



저작자표시-비영리-변경금지 2.0 대한민국

이용자는 아래의 조건을 따르는 경우에 한하여 자유롭게

- 이 저작물을 복제, 배포, 전송, 전시, 공연 및 방송할 수 있습니다.

다음과 같은 조건을 따라야 합니다:



저작자표시. 귀하는 원저작자를 표시하여야 합니다.



비영리. 귀하는 이 저작물을 영리 목적으로 이용할 수 없습니다.



변경금지. 귀하는 이 저작물을 개작, 변형 또는 가공할 수 없습니다.

- 귀하는, 이 저작물의 재이용이나 배포의 경우, 이 저작물에 적용된 이용허락조건을 명확하게 나타내어야 합니다.
- 저작권자로부터 별도의 허가를 받으면 이러한 조건들은 적용되지 않습니다.

저작권법에 따른 이용자의 권리는 위의 내용에 의하여 영향을 받지 않습니다.

이것은 [이용허락규약\(Legal Code\)](#)을 이해하기 쉽게 요약한 것입니다.

[Disclaimer](#)

교육학석사학위논문

The Effects of Contrual Level and
Goal Orientation on Self-regulated
Behavior and Task Achievement

해석 수준과 목표 지향성이
자기 조절 행동과 과제 성취도에 미치는 영향

2014년 8월

서울대학교 대학원

교육학과 교육학전공

김 남 희

Abstract

The Effects of Construal Level and Goal Orientation on Self-regulated Behavior and Task Achievement

The present study investigated how construal level and goal orientation affect self-regulated behavior and task achievement. In order to examine the way the qualitative perspective of goals influence self-regulated processes and outcomes, a 2 (high-level construal vs. low-level construal) \times 2 (mastery goal orientation vs. performance goal orientation) between-groups factorial design was developed.

Although the results of the present research showed an interaction effect of construal level and goal orientation on self-regulated behavior, the interaction direction is not consistent with the hypothesis. Specifically, when participants were in the mastery goal orientation condition, a significant difference of self-regulated behavior depending on the construal level was not observed. In other words, that was depending on students who were highly mastery goal oriented, the types of goal representation focusing on either high-level or low-level did not have an impact on self-regulated behavior distinctively.

In contrast, participants in the performance goal orientation condition showed a significant difference in self-regulated behavior according to the construal level. In specific, the students in the high-level construal condition were more likely to self-regulate than those in the low-level construal condition.

On top of that, the significant main effect of the goal orientation on task achievement was present. Both the interaction effect of independent variables and the main effects of construal level on task achievement fell short of statistical significance. In particular, students in the performance goal orientation condition showed higher task achievement than those in the mastery goal orientation condition.

These findings produced several important implications. First, this study examined underlying possible mechanisms of the way construal level affects self-regulation. Second, the present research also gives specific self-regulation strategies regarding goal-related representation for students who are in self-regulation conflict or failure.

In addition, in the competitive educational environment, which would increase student's performance goal orientation, high-level mental construal would promote positive effects of performance goal orientation on self-regulation. Not only that, emphasis on performance goal orientation would lead to better task achievement under certain circumstances. Especially, in terms of the cultural features of Korea educational settings, which is extrinsically oriented, it is meaningful to give suggestions to students with a performance goal orientation, as well as to build the mastery goal oriented educational environment.

Key words : construal level, goal orientation, self-regulation,
self-regulated learning

Student ID Number : 2012-21320

Table of contents

I . Introduction	1
1. Statement of Research Purpose	1
2. Research Questions	8
3. Definition of Terminology	9
II . Literature Review	12
1. Self-regulation	12
2. Construal Level	15
3. Goal Orientation	20
4. Interaction of Construal Level and Goal Orientation	25
III . Research Hypothesis	27
IV . Method	28
1. Participants	28
2. Materials	29
3. Measures	38
4. Procedure	39
V . Results	42
1. Statistical Descriptions and Correlations of Variables	42
2. The Effects of Construal level and Goal Orientation on Self-regulated Behavior	46
3. The Effects of Construal Level and Goal Orientation on Task Achievement	47
VI . Discussion	49
References	56
Appendix	67

List of Tables

Table 1. Items of construal manipulation check at group level	37
Table 2. Statistical descriptions of pretest variables	42
Table 3. Statistical descriptions of self-regulated behavior	43
Table 4. Correlation of variables	43
Table 5. Statistical descriptions of task achievement	44
Table 6. Correlations between self-regulated behaviors and task achievement	45
Table 7. Results of ANCOVA of effects of construal level and goal orientation on self-regulated behavior	46
Table 8. Results of ANCOVA of effects of construal level and goal orientation on task achievement	48

List of Figures

Figure 1. Examples of listening comprehension program sessions	32
Figure 2. Example of construal level manipulation	34
Figure 3. Examples of goal orientation manipulation	36
Figure 4. Procedure of the experiment	41
Figure 5. The interaction effects of construal level and goal orientation on self-regulated behavior	47

I . INTRODUCTION

Statement of Research Purpose

People frequently set various goals for better their lives. For example, they might want to get in shape, make better interpersonal relationship and save more money. Even though they desire earnestly, set goals for themselves, and have the necessary skills and opportunities to complete the goals, they commonly find themselves making decisions and acting oppositely to their desired objectives. Therefore, social psychology researchers have recently tried to answer this question, 'why do people frequently fail to achieve what they want to do?'(Muraven & Baumeister, 2000; Rachlin, 2000).

To date, a majority of research have established that the capacity to exert self-regulation is the core determinant for positive outcomes. Self-regulation refers to the decision-making to act in accordance with worthy and long-term rewards instead of following short-term temptations (Vohs & Baumeister, 2010). According to previous studies, self-regulation is the key construct to achieve successful outcomes such as keeping a diet, holding one's temper and saving money (Tangney, Baumeister, & Boone, 2004). In contrast, the failures of self-regulation are associated with addictions, interpersonal conflict, and many other negative outcomes (Alberts, Martjin, & Vries, 2011; Baumeister, 2002). Consequently, there have been numerous investigations on when and how people succeed or fail to self-regulate (Gollwitzer & Bargh, 1996; Heckhausen & Dweck, 1998).

Particularly, in educational settings, students face situations in which they should self-regulate ubiquitously. Students need to decide whether they pursue valuable but remote rewards or valueless but immediate impulses. For example, a student preparing a midterm exam may experience a psychological conflict between concentrating on their studies and playing internet games. In this regard, self-regulation is one of the most critical research subjects in the education area (Fujita et al., 2006).

In the education research area, self-regulation has been defined as the process where people personally activate and sustain behaviors, cognitions, and affects that are oriented to attain a better academic achievement (Zimmerman, 2000). The previous findings indicated that the capacity of self-regulation contributes to better academic outcomes (Blair & Razza, 2007; Tangney, Baumeister, & Boone, 2004).

However, a good deal of students do not self-regulate effectively (Schunk & Zimmerman, 2006), and even good learners have difficulty in self-regulated learning under certain circumstances (Schraw, 2010). Therefore, there is a need to investigate on how to enhance students' self-regulation.

From this perspective, much educational psychology research have tried to find the important determinants of self-regulation regarding personal variables such as age (Moore, Barresi, & Thompson, 1998), gender (Matthews, Ponitz, & Morrison, 2009), and self-efficacy (Bembenutty, 2002). Researchers also have examined several situational variables, for instance, task value (Karabenick & Bembenutty, 1998), task interest (McWhaw & Abrami, 2001) and implicit theories about ego-depletion (Job, Dweck, & Walton, 2010).

Although numerous studies have tried to show the effects of various factors on self-regulation, it is necessary to consider that self-regulation is a goal-related process that includes the pursuit of goal and the monitoring of goal-current situation discrepancy. In other words, students engage in goal setting, planning, and monitoring one's progress before, during, and after a self-regulated learning episode (Schraw, 2010; Zimmerman, 2008). To sum up, goal-related variables should be included in studies on self-regulation (Rhenberg, Vollmeyer & Rollett, 2000). Due to the fact that goal representation is an important determinant of self-regulation (Duckworth et al., 2011; Kim & Kim, 2013), it is necessary to take 'construal level theory' into consideration.

Construal level theory proposes that people's mental construal of events systematically affects their judgment and decision-making (Schmeichel, Vohs, & Duke, 2010). Studies on construal level have highlighted the subjective construal of events rather than objective features (Fiske & Taylor, 2008). Construals change according to psychological distance of events regarding time, space, social distance, and the likelihood of events (Fujita, 2008; Trope & Liberman, 2010). Specifically, when people focus on the now, here, me and certain events, they tend to interpret a situation in low-level construal whereas people depending on later, there, you, and uncertain events are more likely to represent a situation in high-level construal.

People with comparatively high-level construal focus on the general, primary features of concerns. On the contrary, low-level construal, which lies in more proximal representations, would base their decisions on concrete, incidental attributes (Trope & Liberman,

2003; Tsai & Hsee, 2009). From this perspective, people are likely to decide and behave according to the desirability of a situation at high-level construal but feasibility at low-level construal. As a consequence, construal level theorists have suggested that high-level construal can increase self-regulated intentions and behaviors effectively more than low-level (Fujita & Han, 2009; Fujita & Roberts, 2010). The research findings have shown almost consistent results in accordance with their hypothesis (Fujita, 2008).

However, a majority of the research have examined the effects of construals on self-regulation by adopting unrelated tasks as a construal level manipulation prior to the target tasks. For example, inducing construal by asking participants to generate answers, ‘why do I keep good interpersonal relationship?’ at high-level construal and ‘how do I keep good interpersonal relationship?’ at low-level construal was conducted for manipulation of construal level, after this manipulation, the duration of a prolonged hand-grip was measured to examine the level of self-regulation (Fujita et al., 2006). Although there have been a variety of efforts to investigate the impact of construal level on self-regulation, it is necessary to research the effects of task-related manipulation on self-regulation. Fujita (2008) proposed that the cause-and-effect relationship between construal level and self-regulation in real-life settings should be examined for further study.

Although there are several contemporary findings that indicated the definitive answers about how a construal level has influence on self-regulation, the mechanisms by which construal affects self-regulation are still insufficiently clarified (Mok, 2012). For

example, White and his colleagues (2011) noticed the effects of regulatory focus and construal level on self-regulation, Schmeichel and his colleagues (2010) found the interaction effect of goal maintenance in working memory and mental construal. Even though these studies found mechanisms in which construal levels have effect on self-regulation, it is necessary to conduct further studies regarding this issue in various perspectives.

Accordingly, the purpose of this study was to examine the effects of construal level on self-regulation in educational settings with a task-related construal manipulation. Furthermore, with regard to deficiency of research, which considers the contents of construal level manipulation, the present study aimed to test how the qualitative aspect of construal levels influence self-regulated processes. In other words, for students in the same construal level, the contents of mental construal would make differences in the self-regulated judgment and decision-making.

In terms of the qualitative aspects of construal levels, it is worthy of taking students' goal orientation into account. Goal orientation refers to the reason for engaging in learning activities (Pintrich, 2000). This is composed of two major types of goal orientation: mastery goal orientation and performance goal orientation. Mastery goal orientation is defined as a type focusing on mastering the task, self-improvement or self-set standards. On the contrary, performance goal orientation refers to a type emphasizing demonstration of competence and comparison with other students and social comparative standards (Shunk, Pintrich, & Meech, 2010).

According to 'self-determination theory', what people are striving

for affects student's academic achievement and self-regulation (Kasser & Ryan, 1996; Vansteenkiste, Lens, & Deci, 2006). Specifically, there have been convergent research findings about the positive effects of mastery goal orientation on self-regulated behaviors such as task engagement and persistence (Vansteenkiste et al., 2004). In contrast, it is not easy to summarize the relation between performance goal orientation and self-regulation. That is, several studies documented the positive effects of performance goal orientation on self-regulation, whereas other findings showed adverse results. In addition, some researchers argued that performance goal orientation does not have relevance to self-regulated learning. Due to the fact that it is necessary to examine the conditions which would bring difference in the effects of goal orientation on self-regulated learning, the present research examined the relation between goal orientation and self-regulation depending on construal level.

In terms of student's academic achievement, it is considered as a significant factor in educational research. Therefore, the studies on self-regulation that examine the effects of independent variables on task achievement could have substantial implications. In other words, when goal representation strategies show positive effects on students' performance in regard to self-regulation, they will be able to appeal to parents and teachers as suggestions for their children or students who have difficulty in self-regulated learning. Therefore, the present study investigated the effects of construal level and goal orientation on task achievement as well as self-regulation.

Moreover, this study tried to complement past studies where self-regulation was measured indirectly with self-report type scales,

through the design of an experimental study with the measurement of self-regulated behavior. Several prior studies were also conducted under situations which did not allow self-regulation conflict to occur. In order to enhance the validity of the study, participants of this research were presented with an experimental target task in the ego-depletion situation.

In summary, the purpose of this study was to examine the effects of construal level and goal orientation on self-regulated behavior and task achievement in educational settings. The investigation of this study could indicate several critical implications. First, this study could provide answers about the mechanisms of the way construal levels affect self-regulation. The result of this research also would give substantial suggestions for students who are in self-regulation conflict or failure. In addition, the present study findings could be useful guidelines for parents and teachers to help their children or students with self-regulation problems.

Research Questions

The present study tried to answer the following these questions: How do students self-regulate their behaviors depending on goal-related representation? Do students' goal contents make a difference in task achievement as well as self-regulated behavior? The experimental study was designed to find the answers of these issues. The present study examined that the construal level and goal orientation have an interaction effect on self-regulated behavior in educational settings. Furthermore, in order to examine the effects of the construal level and goal orientation on task achievement, factual and inferential comprehension questions were included in the task activities.

Previous researchers have investigated the effect of construal levels and goal orientation on self-regulation, respectively. Prior studies did not explore the effects of construal level on task achievement in educational settings. In addition, there are not sufficient research regarding an interaction effects of goal orientation and other motivational variables on task achievement with experimental methods. As a result, the specific research questions are as follows.

1. Do construal level and goal orientation have an interaction effect on self-regulated behavior?
2. Do construal level and goal orientation have an interaction effect on task achievement?

DEFINITION OF TERMINOLOGY

The purposes of the present study were to investigate the effects of construal level and goal orientation on self-regulation and task achievement. For these purposes, this research included construal level, goal orientation, self-regulated behavior, and task achievement as major variables.

Construal Level

According to construal level theory, events may be represented at different levels of mental construal (Liberman & Trope, 2008). A great deal of studies established that mental construals could be induced directly with several manipulation methods (Fujita, 2008).

The present research adopted one type of construal through asking participants to generate superordinate ends(high-level) versus subordinate means(low-level) about learning goals. In specific, students in high-level construal condition wrote serial four sentences about why they pursue their goals whereas participants in low-level construal condition described chained four sentences on how they could accomplish their goals.

Goal Orientation

Goal orientation refers to a purpose for which people engage in academic situations. It reflects a type of standard by which individuals judge their performance as a success or failure in

reaching the learning goals (Pintrich, 2000).

The present research set two goal orientation conditions based on mastery and performance goal orientations. In order to reflect students' actual goal orientations, the present investigation provided participants with the opportunity to choose the academic program that included learning goals and an evaluation methods according to each goal orientation attributes.

Mastery Goal Orientation

Mastery goal orientation is defined as a focus on learning a task thoroughly according to self-improvement motivation, developing new skills and competence and trying to accomplish something challenging (Schunk, Pintrich & Meece, 2010). In the present research, participants that selected the learning program with the norm-referenced evaluation method, which highlighted understanding contents of task entirely, were considered to be in the mastery goal orientation condition.

Performance Goal Orientation

Performance goal orientation is defined as a focus to be the best on a task compared to other students or seek extrinsic recognition of high performance from others (Church, Elliot, & Gable, 2001). In the present research, participants who chose a learning program with the criterion-referenced evaluation method, which emphasized surpassing other students, were regarded in performance goal orientation condition.

Self-regulated Behavior

Self-regulation refers to the process where people control and adjust behaviors, cognitions and affects to attain desirable goals (Vohs & Baumeister, 2010). In educational settings, self-regulated learning is defined as the process in which students participate in learning situation actively in cognitive, affective, and behavioral aspects to attain better achievement (Zimmerman, 2000).

The present study focused on the behavioral aspects of self-regulation. Therefore, self-regulation was measured by the task engagement time in review session of the learning program. The academic program was designed to measure students' engagement time on activities in condition which participants were blind to measurement method.

Task achievement

In the present study, task achievement was defined as the test score of the participants' learning task. The test consisted of factual and inferential questions about a listening comprehension task in a multiple-choice type. The number of test question was sixteen, which was comprised of eight factual questions and eight inferential questions.

II. LITERATURE REVIEW

Self-regulation

Definition of Self-regulation

Terminology and definition of self-regulation vary in different research. Several terminologies of self-regulation have been employed in various ways, such as delay of gratification, willpower, self-control, and resistance to temptation. In addition, self-regulation research have differences in the way they conceptualize what self-regulation is.

First, Muraven and Baumeister (2000) highlighted the aspect of people to inhibit consciously undesired habitual reactions whereas Fitzsimons and Bargh (2002) suggested that self-regulation of cognition, affect, and behavior could occur nonconsciously. Others have proposed that exerting self-regulation requires individuals to make decisions and act in accordance with long-term outcomes rather than short-term outcomes (Trope & Fishbach, 2000).

Loewenstein (1996) also addressed that to make decisions and behave in ways that reflect the rational self-interest, and not the visceral responses, is associated with self-regulation in a biological perspective. Similarly, Metcalfe and Mischel (1999) have argued that the actions consistent with cool system that instigates emotionally neutral cognitions mean self-regulation rather than hot system which leads to affective and appetitive impulses. In spite of diverse perspectives and definitions, there have been consistent suggestions

that self-regulation is the conscious and unconscious mental processes whereby people personally act and sustain behaviors, orient cognitions and affects to achieve valuable goals (Lee, 2009).

In the field of educational research, the terminology of self-regulation has been used in several ways such as self-regulated learning, self-directed learning and self-planned learning. However, among these terminologies, self-regulated learning is prevalently accepted. Self-regulated learning refers to the monitoring and controlling of one's cognition, behavior and affects before, during, and after a learning situation that requires goal setting, strategy implementation, and monitoring in order to attain better task achievement (Schraw, 2010; Winne & Nesbit, 2009).

Research on Self-regulation

A number of self-regulation research in educational field have demonstrated that self-regulation is an essential factor to promote a various educationally relevant outcomes, such as students' achievement (Pintrich, 2000; Wolters & Rosenthal, 2000), self-efficacy, positive self-concept and adaptive behaviors (Lee, 2011).

Studies on the determinants of self-regulation were conducted in various perspectives. For instance, research on the relation between self-regulation and personal variables such as age (Moore, Barresi, & Thompson, 1998), gender (Matthews, Ponitz, & Morrison, 2009), self-efficacy (Bembenutty, 2002) and future time perspective (Jackson et al., 2003) were implemented. Situational variables such as task value (Karabenick & Bembenutty, 1999), task interest (Peckhan et al., 2004), and nonconscious theories regarding ego-depletion (Job, Dweck,

& Walton, 2010) were also included in studies on self-regulation.

However, most studies examined the effects of numerous variables on self-regulation using Likert type scales. For example, Pintrich and De Groot (1990) developed the self-regulated learning interview scale, 'Motivated Strategies for Learning Questionnaire (MSLQ)' which included questions about management of time, study environment and effort. Bembenuddy and Karabenick (1998) developed 'Academic Delay of Gratification Scale (ADOGS)' that included self-regulation conflict situations in educational settings.

Although these instruments facilitated further analysis on self-regulated learning, they also had limitations that were unable to reflect actual self-regulation exertion (Pintrich, 2004; Winnie & Perry, 2000). In other words, students answered positively about self-regulated behavior questions, were not guaranteed actual self-regulated behavior. As a result, there has been a need to conduct an experiment study in order to show the direct effect of independent variables on self-regulation.

Moreover, prior studies on self-regulated behavior were usually designed experimental situations that were unlikely to occur in actual self-regulation conflicts. According to ego-depletion theory, since the activation of self-regulation consumes energy from a limited internal resource, people suffer from ego-depletion are prone to fail at a subsequent task (Job, Dweck, & Walton, 2010). This means that when participants are ego-depleted, they tend to face self-regulation conflict situations. In this regard, investigations on influential determinants of self-regulated behavior have substantial implications when they are conducted under an ego-depletion condition. Actually,

a couple of study findings demonstrated that the effects of independent variables on self-regulation were present when participants were in the self-regulation conflict condition (Fujita et al., 2006; Schmeichel & Vohs, 2009).

Consequently, the present study was designed to conduct experiment with a listening comprehension program to measure actual self-regulated behavior in educational settings. Moreover, this study was conducted to measure participants' actual study engagement time under a condition which was more likely to appear in a self-regulation conflict.

Construal Level

Definition of Construal Level

Construal level refers to subjective mental representations of events or objects. Construal level theory has proposed that events and objects are represented at different levels of mental construals (Liberman & Trope, 2008). People's mental construals are associated with the psychological distance of stimulus regarding time, space, social distance and hypotheticality (Liberman, Trope, & Stephan, 2007; Trope & Liberman, 2003). Specifically, when an event is a part of one's immediate, direct and certain experience, this is regarded as a subjectively proximal event. The distinction between high- and low-construal levels essentially reflects the relative differences in the level of abstraction as any stimuli's proximity depends on one's reference point (Fujita & Roberts, 2010).

In addition, when people identify actions as low-level, they would focus on concrete, specific and contextualized details whereas actions that are encoded at high-level, are emphasized as abstract, essential, and as decontextualized traits. For example, when a street cleaner sweeps the streets, he may consider that act as his way of making citizens feel more pleasant about their surroundings, or he may simply focus on his work to clean up each piece of trash on the street. As illustrated, high-level construal is similar to 'seeing the forest', conversely, low-level construal is analogous to 'seeing the trees' (Fujita, 2008).

Research on Construal Level Theory

According to construal level theory, people's judgments and intentions reflect subjective mental representation (Fiske & Taylor, 2008). Construal level theorists have shown that people with a high-level mind-set would make decisions on the basis of desirability concerns, whereas people with low-level construal judge on feasibility attributes (Sagrignano, Trope, & Liberman, 2002). In other words, high-level construal leads to focusing on primary, essential characteristics of a situation, on the contrary, low-level construal promotes noticing secondary, incidental features (Fujita et al., 2008).

In this context, preceding research findings have demonstrated the association between construal level and self-regulation. Representation at high-level construal leads people to give weight to their abstract perspective, thus, it would enhance the success of self-regulation. Mischel and Baker (1975) showed the linkage between construal levels and self-regulation through their renowned experimental

research. Children were asked to think about marshmallows as a form of temptation in their study, the researchers found that children who visualized the marshmallows as puffy white clouds succeeded in self-regulation, whereas participants who focused on sweet, soft, chewy features of marshmallows failed to resist the immediate impulse to eat them. These results are equivalent to the findings of construal level research, that is, the way to construe an object that differs in relative abstractness contributes to successful self-regulation.

Fujita and his colleagues (2006) conducted one of the representative studies about the effects of mental construal on self-regulation. They implemented the series of experiments with construal level manipulation that was similar to the priming methods of previous experimental research. The results demonstrated that inducing high-level construal resulted in better exertion of self-regulation. To be specific, people at the high-level mind-set, through thinking about superordinate ends of events, such as reasons they maintain good physical health, showed a lower preference for immediate gratification over delayed rewards, as opposed to those who focused on subordinate means of events in the low-level mind-set. Moreover, people with high-level representation appeared more persistently in a task that required physical endurance and lower preference for non-academic activities such as internet, party, and video games.

However, most reported studies have investigated the effect of construal levels on self-regulation with manipulations that were unrelated to the target task goals which people pursued. For instance,

Fujita and his colleagues (2006) induced construals in their study by asking participants to write answers to ‘why do I maintain good personal relationships?’ at the high-level construal condition and ‘how do I maintain good personal relationship?’ at the low-level construal condition. Next, participants were asked to apply pressure to a hand-grip, an exercise tool designed to strengthen forearm muscles. The duration of the prolonged hand-grip was regarded as the dependent variable for self-regulation. Therefore, despite the efforts to examine relation between construal level and self-regulation, it is necessary to enhance the relevance between two factors. From this perspective, the present work was designed to include the goal-related construal manipulation.

In addition, in order to gain a more theoretical understanding of effects of construal level on self-regulation, a few of previous research were conducted to reveal the underlying mechanisms. White and his colleagues (2011) addressed the positive effects of a match of loss frame/low-level construal and gain frame/high-level construal on recycling behaviors that required self-regulation. They noticed that the match effects of variables enhanced the subjective ease of processing regarding goal-related behaviors, in turn, this increased perceptions of efficacy and self-regulated intentions. Despite the limited attempts to show the way of construal level has influence on self-regulation, it is necessary that more research to be done in order to show the relevance of the two factors in various perspectives (Mok, 2012). Therefore, this study investigated the effects of the qualitative perspectives of mental construals on self-regulation processes and outcomes.

With regard to the qualitative aspect of construal levels, it is necessary to consider the goals that are core factors in the self-regulation process. Generally, the self-regulation process is defined as the pursuit of goal, thus, goal setting and monitoring of goal progress are included in the self-regulation process. In addition, self-regulation requires goal setting, strategy implementation, and monitoring one's progress during all learning phases (Rhenberg, Vollmeyer & Rollett, 2000; Schraw, 2010; Zimmerman, 2008). In terms of an academic situations, Pintrich (2004) also concluded that self-regulated learning is composed of 'forethought, planning, and activation', 'monitoring', 'control', 'reaction and reflection'. Accordingly, what people pursue should be included in research on self-regulation. Especially, in the area of educational research, goal orientation has been considered as an overarching construct in goal content concerns for understanding students' motivation (Church, Elliot, & Gable, 2001; Meece, Anderman, & Anderman, 2006). As a result, the present research tried to explore the connections between goal orientation and self-regulation in educational settings.

In terms of task achievement, although a good deal of construal level theorists have explored how mental construals impact self-regulation, investigations in a manner that construal level affects academic outcomes have been conducted insufficiently. Typically, many of the studies on construal levels have implemented a focus on non-academic situations, for example, buying a product, keeping a diet, participating in a stop signal task (SST) (Fujita, 2008; Kim & Kim, 2013; Schmeichel, Vohs, & Duke, 2010).

Even though a couple of studies have examined the influence of

construal levels in an academic situation, they did not test the impact of the level of abstractness on task achievement in a direct manner. For instance, in Fujita and his colleagues' experimental study (2006), they took an evaluation of several words that distracted participants' motivation to study as dependent variables. On top of that, in McCrea and colleagues' research (2008), participants were asked to complete a questionnaire and submit the completed questionnaire via e-mail by a deadline with manipulation of mental construals. The survey contents, however, were not related with academic accomplishment, participants were informed that the purpose of the questionnaire was to pretest materials for future research regarding the topic of art preferences.

Although the effects of mental construal levels on task achievement were not proved directly, the positive associations between self-regulation and academic achievement has documented constantly. Accordingly, the present research has built the hypothesis that higher a construal level would have influence on better task achievement.

Goal Orientation

Definition of Goal Orientation

Goal orientation refers to an individual's purpose to carry out academic engagements. In other words, it is the reason why individuals are trying to achieve their goals. It reflects a type of standard by which individuals evaluate their performance and success or failure in attaining goals not just performance objective aspect

(Pintrich, 2000). There are two distinct goal orientations: mastery goal orientation, which is focused on understanding of task and mastering information and performance goal orientation, which is focused on demonstrating of competent ability and forming an impression of surpassing others.

However, researchers have used the terminology of goal orientation differently. Mastery goal orientation has task-involved characteristics, thus, it is labeled as learning or task-focused or task orientation goal orientation. On the other hand, performance goal orientation which has ego-involved attributes is called as ability-focused or performance-approach or ego-focused goal orientation. According to the convergence on mastery goal orientation and performance goal orientation among researches, the present research followed these two terminologies (Ames, 1992; Kaplan & Maehr, 2007).

In terms of definition of goal orientation, there were disagreements on the issue of stability and the change of goal orientation (Fryer & Elliot, 2007). Although several studies manipulated goal orientation with goal-related feedback and emphasis on goals (Vansteenkiste et al., 2004), some scholars argue that the goal orientation emerges from stable personality characteristics such as achievement motives (Harackiewicz, Barron, & Elliot, 1998). Moreover, classroom environment such as the evaluation methods, builds the stable goal orientation adoption (Urduan & Turner, 2005).

More importantly, it is possible to question the dissonance between experimental goal orientation manipulation and actual participant's goal orientation, which they set for themselves during learning episode. For these reasons, there may be a risk in an over-reliance on

experimental manipulation methods regarding goal orientation. To solve these problems, the present research provided participants with a choice about academic program which was reflected distinct goal orientation characteristics. In order to increase the reliability of goal orientation manipulation, participants were presented the information of evaluative methods and learning goals according to their choice about academic program.

Particularly, in this study, participants were instructed to write about the reasons or ways of learning goals, because it is necessary to increase the consensus between goal orientation condition and participant's achievement motives. Therefore, it is essential for participants to engage writing tasks actively for successful goal orientation manipulation in this study.

Research on Goal Orientation

A great deal of studies on goal orientation contribute to investigations of the academic issues that take places in school or classroom contexts. In particular, a number of goal orientation theorists have examined how goal orientation is linked to the processes of self-regulation. In addition, research findings documented that different goal orientation is associated with difference in self-regulation (Kaplan & Maehr, 2007).

First of all, there are numerous evidences that mastery goal orientation has positive influence on the different components of self-regulated learning consistently. That is, students focusing on self-development tend to monitor their performance and control it, because standards based on mastery goal orientation guide them

toward the use of more self-regulatory strategies (Pintrich, 2000).

Specifically, the studies on mastery goal orientation and cognitive self-regulation have suggested that endorsing mastery goal orientation is more tied to students' self-monitor of cognition and awareness of their understanding and learning (Wolters et al., 1996), and use of various cognitive strategies such as elaboration strategies and organization strategies (Kaplan & Midgley, 1997; McWhaw & Abrami, 2001). A majority of research have demonstrated that mastery goal orientation has positively linked to motivational constructs that are required in self-regulation processes such as self-efficacy, task value, task interest, attributions, and affect (Pintrich, 2000). Moreover, students' management of time and effort, and help seeking are positively associated with mastery goal orientation (Newman, 1994).

Although a number of converging research results, mastery goal orientation have relevance to self-regulation positively in cognitive, motivational, and behavioral aspects, documented, there are mixed results on the relation between performance goal orientation and self-regulation. The early goal theorist reported that performance goal orientation had negative relation with academic outcomes (Ames, 1992; Pintrich & Schunk, 1996).

However, contemporary studies revealed that performance goal orientation have positive relevance to self-regulated learning. More specifically, Wolters and his colleagues (1996) argued that endorsing performance goal orientation was positively related to the use of deeper cognitive strategies and regulatory strategies. In addition, there are several findings on the positive association between performance goal orientation and motivational variables in self-regulation. For

example, Anderman and Midgley (1997) reported positive effects of performance goal orientation on self-efficacy. Moreover, Harackiewicz et al. (1998) showed performance goal orientation does not generally elicit less task interest or task involvement compared to mastery goal orientation. In summary, the results of the effects of performance goal orientation on self-regulation cannot be integrated easily, accordingly, a clear need for research on when and how performance goal orientation have positive influence on self-regulation in certain contexts arises (Harackiewicz et al., 2002).

In terms of task achievement, the relation between goal orientation and academic achievement has been investigated in many aspects for decades. In common with the impacts of goal orientation on self-regulation, preceding research reported that mastery goal orientation have relevance to student's achievement positively. In contrast, with regard to performance goal orientation, the prior research findings have documented the inconsistent results.

Moreover, an interaction effect of goal orientation and other motivational independent variables on task achievement was not examined sufficiently with experimental methods. It has been suggested that for the better understanding of the effects of goal orientation on self-regulated learning, researchers should focus their efforts on examining the interactive relationship between other educationally relevant variables and goal orientation. In specific, goal orientation and construal level are considered as influential factors that are related with goal representation. As a result, the purpose of study reported here was to test the effect of goal orientation and construal level on task achievement directly with experimental design.

Interaction of Construal Level and Goal Orientation

Construal level theorists have suggested that the ways to interpret events are associated with behavioral intentions. Likewise, goal orientation has been regarded as an important factor which elicits representations of events and produces patterns of cognition, affect, and behavior (Ames, 1992). Accordingly, these two influential variables could have an interaction effect on self-regulate behavior in educational settings.

In construal level theory, research findings have pointed out that higher mental construal has positively correlated with successful self-regulation (Fujita et al, 2006; Schmeichel & Vohs, 2009). Goal orientation research also have suggested consistently that mastery goal orientation is a significant determinant of self-regulation in cognitive, behavioral and emotional aspects. In other words, the effects of mastery goal orientation on self-regulation are not easily influenced by situational factors.

According to the prior research that have examined the effect of construal level and the impact of goal orientation on self-regulation, it could be hypothesized that participants in high-level construal level condition and mastery goal orientation condition self-regulate most effectively. In other words, high-level of abstractness and mastery goal orientation could lead to a synergistic interaction on self-regulated behavior.

Furthermore, the high-level construal and mastery goal orientation could attenuate the negative effects of low-level construal and performance goal orientation on self-regulated learning. Specifically,

Bumbenutty (1999) suggested that the performance goal orientation enhances self-regulation, because it highlights task utility and value. Thus, participants in the performance goal orientation condition who are asked to complete the writing tasks about why they pursue learning goal could show better exertion of self-regulation than those in the low-level construal condition. Similarly, the participants in low-level mind-set also would not show poorer self-regulation when they are allocated in the mastery goal orientation condition than those in the performance goal orientation condition.

With regard to task achievement, although studies about self-regulation have suggested the relation between success of self-regulation and better academic achievement (Lee, 2011; Pintrich, 2000; Wolters & Rosenthal, 2000), it is not sufficient to find critical determinants which would affect task achievement in educational settings in a direct manner. Particularly, the level of mental construal and goal orientation are considered as influential independent variables regarding self-regulation, thus, it is important to examine the effects of construal level and goal orientation on task achievement with experimental methods.

As mentioned above, preceding studies have agreed with the positive effects of higher mental construal on self-regulation and relation between mastery goal orientation and self-regulation. Moreover, there are research findings about the links between self-regulation and students' accomplishments. Therefore, it is possible to hypothesize that participants in high-level construal and mastery goal orientation condition will show better task achievement as well as self-regulated behavior.

III. RESEARCH HYPOTHESIS

On the basis of theoretical review, high-level construal and mastery goal orientation condition would affect self-regulated behaviors in a synergic way. In addition, higher mental construal and mastery goal orientation could lead to better task achievement. Specific research hypotheses are developed as follows.

1. There is an interaction effect of construal level and goal orientation on self-regulated behavior.

1-1. Participants in high-level construal/mastery goal orientation condition will show better self-regulated behavior.

1-2. Participants in low-level construal/performance goal orientation condition will show poorer self-regulated behavior.

2. There is an interaction effect of construal level and goal orientation on task achievement.

2-1. Participants in high-level construal/mastery goal orientation condition will show higher task achievement.

2-2. Participants in low-level construal/performance goal orientation condition will show lower task achievement.

IV. METHOD

Participants

In the present study, 241 third (9th) grade students of middle school in Seoul, Korea, participated in the experiment on the effects of construal level and goal orientation on self-regulated behavior and task achievement. According to previous studies on the development of self-regulation, the first 5 years are critical periods for goal-directed behavior development (Mesulam, 2002). From this perspective, third graders of middle school could be regarded in a developed state of self-regulation. Moreover, third grade students of middle school could answer to self-report instruments in a comparatively accurate way with understanding psychological constructs such as self-efficacy.

One student was excluded due to a computer program error and one student with intellectual and developmental disabilities was also ruled out from the final analysis. In addition, three participants with failure of construal manipulation and twenty four participants with failure of goal orientation manipulation were also excluded. Four students, who did not follow the instructions and drew experimenter's intervention during experiment, were also counted out. In conclusion, 208 students(115 males and 93 females) were included in the final analysis.

Students were allocated in the goal orientation condition through choice for themselves and assigned randomly in construal level

condition. The groups were composed of 55 in low-level construal/performance goal orientation condition, 61 in high-level construal/performance goal orientation condition, 46 in low-level construal/mastery goal orientation condition, and 46 in high-level construal/mastery goal orientation condition. All students participated in the present experiment voluntarily and they submitted the consents of experiment participation. All contents and overall procedure of the experiment were approved by Seoul National University Institutional Review Board (SNU IRB No.1404/001-016).

Materials

Tasks

Students participated in a listening comprehension program on computer, which was related to Korean language. To enhance student's recognition of task value as well as engagement of activities, tasks were chosen in Korean language class, which is considered as the main subject in school. In addition, listening comprehension is considered as an important ability for understanding contents of a class.

Despite the importance of listening comprehension, there are scarcely classes to foster and evaluate the student's listening comprehension ability in school (Yim, 2009). Therefore, listening task was adequate to be chosen to control individual's preference and prior ability. Moreover, contents of listening comprehension program included the issues which were not dealt in the actual curriculum or text book in order to control students' prior knowledge and ability.

Accordingly, the listening task was composed of eight explanatory topics, four issues were chosen from preceding national assessment of educational progress for third grader of middle school and four issues were selected from the past simulated scholastic aptitude test for high school students. All contents were developed by Korea institute for curriculum and evaluation. The issues of tasks are 'jogging', 'different types of praise', 'pigeon's detrimental effects', 'zero-sum and win-win desires', 'Taek-gyeon, the Korean traditional martial arts', 'control of facial expression', 'mechanisms of fireworks', and 'effective conversation skills'. The average running time of one issue is one minute and thirty seconds.

The listening comprehension program proceeded in three sessions : listening, self-regulated learning, and evaluation session. First of all, in the listening session, students listened all issues for approximately twelve minutes. Second, in the self-regulated learning session, participants could choose their own situation by themselves whether they engage in listening repeatedly for review or taking a rest with comfortable instrumental music. The average running time of instrumental music was equal to that of listening task. Self-regulated behavior was measured by the time in which participants engaged in review rather than relax. At last, in the evaluation session, participants answered sixteen multiple-choice type questions which included both factual and inferential questions.

Listening and self-regulated learning session were set with regard to the relation between self-regulation and ego-depletion. Actually, self-regulation conflict is considered as an important condition of self-regulation measurement and it occurs under ego-depletion

situation which already consumed energy to conduct subsequent tasks (Schmeichel & Vohs, 2009). In addition, working memory is limited to memorize all provided information (Baddeley, 2001), thus, cognitive load might occur in working memory during engagement in the listening tasks without script (Paas et al., 2004; Ryu, 2009). Furthermore, self-regulation conflict might occur under the situations where participants might feel exhausted and bored. Therefore, listening comprehension task were chosen for these reasons and self-regulated behaviors were measured after the listening session.

In the self-regulated learning session, listening instrumental music was regarded as overriding the academically valuable rewards. It is worthy of discussing the reasons why listening instrumental music was chosen as a failure of self-regulation. First, listening to music is an acoustic activity which is similar to listening comprehension task. Another distractions such as playing games or watching music video could cause disturbance during experiment. Specifically, the noises which could occur from either typing on a keyboard during games or reacting loudly to contents might interrupt other students who engage in self-regulation learning. It may adversely affect the validity and reliability of experiment manipulation.

Moreover, students typically prefer playing games or watching video clips intensely, thus, self-regulation conflict might not occur at all. Furthermore, overriding goal-related activities to avoid pain as well as engaging in enjoyable temptation to seek pleasure is considered as failure of self-regulation (Schmeichel & Vohs, 2009). Accordingly, listening to instrument music was chosen as an alternative choice in self-regulation conflict situation.

1

Listening Session

Issue 1
Issue 2
Issue 3
Issue 4
Issue 5
Issue 6
Issue 7
Issue 8



2

Review Session



Time
3min 6min 9min

Issue 1
Issue 2
Issue 3
Issue 4
Issue 5
Issue 6
Issue 7
Issue 8





Taking a Rest

3

Evaluation Session



Time
1min 2min 4min

Issue 1
Issue 2
Issue 3
Issue 4
Issue 5
Issue 6
Issue 7
Issue 8

❖ **Question about 'jogging'**

2. Which statement is **not** included in content?

- ① Jogging increases the number of anticancer cells.
- ② Jogging strengthens muscles of heart with rapid heartbeat.
- ③ Jogging makes ankle joints more stronger through stimulation.
- ④ Jogging enhances memory abilities with oxygen supply to brain.

Figure 1. Examples of listening comprehension program sessions

With regard to measurement issues, self-regulated behavior was measured with computer trace logs program processing time measures, participants did not know that their activity time was being measured. Schraw (2010) labeled this manner of self-regulation measurement 'online', which is conducted during learning process, and 'unobtrusive', which refers to using computer software without participants' notice. In addition, the name of review session for participants was substituted for self-regulated learning session not to expose the purpose of experiment. The unit of self-regulation behavior measurement was millisecond, in order to investigate the difference in individuals' self-regulated behavior in detail.

A pilot test was conducted to examine the difficulty of learning tasks. The result of judgment of difficulty, which fifty five third-year students (55 males) of K middle school in Seoul answered, was 2.15 in 5-point Likert-type scale from 1 (very easy) to 5 (very difficult). The task achievement of pilot test was sixty two out of one hundred points. Another pilot test was also conducted to identify the level of task achievement with 183 third year students (87 males and 96 females) of D middle school in Seoul, Korea. The result was 67.4 out of a hundred points. In summary, the difficulty of task was enough to accept.

Manipulations

Construal level manipulation Despite the importance of psychological distance in construal level, researchers argued that situational manipulations can affect the way people represent situations beyond psychological distance (Fujita & Roberts, 2010). For

example, construal can be manipulated by categorizing objects in superordinate (high-level) or subordinate (low-level) level and writing about reasons (high-level) or ways (low-level) on some events (Fujita et al., 2006; McCrea et al., 2008). From this perspective, students were assigned writing tasks to manipulate the construal level. To enhance participants' engagement in activities and understanding of tasks, the name of writing activities was presented as 'tree of thought activity' adopted from Mok' study (2012).

<Tree of Thought Activity>

Learning goal : achieving better outcomes relative to others and attaining recognition of ability from others

Example of task

Why you pursue that goals?

NEXT ▶

Figure 2. Example of construal level manipulation

According to the way of prevalent methods to manipulate mental construals, participants in the high-level condition were asked to indicate 'why they pursue learning goals', whereas participants in the low-level condition were instructed to write 'how they pursue learning goals' in four sentences (Freitas, Gollwitzer, & Trope, 2004; McCrea et al., 2008). Participants were exposed to the contents of construal manipulation four times including one example of the tree

of thought activity, one example of manipulation task, and the presentation of participant's written sentences which was supplied at intervals of seven seconds after writing task subsequently as well as writing task. Participants conducted the writing task just before self-regulated learning session in order to examine the effects of construal level on self-regulated behaviors more directly.

Goal orientation manipulation At the initial part of the learning program, students had the opportunity to choose the program version according to their preference – mastery goal orientation or performance goal orientation. The names of program version were presented regarding evaluative methods such as program with norm-referenced evaluation, which was related to the mastery goal orientation condition, or program with criterion-referenced evaluation, which was associated with performance goal orientation condition. The focus of each program and examples of evaluation were also presented on the screen. The reason to offer students an opportunity to choose a program version was that goal orientation is formulated regarding the effects of evaluative methods (Church, Elliot, & Gable, 2001; Urdan & Turner, 2005).

After choosing a program of their choice, specific learning goals were presented on the participants' screen as according to students' choices. In the mastery goal orientation condition, learning goals were 'understanding of contents deeply', and 'feeling pleasant through self-improvement', whereas 'achieving better outcomes relative to others' and 'attaining recognition of ability from others' were presented as the learning goals in the performance goal orientation

condition. The contents regarding goal orientation manipulation were also shown to students during the writing task of construal level manipulation as well as before the evaluation session. Accordingly, the contents of goal orientation were exposed four times to participants during the experiment process. The times of presentation of the goal orientation-related contents were equivalent to construal level manipulation.

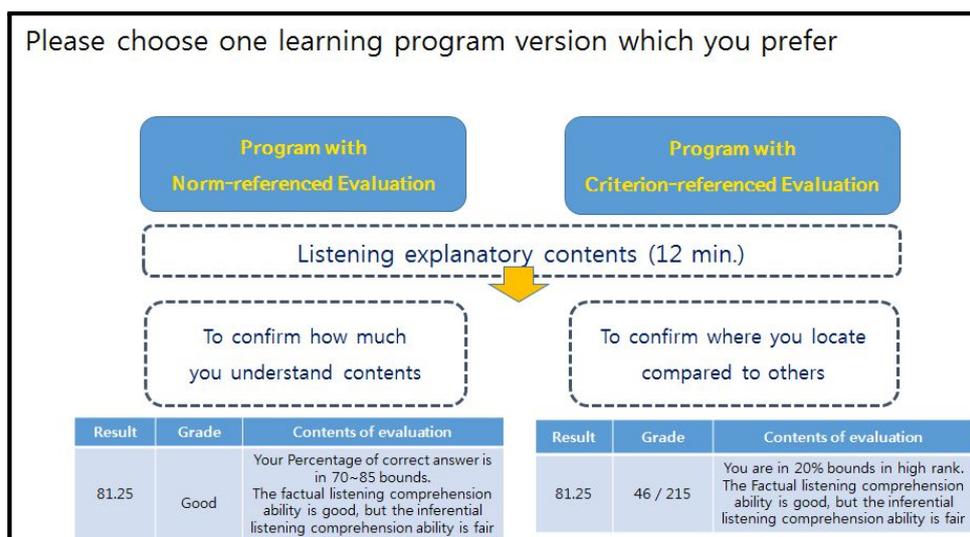


Figure 3. Example of goal orientation manipulation

Manipulation check

Construal level manipulation check To identify success of construal level manipulation, Behavioral Identification Form (Vallcher & Wegner, 1989) was adopted at group level. BIF consists of certain behaviors and asks participants to choose one among descriptions they prefer. Among twenty five original items of BIF, items which were not familiar to students were excluded.

Previous findings indicated that people generally judge and make decisions at high-level of mental construal (Vallacher & Wegner, 1989), the items with biased response tendency were also ruled out after the pilot test for 183 students (87 males and 96 females) of D middle school. Four items that are included are shown in Table 1. At personal level, to identify successful manipulation, the suitability of the sentences each participant wrote was checked.

Table 1. Items of construal manipulation check at group level

Items	Low-level	High-level
Washing clothes	Putting clothes into the machine	Removing odors from clothes
Taking a test	Answering questions	Showing one's knowledge
Eating	Chewing and swallowing	Getting nutrition
Having a cavity filled	Going to the dentist	Protecting your teeth

Goal orientation manipulation check Goal orientation manipulation check was conducted at the final session of experiment. Participants were asked to choose their learning goal whether 'understanding of contents deeply and feeling pleasant through self-improvement' or 'achieving better outcomes relative to others and attaining recognition of ability from others'.

Measures

Self-regulation Participants self-reported how capable they are in self-regulation. The items were adopted and modified from previous scales concerning self-regulated behaviors (Park et al., 2005; Pintrich et al., 2001). Students answered eight items with 5-point Likert-type scale rating from 1 (not true at all) to 5 (exactly true). Sample items were 'I often feel so lazy or bored when I study for the tasks that I quit before I finish what I planned to do(reversed)', and 'even when task materials are dull and uninteresting, I manage to keep working until I finish'. The internal reliability (Cronbach's α) for self-regulation was .85.

Self-efficacy Students were asked to indicate how they perceive their competence to execute assigned tasks. These measures are generally used in task specific form (Schraw, 2010), thus, scales which were drawn from past research (Pintrich & De Groot, 1990) were modified to be appropriate to the present study. Five items with 5-point Likert-type scale from 1 (not true at all) to 5 (exactly true) were included. Examples of this scale were 'I expect to do very well in this listening comprehension task', 'I know that I will be able to learn the material for this listening comprehension task'. The internal reliability (Cronbach's α) for self-efficacy was .94.

Task value Task value scale consisted of six items regarding individual's perceptions of utility, importance, and interests about tasks of Korean language class. The scale was adapted from Berndt

and Miller (1990)'s research and modified in accordance with the purpose of the present study. Sample items were 'I think contents of Korean language class are valuable', 'I think contents of Korean language class are important'. Participants responded on 5-point Likert-type scale from 1 (not true at all) to 5 (exactly true). The internal reliability (Cronbach's α) for task value was .91.

Procedure

The present experiment was implemented at a computer lab of school for two days. Each participant used personal computer to engage in learning tasks. One trained experimenter proceeded experiment process mainly, one or two assistant experimenter monitored the experiment process.

Four out of eight classes were allocated in high-level construal condition, the rest four classes were assigned in low-level construal condition. According to participant's choice of goal orientation, they were allocated in whether mastery or performance goal condition.

Participants took a seat in front of each personal computer in the computer lab, consistent with student ID number. Students were instructed not to proceed the program in advance. Main experimenter informed that the purpose of experiment was to provide an opportunity to practice and evaluate listening comprehension. In order to enhance students' task value and inform the ways to participate in tasks, an orientation session was conducted using the large size screen in front of classroom as well as participants' personal computer screen. Questionnaire about self-regulation, self-efficacy,

and task value was implemented subsequently.

After the pretest, participants chose program version with evaluation-related information based on mastery or performance goal orientation. According to their choices, learning goals were presented on the screen. Experimenter highlighted that it was important to represent learning goals during program process.

Next, students participated in the listening session for twelve minutes. Participants were directed to concentrate on explanatory contents and also informed that there was not test immediately after listening to each issue or listening session. In order to manipulate construal level, participants conducted writing task about learning goals after listening session.

The self-regulated learning session was proceeded subsequently for twelve minutes. During this session, the experimenter instructed that students could choose activity autonomously whether to engage in review or to relax. Participants were also instructed that there would be cost of time consumption, if students chose to relax. This meant that the review time decreased as much as the amount of time to relax.

With regard to previous research that people are more likely to interpret events at high-level construal chronically(Vallacher & Wegner, 1989), manipulation check of construal level was conducted right after the self-regulated learning session. Next, the evaluation session was implemented for five minutes. Students answered one factual and one inferential question for each listening issue, the total number of questions is sixteen. Students were informed that the result of the test would be provided afterward.

At the final session, manipulation check of goal orientation was proceeded. Participants who finished the questionnaire regarding goal orientation manipulation check were instructed to keep silent not to disturb others. Debriefing was implemented through printed materials that included the purpose and significance of this experiment in detail. In addition, researcher's e-mail address and mobile phone number were provided if participants wonder some features of experiment. The overall procedure of the present experiment appears in figure 4.

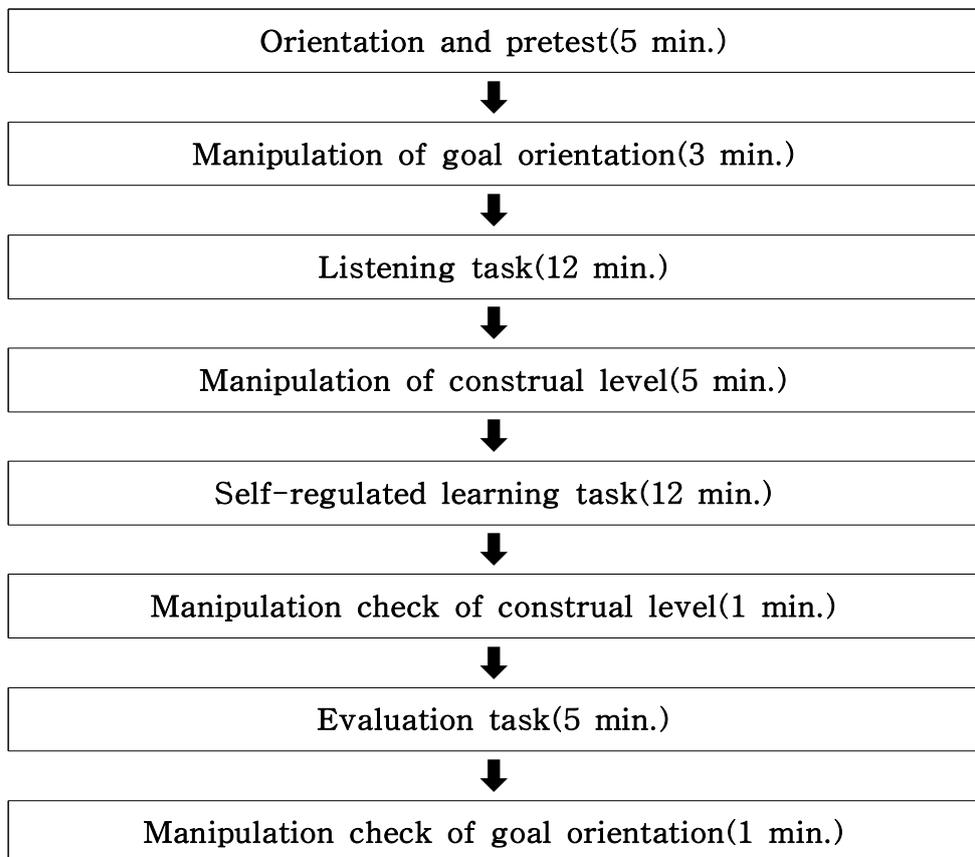


Figure 4. Procedure of the experiment

V. RESULTS

Statistical Descriptions and Correlations of Variables

The summary of the statistical descriptions of variables which were included in the pretest is shown in table 2. In specific, the means and standard deviations of self-reported self-regulation, self-efficacy of listening comprehension tasks and task value about Korean language are presented. The data of pretest variables were shown above average ($M_{self-regulation}=3.22$, $M_{self-efficacy}=3.29$, $M_{task\ value}=3.34$).

Table 2. Statistical descriptions of pretest variables

	M	SD	Min	Max
Self-regulation	3.22	.71	1.13	4.75
Self-efficacy	3.29	.81	1.20	5.00
Task value	3.34	.76	1.00	5.00

The statistical descriptions of dependent variable, the duration time of self-regulated behavior, are presented in Table 3. The mean of self-regulation time was 621.34 seconds (approximately ten minutes twenty one seconds). It was in accordance with 80.3% of overall learning time. In particular, the time of self-regulated behavior was similar in the mastery goal orientation condition ($M_{low-level}=608.28$ seconds., $M_{high-level}=608.32$ seconds.) whereas participants in

high-level construal condition were better self-regulated than those in low-level construal in the performance goal orientation condition ($M_{low-level}=572.14$ seconds, $M_{high-level}=685.36$ seconds).

Table 3. Statistical descriptions of self-regulated behavior

		M	SD	Min	Max
Self-regulated behavior		621.34	2.22	1.08	774.00
Mastery goal orientation	Low-level	608.28	2.19	3.19	774.00
	High-level	608.32	2.35	4.98	774.00
Performance goal orientation	Low-level	572.14	2.64	1.08	774.00
	High-level	685.36	1.53	9.24	774.00

(Unit : second)

The correlations of variables including variables of pretest and self-regulated behavior were analyzed. The Table 4 presents analysis of correlations. The data suggest that there are correlations among all variables.

Table 4. Correlations of variables

	1	2	3	4
1. Self-regulation	1			
2. Self-efficacy	.55**	1		
3. Task value	.47**	.64**	1	
4. Self-regulated behavior	.19**	.15*	.22**	1

* $p < .05$, ** $p < .01$

The statistical descriptions of task achievement are shown in Table 5. The mean of task achievement is 67.10 out of 100. In specific, participants in the performance goal orientation condition revealed higher task achievement than those in the mastery goal orientation condition.

Table 5. Statistical descriptions of task achievement

		M	SD	Min	Max
Task achievement		67.10	18.25	18.75	100
Performance goal orientation	Low-level	69.66	16.99	25.00	100.00
	High-level	72.03	17.18	25.00	100.00
Mastery goal orientation	Low-level	60.73	18.66	18.75	93.75
	High-level	67.10	18.25	18.75	100.00

Note. : The test is scored on the basis of perfect score, 100

To examine the relation between self-regulated behavior and task achievement, the correlation analysis was conducted. The results of analysis are shown in Table 6. The correlations revealed that there was a significant correlation between self-regulated behavior and task achievement. In terms of the subordinate part of task achievement, factual and inferential achievement results were also positively correlated with self-regulated behavior.

Table 6. Correlations between self-regulated behaviors and task achievement

	1	2	3	4
1. Self-regulated behavior	1			
2. Test achievement	.26**	1		
3. Factual comprehension	.21**	.87**	1	
4. Inferential comprehension	.24**	.82**	.44**	1

* $p < .05$, ** $p < .01$

To examine that the personal variables such as self-regulation, self-efficacy, and task value were considered as covariate, the analyses of group difference in these variables were conducted. According to the results of one-way analysis of variance (ANOVA), there was no difference in all variables by group. (self-regulation: $F(3, 204)=.234, p > .05$, self-efficacy: $F(3, 204)=1.373, p > .05$, task value: $F(3, 204)=.557, p > .05$).

However, there was a significant need to consider gender as covariate. The gender difference in both self-regulated behavior ($t(206)=-4.174, p < .01$) and task achievement ($t(206)=-2.40, p < .05$) were significantly shown by analysis of t -test. Therefore, gender was included in one-way analysis of covariate (ANCOVA) as covariate for primary research question as well as second research question.

The Effects of Construal level and Goal Orientation on Self-regulated Behavior (Research Question 1)

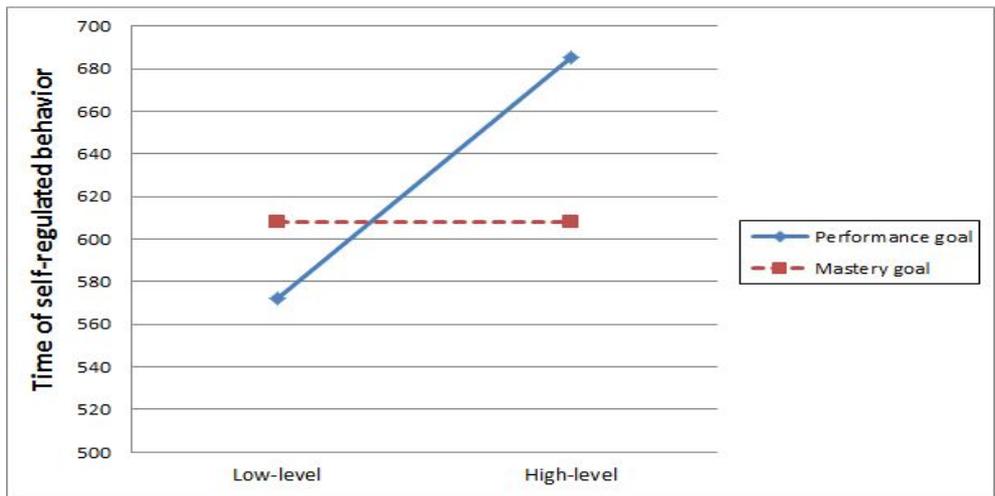
To examine the interaction effect of construal level and goal orientation on engagement time in self-regulated learning, ANCOVA controlling gender was implemented. The Table 7 shows the results of ANCOVA. Main effect of both construal level and goal orientation were not significant (construal level: $F(1, 203)=3.21$. $p > .05$, goal orientation: $F(1, 203)=1.78$. $p > .05$).

Table 7. Results of ANCOVA of effects of construal level
and goal orientation on self-regulated behavior

Variables	SS	df	MS	<i>F</i>	<i>P</i>
Gender	7.94	1	7.94	17.84	.00
Construal level	1.43	1	1.43	3.21	.08
Goal orientation	7.90	1	7.90	1.78	.18
Construal level×goal orientation	1.09	1	1.90	4.28	.04
Error	9.03	203	4.45		
Total	1.02	207			

$p < .05$

As can be seen in Figure 5, an interaction effect was observed. In specific, an interaction between construal level and goal orientation was revealed for self-regulated behavior ($F(1, 203)=4.28$. $p < .05$).



(Unit : second)

Figure 5. The interaction effects of construal level and goal orientation on self-regulated behavior

The Effects of Construal level and Goal Orientation on Task Achievement (Research Question 2)

In order to examine the effects of construal level and goal orientation on task achievement, ANCOVA was conducted including gender variable as covariate. The results of ANCOVA regarding effects of construal level and goal orientation on task achievement revealed that the main effect of goal orientation was significant ($F(1, 203)=15.39, p < .05$), whereas both construal level and interaction effect of construal level and goal orientation were not significant (construal level: $F(1, 203)=1.07, p > .05$. construal level \times goal orientation: $F(1, 203)=.00, p > .05$). The results of ANCOVA are represented in Table 8.

Table 8. Results of ANCOVA of effects of construal level
and goal orientation on task achievement

Variables	SS	df	MS	<i>F</i>	<i>P</i>
Gender	2780.69	1	2780.69	9.11	.00
Construal level	325.69	1	325.69	1.07	.30
Goal orientation	4697.97	1	4697.97	15.39	.00
Construal level×goal orientation	.70	1	.70	.00	.96
Error	61953.75	203	305.19		
Total	68924.09	207			

$p < .05$

VI. DISCUSSION

The present study concerns how construal level and goal orientation affect self-regulated behaviors and task achievement. The findings of the study are as follows. First of all, although the interaction effect of construal level and goal orientation on self-regulated behavior was shown, the interaction direction was inconsistent with the hypothesis. In specific, participants in the mastery goal orientation condition were not different in self-regulated behavior depending on the levels of mental construal. On the other hand, there was a significant difference in self-regulated behavior for participants in the performance goal orientation condition depending on construal levels. In other words, participants in the performance goal orientation condition self-regulated better in the high-level construal condition than those in the low-level construal. Accordingly, the results showed that the beneficial effect of construal level appeared only in the performance goal orientation condition. Furthermore, in terms of task achievement, only the effect of goal orientation was present, not in accordance with the research hypothesis.

The results of the present research suggest several important implications. First, with regard to the phenomenon in which participants endorsing performance goal orientation at high-level construal showed better self-regulated behavior compared to participants in mastery goal orientation condition at the same construal level, it needs to be considered the expanded goal taxonomy including two major goal orientations and regulatory focus dichotomy

additionally. The expanded framework of goal orientation adds dimensions of approach and avoidance to established goal orientations – mastery goal and performance goal (Elliot, 1999; Shunk, Pintrich, & Meece, 2010). Approach goal refers to a type focusing on attainment of success, whereas avoidance goal is defined as a type emphasizing failure or avoidance of failure.

In the previous studies in line with further goal orientation framework, there were a great deal of consistent findings in which mastery goal orientation has positive effect on self-regulated learning regardless of approach or avoidance. In contrast, the research on the relation between performance goal orientation and self-regulated learning was inconsistent unlike the results of mastery goal orientation. Contemporary studies have shown that there are positive perspectives of performance–approach goal orientation on educationally relevant outcomes, that is, when students focus on surpassing others and demonstrating ability, they tend to be involved in task, have more interests in learning materials and perceive more recognition of task value (Kaplan & Maehr, 2007). On the other hand, students with performance–avoidance orientation, who focus on not demonstrating an impression of low ability, are associated with low efficacy, anxiety, self-handicapping strategies and avoidance help-seeking (Urban & Schoenfelder, 2006).

Accordingly, it is necessary to consider the meaning of participants' choice about goal orientation in this study. There could be a possibility of mixture within the same goal orientation condition. In specific, students with performance–avoidance orientation might choose mastery goal orientation condition not to be compared with

others. Therefore, participants in the performance goal orientation condition could be considered as performance-approach goals orientation. The results of the better self-regulated behavior and task achievement in performance goal condition may stem from these reasons.

Second, the positive result of performance goal orientation could be explained as the promotion of goal setting autonomy decreases the negative effects of performance goal orientation. The research on autonomy-supportive contexts in educational settings have argued that autonomy-supportive contexts are related with positive academic outcomes such as higher enjoyment and persistence in terms of self-regulated learning (Vansteenkiste et al., 2004). With regard to goal orientation manipulation, providing participants with opportunity reduces the adverse effect of performance goal orientation. In other words, the performance goal orientation with autonomy-supportive circumstances does not cause poorer self-regulation and lower task achievement.

Furthermore, as the past research pointed out, most Korean students are motivated extrinsically. Students' extrinsic motivations which indicate externally orientated aspirations such as financial success and social recognition are related with competitive social and school atmospheres in Korea which pursue external rewards (Yim & Lee, 2001). Hence, the negative effect of performance goal orientation on self-regulation and task achievement could not be significant, contrary to preceding studies that revealed the adverse outcomes of performance goal orientation. Particularly, students in Korea are familiar with criterion-referenced evaluation methods which could

increase performance goal orientation.

Moreover, Bembenutty (1999) suggests that performance goal orientation may have positive effects on self-regulation, because people with performance goal orientation focus on utility and importance of task, on the contrary, people with mastery goal orientation focus on the task itself. Therefore, performance goal orientation could have positive effects in contexts to emphasize task value or valuable reward.

In terms of mastery goal orientation, the result that self-regulated behavior does not have difference depending on construal level is consistent with convergence on the effects of mastery goal on self-regulation. This research finding means that mastery goal orientation is affected by certain contexts to a very slight extent in relation to performance goal orientation.

In addition, the phenomenon in which there is no positive effect of high-level construal on self-regulation in mastery goal orientation could be associated with overjustification. Lepper and Henderlong (2000) explained that performance which originated an intrinsic interesting under conditions where people recognize the reward contingency can undermine subsequent intrinsic motivation. Furthermore, as mentioned above, Bembenutty (1999) concluded that people with mastery goal orientation exert higher self-regulation due to their focus on performance itself rather than delayed reward. Therefore, in the mastery goal orientation condition, providing students with opportunity to think about values of learning goals does not have effect on self-regulated behavior. In other words, the effects of high-level construal, which focus on extrinsic rewards,

reduced in the mastery goal orientation condition.

With regard to the result in which self-regulated behavior of low-level construal in both performance and mastery goal orientation condition was similar to high-level construal in mastery goal orientation, the phenomenon could be explained according to action-identification theory. Action-identification theory has suggested that when people represent the tasks at a more concrete level such as specific steps for task performance, it leads to more successful goal pursuit processes and outcomes (Vallacher & Wegner, 1989). In this regard, Vallacher and his colleague argued that individuals tend to interpret the actions more concretely particularly in situation of encountering difficult tasks.

Moreover, implementation intentions may drop a hint about positive outcomes at low-level construal on self-regulation. Implementation intentions are related with self-instruction ways to achieve certain goals or perform particular behaviors by adopting the format of 'if-then' plans (Gollwitzer, 1999). This strategy facilitates for individuals to exert self-regulation and brings positive outcomes in goal-related process (Gollwitzer & Sheeran, 2006). Accordingly, in terms of both action-identification theory and implementation intentions, it could be indicated that individuals in low-level construal self-regulated similarly with people in high-level construal.

The present study also has several important implications in educational settings. First, teachers and parents could suggest the substantial strategies to exert self-regulation especially when their students or children have difficulty in self-regulation.

In particular, in competitive educational circumstances which

enhance the performance goal orientation or for students who are highly performance goal-oriented, providing opportunity to think about task values at the high-level construal promotes self-regulation and leads to positive academic outcomes. Especially, considering cultural characteristics of Korean educational setting, which are extrinsically oriented, it could be important to help students with the high level of performance goal orientation as well as to build the environment which promotes the mastery goal orientation.

The present study has a couple of limitations. First of all, this study concerned goal orientation only in terms of mastery and performance. For further research, there will be a need to investigate the difference in self-regulation depending on approach or avoidance goal orientation. Second, it is also critical to examine the effects of autonomy-supportive circumstance on self-regulation. It is required to investigate that offering an opportunity to select learning programs could contribute to self-regulated behaviors. In other words, there might be an interaction effect between goal orientation and autonomy in goal setting on self-regulation. In future, it needs to be studied how students perceive difficulty and familiarity of tasks or proximity of goals has influence on self-regulation.

There is a story on lemming, a kind of Muridae. Lemming, also known as wanderer mouse, lives in all over Northern Europe. Lemming is famous for its dash, the speeding of death, once a year. As a group, they run without a destination all day long. Lemming is likely to die by falling to sea, because they are not able to stop. What brings this mouse to reach a death? When the front mice of the group run by accident, the rest of the mice chase them. The

following of the other mice makes the leader lemmings run faster not to be stepped(Hutchens, 2000).

From this perspective, this story gives several meanings to our lives. We also focus on competition with others and do not have sufficient opportunity to think about the goals we pursue. It is needed to think reasons of our goals such as 'why do I have to study?' or 'why do I want to be wealthy?' Accordingly, the results of this study highlight the importance of thinking about reasons and values on goals which people want to achieve especially in situations which emphasize extrinsic goals such as performance goal orientation.

REFERENCES

- Alberts, H. J., Martjin, C., & Vries, N. K. (2011). Fighting self-construal failure: Overcoming ego depletion by increasing self-awareness. *Journal of Experimental Social Psychology, 47*, 58-62.
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*, 261-271.
- Anderman, E., & Midgley, C. (1997). Changes in achievement goal orientations, perceived academic competence, and grades across the transition to middle-level schools. *Contemporary Educational Psychology, 22*, 269-298.
- Baddeley, A. D. (2001). Is working memory still working? *American Psychologist, 56*, 851-864.
- Baumeister, R. F. (2002). Ego depletion and self-control failure: An energy model of the self's executive function. *Self and Identity, 1*, 129-136.
- Bembemutty, H. (1999). Sustaining motivation and academic goals: The role of academic of gratification. *Learning and Individual Differences, 11*, 233-257.
- Bembemutty, H. (2002). Academic delay of gratification and self-efficacy enhance academic achievement among minority college students. *Paper presented at the annual meeting of the American Educational Research Association*. New Orleans, LA.
- Bembemutty, H., & Karabenick, S. A. (1998). Academic delay of gratification. *Learning and Individual Differences, 10*, 329-346.
- Berndt, T. J., & Miller, K. E. (1990). Expectancies, values, and achievement in junior high school. *Journal of Educational Psychology, 82*, 319-326.

- Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development, 78*, 647-663.
- Church, M. A., Elliot, A., & Gable, S. L. (2001). Perception of classroom environment, achievement goals, and achievement outcomes. *Journal of Educational Psychology, 93*, 43-54.
- Duckworth, A. L., Grant, H., Loew, B., Oettingen, G., & Gollwitzer, P. M. (2011). Self-regulation strategies improve self-discipline in adolescents: Benefits of mental contrasting and implementation intentions. *Educational Psychology, 31*, 17-26.
- Elliot, A. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist, 34*, 169-189
- Fiske, S. T., & Taylor, S. E. (2008). *Social cognition, from brains to culture*. New York. NY: McGraw-Hill.
- Fitzsimons, G. M., & Bargh, J. A. (2002). Automatic self-regulation. In Baumeister, R. F. & Vohs, K. D. (Eds.), *Handbook of self-regulation* (pp. 151-170). New York. NY : Guilford,
- Freitas, A. L., Gollwitzer, P., & Trope, Y. (2004). The influence of abstract and concrete mindsets on anticipating and guiding others' self-regulatory efforts. *Journal of Experimental Social Psychology, 40*, 739-752.
- Fryer, J. W., & Elliot, A. J. (2007). Stability and changes in achievement goals. *Journal of Educational Psychology, 99*, 700-714.
- Fujita, K. (2008). Seeing the forest beyond the trees: A contrual-level approach to self-control. *Social and Personality Psychology Compass, 3*, 1475-1496.

- Fujita, K., Eyal, T., Chaiken, S., Trope, Y., & Liberman, N. (2008). Influencing attitudes towards near and distant events. *Journal of Experimental Social Psychology, 44*, 562-572.
- Fujita, K. & Han, H. A. (2009). Moving beyond deliberative control of impulses. *Psychological Science, 20*, 799-804.
- Fujita, K. & Roberts, J. C. (2010). Promoting prospective self-control through abstraction. *Journal of Experimental Social Psychology, 46*, 1049-1054.
- Gollwitzer, P. M. (1999). Implementation intentions: Strong effects of simple plans. *American Psychologist, 54*, 493-503.
- Gollwitzer, P. M., & Bargh, J. A. (1996). *The psychology of action: Linking cognition and motivation to behavior*. New York, NY : Guildford Press.
- Gollwitzer, P. M., & Sheeran, P. (2006). Implementation intentions and goal achievement: A meta analysis of effects and processes. *Advances in experimental social psychology, 38*, 69-119.
- Harackiewicz, J. M., Barron, K. E., & Elliot, A. J. (1998). Rethinking achievement goals: When are they adaptive for college students and why? *Educational Psychologist, 33*, 1-21.
- Harackiewicz, J. M., Barron, K. E., Pintrich, P. R., Elliot, A. J., & Thrash, T. M. (2002). Revision of achievement goal theory: Necessary and illuminating. *Journal of Educational Psychology, 94*, 638-645.
- Heckhausen, J., & Dweck, C. S. (1998). *Motivation and self-regulation across the life span*. New York, NY: Cambridge University Press.
- Hutchens, D. (2000). *The lemming dilemma: living with purpose, leading with vision*. Pegasus communications.

- Jackson, T., Frithch, A., Nagasaka, T., & Pope, L. (2003). Procrastination and perceptions of past, present, and future. *Individual Differences Research, 1*, 17-28.
- Job, V., Dweck, C. S., & Walton, G. M. (2010). Ego-depletion-is it all in your head?: Implicit theories about willpower affect self-regulation. *Psychology Science, 21*, 1686-1693.
- Kaplan, A., Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychology Review, 19*, 141-184.
- Kaplan, A., Midgley, C. (1997). The effect of achievement goals: Does level of perceived academic competence make a difference? *Comtemporary Educational Psychology, 22*, 415-435.
- Karabenick, S. A. & Bembemutty, H. (1998). Motivational determinants of academic delay of gratification. *Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.*
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin, 22*, 280-287.
- Kim, J. E., & Kim, J. H. (2013). The effect of goal pursuit motivation and hot-cool system on long-term goal: focus on depletion effect of diets. *Korean Journal of Consumer and Advertising Psychology, 14*, 203-223. [김지은, 김재휘 (2013). 목표 표상방식과 대안 처리체계가 장기적 목표 달성에 미치는 효과: 다이어트 목표행동에 대한 고갈 효과를 중심으로. *한국심리학회지: 소비자·광고, 14*, 203-223]
- Lee, H. J. (2009). *Effects of goal relations on self-regulated learning in multiple goal setting: self-regulated performance, process, and task enjoyment.* Unpublished doctoral dissertation. Seoul National University, Seoul, Korea.

- Lee, M. J. (2011). The problems and challenges for self-regulation studies. *The Journal of Research in Education*, 3, 161-193. [이명진 (2011). 자기조절 연구의 현황과 과제. *교육문제연구*, 3, 161-193.]
- Lepper, M. R., & Henderlong, J. (2000). Turning “play” into “work” and “work” into “play”: 25 years of research on intrinsic versus extrinsic motivation. In C. Sansone & J. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 257-307). San Diego, CA: Academic Press.
- Liberman, N., & Trope, Y. (2008). The psychology of transcending the here and now. *Science*, 322, 1201-1205.
- Liberman, N., Trope, Y., & Stephan, E. (2007). Psychological distance. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 353-381). New York, NJ : Guilford Press.
- Loewenstein, G. (1996). Out of control: Visceral influences on behavior. *Organizational Behavior and Human Decision Processes*, 65, 272-292.
- Matthews, J. S., Ponitz, C. C., & Morrison, F. J. (2009). Early gender difference in self-regulation and academic achievement. *Journal of Educational Psychology*, 101, 689-704.
- McCrea, S. M., Liberman, N., Trope, Y., & Sherman, S. (2008). Construal level and procrastination. *Psychological Science*, 19, 1308-1314.
- McWhaw, K., & Abrami, P. (2001). Student goal orientation and interest: Effects on students' use of self-regulated learning strategies. *Contemporary Educational Psychology*, 26, 311-329.

- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation and academic achievement. *Annual Review of Psychology, 57*, 487-503.
- Mesulam, M. M. (2002). The human frontal lobes: Transcending the default mode through contingent encoding. In D. Stuss & R. Knight (Eds.), *Principles of frontal lobe function* (pp. 8-30). New York, NJ: Oxford University Press.
- Metcalfe, J., & Mischel, W. (1999). A hot/cool-system analysis of delay of gratification: Dynamics of willpower. *Psychological Review, 106*, 3-19.
- Mischel, W., & Baker, N. (1975). Cognitive appraisals and transformations in delay behavior. *Journal of Personality and Social Psychology, 31*, 254-261.
- Mok, J. Y. (2012). *The effect of regulatory focus-construal level fit on self-regulation maintenance*. Unpublished master's, Sung kyun kwan University, Seoul, Korea. [목정연 (2012). 자기조절 유지에서 조절 초점과 해석 수준의 부합효과. 성균관대학교 대학원 석사학위 청구논문]
- Moore, C., Barresi, J., & Thompson, C. (1998). The cognitive basis of future-oriented prosocial behavior. *Social Development, 45*, 1083-1088.
- Muraven, M. & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin, 126*, 247-259.
- Newman, R. (1994). Adaptive help-seeking: A strategy of self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulation of learning and performance: Issues and educational applications* (pp. 283-301). Hillsdale, NJ: Erlbaum.

- Paas, F. Renkl, A., & Sweller, J. (2004). Cognitive load theory: Instructional implications of the interaction between information structures and cognitive architecture. *Instructional Science, 32*, 1-8.
- Park, B. K., Jeong, K. S., Kim, S. M., & Lee, J. W. (2005). Development and validation of a complex scale of self-regulated learning: Focused on integrating the subscale of motivation regulation. *The Korean Journal of Educational Psychology, 19*, 455-476. [박병기 (2005). 자기조절학습의 복합적 측정도구 개발과 타당화: 동기조절 척도의 통합을 중심으로. *교육심리연구, 19*, 455-476.]
- Peckham, G., Jones, P., Miller, C., & Thomas, B. (2004). E-learning and retention: Key factors influencing student withdrawal. *Education + Training, 46*, 335-342.
- Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology, 92*, 544-555.
- Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational psychology review, 16*, 385-407.
- Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 33-40.
- Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement: Goals and self-regulatory processes*(pp. 371-402). Greenwich, CT: JAI Press.

- Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in education: Theory, research and application*. Englewood Cliffs, NJ: Prentice Hall Merrill.
- Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). Manual for the use of the motivated strategies for learning questionnaire(MSLQ). Ann Arbor, MI: The regents of The University of Michigan.
- Rachlin, H. (2000). *The science of self-control*. Cambridge, MA: Harvard University Press.
- Reeinberg, F. Vollmeyer, R., Rollett, W. (2000). Motivation and action in self-regulated learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner(Eds.), *Handbook of self-regulation*. (pp. 503-529). San Diego, CA.: Academic Press.
- Rye, S. K. (2009). The teaching Method of Interactive Listening. *Korean Speech and Discourse Analysis*, 14, 177-204. [류성기 (2009). 듣기 지도에서 상호작용식 모형 적용 방법 탐색. *화법연구*, 14, 177-204.]
- Sangristano, M. D., Trope, Y., & Liberman, N. (2002). Time-dependent gambling: Odds now, money later. *Journal of Experimental Psychology: General*, 131, 364-376.
- Schmeichel, B. J. Vohs, K. D. (2009). Self-affirmation and self-control: Affirming core values counteracts ego depletion. *Journal of Personality and Social Psychology*, 96, 770-782.
- Schmeichel, B. J. Vohs, K. D., & Duke, S. C. (2011). Self-control at high and low levels of mental construal. *Social Psychological and Personality Science*, 2, 182-189
- Schraw, G. (2010). Measuring self-regulation in computer-based learning environments. *Educational Psychologist*, 45, 258-266.

- Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2010). *Motivation in education : Theory, research, and applications*. New York, NJ: Pearson Education.
- Schunk, D. H. & Zimmerman, B. J. (2006). Competence and control belief: Distinguishing the means and the ends. In P. Alexander & P. Winne (Eds.), *Handbook of educational psychology* (pp. 349-367). San Diego, CA: Academic Press.
- Tangney, Baumeister, & Boone (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*, 217-324.
- Trope, Y., & Fishbach. A. (2000). Counteractive self-control in overcoming temptation. *Journal of Personality and Social Psychology, 79*, 493-506.
- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review, 110*, 403-421.
- Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review, 117*, 440-463.
- Tsai, C. I., & Hsee, C. K. (2009). A Behavioral account of compensation awarding decision. *Journal of Behavioral decision making, 22*, 138-152.
- Urdañ, T., & Schoenfelder, E. (2006). Classroom effects on student motivation: Goal structures, social relationships, and competence belief. *Journal of School Psychology, 44*, 331-349.
- Urdañ, T., & Turner, J. C. (2005). Competence motivation in the classroom. In A. J. Elliot, & C. S. Dweck (Eds.), *Handbook of competence motivation*(pp. 297-317). New York, NY: Guildford.
- Vallcher, R. R., & Wegner, D. M. (1989). Levels of personal agency: Individual variation in action identification. *Journal of Personality and Social Psychology, 57*, 660-671.

- Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal-contents in self-determination theory: Another look at the quality of academic motivation. *Educational Psychologist, 41*, 19-31.
- Vansteenkiste, M., Simons, J. Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating persistence, deep level learning and achievement: The synergistic role of intrinsic-goal content autonomy-supportive context. *Journal of Personality and Social Psychology, 87*, 246-260.
- Vohs, K. D., & Baumeister, R. F. (2010). *Handbook of self-regulation: Research, theory, and applications*: Guilford Press.
- White, K., Macdonnell, R., Dahl, D. W. (2011). It's the mind-set that matters: The role of construal level and message framing in influencing consumer efficacy and conservation behaviors. *Journal of Marketing Research, 48*, 472-485.
- Winnie. P. H., & Nesbit, J. C. (2009). Supporting self-regulated learning with cognitive tools. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Handbook of metacognition in education*. (pp. 259-277). New York, NY: Routledge.
- Winnie. P. H., & Perry, N. E. (2000). Measuring self-regulated learning. In M. Boekaerts, P. R. Pintrich & M. Zeidner(Eds.), *Handbook of self-regulation* (pp. 531-566). San Diego, CA: Academic Press.
- Wolters, C. A., & Rosenthal, H. (2000). The relation between students' motivational belief and their use of motivational regulation strategies. *International Journal of Educational Research, 33*, 801-820.

- Wolters, C. A., Yu, S. L., & Pintrich, P. R. (1996). The relation between goal orientation and students' motivational beliefs and self-regulated learning. *Learning and Individual Differences, 8*, 211-238.
- Yim, C. S. (2009). Listening ability and goals of the test: focused on Korean SAT. *Korean Speech and Discourse Analysis, 14*, 279-300. [임철성 (2009). 듣기 능력과 듣기 평가의 목표: 수능을 중심으로. *화법연구, 14*, 279-300.]
- Yim, E. M., & Lee, S. J. (2001). The structure of academic motivation. *Asia Journal of Education, 2*, 89-111. [임은미, 이성진 (2001). 중·고등학생의 학업동기 구조. *아시아교육연구, 2*, 89-111.]
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. in P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13-39). San Diego, CA: Academic Press.
- Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments and future prospects. *American Educational Research Journal, 45*, 166-183.

APPENDIX

1. Questions of self-regulation

번호	문항
1	공부를 하고자 결심하면 미루지 않고 곧 공부를 시작한다.
2	공부하고 싶은 마음은 있어도 공부를 시작하기가 힘들다.(역)
3	공부 도중에 친구들이 놀자고 연락하면 공부를 멈춘다.(역)
4	공부 도중에 가족이 TV를 보아도 나는 공부를 계속한다.
5	공부할 때 종종 지루하거나 게을러져 계획했던 것들을 다 마치지 못한다.(역)
6	새롭게 배우는 내용을 별로 좋아하지 않아도 열심히 하려고 노력한다.
7	학습 내용에 대해 어려움을 느끼면 포기하거나 혹은 쉬운 부분만 학습한다.(역)
8	학습 자료가 어렵거나 지루하더라도 열심히 이해하려고 노력한다.

2. Questions of self-efficacy

번호	문항
1	나는 국어 듣기 학습 때 다루어지는 내용을 잘 이해할 자신이 있다.
2	나는 국어 듣기 학습을 매우 잘 할 수 있다고 확신한다.
3	나는 국어 듣기 학습 때 주어지는 문제나 숙제를 성공적으로 해낼 수 있다고 확신한다.
4	나는 국어 듣기 학습에서 좋은 성적을 받을 것이라고 생각한다.
5	나는 국어 듣기 학습 때 다루어지는 내용을 잘 배울 것이라고 생각한다.

3. Questions of task value

번호	문항
1	나는 국어 수업에서 배우는 내용들이 유용하다고 생각한다.
2	국어 과목은 나에게 유용하다고 생각한다.
3	나는 국어 수업에서 배우는 내용들이 중요하다고 생각한다.
4	국어 과목은 나에게 중요하다.
5	나는 국어 수업에서 배우는 내용들이 재미있다고 생각한다.
6	나는 국어 과목에 관심이 있다.

4. Example of script and sample questions of listening comprehension program

안녕하세요. 여러분.

칭찬의 긍정적인 효과는 이미 널리 알려져 있습니다. 칭찬의 효과를 높이는 대표적인 방법은 재능보다 노력을 칭찬하는 것입니다. 최선을 다하는 과정 자체가 칭찬받을 만한 일이기 때문입니다.

흔히 하는 “최고야!”, “똑똑하구나!”와 같은 말은 노력보다는 재능에 대한 칭찬입니다. 반면에 “노력했구나!”, “열심히 했구나!”와 같은 말은 어떤 일을 하는 과정에 대한 칭찬입니다.

미국의 한 교수가 두 칭찬의 차이에 대해 실험을 했습니다. 먼저 참가자 전원에게 쉬운 문제를 풀게 했습니다. 그런 다음 무작위로 이들을 두 집단으로 나누어 한 집단에는 ‘똑똑하다’라는 칭찬을, 또 한 집단에는 ‘열심히 했다’라는 칭찬을 했습니다.

그리고 나서 두 번째로 풀 문제를 고르게 했더니 똑똑하다는 칭찬을 받은 집단은 쉬운 문제를, 노력에 대해 칭찬을 받은 집단은 어려운 문제를 고르는 경향을 보였습니다. 결국 똑똑하다는 칭찬을 받은 사람들은 도전

에 실패했을 때 자신이 재능이 없는 사람으로 보일까 봐 도전을 피하는 반면, 열심히 했다는 칭찬을 받은 사람들은 노력하는 그 자체에 의의를 두고 도전함을 알 수 있었습니다. 이 실험을 통해 우리는 어떤 칭찬은 오히려 독이 될 수 있음을 알 수 있습니다. 그러면 우리는 어떻게 해야 할까요?

1. 강연 내용에 대한 설명으로 옳은 것은?

- ① “열심히 했구나!”와 같은 말은 재능에 대한 칭찬이다.
- ② 칭찬의 종류에 관계없이 칭찬은 많이 해줄수록 좋은 영향을 미친다.
- ③ 과정에 대한 칭찬을 받은 학생은 어려운 문제를 선택하는 경향이 있다.
- ④ 재능에 대해 칭찬 받은 사람은 도전에 실패하는 것을 두려워하지 않는다.

2. 강연자가 말하고자 하는 바로 가장 적절한 것은?

- ① 칭찬을 받을 때에는 겸손해야 한다.
 - ② 결과에 초점을 맞춘 칭찬을 해야 한다.
 - ③ 사람들은 서로를 인정하고 칭찬해야 한다.
 - ④ 칭찬을 할 때는 재능보다 노력을 칭찬해야 한다.
-

국문 초록

해석 수준과 목표 지향성이 자기 조절 행동과 과제 성취도에 미치는 영향

김남희

서울대학교 대학원
교육학과 교육학 전공

본 연구는 해석 수준과 목표 지향성이 자기 조절 행동 및 과제 성취도에 어떠한 영향을 미치는지 살펴보고자 실시되었다. 목표의 질적인 측면이 자기 조절의 과정과 결과에 미치는 영향을 알아보기 위해 2개의 해석 수준 조건(고차원/저차원)과 2개의 목표 지향성 조건(숙달 목표/수행 목표)으로 구성된 총 4개의 조건에 따라 실험을 수행하였다.

연구 결과, 해석 수준과 목표 지향성은 자기 조절 행동에 상호작용적인 영향을 미치는 것으로 나타났다. 연구 결과를 보다 구체적으로 살펴보면, 숙달 목표 지향성 조건의 참여자들의 자기 조절 행동은 해석 수준에 따라 차이가 나타나지 않았다. 그러나 수행 목표 지향성 조건에 속한 참여자들은 저차원 해석 수준 조건에서보다 고차원 해석 수준 조건에서 자기조절 행동을 더 잘 하는 것으로 나타났다.

다음으로 해석 수준과 목표 지향성이 과제 성취도에 미치는 영향을 살펴본 결과, 목표 지향성이 과제 성취도에 미치는 주효과만 유의하게 나타났다. 즉, 수행 목표 지향성 조건의 학습자들의 과제 성취도가 숙달

목표 지향성 조건의 학습자들에 비해 높게 나타났다.

이러한 연구 결과는 다음과 같은 몇 가지 시사점을 제공해 준다. 첫째, 본 연구는 해석 수준의 내용에 따라 자기 조절 행동이 달라지는지 살펴봄으로써 해석 수준과 자기 조절의 관계를 보다 구체적으로 밝히는 데 기여하였다. 또한 본 연구는 자기 조절에 어려움을 겪는 학습자들에게 목표 표상과 관련된 구체적인 자기 조절 전략을 제공한다는 측면에서 의미를 가진다. 더 나아가 본 연구 결과는 자기 조절을 효과적으로 하지 못하는 학생들을 지도하는 교사나 학부모에게 구체적인 지도 지침으로 활용될 수 있다는 측면에서도 가치를 지닌다.

또한 본 연구는 학습 과정 및 결과에 부정적인 영향을 미치는 것으로 주로 보고되어 온 수행 목표 지향성을 높은 수준으로 가진 학습자도 학습 과제의 가치에 대해 생각해 보는 기회를 제공받음으로써 자기 조절 행동에서 긍정적인 결과를 나타낼 수 있음을 시사한다. 특히 한국의 경쟁적인 교육 환경에서는 다른 학생들과의 경쟁에서 이기는 것, 다른 사람들로부터 인정받는 것과 같은 외적 동기가 중요하게 여겨진다. 이를 고려할 때 숙달 목표 지향적인 학습 환경을 조성해주는 것도 중요하지만 수행 목표 지향성이 가지는 부정적인 영향을 줄이거나 이것이 학습 과정 및 결과에 보다 긍정적인 영향을 미치는 방안을 마련하는 것도 중요하다고 할 수 있다. 따라서 본 연구 결과는 수행 목표 지향성을 가지는 학습자가 보다 긍정적인 학습 과정 및 결과를 얻을 수 있는 방안을 제시했다는 점에서 중요한 의미를 가진다.

주요어 : 해석 수준, 목표 지향성, 자기 조절, 자기 조절 학습

학번 : 2012-21320