Reading Concepts in Cooperative Work by EFL College Students*

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Given that reading is treated as secondary in many EFL classes nationwide, and is taught mainly through translation based on word recognition, the focus in this paper was on investigating the effects of cooperative learning on learners’ concepts of L2 reading and their reading skills. Forty-eight students worked together in groups of four in a college reading course throughout one semester in which they helped each other to comprehend L2 texts on various topics in small groups. Data were gathered by means of two different methods: interview and attitude scale. The overall findings of the study showed that the cooperative learning integrated into EFL reading brought various benefits conducive to creating more positive reading attitude and promoting higher reading fluency in L2 classes. Based on the results of the study, some pedagogical implications were provided for EFL in-class reading.

I. INTRODUCTION

Despite the wealth of the literature on L2 reading, L2 in-class reading has suffered a lack of systematic, organized approaches to the teaching of L2 reading based on well-known theories and strong empirical evidence in L2 reading pedagogy (Bernhardt, 1991; Diaz-Rico, 2004; Grabe & Stoller, 2002; Suh, 1999). As a result, L2 reading was not handled in a way that stimulates interest and builds the overall L2 proficiency, and most L2 teachers and practitioners were forced to engage in the practices of L2 reading in which word-decoding skills and translation were valued (Ediger, 2001; Schulz, 1983; Young, 1989). One good example of such practices of L2 reading can be found in many EFL

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classes of middle and high schools in Korea in which reading is treated as a simple, linear process based on translation from L2 to L1, and has little connection to the promotion of communication skills (Roh, 2006). Under this circumstance, reading is not taught as an end in itself, but serves the function of facilitating the learning of other aspects of language such as grammar and vocabulary.

It is no wonder that there exists a close relationship between reading instruction and reading attitude or reading comprehension. According to available research evidence, the way in which students are taught reading plays a crucial role in forming their concepts of reading and affecting reading process, and thus becomes an important variable influencing successful attainment of reading proficiency. For instance, Shapiro and White (1991) compared two differing types of reading instruction in terms of reading attitudes of elementary students learning English as a first language. They reported that students in a traditional basal reader program showed less positive attitudes about reading, and saw themselves as poorer readers than students in a nontraditional reading program with no basal readers. Also Cairney (1988), and Rasinsky and DeFord (1988) found that students who received reading instruction stressing word recognition tended to perceive reading as a decoding process rather than a meaning-searching process. On the other hand, despite a small number of studies on this matter in EFL learning contexts, common findings of these studies clearly indicated that the way that students were taught reading had a great effect on their concepts of reading and reading comprehension. Song Heshim (1998), in a study comparing one group of students focusing on grammar and vocabulary in intensive reading with another group of students centering on the use of reading strategies and interactive reading approach, reported that students in the second group used a wider range of reading strategies, and showed more positive attitude toward L2 reading than students in the first group. Im Byung-Bin and Huh Jin-Hee (2005) who were interested in incorporating multimedia-assisted language learning into EFL reading classes in middle school found that an experimental group engaging in various computer-based, interactive activities had higher motivation for and more positive attitude about L2 reading than a control group using no technological aid in a teacher-fronted class.

Given that reading instruction plays a major role in forming the concepts of reading, it can be assumed that many of our college students who have been used to grammar-based instruction with a focus on word-for-word translation for reading comprehension in their EFL classes are likely to have less positive attitudes toward L2 reading, and see L2 reading mainly as a function of a decoding process. If this is so, one primary goal of EFL teaching profession in this nation would be to offer a learning environment in which more positive attitudes toward reading are created, and more frequent use of a top-down approach is encouraged with less attention paid to a decoding process in order to foster reading fluency. Also in light of a current trend of L2 teaching profession to move toward meaning-focused,
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proficiency-oriented learning in L2 learning and use (Brown, 2007; Richards, 2002; Saville-Troike, 2006), there is a clear, strong need for EFL reading classes in the country to be more student-centered and more communication-oriented. As one way of developing EFL reading instruction in which reading becomes a meaning-making and self-directed task, and benefits from infusing some healthy doses of ideas of communicative approaches into reading classes, the present paper integrated cooperative learning into L2 reading with the hopes that cooperative learning would contribute much to both the improvement of L2 reading skill and the empowerment of EFL learners to see L2 reading as something enjoyable and conducive to the overall development of L2 proficiency. More specifically, the purpose of the paper was to examine the effect of cooperative learning integrated into a reading course on learners’ concepts of L2 reading as they worked in small groups throughout one semester in a college EFL classroom. To this end, the following questions were addressed:

1. How do college students perceive cooperative learning as it is implemented in an EFL reading course?

2. Are there differences in college students’ attitude toward EFL reading between before and after the implementation of cooperative learning?

II. PREVIOUS STUDIES ON COOPERATIVE LEARNING IN L2 READING

Most of the early work on cooperative learning in ESL contexts offered evidence for the effectiveness of cooperative learning in L2 development by stressing a variety of strengths of small group work over teacher-fronted pedagogy (Bot, Lowie & Verspoor, 2005; Doughty & Pica, 1986; Pica & Doughty, 1985; Pica, Lincoln-Porter, Paninos & Linnell, 1996). A few recent studies have attempted to answer questions of what role cooperative learning assumes in bilingual education in which native English-speaking students work together with limited English proficient peers learning academic English in various subject areas. Work by Klingner and Vaughn (2000) investigated helping behaviors of bilingual students including limited English proficient learners as they worked in small groups in a science class. Subjects in group work used a collaborative strategic reading, one type of an instructional technique designed for the development of reading fluency. The results showed that a cooperative strategic reading played a critical role in assisting subjects in gaining main ideas, figuring out vocabulary meanings, and offering one another conceptual explanations of key terms in content-area texts, among others. Likewise, in a study in which six grade students in a social studies classroom engaged in cooperative learning involving reading, Jacob, Rottenberg, Patrick and Wheeler (1996) found that
limited English proficient students were able to learn academic English through a wide range of opportunities in which they helped each other to understand academic terms and concepts, develop vocabulary, and improve reading skill in an anxiety-reduced context.

The literature on cooperative learning and L2 reading in EFL contexts has been underrepresented. Bejarano (1987) examined the effect on language skills in reading and listening of two different types of cooperative learning, i.e., DG (Discussion Group: “choosing the topic of interest and organizing in interest groups, … examining the learning task and planning the way to carry it out … reporting the group product to the whole class” (p. 487)) and STAD (Student Teams and Achievement Divisions: “a peer-tutoring technique, is based on raising students’ motivation for learning by focusing on cooperation of members within each team, followed by competition among the teams in the class” (p. 486)) and of a traditional whole-class method in a study involving 781 junior high school students in Israel. It was shown that both group techniques requiring active verbal interaction were more effective in increasing listening skill than the traditional, teacher-centered instruction while no such difference was found between the two methods in reading. Meanwhile, Lan, Chang and Sung (2006), in a study involving 52 third graders in a Taiwanese elementary school who worked in cooperative reading groups for ten weeks, showed that cooperative work created four major types of interactive behavior which provided subjects with various kinds of assistance such as scaffolding, modeling and direct instruction, and enabled peer-assisted learning to take place successfully. The positive role of group work in EFL reading was also reported by Choi Kyung-Hee (2003) in which 50 Korean college students were divided into an experimental group working in collaborative reading groups and a control group engaging in reading mainly through the grammar-translation method. Among the findings, most important, subjects in the experimental group made more frequent use of pro-social strategies during reading, and thus were able to translate complex sentence structures better than subjects in the control group.

III. DEFINITION OF TERMS

This study made frequent use of terms such as cooperative learning and reading attitude since it focused on the influence of cooperative learning on L2 reading. As an instructional approach, various types of cooperative learning have been used in L2 classrooms. For the purpose of the study, Jigsaw was chosen to be integrated into a reading course since it fosters communicative ability, and develops “academic skills through carefully structured reading activities in a highly interactive learning environment” (Coelho, 1992, p. 137). According to Coelho (1992), Jigsaw is a cooperative learning method to maximize positive
interdependence and individual accountability in small groups in the following way: each student who has a differing piece of information makes an expert group to master the information, and returns to a home group in order to share the information of his or her own with others in the home group. On the basis of such sharing, all students in the home group work together to complete a task by synthesizing all the information presented by each group member through discussion and collaboration. This overview of Jigsaw provided practical advice on organizing and implementing Jigsaw in the study. More information on a step-by-step description of Jigsaw will be given later.

Another term required for clarification is attitude toward reading. As a hypothetical, unobservable construct, attitude is defined as “a behavioral product resulting from multiple experiences with events or ideas” (Cothern & Collins, 1992, p. 84). Some researchers (e.g., Bagozzi & Burnkrant, 1979; Eagly & Chaiken, 1993) took a multidimensional view of attitude by seeing it as consisting of three main components such as cognitive, affective and behavioral. Similarly in the field of reading, Lewis and Teale (1980), and Teale and Lewis (1981) began to view reading attitude as a multifaceted construct which includes three components: beliefs or thoughts about reading (cognitive component), feelings or evaluations of reading (affective component) and actual reading (behavioral component). This study also took a multidimensional view of reading attitude since it was believed to be reasonable and comprehensive enough to represent language learners’ predispositions toward L2 reading (Suh, 1999). Such a viewpoint played a key role in designing an attitude scale eliciting data on subjects’ attitude toward reading in English in the present study.

IV. METHODS

1. Participants

The participants of the study were forty-eight college students enrolled in one of the major universities in Korea. At the time of study, they were taking a course entitled ‘English Readings on Natural Science,’ which was offered every semester to help undergraduates develop their reading skills by exposing them to texts on various topics centering on natural science. All the subjects except three majored in a field involving science or engineering. More than half of the subjects were either juniors or seniors, and twelve of the subjects were female. Subjects had been studying English for an average nine years. According to background information gathered at the beginning of study, most subjects ranged in TOEIC score from 400 to 900, which indicated that their English proficiency seemed to range between intermediate-low and advanced level.
2. Instrument and Procedures

In an effort to find out answers to research questions, data were collected via two different methods: interviews and attitude scale. First, to examine subjects’ perception of cooperative learning, i.e., Jigsaw integrated into L2 reading throughout semester (i.e., research question 1), interviews with selected subjects were conducted. It was felt that responses from interviews would complement findings from attitude scale at least partially, and thus help to understand any changes in subjects’ reading attitude resulted from the use of Jigsaw. Four questions were developed most of which were designed to elicit data on the possible effect of Jigsaw on subjects’ feelings or thoughts about reading and their actual reading behaviors in the L2. Interview questions include:

1. What do you think or feel about Jigsaw activities we have in our class?
2. Do you think Jigsaw activities have been useful and helpful in promoting your English reading skill? Why or Why not?
3. Are there any changes in the way of your reading English text after you have experienced Jigsaw activities in our class?
4. Describe the way in which you had been taught reading in your English classes of middle and high school or college.

Before conducting interviews, it was thought that since all the subjects were involved in data collection via attitude scale, it would be more convenient and more efficient to have some of them participate in interviewing if they would be selected through random sampling, which would save considerable time and energy on the part of researcher. So in the selection of interview informants, simple random sampling was used in which there was an equal independent chance of every subject being selected (Li, 1998). During the process of selection, it was kept in mind that interview informants should represent each one of the twelve cooperative learning groups. So twelve out of the forty-eight subjects were chosen for interviewing which was conducted on the last day of class after they completed filling out attitude scale. In order to ensure a smooth progress in interviews, twelve subjects were given a sheet of paper with four interview questions in advance, and were asked to jot down their thoughts on it. An interview with each subject was done in Korean, and lasted about ten minutes, which was tape-recorded for a later analysis.

Second, to determine any changes in L2 reading attitude between before and after the use of Jigsaw over the course of one semester (i.e., research question 2), an attitude scale was used. Along with questionnaire, interview, and observation, an attitude scale is one of the most frequently used tools to measure attitude growth in reading (Hopkins, Stanley & Hopkins, 1990). As stated before, this study took a multidimensional view of reading attitude, and accordingly, designed an attitude scale based on a tri-component viewpoint of reading attitude. Thus the attitude scale included statements of preference which were
presumed to provide information on subjects’ assumptions or beliefs in reading, feelings or evaluations of reading, and actual reading behaviors. Twenty statements were created on the basis of Burke (1977), Chi (1992), Cothern and Collins (1992), and Bonk (1994) with each one of the three components of reading attitude containing seven statements except for the behavioral component which included six statements (see Appendix). The twenty statements were ordered in such a way that statements belonging to the same component of reading attitude should not be adjacent to each other. Further by asking a few students having nothing to do with the present reading course to complete it, the attitude scale was revised and refined for clarity, simplicity, and effectiveness. Given the attitude scale, individual subjects were asked to read each statement, and respond to it in terms of a five-point scale, i.e., ‘strongly disagree (1)’, ‘disagree (2)’, ‘undecided (3)’, ‘agree (4)’, and ‘strongly agree (5)’ by writing down the number which best represents their reaction to a given statement. The attitude scale was offered twice, on the first day of class and on the last day of class.

As for the implementation of Jigsaw, subjects on the first day of class were introduced into the concept of cooperative learning and Jigsaw in two stages. First, they learned about the importance of grouping and role fulfillment. They were told that they would work in small groups of four throughout the semester, and were given some time to think about grouping seriously, which yielded twelve home groups. Then all groups were exposed to the notion of role fulfillment in cooperative learning, and learned about how to perform four different roles (i.e., chair, encourager, reporter, and time-keeper) in a practice session (Grisham & Molinelli, 1995). Second, subjects were given a detailed explanation of Jigsaw integrated into the present reading course. That is, for an individual class every subject in each home group was given a differing portion of reading material for homework which he or she should make efforts to understand as much as possible. The person who was responsible for the particular portion of reading assignment was called an expert. Based on each expert’s preparation of his or her own assigned reading, temporary expert groups were formed in which experts from differing home groups worked together closely to help one another to attain a solid understanding of their common assignment. Experts then returned to their home groups, and shared with teammates what they learned from expert groups. As one way of checking each group’s work on a given text, a whole-class debriefing session was held in which a representative of any group volunteered to take a floor, and read through text with the presentation of whatever was assumed to be important or difficult in comprehending it. After such a presentation, members of other groups asked questions or raised issues involving the understanding of text concerned.

Though all the subjects did not seem to be satisfied with what they were doing around the early stages of course, it was obvious that as class went on, most students became
accustomed to cooperative work in light of the observation that they made good preparations with handouts distributed among teammates, showed an active, serious participation in group work with few students remaining silent at a given point in time, and created a supportive, friendly atmosphere. An instructor during group work circulated among groups, and played the role of facilitator or helper by offering necessary assistance and monitoring progress (Shrum & Glisan, 2000). As the class met once a week, and lasted for three consecutive hours, a continuation of class was secured in such a way that in every class one reading text on a given topic could be completed, and a new one for the following class was introduced to students for assignment. As for the reading materials covered during cooperative work, they were selected on the basis of the assumption that they should be sufficiently challenging in making subjects actively engage in interaction in terms of topic, content, and linguistic features while efforts were made to choose the materials of interest and relevance to college students (Scarcella & Oxford, 1992).

3. Data Analysis

Data analysis was done both qualitatively and quantitatively. The oral data from interviewing were transcribed in Korean verbatim. Then they were read repeatedly with paying careful attention to content and at the same time, looking for recurring, salient themes involving subjects’ beliefs, feelings, thoughts or behaviors in L2 reading (Merriam, 1988). This procedure brought to a gradual emergence of categories which represented subjects’ reactions to cooperative learning integrated into the EFL reading course. On the other hand, the numerical data from attitude scales were analyzed in the following way. Frequencies with which each one of the five-point scales was selected in an individual statement were counted. Since attitude scale was administered twice (i.e., before and after Jigsaw activities), and since reading attitude in the study was viewed as consisting of cognitive, affective, and behavioral component, means for each component of reading attitude were calculated in two versions of attitude scale. Then a comparison was made between two sets of means in terms of each one of the three components of reading attitude by using a statistical technique of paired-samples t-test with the significance level set at .05.

V. RESULTS

1. Subjects’ Perception of the Jigsaw Method Integrated into EFL Reading

The content-analysis of interview data yielded four differing categories which showed
how subjects perceived the EFL reading course framed upon the cooperative learning technique, Jigsaw, over a period of one semester. In the first category, the subjects pointed out that Jigsaw activities succeeded in creating a classroom atmosphere producing positive affective state beneficial to the promotion of reading skills. One of them said that “What I like most about this course is the classroom atmosphere which is friendly, supportive, and less-competitive, and makes me willing to be devoted to both the class itself and class preparation.” Another subject added that “One major thing of this class that attracts me a lot is the learning atmosphere which is less stressful, and more comfortable than other reading courses I’ve experienced. So I feel motivated and ready to learn to read better in every moment of a class period.” Still other subjects noted that plentiful opportunities for free discussion and initiation of any topics on L2 reading during Jigsaw activities also had a great effect on creating their positive affective mental state conducive to L2 reading. They mentioned that they came to see L2 reading as more interesting and more enjoyable since they were able to have sufficient opportunity for discussion and negotiation of problems or issues in L2 reading in open-ended, low-anxiety contexts through interactions based on their active, dynamic role in Jigsaw activities. From the fact that reading in most EFL classes nationwide had been treated mainly through word-by-word translation over the last several decades, it follows that students must have been dissatisfied with or tired of such an approach to L2 reading instruction, becoming easily bored and developing negative attitude toward L2 reading. Thus the changed learning atmosphere and the increased opportunities for an active involvement in class as a result of the subjects’ experience with Jigsaw activities were believed to contribute considerably to the formation of their positive affective state conducive to L2 reading.

In the second category, the subjects here viewed the Jigsaw method as a guide triggering behaviors beneficial for L2 reading. One such useful behavior involves a change in the way of reading L2 texts. Many subjects agreed that one major change after the experience with the Jigsaw method was their less attention to word-by-word translation during L2 reading. One subject described this change cogently by stating that “Since I registered for this course, I realized that I gradually tended to pay less attention to figuring out every word of text, and learned how to be more concerned with getting the general meaning of text even when I was faced with unknown, unfamiliar words in it.” As one main reason for the change, several subjects told that since they had to complete cooperative work within a limited period of time, they had no enough time to read through all the words or expressions in text, instead, focused mostly on specific parts of text representing main ideas, and tried to come up with the best understanding of text based on an agreement among all group members.

In the third category, the subjects considered the Jigsaw method as a facilitator leading to the promotion of reading ability. According to some subjects, Jigsaw activities guided
them in obtaining a more accurate and more comprehensive understanding of text. They said that as compared to an independent reading in which feedback from others is unavailable, and there is no way of checking whether or not, comprehension is done correctly, reading in Jigsaw activities was joint, problem-solving processes involving much efforts and numerous trials of all the teammates in groups to gain a more solid, more accurate understanding of text. One subject made this point clear, stating that “When reading alone, I sometimes feel frustrated since I have no idea of whether I’m on the right track for comprehension. But working together in groups, I have many chances to ask and answer questions in seeking confirmation on the correctness of my understanding.” Other subjects also claimed that Jigsaw activities facilitated the learning of grammar and vocabulary. It may be the case that the subjects in cooperative work encountered a variety of sentence structures and vocabulary items in text which they were not familiar with, or did not learn yet for some reason. Since Jigsaw activities require all learners to engage in interaction to achieve a group goal, the resulting interaction through explanations, opinion exchanges, or decision-making processes is likely to play a crucial role in solving various linguistic problems such as finding out the exact meaning of a word in a specific context, figuring out the syntactic function of a given grammatical structure in complex sentence, or treating vocabulary items with meaning ambiguities. This is what many subjects here pointed out during interviews. According to one subject, “Some grammar structures and vocabulary items that I didn’t have a solid understanding of, or know at all are those which I have learned successfully in this course. All group members’ efforts to make themselves understood in a clear, comprehensible manner seem to contribute a lot to an easier, more efficient learning.”

Finally, despite the aforementioned advantages of the Jigsaw method, in the forth category, some drawbacks were identified. Two of the most frequently mentioned problems or issues were a concern about a misunderstanding of text and a preference for individual work. Several subjects observed that group work caused them some worry about a possibility of ending up with a misinterpretation when no one in groups was able to give a right answer to a specific question. They believed that such a misinterpretation occurred due in part to an overall similarity in reading ability among group members. As one subject stated, “Since teammates are similar to each other in terms of reading ability, we have no means to check for correctness or accuracy of our comprehension when we are stuck with unknown vocabulary, challenging sentence structures, or unfamiliar cultural references. So we are always in danger of playing with a wrong comprehension, which I think is one clear problem of our Jigsaw activities.” The other problem is related to a preference for individual work. Some of the subjects were quick to mention that working together in teams did not fit them, and showed their dissatisfaction with Jigsaw activities for several reasons. For instance, one subject told that group work was not for him because
he preferred an independent study in a teacher-fronted classroom where teacher takes care of almost everything along with clear, straightforward explanations. Another subject lamented over the difficulty of adjusting himself to group work because of his insufficient reading skill, and held that “To tell the truth, Jigsaw appears to fit students in higher levels of English proficiency. Students like me who are not proficient learners cannot but experience much difficulty following the class and surviving in the course.” As Klingner and Vaughn (2000), and Thompson (1996) showed, low language competence can become a barrier to an active participation in group work, and thus students in lower English proficiency levels are likely to have difficulty getting on the right track for interaction with others, and find themselves marginalized in group work.

2. Subjects’ Reading Attitude between before and after the Use of Jigsaw

Since reading attitude was viewed from a multidimensional perspective in the study, changes in subjects’ attitude toward EFL reading between before and after the use of Jigsaw were examined in terms of cognitive, affective, and behavioral components of reading attitude. As seen in Table 1, a statistically significant difference was found only in the affective component of reading attitude ($t = -8.198$, $p = .000$). This indicates that the integration of Jigsaw into the college reading course throughout one semester had more significant effects on the subjects’ affective reading attitude than cognitive or behavioral reading attitude in the L2.

<table>
<thead>
<tr>
<th></th>
<th>M before Jigsaw</th>
<th>M after Jigsaw</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>3.17</td>
<td>3.43</td>
<td>-1.849</td>
<td>.114</td>
</tr>
<tr>
<td>Affective</td>
<td>2.67</td>
<td>3.23</td>
<td>-8.198</td>
<td>.000*</td>
</tr>
<tr>
<td>Behavioral</td>
<td>2.69</td>
<td>2.96</td>
<td>-2.962</td>
<td>.310</td>
</tr>
</tbody>
</table>

* $p < .05$

Table 2 shows a comparison of the results of the attitude scale given at the first day of class with those at the last day of class in subjects’ affective attitude toward L2 reading. For the sake of simplicity and clarity, a five-point scale was reduced to a three-point scale with ‘disagree’ and ‘strongly disagree’ coalesced into ‘disagree’, and ‘agree’ and ‘strongly agree’ into ‘agree’. Between the two, ‘undecided’ was used.
TABLE 2

Affective Reading Attitude between before and after Jigsaw Activities (%)

<table>
<thead>
<tr>
<th>Item</th>
<th>Before Jigsaw</th>
<th>After Jigsaw</th>
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<tbody>
<tr>
<td></td>
<td>Disagree</td>
<td>Undecided</td>
</tr>
<tr>
<td>Item 2</td>
<td>42%</td>
<td>25%</td>
</tr>
<tr>
<td>Item 5</td>
<td>27%</td>
<td>17%</td>
</tr>
<tr>
<td>Item 8</td>
<td>77%</td>
<td>10%</td>
</tr>
<tr>
<td>Item 11</td>
<td>17%</td>
<td>23%</td>
</tr>
<tr>
<td>Item 14</td>
<td>23%</td>
<td>19%</td>
</tr>
<tr>
<td>Item 17</td>
<td>16%</td>
<td>42%</td>
</tr>
<tr>
<td>Item 20</td>
<td>23%</td>
<td>17%</td>
</tr>
</tbody>
</table>

As shown in Table 2, a notable change can be seen in subjects’ response to item 2 (‘I like reading in English’) between the beginning and the end of course. The percentage of subjects who showed their likes of L2 reading increased from 33% up to 65% after the use of Jigsaw whereas the percentage of subjects expressing their dislikes decreased sharply from 42% to 23%. Also Jigsaw activities were found to be beneficial in reducing subjects’ anxiety and nervousness in L2 reading to a certain extent. In item 5 (‘I feel nervous and anxious in reading in English’), as compared to more than half of the subjects (56%) who felt uncomfortable and anxious about L2 reading at the beginning of semester, such a percentage decreased way down to 23% after a one-semester period of cooperative learning. Likewise, in item 8 (‘I feel at ease when I am asked to read an English text to comprehend’), 77% of the subjects responded negatively to the item at the first day of course, which means that most subjects were not comfortable or confident in performing an L2 reading task satisfactorily and successfully. However, at the final day of course, the percentage of subjects giving negative responses to the same item reduced down to 58% along with almost a double increase in the percentage of subjects showing agreements on the item (13% ~ 25%).

The facilitative role of Jigsaw activities in creating positive, affective attitude toward L2 reading can also be seen in items 11, 14, and 20. In a response to item 14 (‘I get a sinking feeling when I should try to read an English text with new, unknown vocabulary’), nearly 60% of the subjects agreed on the item at the first day of class, but only 31% of the subjects did so at the last day of class. Similarly, in item 20 (‘I get anxious when I hear an instructor of a course I will take at the beginning of semester use textbook written in English’), more than half of the subjects (60%) at the beginning of course thought that they would get worried or depressed about the use of English textbooks. In contrast, at the end of course, almost the same percentage of subjects (56%) was able to turn over their previous responses. In addition, when asked ‘if there was no reading comprehension section in tests, I would be delighted and ecstatic’ in item 11, 60% of the subjects
responded positively on the first day of class whereas 29% of the subjects did so on the last
day of class. As one possible explanation, the decrease in percentage in items 11, 14, and
20 can be understood by the subjects’ increased interest, strengthened confidence, and
improved ability in reading comprehension mainly as a result of their engagement in
Jigsaw activities throughout the semester.

It is item 17 that made the subjects choose ‘Undecided’ most often in the affective
component of the attitude scale administered on the first day of class. 42% of them marked
‘Undecided’ when asked to answer the item ‘It wouldn’t bother me to take another reading
course like this.’ This is probably because they were not sure about what the class would
look like, or they had little experience with a reading course framed on cooperative
learning. On the final day of class, however, the percentage of subjects who remained
undecided went down to 6% along with 71% of the subjects showing their preference for
taking a current course again if they would have a chance to do so. As shown in interviews,
one plausible explanation of such changes is that as classes continued, most subjects
became acquainted and interested in the way they worked together in Jigsaw groups, and
as a result, came to have a positive, favorable impression of the reading course. Next,
despite no statistical significant differences in the cognitive and behavioral components of
reading attitude, it was thought that subjects’ responses to some of the items in the two
components deserved attention.

<table>
<thead>
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<th>TABLE 3</th>
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<tr>
<td>Cognitive &amp; Behavioral Reading Attitude between before and after Jigsaw Activities (%)</td>
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<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td>Item 4</td>
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<tr>
<td>Item 19</td>
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<td>Item 9</td>
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<td>Item 15</td>
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<td>Item 18</td>
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</table>

First, concerning the cognitive component of reading attitude, in item 4 where subjects
were asked if they think they are a good reader of English, as seen in Table 3, only 13% of
the subjects showed an overall agreement on the item while a large percentage of subjects
(60%) remained uncertain about the evaluation of their L2 reading ability on the first day
of course. Meanwhile, notable changes occurred on the last day of course when more than
half of the subjects (56%) saw themselves as a good, skillful reader of L2. As in item 2 in
which there was a sharp increase in the number of subjects showing their likes of L2
reading after the implementation of cooperative learning, the main reason for the changes
in item 4 appears to lie in subjects’ experience with Jigsaw activities which helped to
develop positive affective state, and form positive self-image about L2 reading ability. Another point of interest in the cognitive reading attitude involves subjects’ view of what L2 reading comprehension would be. In item 19, 40% of the subjects at the beginning of course agreed that successful L2 reading comprehension relies mostly on word-by-word translation whereas 54% of the subjects at the end of course were opposed to such a decoding approach to reading. The difference here can also be understood by the interactive nature of cooperative learning. As shown during interviews, subjects in Jigsaw groups were given opportunities to be exposed to a variety of reading skills and strategies for top-down approach as alternative ways of dealing with L2 text. Through interaction based on discussion, collaboration and consultation, they came to be more familiar with top-down reading skills and strategies, and along with their favorite, habituated decoding approach, they were likely to achieve a balanced development between the bottom-up approach and the top-down approach in their effort to reach a better, more accurate comprehension of L2 text.

Second, regarding the behavioral component of reading attitude, about two thirds of the subjects (67%) on the first day of class agreed that they made efforts to interpret every word, and understand all sentences during their actual reading when responding to item 9 (‘I try to understand every word and sentence when reading an English text’). On the last day of class, however, a much smaller percentage of subjects (48%) responded to the item positively. In fact, the finding here is closely related to that in item 19 in that subjects showed a very similar pattern of response in both items, and at the same time, somewhat high consistency can be noted between subjects’ thoughts about reading comprehension and their actual reading behavior in L2. On the other hand, one clear explanation of the subjects’ tendency to stick to the decoding approach to L2 reading can be found in item 18. More than 60% of the subjects at the beginning of course were active in agreeing that they went about L2 reading in the way in which they had been taught EFL in middle and high school. As indicated in Li’s (1998) study, despite a recent innovative movement toward fostering communicative ability of students in Korea, most EFL classes in primary and secondary school have been dominated by grammar-based instruction. In this light, the subjects’ reliance on a word-recognition, grammar-focused translation in L2 reading shown on the first day of class can be attributed to the way that they had been instructed English in their school days. Meanwhile, such a reliance sharply decreased, and went down to 48% on the last day of class, which suggests the positive role of the Jigsaw method in leading subjects to pay less attention to a linear, word-level interpretation, and instead, to become more concerned about a discourse-level understanding of text on the basis of a variety of top-down sources such as background knowledge, text structure, and story grammar, among others (Gascoigne, 2002).

Finally, subjects tended to have more willingness to talk about, or share their reading
experience or habits with fellows or friends on the last day of class than they did on the first day of class. In item 15 in which subjects were asked if they would try to share their reading experience or problems with others, a notable increase (13% -> 34%) was found in the number of subjects agreeing with the item between the beginning and the end of course. Klingner and Vaughn (2000) reported a similar finding in a study involving fifth graders’ use of reading strategies in cooperative learning that L2 students transferred what they read and learned during ESL content classes outside of classroom. Since it is obligatory for all individuals to actively participate in multilateral interaction within cooperative learning groups, it is essential for them to count on each other constantly by giving and taking help and information, and further sharing them with others within groups. In this sense, as subjects became acquainted with the interdependence among themselves and the act of sharing in cooperative Jigsaw groups, some of them seemed to enjoy sharing to the point that they were able to transform such a sharing behavior into a habit successfully, and transfer it outside of classroom for their own reading activities.

VI. DISCUSSION

The use of the Jigsaw method implemented for a period of one semester brought benefits to EFL reading classes in several important ways. First of all, it helped to create a non-threatening, low-anxiety learning climate which Korean students who had been used to the teacher-fronted, competitive classroom environment rarely experienced. There is little doubt that a psychologically secure, non-threatening learning atmosphere is fundamental for successful classroom language learning (Rogers, 1969; Lozanov, 1979 in Brown, 2007; Lightbown & Spada, 2006), and is closely linked to the creation of positive affective state conducive to the learning of L2 reading as well as L2 learning. The Jigsaw method was also beneficial in that it allowed the subjects to make changes in the way of approaching L2 reading comprehension. In group work they had plentiful opportunities to use and practice reading skills and strategies that placed less attention to word-by-word translation, and instead, were relevant to a rapid, effective generation of an overall, holistic meaning of text. One implication of this benefit involves training for reading strategies. In other words, learning how to use reading strategies can occur quite successfully in cooperative work since students in cooperative learning take advantage of interdependence and accountability requiring them to help one another in ways that are clear and understandable to all group members. So there is a higher possibility of a successful training of reading strategies in cooperative learning than in a teacher-fronted, lockstep class where students are likely to have few chances to practice using newly learned strategies and skills in contexts.
As another advantage, the Jigsaw method made it possible to gain a more accurate, more comprehensive understanding of text, and learn grammar and vocabulary in an easier, more effective way. From a constructive perspective of learning, constant interactions with group members with higher L2 proficiency provide a large amount of scaffolding and modeling, and guide other members with lower L2 proficiency in becoming more knowledgeable and more proficient, which naturally leads to a more successful performance of the L2 reading task by increasing linguistic and background knowledge needed for better reading comprehension (Shrum & Glisan, 2000; Vygotsky, 1978). Regarding the subjects’ attitude toward L2 reading between before and after the use of the Jigsaw method, there was a statistically significant difference only in the affective component of attitude toward L2 reading. It may be the case that the aforementioned benefits perceived by the subjects must have had a great effect on the affective component of attitude toward L2 reading in a more positive way than cognitive or behavioral reading attitude.

VII. CONCLUSION

The focus of the study was on examining how cooperative learning affected learners’ concepts of L2 reading as they worked together to comprehend L2 texts in the college EFL reading course. The overall findings showed that the Jigsaw method of cooperative learning integrated into the EFL reading classroom did play a crucial role in L2 reading by offering a variety of benefits, which lends support to previous studies (e.g., Choi, 2003; Jacob, Rottenberg, Patrick & Wheeler, 1996; Klingner & Vaughn, 2000; Lan, Chang & Sung, 2006). Particularly, Jigsaw activities were excellent in both creating a supportive, non-threatening learning atmosphere, and letting learning take place in social contexts, which led to the formation of a more positive affective reading attitude. These two major advantages of the Jigsaw method are consistent with the currently popular educational paradigms espoused by constructivists and humanistic psychologists. So one important implication for L2 teaching profession is that there should be no hesitation in making frequent use of cooperative learning in EFL reading classes where teacher-initiated translation and competition-dominating learning climate are common. With the integration of cooperative learning into EFL reading classes, reading instruction can be more effective and more productive, and a more positive reading attitude can prevail among students who would view L2 reading less as a word-decoding, sentence-level translation, and more as a meaningful, text-driven activity involving linguistic, cognitive, and social processes within interaction-oriented, low-anxiety learning contexts (Pearson & Stephens, 1994).
The study has some limitations. First, as subjects’ conversations during interaction were not tape-recorded, it is not clear exactly how subjects worked with each other to give and take scaffolding in Jigsaw groups. The information about scaffolding would be useful in not only offering insights into the workings of the Vygotsky’s (1978) notion of zone of proximal development, but also enabling a teacher to come up with better strategies for grouping and group management to maximize students’ efforts to help and be helped by others in the attainment of a group goal (Klingner & Vaughn, 2000). Future research needs to examine the social, interactive processes involved in scaffolding within cooperative learning groups with the help of transcripts of recorded interaction. Second, the language that subjects used in Jigsaw activities was their L1, Korean, not English. Considering that most subjects majored in a field of science or engineering rather than liberal arts, and thus seemed to lack sufficient oral proficiency of English for group work, it was thought that forcing them to use English for communication in group work might cause much difficulty and cognitive burden, which would have a negative effect on the overall findings of the study (Hinkel, 2006). Third, despite the benefits of the Jigsaw, it is not clear whether they had a direct influence on the promotion of subjects’ reading skills. So it is necessary to examine the effect of the Jigsaw on reading abilities in future research.

As shown in the findings of the study, if the Jigsaw is planned carefully and conducted appropriately, it can play a major role in transforming a competitive, high-anxiety, and boring classroom into a supportive, low-anxiety, and collaborative one full of interest and enthusiasm, and guiding our students in realizing that becoming a confident, fluent L2 reader is an attainable goal, not an imaginative illusion in EFL learning situations.

REFERENCES


**Appendix**

**Attitude scale**

- Male ( ) Female ( ) Major:
- Year in College: Freshmen ( ) Sophomore ( ) Junior ( ) Senior ( )
- Your TOEIC score if available: ___________________________________________________

Please read the statements and respond to them by ‘strongly disagree (1)’, ‘disagree (2)’, ‘undecided (3)’, ‘agree (4)’, and ‘strongly agree (5)’.

1. I think I am a good reader of Korean.
2. I like reading in English.
3. I spend time reading in English on a regular basis to improve my reading skill.
4. I think I am a good reader of English.
5. I feel nervous and anxious in reading in English.
6. I read for fun and pleasure rather than for gaining higher scores in tests.
7. I think reading in Korean is quite similar to reading in English.
8. I feel at ease when I'm asked to read an English text to comprehend.
9. I try to understand every word and sentence when reading an English text.
10. I think reading ability is most useful and helpful in learning English.
11. If there was no reading comprehension section in tests, I would be delighted and ecstatic.
12. I tend to give up reading when I encounter unknown words, or have problems with understanding during the reading of an English text.

13. I think it is more difficult to develop reading skill than other skills in learning English.

14. I get a sinking feeling when I should try to read an English text with new, unknown vocabulary.

15. I tend to try to share what I read in English with friends or others.

16. I think grammar and vocabulary are more important in reading in English than anything else.

17. It wouldn't bother me to take another reading course like this.

18. I read an English text in the way in which I had been taught English in middle and high school.

19. I think reading in English mostly involves word-by-word translation to reach successful comprehension.

20. I get anxious when I hear an instructor of a course I will take at the beginning of semester use textbook written in English.

Items showing cognitive side of reading attitude: items 1, 4, 7, 10, 13, 16, 19
Items showing affective side of reading attitude: items 2, 5, 8, 11, 14, 17, 20
Items showing behavioral side of reading attitude: items 3, 6, 9, 12, 15, 18