of Out-of-Class Individual Learning?

自律学習への足場としての協働学習：要因探索の試み

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授業で実施される協働学習は、授業外の個別学習を習慣化する足場になりうるとの研究報告が見られる。本研究は、その理由を探った予備的研究である。データは、日本の大学生英語学習者 33 名を対象に、全 12 回の協働学習後に自由記述アンケートを実施して収集した。記述をコーディング、カテゴリー化して分析した結果、7 種類の理由が浮き彫りとなった。また、それらを協働学習の 2 要素（互恵的相互依存および個人の責任）に照らし合わせると、互恵的相互依存に該当する理由が大半を占めることが明らかとなった。

キーワード
協働学習、足場、互恵的相互依存、個人の責任、自律学習

1．Introduction and Overview

Most successful language learners are said to attribute a significant portion of their success to their pursuit of learning beyond the classroom（e.g., Takeuchi, 2003）. This entails using a variety of strategies such as setting goals and fully utilizing resources like radio, film, books, magazines, newspapers, computer software, and the Internet – in addition to reflecting on and revising one's study habits when necessary. Indeed, the effectiveness of such approaches has been established in many empirical studies（e.g., Cohen & Macaro, 2007; O'Malley & Chamot, 1990; Oxford, 1990）. Consequently, strategy interventions have been conducted worldwide and their efficacy has been verified repeatedly（Cohen & Macaro, 2007; Ikeda, 2007; Oxford, 2011）.

In contrast, many students lack the initiative to learn autonomously; some individuals request for private sessions with teachers so that they can study relentlessly（Ikeda, 2008）. Others make use of online learning resources, but quickly abandon them due to distrust（Ueki & Takeuchi, 2012）; these individuals believe that the most reliable learning materials are those selected by instructors. In other words, they lack self-confidence in their ability to take control

of a part of their learning path — a key component of learner autonomy（vanLier, 1996）.

A commonality among these unsuccessful learners is their inability to continue studying a language beyond classroom's walls. Continuity of learning is indispensable especially in mastering a foreign language, as opportunities to use the target language need to be procured when daily opportunities is scarce. For successful out-of-class learning to occur, many learners can benefit from scaffolding, a mechanism that allows one to seize responsibility over his or her learning and regulate it.

Ikeda（2011）highlights the effectiveness of in-class collaborative learning as a form of scaffolding. Her study examined 132 Japanese EFL students at the university level to determine how collaborative learning affected their out-of-class studies. The results revealed that in-class collaborative learning prompted them to come to class prepared（4.20 out of 5 in the questionnaire）; in other words, in-class collaborative learning regulated the students' individual learning beyond the classroom.

Collaborative learning is "the instructional use of small groups so that students work together to maximize their own and each other's learning"（Johnson, Johnson, & Holubec, 1993, p. 6）. The term "collaborative" is synonymous with "cooperative" according to some researchers（McCafferty, Jacobs, & Iddings, 2006）, although they differ in establishing the extent of teachers' control and of students' responsibilities. In cooperative learning, teachers exert the greatest influence over goal setting, group formation, and the procedural components of group activities; in collaborative learning, however, the opposite is true（Dooly, 2008）. Consequently, Romney（1997）asserts that cooperative and collaborative learning are best suited for secondary school and university contexts respectively.

Collaborative and/or cooperative learning is based on two basic principles, i.e., positive interdependence and individual accountability（McCafferty, Jacobs, & Iddings, 2006）. Positive interdependence is the perception that one group member's contribution can help the whole and that members depend on each other to accomplish a goal（Johnson, Johnson, & Holubec, 1993）. One member's question can be answered through discussion with or the assistance of other members, since when individuals collaborate a variety of resources become available to the group. In addition to ample resources, learners can receive reassurance and support from other group members, which contributes to learner self-confidence. In these contexts, positive interdependence can be of both a cognitive and emotional nature（Murphey, Falout, Fukuda, & Fukuda, 2012）.

On the other hand, individual accountability, the other basic principle of collaborative learning, means that individual members are responsible for the completion of an activity

（McCafferty, Jacobs, & Iddings, 2006）. Hence, the degree of success depends on each member's efforts and meaningful participation; if one member is not collaborative and contributes little to the group, the activity's goal cannot be reached and learning does not occur. McCafferty, Jacobs and Iddings（2006）provide a good example of an activity that does NOT involve individual accountability: an assignment in which a whole group works together to write one composition. In this scenario, "the best writer in the group might do all the writing, while the other members are off task"（p. 5）.

Many prior studies have empirically proven the effectiveness of collaborative learning（e.g., Baleghizadeh & Timcheh-Memar, 2011; McCormick & Donato, 2000; Nassaji & Swain, 2000）. However, its effectiveness was shown in relation to learners' affective aspects and for the completion of a single task, such as a composition or speaking activity（Agawa, 2012）. Few studies have corroborated the effectiveness of collaborative learning at the metacognitive level, although McCormick and Donato's（2000）work is one of the notable exceptions, which demonstrated that comprehension could be facilitated through interactive scaffolding. In another exception by Ohta（1995）, a learner gained the ability to self-correct his/her own speech through interactions with a peer. Nevertheless, these aforementioned studies merely reiterate the effectiveness of collaboration at the micro level through the completion of a single task, not in the context of continuous language learning. To the author's knowledge, only Ikeda（2011）argues for the effectiveness of collaboration at the macro level, and asserts that it can regulate out-of-class learning.

Additional research is needed to determine why in-class collaboration scaffolds the regulation of out-of-class learning, and subsequently this forms the basis of our primary research question. Furthermore, do both principles（i.e., individual accountability and positive interdependency）facilitate out-of-class learning equally? Is it possible that an entirely different factor contributes to the regulation of out-of-class learning?

2. Methods

2.1 Participants

The participants in this study included 33 first-year Japanese university students learning EFL. All were taking two English courses each week for one semester（15 weeks）to fulfill curriculum requirements. Among them, 16 attended the course in 2012, while the remaining 17 did so in 2013. The 2013 class included two students who had been abroad for more than two weeks（but less than a year）, and a Chinese exchange student with fairly advanced English

proficiency. These three students were not excluded from the data since neither their experience abroad nor English proficiency was expected to influence other participants' perceptions of collaborative learning in this study.

2.2 Collaborative Learning Activities in This Study

The author taught the courses in both 2012 and 2013, and used syllabi and teaching methods identical to Ikeda（2011）. The courses primarily aimed to improve participants' English reading abilities. Between the third and twelfth weeks, students participated in a fifteen-minute collaborative learning activity at each meeting; the task entailed students comparing answers to a series of comprehension questions related to a reading passage in their textbooks. Additionally, they were encouraged to ask each other questions when uncertain about their answers or understanding of a passage. Hence, the collaborative learning in this study was not something that could be completed solely during a class session, but required out-of-class preparation on the learners' behalf.

During the activity, the teacher monitored each group and provided assistance only upon request. Thus, it can be surmised that the teacher set the goals for this collaborative learning activity, although students exercised some control over its procedural aspects. Group sizes varied between two to four, and expanded gradually as the course progressed to facilitate relationship building between classmates, and by extension a successful collaborative learning experience. Students were grouped randomly to ensure an equal opportunity for interaction with a variety of peers.

Upon completing the collaborative learning activity, answers to the comprehension questions were checked collectively, and supplemented by an activity related to the day's reading passage（see Table 1 for an overview of the class flow）.

Table 1 *Class Flow*

Duration	Activity
15min.	Quiz
10min.	Introductory session examining the reading passage （Q & A session about the topic discussed in the passage）
15min.	**Collaborative learning activity**
25min.	Collective comprehension check
25min.	Supplementary activity （Writing summary, discussion, reading-aloud activity, etc.）

2.3 Data Collection and Analysis

For data collection, an open-ended questionnaire was distributed to students, asking them to provide (a) their perceptions of the collaborative learning activities, and (b) justifications for those perceptions. The data were collected at the end of the twelfth week following the final collaborative learning activity.

To conduct data analysis, participants' perceptions were first divided into two groups according to whether they were positive or negative opinions; next, the number in each group was tallied. To fulfill the study's objective, participants' justifications were coded and categorized; coding was performed by two researchers and confirmed to have high inter-rater reliability (r = .90).

3. Results and Discussions

Table 2 summarizes students' reactions to the collaborative learning activities. With the exception of one individual, all students responded positively toward the collaborative learning activities. These results confirm the premise that collaborative learning functions as scaffolding for out-of-class individual learning (Ikeda, 2011). Participants' justifications for why they believed the collaborative learning activities were (or were not) helpful were subsequently coded and categorized.

Table 2 *Learners' Perceptions of Collaborative Learning Activities*

Perception	Number	Portion (%)
Positive	32	96.97
Negative	1	3.03
Total	33	100.00

The coding process revealed a total of 44 student accounts concerning the effectiveness or ineffectiveness of collaborative learning.[1] Among them, only three accounts were negative, all of which echoed the belief that verifying one's answers was a meaninglessness endeavor. This sentiment could be attributable to the task's difficulty: for some learners, the reading passages simply may not have been sufficiently challenging. However, for collaborative learning to be successful, the task's difficulty should be slightly above learners' current level of target language proficiency – or in other words, within the Zone of Proximal Development (Vygotsky, 1978). If an activity is too easy, then it is natural for more advanced learners not to seek help from other

group members; consequently, positive interdependence fails to occur.

Contrary to the three negative comments, the remaining 41 were positive in nature. The categorization of these 41 responses revealed seven different justifications（see Table 3）. Among them, the notion that collaborative learning helped to answer the questions at hand was by far the most frequently mentioned justification for the effectiveness of the collaborative approach（43.90％）. This indicates that learners were better able to understand the passage better and further by talking with their peers. Indeed, respondents in this category noted “I was able to correct my mistakes by learning from classmates,” “I found verifying the rationales for each of our answers helpful,” and “We were able to reach the correct conclusions by combining our ideas.”

Table 3　*Learners' Justifications for the Collaborative Learning Activities' Effectiveness*

	Category	Portion（％）
Positive interdependence		
1	A resource for answering questions at hand	43.90
2	An opportunity to practice English	19.51
3	A resource for future English learning	12.20
4	Increased confidence	7.32
4	The development of peer relationships	7.32
Individual accountability		
6	Habit formation in English learning	7.32
7	Responsibility for the completion of the activity	4.88

The second most frequently mentioned justification（19.51％）concerned the belief that collaborative learning activities afforded participants an opportunity to practice English, especially orally. The author believes this category ranked so highly because EFL students have limited opportunities to interact in English, and consequently placed more value on the experience.

The third most popular justification concerned the role of collaboration as a resource for future English learning. In this category, participants noted that their peers' opinions concerning the various topics discussed in the passages, in addition to their higher English proficiency, motivated them to practice more. In other words, through the interactions that occurred during collaborative learning, these students were positively influenced to become more proficient in the target language（Chang, 2007）. Such interactions may have provided learners with oppor-

tunities to find a near-peer role model (Murphey, 1998), individuals "who are close to one's social, professional and/or age level, and whom one may respect and admire" (Murphey & Arao, 1998, p. 1). These role models are said to help learners form a clearer and more realistic image of their ideal L2-self, which is an important aspect of motivation (Dörnyei, 2005; Dörnyei & Ushioda, 2009).

Two categories, increased confidence and the development of peer relationships, ranked equally in fourth place. Regarding the former, the participants noted that they had more confidence in their answers and English abilities by corroborating their answers with others. As explained earlier, following each collaborative learning activity, students' comprehension of the relevant passage was verified collectively, hence providing learners with an opportunity to utilize the outcome of the collaboration; in parallel, they were able to reaffirm collaborative learning's value and continue learning beyond the classroom. However, it is noteworthy that the latter category (development of peer relationships) is not directly related to the practice of English learning. The sixth category concerned habit formation in English learning; students in this group indicated "collaborative learning encouraged me to prepare for upcoming classes". The last ranking category was responsibility for the completion of the activity. In this category, the students indicated their responsibility for completing the collaborative activities in order to avoid the embarrassment of ruining their peers' learning opportunities. Therefore, the students' comments included "I want to ensure that my classmates' opportunities to learn English were unaffected."

Each of these seven categories was in accordance with one of the two principles of collaborative learning (i.e., positive interdependence or individual accountability). The first to fifth categories are related to positive interdependence, while the sixth and seventh encompass individual accountability. This indicates that the participants perceived positive interdependence to be a greater contributor to the effectiveness of in-class collaborative learning than individual accountability. Therefore, positive interdependence can be considered a key factor contributing to the scaffolding of independent learning beyond the classroom. Indeed, stronger positive interdependence coupled with additional individual accountability can facilitate the scaffolding of out-of-class independent learning from collaborative learning (Figure 1).

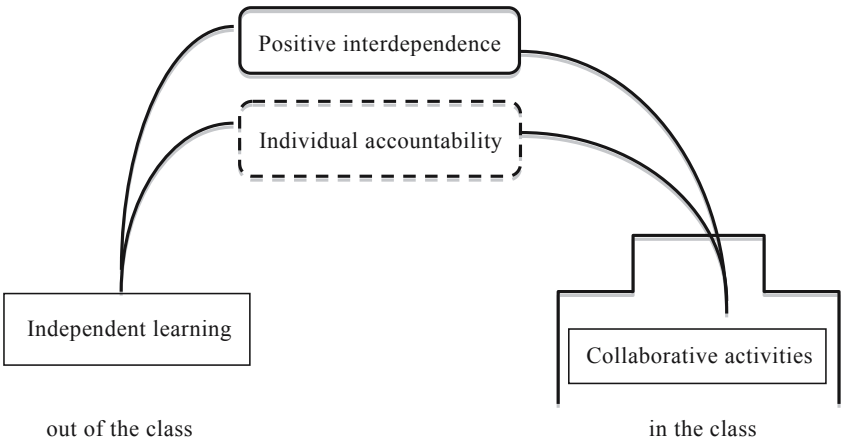

Figure 1. In-class collaborative learning as scaffolding.

4．Conclusion

This study attempted to clarify learners perceptions of collaboration as a means of scaffolding their individual learning beyond the classroom. Before concluding, two limitations of the present study should be mentioned. First, the sample size was limited and therefore the findings cannot be generalized. Also, data were collected only by means of a questionnaire. In order to gain a clearer understanding of collaboration's role in autonomous learning, more varied data types should be gathered in the future. With these shortcomings in mind, I nonetheless believe one can conclusively argue that when coupled with stronger positive interdependence, collaborative learning possesses the ability to scaffold the regulation of students' out-of-class learning.

The pedagogical implication of this conclusion is that teachers should promote collaborative learning that facilitates increased positive interdependence, and consequently scaffolds the regulation of individual learning beyond the classroom. Furthermore, once scaffolding is implemented educators should consider removing it gradually to encourage future learner autonomy. However, teachers cannot simply remove all scaffolding at once. As such, one suggestion for its gradual removal is to relocate the collaborative learning experience to a place outside of the classroom, such as a self-access center. This is because in the classroom setting teachers tend to control the onset of collaborative learning activities; in this situation, collaborative learning may not occur without an instructor's intervention, and as a result, in-class collaborative learning can only function as scaffolding when school is in session. To increase learner responsibility and autonomy, a self-access center focused on a sense of reassurance, self-efficacy, and

enforcement should serve as an impetus to scaffolding independent learning beyond the classroom（Shibata, 2010）.

The path to target language proficiency is long and difficult, and remaining steadfast in its pursuit is not easy, although it can become less stressful with the support of others. Through collaboration we hope that learners will make use of the extensive learning resources surrounding them and develop along lasting appreciation of language learning.

Note

1 The number of accounts（41）exceeded the total number of participants in this study（33）. This is because some students provided more than one justification, while others provided both negative and positive accounts.

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