[UCI]I804:24011-200000265874

2017년 2월
교육학석사(영어교육)학위 논문

Examining the Relationship Between Metacognition and English Grammar Achievement in a Peer Instruction-based Classroom

조선대학교 교육대학원

영어교육전공

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또래교수법을 통한 메타인지와 영어문법 성취도의 상관관계

2017년 2월

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이 논문을 교육학석사학위 청구논문으로 제출함.

2016년 10월

조선대학교 교육대학원

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나민지의 교육학 석사학위 논문을 인준함.

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2016년 12월

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ABSTRACT

Examining the Relationship Between Metacogntion and English Grammar Achievement in a Peer Instruction-based Classroom

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In the field of language education, students' characteristics have been considered as a significant element which affects a students' proficiency. Among the characteristics, metacognition has been verified as a characteristic of high proficiency learners. However, there have been a few teaching methods investigated for developing language learners' metacognition in the language classroom. Hence, this research examined the Peer Instruction (PI) as a metacognitive strategies training tool. The purpose of this study was to investigate middle school students' use of metacognitive strategies in a PI-based classroom and the relationship between metacognitive strategies and grammar achievement. The researcher proceeded PI class with eight male students for four weeks (8 sessions). The participants were all 9th grade students. This research collected data from pre- and post-metacognitive questionnaires and grammar achievement tests. Also, the researcher interviewed three participants for further insight on PI and metacogntive strategies. The collected data were analyzed with a reliability test, descriptive statistics, *t*-tests, correlations, and content analysis. First, what kinds of metacognitive strategies were used before and after PI was analyzed with a metacognitive questionnaire. The metacognitive questionnaire was consisted of 35 items, which are categorized into 6 different types of metacognitive strategies: planning, comprehension monitoring, information management, debugging, evaluation, and socioaffective strategies. The results indicated that the overall the students' use of metacognitive strategies was enhanced

through PI. Especially, evaluation strategies showed statistically significant difference. Additionally, the relationship between metacognitive strategies and grammar achievement was verified with a grammar achievement test and the metacognitive questionnaire results. It reveals that metacognitive strategies had low correlation with grammar achievement. Based on the study findings, pedagogical suggestions are provided.

I. INTRODUCTION

1.1 Statement of the Problem

Language learners have varying proficiencies although they have been taught in the same way. High achieving students tend to plan and use learning strategies while they are learning (Goswami, 2008; Rubin, 1987). The learning strategies help learners to plan and organize information. Hence high proficiency learners automatically find and use helpful strategies (Biggs, 1988; O'Malley & Chamot, 1990; Oxford, 1990). This knowledge is defined as metacognition. And it is considered that metacognition is essential in learning (Brown, 2007).

Metacognition in learning language plays a key role by helping students to reach a better understanding (O'Malley & Chamot, 1990). Metacognition adapted in a language classroom is a comprehensive concept of learners' thinking about the learning process, learners' ability to use learning strategies, and self-regulation. Through research, the relationship between metacognitive skills and student's proficiencies has been examined. Jang (2010) analyzed the correlation between the metacognition and the science achievement. The result shows that meta-cognitive skills had an effect on the science achievement. The students who had high level of metacognition got higher scores in the science achievement test. Yoon (2006) also investigated the relationship between metacognitive levels and learners' achievement in social studies class. It reveals that metacognition has a positive effect on learners' achievement.

Along with these studies, metacognitive skills have been highlighted to be taught in the classroom. However, Hirsch (1996) pointed out metacognition is not the aim of instruction (cited in Benton, 2004). He asserted learners can be overloaded with learners' working memories and overemphasizing on metacognition can interfere with development of problem-solving capacity and procedural competency (cited in Benton, 2004). Moreover Wenden (1998) stated that metacognitive knowledge cannot be taught with discrete activities, rather it should be woven through all learning activities. Hence, teaching methods to promote metacoginitive awareness need to be investigated for language learners (as cited in Kim & Chang, 2009).

Scholars have identified teaching methods that are helpful to develop learners' metacognitive strategies. Paris (1988) suggested scaffolding instruction as a strategy training technique (as cited in O'Malley & Chamot, 1990). He describes that this

technique provides a chance for learners to apply new strategies and enables the teacher to support them when learners ask. He also mentioned that reciprocal teaching (or Peer teaching) works the same way. Teaching experiences provide opportunities to adapt different types of learning strategies and develop the language skills for learners by cooperating with other learners. When Peer Instruction (PI) is introduced to language classrooms, learners can learn better by teaching and enhance their metacogntive awareness. Studies show learners in teaching-based classrooms not only found new strategies but also learn better (Jeong, 2001; Kim, 2014). Also some studies found PI has an incidental effect like problem-solving skills. Park (2009) examined the effect of peer teaching on high achieving students' methematics achievement, problem solving skills and metacognition. In this study experimental group (PI group) shows their metacognition scores have been increased after PI. She also believes that metacognitive knowledge helped to enhance their problem-solving skills.

1.2 Purpose of the Study

While studies have verified that language learners can develop their metacognitive strategies and it helps their comprehension by teaching, the studies are limited to high proficiency groups. Hence, the relationship between metacognitive strategies and low-proficiency learners' comprehension still remains to be investigated.

In light of these issues, this study investigates what kind of metacognitive strategies EFL students use. It also examines the relation between low proficiency learners' metacognition and English grammar achievement. The following two research questions are addressed in this study.

1.3 Research Questions

1) What kinds of metacognitive strategies do EFL learners use in order to understand general concepts in the PI-based classroom?
2) How does students' metacognition relate to their English grammar achievement?

II. LITERATURE REVIEW

2.1 Definition of Metacognition

Metacognition has different understanding and definitions from researchers. Metacognition can be classified in different categories and encompasses a wide range of areas. Various fields of study like developmental psychology, cognitive development, and education have investigated metacognition and carried out research. Benton (2014) explained we can find the meaning of cognition in a dictionary. Cognition refers to both 'the act or process of knowing in the broadest sense' and 'an intellectual process by which knowledge is gained about perceptions or ideas'. He defined metacognition as thinking about the personal act of knowing or the intellectual process of gaining knowledge. In other words, metacogntion is the process that information becomes a person's own knowledge as well as simply thinking about thinking. Flavell (1979), on the other hand, emphasized the role of metacogntion in children's cognitive development (as cited in Flavell, Miller, & Miller, 2003). He argued that metacognition and cognitive monitoring are critical in order not only to understand and learn better in formal learning situations but also to make wise and thoughtful life decisions. Meanwhile, some scholars categorized metacognitive strategy as an element of learning strategies. For instance, Oxford (1990) considered metacognitive strategy as an indirect strategy coordinating the learning process.

This study employs Schraw and Dennison's (1994) Metacognitive Awareness Inventory (MAI) and modifies the questionnaire items in order to accommodate the study context. Explanations about how to modify and revise items will be provided in the following chapter.

2.2 Components of Metacogntion

Similar to how the definition of metacognition differs between scholars, different scholars believe metacogntion consists of different components. Oxford (1990) divided learning strategies into six strategy groups which interact with each other. Metacogntive strategies group is indirect strategy and it consists of centering, arranging and planning, and evaluating. Metacognitive strategy in Table 1 shows what these components do for

learning. O'Malley and Chamot (1990, p. 46) also classify learning strategies into three types of strategies − metacognitive, cognitive and, socio/affective strategy. Metacognitive strategy consists of four components which are selective attention, planning, monitoring, and evaluation. Selective attention is the strategy focusing on important information. Planning and monitoring is planning and reviewing the task. Evaluation means checking and evaluating language comprehension. Table 2 shows the classification of learning strategies. On the other hand, Flavell, Miller, and Miller (2003) divided metacognition into three components: metacognitive knowledge, metacognitive monitoring, and metacognitive self-regulation. They considered metacognition to be a development process. Hence, metacognitive knowledge is the knowledge about the world acquired through experiences. Metacognitive monitoring and self-regulation mean cognitive acts while children solve problems. However, metacogntion in this study is addressed in an aspect of teaching L2 so it identifies metacognition with the learners' metacognitive strategy which includes planning, information management, comprehension monitoring, debugging, and evaluation strategies.

TABLE 1
Oxford's Metacognitive Strategies

Category	Metacognitive Strategy
Centering students' learning	• Overviewing and linking with already known material • Paying attention • Delaying speech production to focus on listening
Arranging and planning students' learning	• Finding out about language learning • Organizing • Setting goals and objectives • Identifying the purpose of a language test (Purposeful listening/ reading/ speaking/ writing) • Planning for a language task • Seeking practice opportunities
Evaluating students' learning	• Self-monitoring • Self-evaluating

TABLE 2

O'Malley & Chamot's Classification of Learning Strategies

Generic strategy	Representative strategies	Definitions
Metacognitive strategies	Selective attention	Focusing on special aspects of learning tasks, as in planning to listen for key words or phrases
	Planning	Planning for the organization of discourse
	Monitoring	Reviewing attention to a task, comprehension of information that should be remembered, or production while it is occurring
	Evaluation	Checking comprehension after completion of a receptive language activity, or evaluating language production after it has taken place
Cognitive strategies	Rehearsal	Repeating the names of items or objects to be remembered
	Organization	Grouping and classifying words, terminology, or concepts according to their semantic or syntactic attributes
	Inferencing	Using information in text to guess meanings of new linguistic items, predict outcomes
	Summarizing	Intermittently synthesizing what one has heard to ensure the information has been retained
	Deducing Imagery	Applying rules to the understanding of language
	Transfer	Using known linguistic information to facilitate a new learning task
	Elaboration	Linking ideas contained in new information, or integrating new ideas with known information
Socioaffective strategies	Cooperation	Working with peers to solve a problem, pool information, check notes, or get feedback on a learning activity
	Questioning for clarification	Eliciting from a teacher or peer additional explanation, rephrasing, or examples
	Self-talk	Using mental redirection of thinking to assure oneself that a learning activity will be successful or to reduce anxiety about a task

2.3 Use of Metacognition in the Classroom

The question why some learners are superior to other learners has brought the attention to individual's differences, cognitive processes, and behaviors. Metacogntion is considered as one of the successful learners' characteristics (Rubin, 1987). Hence studies about metacogntion in L2 classrooms have been conducted. There are three types of studies about metacogntion: the relationship between metacogntion and other elements, students' achievement, and metacognition teaching methods.

First, some scholars examined the relationship between metacogntion and other aspects such as affective factors, motivation, self efficacy, cognitive styles, attitude, and family environments (Jeon, 2015; Kim, 2009; Kim & Cho, 2010; Park, 2000). For instance, Chon (2015) examined the relationship between metacognition and academic motivation. The result showed that learners who are highly motivated in learning also have high levels of metacogntion. Likewise, other studies are for inspecting how metacogntion is related to other factors and how they effect on EFL students' learning. The results are not always relevant but these are helpful to find out successful learners' characteristics.

Then, the question whether high achieving learners use metacognitive strategies better than the others has risen. Hence, studies to identify the correlation between metacogntion and learners' academic skills have been carried out. Zhang and Seepho (2013) conducted a survey to find out the relationship between metacognitive strategy use and reading achievement with English major students in China. They achieved the result that high achieving students also score a high level of metacongtion. These kinds of studies have been performed with different age groups and with different kinds of achievement tests. The findings support the idea that high scored students use metacognitive strategies better than the others (Kang, 2013; Kwon, 2015).

Through the research, the importance of teaching metacognition in classrooms has been highlighted. The needs to develop metacognition in classrooms promote to investigate helpful teaching methods. Many different kinds of teaching methods were suggested not only for teaching languages but also for teaching other subjects. Many different kinds of approaches like the mind-map activity, self-instruction, elaboration strategies, blogging, think aloud strategy, and questioning were used to develop metacogntive strategies. These approaches appear to be effective to increase learners' metacogntion levels. Noticeably, most metacognition training methods contain a

questioning process. This research supported that learners can stay focused on learning procedures and bring their background knowledge by questioning (Hong, 2010; Chang, 1998; Jeong, 2001; Jo, 2008; Kim, 2002; Lee & Paik, 2013; Ryu, 2009; Welsh, 2013). Consequently the students could improve metacognitive skills by using questioning processes. Preceding research indicates that there are some possible elements that can help to develop metacognition. For example, Limpman (2003) argued that learners can develop metacognition as they think critically and constructively. Thus, this study could assume that the elements identified from previous research coincides with elements of PI (summarizing, questioning, clarifying, and predicting). Hence this study suggests PI to elaborate metacognition skills.

2.4 Characteristics of Peer Instruction

PI combines the characteristics of both Cooperative Language Learning (CLL) and metacognition training classrooms. Peer tutoring and peer monitoring-based instruction where students cooperate with each other initially promoted CLL hundreds of years ago (Richards & Rodgers, 2001). Before then instructions in public schools were based on teacher's rules and students had to compete with others for winning. This teacher-centered method made students passive learners and could not fulfill an individual learners' needs in a 2L classroom. Unlike this traditional teaching method, CLL has its own characteristics and benefits. Richards and Renandya (2002) enumerate seven characteristics and benefits: less teacher's talk, more student's talk, more various students' talk, more meaning negotiation, plenty of comprehension input, a more comfortable and relaxed classroom environment, and more motivation for learning. Namely, compared to traditional teaching methods, PI pursues a learner-centered classroom. It also makes students active contributors in their learning process.

Moreover, there are four elements of PI: summarizing, questioning, clarifying, and predicting (Brown & Palincsar, 1984). Successful learners experience these four steps and their peers or teacher can lead for scaffolding through PI (Greive, 2009). Hence, PI method (it is also called reciprocal teaching) seems helpful to encourage learners to use strategies and metacognition. Orlich, Harder, Callahan and, Gibson (2001) argued that reciprocal teaching is a technique that can improve learners' metacognition and integrates some perspectives of thinking, inquiry, discussions, and metacogntion. They also stated that learners can be encouraged to use metacognition during discussion or

recitation period.

2.5 Relationship Between PI and L2 Achievement.

The PI approach also has an important role in L2 achievement. By using PI method in L2 classrooms, students can achieve their language skills better (Choi, 2010; Kim, 2014; Lim, 2010; Park, 2010). By teaching others, students are able to summarize and paraphrase what they have learned in their own terms (Kim, 2014). Brown and Palincsar (1984) also explained that students repeat trial and error and they can be successful learners by experiencing some adjustments. Through the process of summarizing, questioning, clarifying, and predicting, learners eventually become independent learners (Park, 2010). Although research verifying the effectiveness of PI was conducted in different kinds of subjects' classrooms, they are limited to some language skills like reading skill. Thus, this study identified a gap of teaching grammar with PI and it examines the effectiveness of PI in teaching grammar.

2.6 Use of Metacognition during Peer Instruction

There are some studies to connect teaching methods with metacognition. Researchers chose PI method for the collaborative scaffolding to develop learners' metacogntive skills. When students teach each other, they can help to expand their knowledge. In that process, they build up metacognitive strategies through summarizing, questioning, clarifying and predicting. Park (2009) investigated PI as a teaching method to promote metacogntion. The finding indicated that students' metacogntion levels were increased through PI. However, there are only a few studies related to this issue to be examined. To the researcher's knowledge, further studies which studied the relationship between metacognition and PI could not be found.

III. METHODOLOGY

3.1 Participants

The data were collected from eight students of a middle school located in N city. Participants in this study are all male and 9th grade students, and they were low achieving students. Hence they participated in this study to develop their English skills. At the time of the study, regular English class was divided into two groups (Class A and Class B) by English proficiency. The low achieving students studied in Class B. However, some students studying in Class B had a hard time following the regular class in Class B owing to their deficiency of basic knowledge about English. Hence some students were recommended by their English teacher. As a result, eight students in Class B participated voluntarily.

All of the participants answered that their English skills are poor or very poor compared to other students. On the question asking about their learning purpose, three students said that they want to learn English to get a good job or to achieve their dream. A student answered that he studies English to get a good score on his test. Half of eight students responded that they do not have any purpose to learn English. Six students did not take extra lectures after school. Most participants had never been to another country, but one student responded he had been to the Philippines for a month to travel.

3.2 Instrument

This research was to investigate if a PI-based class helps to develop learners' use of metacognitive strategies with questionnaires. Moreover, two achievement tests were used to examine the relationship between metacognition and English achievement. Furthermore, to gain further knowledge, interviews were conducted with three participants.

3.2.1 Metacognitive Strategies Questionnaire

A metacognitive strategies questionnaire was administered before and after PI as

shown in Table 3. The questionnaire was consisted of 35 items rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). This questionnaire was divided into six categories: planning, comprehension monitoring, information management, debugging, evaluation, and socioaffective strategies.

TABLE 3
Questionnaire Items

Strategy	Operationalization	Number of Item
Planning	Planning and goal setting	6
Comprehension Monitoring	Assessment of one's learning or strategy use	6
Information Management	Skills used to process information more effectively	8
Debugging	Strategies to correct errors and comprehension	4
Evaluation	Analysis of performance after learning	6
Socioaffective	emotional and social activities that learners use when they learn a language	5
Total		35

The metacognition questionnaire followed Schraw and Dennison's Metacognitive Awareness Inventory (1994). However some items on MAI were excluded since they seemed hard for low proficiency students to develop in 4 weeks. For instance, items such as 'I have a specific purpose for each strategy I use' or 'I am good at remembering information' do not seem to be taught through PI. Thus, these questions were excluded. Additionally, socioaffective strategies are included in the metacognition questionnaire according to the research purpose and participants' characteristics. The items of socioaffective strategies are adapted from Oxford's (1990) Strategy Inventory for Language Learner. The reliability of 35 items was Cronbach's alpha. 98.

3.2.2 Grammar Achievement Test

Participants took achievement tests twice: Pre- and post-test. Both tests consist of 9 grammar items. However there is a difference between the two tests. Pre-test has 2

short answers, while post-test includes 5 short answers. Most items are adapted from the teacher's guide and modified for participants in terms of participants' proficiency.

3.2.3 Interview

A semi-structured interview was conducted with three participants to support quantitative data. The researcher conducted the interview based on the 12 interview questions, which were constructed in advance (see Appendix 3). Four out of 12 questions were to confirm how the participants feel about PI. The remaining eight questions were about the use of metacognitive strategies after PI class. Interviewees voluntarily participated. Their responses were recorded after approving interviewees' consent.

3.3 Procedures

The PI based class was conducted for 8 periods through 4 weeks. The researcher proceeded with 8 periods. Following Table 4 illustrates what the eight participants learned during the 8 sessions.

TABLE 4
PI Sessions and Procedure

Period	Date	Target Grammar Structure
1	Oct. 1	Introduction to PI
2	Oct. 2	Direct and indirect speech
3	Oct. 5	Direct and indirect speech
4	Oct. 8	Participial construction
5	Oct. 12	Participial construction
6	Oct. 19	It seems that / seem to construction
7	Oct. 22	It seems that / seem to construction
8	Oct. 23	Review

At first, PI class worked in pairs, that is, two students taught each other. However, it was hard to give feedbacks to students and confirm if they were teaching right or not with this method. Hence, PI was revised. Table 5 shows the revised PI.

TABLE 5

Treatment Procedure

Step	Procedure	Teaching-Learning Activities	
		Teacher	Students
Introduction (10')	Review Set up the objectives Motivation	▶T asks grammar terms Ss learn in the last class. ▶ T suggests today's objectives and motivate Ss by giving examples.	▶ Ss review grammar terms and understand general concepts.
Development (30')	Teacher instruction Peer instruction Feedback	▶ T explains general concepts of grammar terms and how to make sentences with them. ▶ T gives time to explain their understandings to the peers. ▶ T induces different kinds of strategies and gives feedbacks.	▶ Ss use strategies to remember what they learned. ▶ Ss teach their peers and revise their understanding and strategies. ▶ Ss give feedback one another.
Consolidation (5')	Summary & Closing	▶ T reviews and gives homework.	▶ Ss review and check their understanding.

The revised PI was designed to get feedbacks and help their understandings simultaneously. More precisely speaking, one student came to the front and taught what he understood to the other students in turn. In this way, students could get feedbacks not only from the teacher but also from other peers. That is, they had a plenty of time to review and elaborate their understandings with a group.

3.4 Data Collection

This study contained 3 different types of data: pre- and post-metacognitive questionnaire, pre- and post-grammar achievement tests, and interviews. First, two sets of the metacognitive questionnaire and the grammar achievement test were conducted to investigate the differences in use of participants' metacognitive strategies and in grammar achievements before and after the PI class. Metacognitive questionnaires and grammar achievement tests were taken for around 15 minutes each. For further insight into metacognitive strategies and PI, the researcher privately interviewed three students after taking the post-grammar achievement test in another classroom in a relaxed setting. The interview procedures were audio taped after asking for permission.

All the data were collected during class hours, by the researcher, after getting the consent to participate in the study. Before collecting data, the researcher explained the purpose of this research and asked for their active participation and cooperation. While responding the questionnaire items, participants were encouraged to answer the questions sincerely and not to leave any items.

3.5 Data Analysis

In order to answer the survey questions, quantitative and qualitative data were analyzed in this study. Collected quantitative data from the metacognitive questionnaires and grammar achievement tests were examined by using SPSS 23. The study yielded several statistical techniques below:

1) Reliability test was used to measure the consistency of questionnaire items.
2) Descriptive statistics (mean, standard deviation, frequency, percentage) were used to examine the tendency in the use of metacognitive strategies.
3) *t*-tests were used to investigate any difference in using metacogntive strategies and achievement between pre- and post-tests.
4) Correlations were used to examine the relationship between metacognitive strategies and English achievement.

Lastly, collected qualitative data from the interviews were content-analyzed. Pseudonyms for interviewees were used to ensure anonymity. The written data were

read carefully with a goal of looking for recurring themes and any trends that might emerge from the data as a whole. In this way, the interview transcript was categorized and potential themes were noted.

IV. RESULTS AND DISCUSSION

4.1 Use of Metacognitive Strategies in the PI-based Classroom

To examine subjects' use of metacognitive strategies, items in the metacognitive tests were categorized and the descriptive statistics were calculated. The question items were categorized according to the types of metacognitive strategies: planning, comprehension monitoring, information management, debugging, evaluation, and socioaffective strategies. The frequency of using metacognitive strategies before and after PI is illustrated in the Tables from 4 to 10.

First, planning strategies are the skills to plan and set a goal before learning. Table 6 shows how much the students agreed to use of planning strategies.

TABLE 6

Use of Planning Strategies

Item		1	2	3	4	5	*M*	*SD*
1. I think about what I really need to learn before I begin a task.	Pre	2	5	1	0	0	1.87	.64
	Post	2	1	4	1	0	2.50	1.06
2. I pace myself while learning in order to have enough time.	Pre	3	4	1	0	0	1.75	.70
	Post	2	2	2	2	0	2.50	1.19
4. I think of several ways to solve a problem and choose the best one.	Pre	2	5	1	0	0	1.87	.64
	Post	2	1	4	1	0	2.50	1.06
5. I read instructions carefully before I begin a task	Pre	4	2	2	0	0	1.75	.88
	Post	2	1	5	0	0	2.37	.91
6. I set specific goals before I begin a task.	Pre	2	4	2	0	0	2.00	.75
	Post	3	0	4	1	0	2.37	1.18
10. I ask myself questions about the material before I begin.	Pre	2	5	1	0	0	1.87	.64
	Post	2	3	3	0	0	2.12	0.83
Total	Pre						1.85	.66
	Post						2.39	.84

Overall, the participants thought they did not use planning strategies before PI class (*M*=1.85). However the average score was increased after PI (*M*=2.39). More specifically, in Item 2 (I pace myself while learning in order to have enough time), 7 students responded 'strongly disagree' or 'disagree' on the pre test. However, the number of disagree was decreased to 4 and 2 students answered they use this strategy

after PI. In addition, in Item 4 (I think of several ways to solve a problem and choose the best one.), 7 students chose 'strongly disagree' and 'disagree' on the other hand, only 3 students left these negative answers after PI. That means 4 students developed this strategy through PI class. It might indicate that participants were incidentally stimulated to use planning strategies during PI class. Even though participants were not directly trained to use planning strategies, they seemed to adapt planning strategies to prepare for teaching others. Actually, students had enough time to use planning strategies in the PI classroom. Before listening to their teacher's instruction and getting ready to teach, the students possibly developed planning strategies.

Table 7 shows students' use of comprehension monitoring strategies before and after PI. The mean score of comprehension monitoring strategies on the pre test (*M*=1.91) was lower than 2.0. That means that students did not use comprehension monitoring before they took PI class.

TABLE 7

Use of Comprehension Monitoring Strategies

Item		1	2	3	4	5	*M*	*SD*
3. I find myself analyzing the usefulness of strategies while I study.	Pre	3	2	3	0	0	2.00	.92
	Post	2	1	4	0	0	2.28	.95
7. I ask myself questions about how well I am doing while learning something new.	Pre	1	3	4	0	0	2.37	.74
	Post	2	1	5	0	0	2.37	.91
8. I consider several alternatives to a problem before I answer.	Pre	5	2	1	0	0	1.50	.75
	Post	2	0	4	1	1	2.87	1.35
9. I ask myself if I have considered all options when solving a problem.	Pre	2	4	2	0	0	2.00	.75
	Post	2	1	1	4	0	2.87	1.35
11. I find myself pausing regularly to check my comprehension.	Pre	3	3	2	0	0	1.87	.83
	Post	3	0	5	0	0	2.25	1.03
12. I ask myself periodically if I am meeting my goals.	Pre	4	2	2	0	0	1.75	.88
	Post	2	0	5	1	0	2.62	1.06
Total	Pre						1.91	.72
	Post						2.47	1.04

However, the average test score was increased to 2.47 after PI. For instance, a participant showed the confidence in thinking alternatives by answering 5 ('strongly agree') in Item 8 (I consider several alternatives to a problem before I answer). Moreover, in Item 9, nobody answered that they consider all options when solving a

problem on the pre test while, 4 students answered that they will use this strategy after PI.

During the interview, the researcher confirmed that a participant monitored his understanding. Asking if there was any difficulty in answering the questions on the grammar achievement test, Adam answered that "these two made me confused." and "I know '–ing' should be followed after a verb but I didn't know about 'to–'." He was confused about what he was supposed to choose between 'to crossing' and 'crossing' and between 'to entering' and 'entering'. He spent a few minutes in deciding between two and unfortunately he got the wrong answers. Although he did not find the right gerund form, it seems that he tried to recall what he learned and considered two different options to be accurate. Hence, it can be assumed that students could develop comprehension monitoring strategies by checking their understandings and elaborating them through teaching experience. In other words, the experience of teaching seems to make them consider other alternatives because, their understandings would be constrained in their theories if they did not have chance to tell others what they understood.

Table 8 shows the differences in information management strategies between pre- and post-PI class. Overall, the use of information management strategies was enhanced after PI class. Especially, there was a meaningful change in Item 14 (I consciously focus my attention on important information). Nobody answered 'agree' at first but, after PI 2 students answered 'agree' and 'strongly agree' on this item.

TABLE 8

Use of Information Management Strategies

Item		1	2	3	4	5	*M*	*SD*
14. I consciously focus my attention on important information.	Pre	1	3	4	0	0	2.37	.74
	Post	1	1	4	1	1	3.00	1.19
15. I focus on overall meaning rather than specifics.	Pre	4	2	2	0	0	1.75	.88
	Post	2	1	4	1	0	2.50	1.06
16. I draw pictures or diagrams to help me understand while learning.	Pre	5	1	2	0	0	1.62	.91
	Post	2	3	2	1	0	2.25	1.03
17. I try to break studying down into smaller steps.	Pre	5	2	1	0	0	1.50	.75
	Post	2	3	2	1	0	2.25	1.03
18. I ask myself if what I'm reading is related to what I already know.	Pre	4	3	1	0	0	1.62	.74
	Post	2	1	2	3	0	2.75	1.28
19. I try to translate new information into my own words.	Pre	4	2	2	0	0	1.75	.88
	Post	3	1	2	2	0	2.37	1.30
20. I create my own examples to make information more meaningful.	Pre	3	2	3	0	0	2.00	.92
	Post	2	1	4	1	0	2.50	1.06
23. I slow down when I encounter important information.	Pre	3	1	4	0	0	2.12	.99
	Post	2	2	1	3	0	2.62	1.30
Total	Pre						1.84	.61
	Post						2.53	.96

Above all, the average score was increased to 3.0, which is the highest score among metacognitive strategies. Additionally, before PI nobody showed a positive response in Item 18 (I ask myself if what I'm reading is related to what I already know), but 3 students answered they use this strategy after PI. That is, it seems that information management strategies are also encouraged to use in the PI classroom. This also indicates that they somehow found the reason to use information management strategies in PI class since strategies were not instructed directly in the classroom. Accordingly, considering their learning procedure, it is assumed that students adapted the information management strategies to process the information better before teaching others. As a reason for this, students had trouble remembering where they were confident, once they started teaching others. Thus students may find information management strategies effective when organizing their understandings.

Table 9 shows the use of debugging strategies, which are the strategies to correct errors and comprehension. In general, debugging strategies are also in an upward trend. Most of all, it appears that Item 21 (I ask others for help when I don't understand

something) is the strategy students frequently used after PI. For instance, nobody answered 'agree' for this item before the treatment, on the other hand, three students positively responded after the PI treatment.

TABLE 9

Use of Debugging Strategies

Item		1	2	3	4	5	*M*	*SD*
13. I stop and go back over new information that is not clear.	Pre	3	4	1	0	0	1.75	.70
	Post	3	1	3	1	0	2.25	1.16
21. I ask others for help when I don't understand something.	Pre	5	1	2	0	0	1.62	.91
	Post	1	3	1	3	0	2.75	1.16
22. I re-evaluate my assumptions when I get confused.	Pre	4	2	2	0	0	1.75	.88
	Post	3	2	3	0	0	2.00	.92
24. I stop and reread when I get confused.	Pre	3	2	3	0	0	2.00	.92
	Post	1	2	3	1	0	2.57	.97
Total	Pre						1.78	.61
	Post						2.42	.98

Similarly, the participants' use of debugging strategy was supported in the interview. When the researcher asked what you did when you had trouble in understanding something, Jay answered "I asked to the teacher or a friend" and "I read the textbook or my memo again". All three interviewees answered that they ask others for help when they have trouble understanding something. That is, debugging strategies are the most convenient strategies the students can use immediately because the researcher observed students checked their understandings by asking for help before stepping up to teach others. Moreover, providing a learning context where students need to check their comprehension can allow the students to use debugging strategies more frequently.

Table 10 shows how students developed evaluation strategies. It seems that participants did not use evaluation strategies at all before the treatment (scores were lower than 4) but, overall scores were increased after PI treatment.

TABLE 10

Use of Evaluation Strategies

Item		1	2	3	4	5	*M*	*SD*
26. I ask myself if there was an easier way to do things after I finish a task.	Pre	5	3	0	0	0	1.37	.51
	Post	3	2	2	1	0	2.12	1.12
27. I ask myself if I learned as much as I could have once I finish a task.	Pre	4	3	1	0	0	1.62	.74
	Post	1	4	2	1	0	2.37	.91
28. I ask myself how well I accomplish my goals once I'm finished.	Pre	6	2	0	0	0	1.25	.46
	Post	2	1	4	0	0	2.28	.95
29. I ask myself if I have considered all options after I solve a problem.	Pre	4	3	1	0	0	1.62	.74
	Post	1	5	2	0	0	2.12	.64
30. I summarize what I've learned after I finish.	Pre	4	3	0	0	0	1.42	.53
	Post	1	2	5	0	0	2.50	.75
31. I know how well I did once I finish a test.	Pre	5	0	3	0	0	1.75	1.03
	Post	2	2	3	0	0	2.14	.89
Total	Pre						1.40	.35
	Post						2.21	.74

In Item 30 (I summarize what I've learned after I finish) and 28 (I ask myself how well I accomplish my goals once I'm finished), all students answered 'disagree' or 'strongly disagree' but, just three students responded negatively after the treatment. Moreover, the researcher observed differences in students' behaviors on the pre- and post-test day. On the day of taking pre test, students were not interested in their test results and did not review what they did, whereas on the last day participants reviewed and checked the answers. In fact, the participants in this study were not good users of evaluation strategies compared to others. Notwithstanding, the participants are getting used to evaluating themselves.

Table 11 shows the use of socioaffective strategies, which are emotional and socio activities when student learn a language. As seen in Table 11, the strategy use was increased from 1.37 to 2.25. Although generally there was improvement in using socioaffective strategies, it appears that the participants are clumsy in using socioaffective strategies.

TABLE 11

Use of Socioaffective Strategies

Item		1	2	3	4	5	*M*	*SD*
25. I ask English speakers to correct me when I talk.	Pre	4	3	1	0	0	1.62	.74
	Post	2	3	2	1	0	2.25	1.03
32. I practice English with other students.	Pre	3	2	3	0	0	2.00	.92
	Post	2	4	2	0	0	2.00	.75
33. I try to learn about the culture of English speakers.	Pre	5	3	0	0	0	1.37	.51
	Post	2	2	4	0	0	2.25	.88
34. I ask questions in English.	Pre	5	2	1	0	0	1.50	.75
	Post	4	2	2	0	0	1.75	.88
35. If I do not understand something in English, I ask the other person to slow down or say it again.	Pre	3	4	1	0	0	1.75	.70
	Post	2	3	3	0	0	2.12	.83
Total	Pre						1.64	.57
	Post						2.07	.77

For instance, as shown in Item 32 (I practice English with other students), a strategy was stuck on a plateau of development. In addition, a few students answered ‘agree’ and ‘strongly agree’ for socioaffective strategies. Consequently, it can be assumed that socioaffective strategies are complicating strategies for the low proficiency learners to use. Thus, the learners need to be motivated and interested in learning English to use these strategies effectively and the participants in this study seem to take more time to develop socioaffective strategies.

Table 12 shows the differences of metacogntive strategies use before and after the PI. While all six mean scores in the post were higher than before PI, the significant difference was only identified in the use of evaluation strategies (p=.023). The use of evaluation strategies was the lowest (M=1.40) among metacognitive strategies.

TABLE 12

Difference in the Use of Metacognitive Strategies Between Pre- and Post-test

Strategy	Pre		Post		*t*	*p*
	M	*SD*	*M*	*SD*		
Planning	1.85	.66	2.39	.84	-1.421	.177
Comprehension Monitoring	1.91	.72	2.47	1.04	-1.221	.244
Information Management	1.84	.61	2.53	.96	-1.705	.110
Debugging	1.78	.61	2.42	.98	-1.545	.146
Evaluation	1.40	.35	2.21	.74	-2.595	.023
Socioaffective	1.65	.57	2.07	.77	-1.244	.234

However, the students showed the progress in using evaluation strategies. As a reason for this, it seems that students started evaluating themselves as periodically checking their comprehension and getting peer feedbacks in the PI classroom. Furthermore, as it mentioned above, reflective thinking about their performance might produce this result.

Aside from the evaluation strategy, other strategies also show positive changes, although they were not statistically significant. The students might be on the progress of developing metacognitive strategies, since the experiment only lasted for four weeks (8 periods).

4.2 Relationship Between Metacogntion and English Grammar Achievement.

As it analyzed the use of metacognition, the English grammar achievement was analyzed in two periods. The result showed that students' grammar achievement was increased from pre-test (M=4.37) to post-test (M=23.75). In other words, both students' metacognition and grammar achievement were enhanced after PI class.

Then, the relationship between two variables (metacognition and grammar achievement) was examined. Table 13 below indicates the relationship between the use of metacognitive strategies and English grammar achievement. On the pre-grammar achievement test, some statistically significant relationships are identified. For instance, the scores on planning, comprehension monitoring, debugging, and evaluation strategies were correlated to pre-grammar achievement. On the other hand, on the post-test, only planning strategies (r=.41) show the correlation with post-achievement test.

TALBE 13

Relationship Between Metacognition and Grammar Achievement

Strategy	Grammar	
	Pre (*p*-value)	Post (*p*-value)
Planning	.34 (.39)	.33 (.41)
Comprehension Monitoring	.45 (.25)	.14 (.76)
Information Management	.16 (.69)	.17 (.67)
Debugging	.35 (.38)	.22 (.62)
Evaluation	.49 (.22)	.13 (.78)
Socioaffective	.25 (.54)	-.08 (.84)

Although students' grammar score were increased, the relations between two were decreased and showed smaller correlation coefficients. For instance, the relationship between comprehension and grammar achievement was decreased from pre (r=.45) to post (r=.14). There was a negative relation between socioaffective strategies and grammar achievement (r=-.08). One possible interpretation for this is the difference in test items. The number of short answer items was increased from pre-test (n=2) to post-test (n=5). Thus, the difference in test items might affect on test results and lead to show smaller correlations between metacognive strategies and grammar achievement.

V. CONCLUSION

5.1 Summary of the Study

This present study aimed to find out the effectiveness of PI in developing learners' metacognitive strategies in the language classroom and examined the relationship between metacognitive strategies and English grammar achievement. Eight middle school students participated in this study. The participants had eight periods of PI class.

First of all, the frequency of using metacognitive strategies examined before and after PI. The 35 items on the metacognitive strategies questionnaire were divided into six types of metacognitive strategies: planning, comprehension monitoring, information management, debugging, evaluation, and socioaffective strategies. The result of pre- and post-metacognitive strategies questionnaire showed that overall use of metacognitive strategies was increased after 8 periods of PI even though, there was no dramatic improvement. Among the metacognitive strategies, evaluation strategy only showed significant difference between before and after PI.

Second, grammar achievement had also increased after PI. Then, the *t*-test was taken to confirm if the increased grammar achievement test result was affected by their metacognitives strategies. On the pre test, four strategies out of six were statistically correlated to grammar achievement. However, post test result showed there was no cause and effect relationship between two variables. In brief, the scores of grammar achievement tests were increased in the post period. However the correlation coeffeicient were decreased.

5.2 Pedagogical Implications

The research findings have some implications to the language teachers. Above all, the aim of this research was to develop metacognitive strategies through PI. Although not all strategies turned out statistically significant, the participants in this study showed progress in using metacognitive strategies. Students also reported that metacognitive strategies were useful in learning English and PI helped to develop them. Thus, PI can be a useful option to adapt in a language classroom for developing students' metacognition. However, other educational settings should be concerned and the

procedure needs to be revised. For instance, PI can be adapted in different ways according to different settings or participants. The time and procedures can be various. As this study mentioned, PI had been revised during the treatment period because, it is hard to give feedbacks when the teacher makes two peers teach each other. Hence this researcher revised PI so that every student has chances to practice and participate in teaching actively. As a result, the students easily got feedback from their teacher and peers. According to the class size, the difficulty could be worse. Heterogenous groups might not need to follow this procedure. Rather the teacher can make high proficiency students teach low proficiency students. Also, it is unnecessary to be limited in the classroom. Taking this PI approach into a mentor and mentee system, the teacher can make high proficiency students help other students inside and outside of the classroom.

Besides, the different target structure might influence in the result. Although PI class in this study was based on grammar instruction, different skills such as reading or speaking can be instructed in PI-based classrooms. Hence, after need analysis, the different PI classes can be designed according to students' needs, goals, proficiencies, and topics.

Lastly, the PI class which the researcher designed for this study was providing many chances to practice strategies. However, taking the same teaching procedure does not make the same results, because the teacher's role is important in developing metacognitive strategies. According to Brown (2007), the teacher should provide students with chances to try out, practice and ask for help to teach strategies. This research also asserts that the teachers need to create a learning context interactively to promote strategies and help active feedbacks can be exchanged like other researchers suggested.

5.3 Limitations

This study does include its limitations. First of all, the small sample size and short duration could not be enough to draw a generalized result. It would be better to observe the patterns of using metacognitive strategies if more students could participate in this study. Although the progress has been observed for the 4 weeks, there might be a potential limit for participants to adapt PI and develop metacognitive strategies in a short period.

Secondly, the proficiency of the participants could cause different results. The

participants of this study were low proficiency learners and have little motivation to study English. Thus, the English they use was limited to the classroom. As they did not study English outside of the classroom, the participants had a limited chance to use and revise their metacognitive and language skills. If different proficiency levels of participants were involved in this study, different test results may be examined.

5.4 Further Research Suggestions

To resolve the limitations above for following studies, this study proposes some suggestions. First, the participants in this study were small and low proficiency learners. However, a different procedure of PI needs to develop for a larger group size and it may bring different results. Thus, this research proposed that a more diverse study should be conducted with more participants and for sufficient time. Also, different proficiency levels should be considered to obtain more reliable findings.

Although this research could find a non significant relation between metacognition and grammar achievement, PI class possibly contributed to develop students' grammar achievement. Thus, further studies need to find out the relation between the two. PI classes with different target grammar structures may result in different consequences.

Furthermore, most PI studies are limited to high proficiency learners. However, this study confirmed that PI is useful for low proficiency learners. The participants in this study had to focus on every lesson because the nature of PI encourages them to participate in every moment in the classroom. The achievement results indicated PI class was effective to teach English. Hence, the effects of PI classes with low proficiency learners on language achievement needs to be investigated more with combined methods.

Additionally, further studies to examine an effective metacognition training method need to be investigated. As the importance of metacognition in the language classroom has been highlighted, more research needs to be done and extended to various settings to shed further light on the influence of metacognitive strategies in the language classroom. Likewise, EFL teachers' efforts are also necessary to promote the students' metacognitive skills by providing effective learning environments, which eventually can help them achieve language goals.

REFERENCES

Benton, C. W. (2014). *Thinking about thinking: Metacogntion for music learning* Retrieved from Setember 10, 2016, from the World Wide Web: http://libproxy.chosun.ac.kr/d40edcd/_Lib_Proxy_Url/web.a.ebscohost.com/ehost/detail/detail?sid=b3b5bb17-40bd-4783-9d81-cab1c1b88a3c%40sessionmgr4009&vid=0&hid=4212&bdata=Jmxhbmc9a28mc2l0ZT1laG9zdC1saXZl#AN=706829&db=nlebk.

Biggs, J. (1988). Approaches to essay writing. In R. R. Schmeck (Ed.), *Learning strategies and learning styles* (pp. 185-191). New York: Plenum Press.

Brown, A. L., & Palincsar, A. S. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition & Instruction, 2*, 117-175.

Brown, H. D. (2007). *Principles of language learning and teaching (5th Ed.)*. New York: Pearson Education.

Chang, H. C. (1988). *The effects of reading program using elaboration strategies on children's metacognition and self-efficacy*. Unpublished master's thesis. Cheongju: Korea National University of Education.

Choi, H.-Y. (2010). *Effects of reciprocal teaching on academic achievements and behaviors toward science*. Unpublished master's thesis. Inchoen: Gyeongin National University of Education.

Chon, Y. V. (2015). Metacognitive listening strategies and academic motivation of Korean EFL adolescent learners. *Morden English Education, 16*, 91-119.

Flavell, J. H., Miller, P. H., & Miller, S. A. (2003). *The humanities*. Seoul: Sigma Press.

Goswami, U. (2008). *Cognitive development: The learning brain*. Hove, East Sussex: Psychology Press.

Greive, C. (2009). The effectiveness of the methods of reciprocal teaching. *TEACH, 3*(1), 45-52.

Hong, J. E. (2010). *The effects of using mind map on student's metacognition in elementary social studies*. Unpublished master's thesis. Gwangju: Gwangju National University of Education.

Jang, J.-Y. (2010). *The effect of metacognition level and interest on the science achievement of middle school students.* Unpublished master's thesis. Pusan:

Pukyong National University.

Jeon, H.-J. (2015). *Effect of role-play module using metacognition on primary school students' English ability and affective factors*. Unpublished doctoral dissertation. Gonju: Gongju National University.

Jeong, H.-S. (2001). *The effects of self-instruction training on metacognition ability and science inquiry ability*. Unpublished master's thesis. Suncheon: Suncheon National University.

Jo, M.-K. (2008). *Effects of problem-based learning (PBL) on problem solving process and self-efficacy according to the metacognition level in biology lesson of middle school*. Unpublished master's thesis. Cheongju: Korea National University of Education.

Kang, J. H. (2013). *Effects of Korean university EFL learners' reading motivation and metacognitive reading strategies on reading achievement*. Unpublished doctoral dissertation. Gwangju: Chosun University.

Kim, H. (2014). *The quality of reciprocal teaching strategy use*. Unpublished master's thesis. Seoul: Sookmyung Women's University.

Kim, H. K. (2002). *The effects of self-questioning strategy training on the children's reading comprehension and metacognition*. Unpublished master's thesis. Bucheon: The Catholic University of Korea.

Kim, S.-H. (2009). *A study on the correlation of writing metacognition: Writing attitude and family environments to writing skills in high schoolers*. Unpublished master's thesis. Cheongju: Korea National University of Education.

Kim, S.-Y., & Cho, K.-L. (2010). The effect of different cognitive styles on metacognition. *The Journal of Educational Information and Media, 16*(2), 177-196.

Kim, W.-Y., & Chang, Y.-O. (2009). Linking metacognition to second language (L2) acquisition. *Humanities, 56*, 27-48.

Kim, Y. (2014). *The development of reciprocal teaching in English reading for 1st grade Korean learners*. Unpublished master's thesis. Seoul: Sookmyung Women's University.

Kwon, J. (2015). *The metacogntive awareness of EFL female high school students in listening in English*. Unpublished master's thesis. Seoul: Sookmyung Women's University.

Lee, N, J., & Paik, S. H. (2013). The effects of scientific program for gifted

elementary students using metacognition on learning-flow and lingual interaction. *Elementary Science Study, 32*(4), 415-422.

Lim, S.-E. (2010). *The effects of reciprocal teaching in a Korean high school reading classroom*. Unpublished master's thesis. Seoul: Sookmyung Women's University.

Lipman, M. S. (2003). *Thinking in education*. Cambridge: Cambridge University Press.

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press.

Orlich, D. C., Harder, R. J., Callahan, R. C., & Gibson, H. W. (2001). *Teaching strategies: A guide to better instruction*. New York: Houghton Mifflin Company.

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know.* Boston: Heinle & Heinle Publishers.

Park, S.-Y. (2009). *Impact of Peer Teaching on the Problem-Solving Skills and Metacognition of Peer Tutors*. Unpublished master's thesis. Seoul: Seoul University.

Park, Y. (2010). *The effects of reciprocal teaching on reading comprehension and strategy use among Korean EFL young learners*. Unpublished master's thesis. Seoul: Sookmyung Women's University.

Park, Y. S. (2000). *A Study on the relationships between academic achievement and metacognition, goal orientation and self-efficacy*. Unpublished master's thesis. Seoul: Seoul Women's University.

Richards, J. C., & Renandya, W. A. (2002). Class dynamics. In J. C. Richards & W. A. Renandya. (Eds.), *Methodology in language teaching: An anthology of current practice* (pp. 49-51). Cambridge: Cambridge University Press.

Richards, J. C., & Rodgers, T. S. (2001). *Approaches and methods in language teaching*. Cambridge: Cambridge University Press.

Rubin, J. (1987). Learner strategies: Theoretical assumptions, research history and typology. In A. Wenden & J. Rubin (Eds.) *Learner strategies in language learning* (pp. 23-38). Cambridge: Cambridge University Press.

Ryu, S. J. (2009). *The effects of question making training on metacognition, self-efficacy and question levels*. Unpublished master's thesis. Pusan: Pusan University.

Schraw, G. & Dennison, R. S. (1994). Assessing metacognitive awareness. *Contemporary Education Psychology, 19*, 460-475.

Welsh, B. (2013). *Developing metacognitive awareness of writing strategies by*

blogging: An action research study. Unpublished master's thesis. Seoul: Sookmyung Women's University.

Yoon, J.-Y. (2006). *The effect of metacognition level influential on learner's schoolwork achievement in social studies class*. Unpublished master's thesis. Daegu: Daegu University.

Zhang, L., & Seepho, S. (2013). Metacognitive strategy use and academic reading achievement: Insight from a Chinese context. *Electronic Journal of Foreign Language Teaching, 10*(1), 54-69.

APPENDIXES

1. **Personal background questionnaire**

안녕하세요? 먼저 질문에 응해주셔서 감사합니다. 이 질문지는 여러분이 영어를 공부할 때 사용하는 학습전략을 측정하기 위함입니다. 이 질문을 통해 여러분들의 ***학습을 계획하고 평가하는 능력*** *(Meta-cognition)*과 ***다른 사람과 협동하는 능력****(socio-affective)*을 알아보려고 합니다. 각 문항은 맞거나 틀린 답이 없으며 현재 자신의 모습에 맞는 답을 해주면 됩니다. 여러분이 성실하게 응답한 질문지는 연구 목적 외에는 사용되지 않으며, 학생 여러분의 성적이나 평가에는 아무런 영향을 주지 않습니다. 선생님의 설명을 잘 듣고 충분히 생각한 후 한 문장도 빠짐없이 답해주십시오.

1. 학교에서의 영어 교육을 제외하고 언제부터 영어공부를 시작했나요?
① 유치원 ② 초등 1학년 ③ 초등 2학년 ④ 초등 3학년

2. 반 아이들과 비교했을 때 자신의 영어실력은 어느 정도라고 생각하나요?
① 매우 부족함 ② 부족함 ③ 보통임 ④ 우수함 ⑤ 매우 우수함

3. 영어를 배우는 목적은 무엇인가요?
① 시험을 잘 보기 위해서
② 좋은 직업을 갖기 위해서
③ 꿈을 이루기 위해서
④ 영어가 좋아서
⑤ 기타

4. 학교 영어 수업 외에 어떤 영어 수업을 수강하고 있나요?
① 학원 강의 ② 인터넷 강의 ③ 방과 후 수업
④ 과외(개인, 그룹) ⑤ 없음 ⑥ 기타:_____
5. 영어권 문화를 경험(연수, 여행)한 적이 있습니까? 있다면 나라와 기간을 적어주세요.
① 있다 (나라:_____기간:_____)② 없다

6. 영어 수업 시간을 제외하고 일주일에 영어 공부를 얼마나 하고 있습니까?
① 전혀 하지 않는다 ② 1시간 정도 ③ 2시간~3시간 정도
④ 4시간~5시간 정도 ⑤ 6시간 이상

7. 영어 캠프를 다녀온 적이 있습니까?
① 있다(　　회) ② 없다

8. 영어캠프를 다녀온 것은 누구의 권유에 의한 것입니까?
(7번 항목 ①번 답변자 만)
① 부모님 ② 선생님 ③ 친구 ④ 나 자신 ⑤ 기타(　　)

2. Metacognitive strategy questionnaire

*** 영어 학습과 관련하여 자신에 해당된다고 생각하는 번호에 √ 또는 O 표시 하십시오.**

1.거의/ 전혀 그렇지 않다. 2. 대체로 그렇지 않다. 3. 가끔 그렇다.
4. 대체로 그렇다. 5. 매우 그렇다.

문 항		1	2	3	4	5
1	나는 영어 공부하기 전 무엇을 학습해야하는지에 대해서 생각한다.					
2	나는 영어를 학습할 때 학습 목표를 달성하기 위해서 시간을 잘 분배한다.					
3	나는 영어 공부를 하는 동안 나의 학습전략이 옳은지에 대해 생각해본다.					
4	나는 영어실력 향상을 위해 다양한 방법을 생각하고 가장 적합한 것을 고른다.					
5	나는 영어문제를 풀 때 지문과 문항을 주의 깊게 읽는다.					
6	나는 영어 공부하기 전 구체적인 목표를 설정한다.					
7	나는 새로운 것을 배울 때 얼마나 잘 배우고 있는지 스스로 점검한다.					
8	나는 영어 문제에 답하기 전 다양한 다른 답을 고려한다.					
9	나는 영어 문제를 풀 때 모든 선택 방법을 다 고려한다.					
10	나는 영어 공부하기 전 어떤 책이나 도구를 사용하여 공부할지에 대해 생각한다.					
11	나는 영어 공부를 하는 동안 내가 이해하는 것이 맞는지 수시로 멈추어 확인한다.					
12	나는 영어 학습 목표를 세웠을 때, 학습목표를 향해 잘 가고 있는지 수시로 점검한다.					
13	나는 영어가 이해가 잘 되지 않을 때 멈추고 다시 읽는다.					
14	나는 영어 공부를 하다가 중요한 내용이라고 생각되는 부분은 의식적으로 집중한다.					
15	나는 작고 구체적인 내용보다 전체적이고 포괄적인 내용에 집중한다.					
16	나는 영어공부를 하는 동안 사진이나 표를 그려 이해를 돕는다.					
17	나는 공부 할 내용을 작은 단계로 나누어 생각할 수 있다.					
18	나는 영어 지문을 읽을 때 미리 알고 있는 내용과 연관 지어 생각한다.					
19	나는 새로운 내용을 나만의 단어로 해석하려고 이해하려고 한다.					
20	나는 학습내용을 이해하기 쉽게 하려고 나만의 예시를 만든다.					
21	나는 영어를 잘하는 사람들에게 도움을 요청한다.					
22	나는 이해가 되지 않을 때 내가 알고 있는 내용이 맞는지 다시 검토해본다.					
23	나는 중요한 내용을 읽을 때, 속도를 늦춘다.					
24	나는 배우는 내용이 이해가 되지 않으면 다른 방법으로 이해하려					

	노력한다.					
25	나는 원어민에게 내 영어의 틀린 곳을 지적해달라고 부탁한다.					
26	나는 내가 공부를 마친 후 더 쉬운 방법이 있었는지 확인한다.					
27	나는 공부를 마친 후 내가 학습 목표를 잘 성취했는지 확인한다.					
28	나는 문제를 풀고 나서 모든 선택 방법을 다 생각해 봤는지 확인한다.					
29	나는 공부를 마친 후 내가 할 수 있는 만큼 잘 배웠는지 확인한다.					
30	나는 공부를 마치기 전에 내가 무엇을 배웠는지 요약한다.					
31	나는 시험을 마치면 시험을 얼마나 잘 봤는지 알 수 있다.					
32	나는 다른 학생들과 영어 사용을 연습한다.					
33	나는 영어권 문화에 관심을 갖고 알려고 노력한다.					
34	나는 영어로 질문을 한다.					
35	내가 상대방의 영어를 잘 이해하지 못한다면, 상대방에게 천천히 말하라든지 다시 한 번 말해 달라고 요청한다.					
계						

3. Interview questions

	Interview Question	Type of Question
1	친구들을 가르칠 때의 기분은 어땠나요?	PI
2	친구들을 가르칠 때, 모르는 부분이 생기면 어떻게 했습니까?	PI
3	친구를 가르친다는 것이 공부에 도움이 되었습니까?	PI
4	기회가 되면 다시 PI 수업을 해보고 싶나요?	PI
5	배운 내용에서 중요한 부분이 어떤 부분이라고 생각하나요? 중요한 부분이라고 생각될 때는 어떻게 했습니까?	information management
6	선생님이 친구를 가르치라고 했을 때, 알고 있는 내용을 다시 한 번 되돌아봤습니까?	comprehension monitoring
7	수업 전 또는 수업 중간에 학습 계획을 짰습니까?	planning
8	시험을 보고 난 후 어떤 문제를 맞혔다고 확신이 들었습니까?	evaluation
9	시험 본 후 답은 검토해 봤나요?	comprehension monitoring
10	친구들과 영어도 이야기하려고 노력했습니까?	socioaffective
11	모르는 내용이 있으면 어떻게 대처했습니까? 누구에게 도움을 청했나요?	debugging
12	시험 볼 때 모든 선택지를 다 검토했습니까?	evaluation