

## **Scaffolding for self-regulated learning through multilayered reflection activities\***

**Jisun Kim**  
(Ewha Womans University)

**Kim, Jisun. 2021. Scaffolding for self-regulated learning through multilayered reflection activities.** *Linguistic Research* 38(Special Edition): 121-145. This study explored the potential to raise awareness of and promote self-regulated learning (SRL) through multilayered reflection activities (i.e., self-reflection, reflection sharing, and meta-reflection) in a JFL context. The study presented the pedagogical design of content-based reflective learning and of the reflection sheet as a support tool. The analysis examined how and to what extent the components of SRL emerged in the learners' reflection. The results showed that the main components of SRL, such as motivation/affect, metacognition, and learning strategy, and their respective subcomponents emerged in the learners' reflection. The emergence patterns of the components tended to differ according to the type of reflection activity. By continuously enhancing reflection activities in multiple layers, it can be possible to raise awareness of SRL components and to lead these components organically to the components of other phases in order to ultimately promote the cyclical SRL processes. The findings contribute to the pedagogical design that integrates reflection activities into lesson plans. (Ewha Womans University)

**Keywords** multilayered reflection activity, self-regulated learning, motivation/affect, metacognition, learning strategy

### **1. Introduction**

With the acceleration of worldwide volatility and uncertainty that make the future increasingly unpredictable, transformations across society, including in education, have become necessary. While the drastic development of information and communication technology (ICT) has allowed for more convenient production and consumption of information or knowledge, the sustainability of its value has decreased, highlighting the need for lifelong continuous and autonomous learning (Igarashi 2019). The development of lifelong learning skills is a major function of education; and given the changes in the educational environment due to various social influences, self-regulated learning (SRL)

---

\* I would like to thank the editor and anonymous reviewers for their helpful comments and suggestions.

has become crucial (Zimmerman 2002). Therefore, education on SRL processes has become especially relevant.

SRL refers to learning in which the learners are proactively engaged and control their thoughts, feelings, and behaviors to achieve the goals (Zimmerman 2000). SRL competence refers to learners' ability to adequately and effectively use and apply relevant knowledge, skills, and attitudes in particular task situations (van den Boom et al. 2004). While there are different theories and models of how SRL works (Schraw, Kauffman, and Lehman 2006), SRL is widely accepted as a cyclical and recursive process that is closely intertwined with components such as cognition, metacognition, and motivation (Kohen and Kramaski 2012). Zimmerman et al. (Zimmerman and Kitsantas 1997; Zimmerman 2000) proposed a cyclical model of SRL that consists of three phases: forethought, performance, and self-reflection. The forethought phase refers to processes and beliefs that occur before efforts to learn (e.g., task analysis and self-motivation beliefs); the performance phase refers to processes that occur during behavioral implementation (e.g., self-control and self-observation); and the self-reflection phrase refers to processes that occur after each learning effort (e.g., self-judgement and self-reaction).

As stated above, research on SRL has developed from various perspectives, consistent with the dynamic interaction of complex components in the three cyclical phases of SRL. Such research focused on the following themes: (a) the concept and components of SRL (Dinsmore et al. 2008; Kochiyama 2016; Kuhl 1992; Schunk and Zimmerman 2008; Shin 1998; Vohs and Baumeister 2004); (b) the influence of the SRL components or strategies on academic achievement, and the interrelationships among the SRL components (Ishikawa and Kogo 2017; Kim and Lee 2003; Kim and Yun 2020; Kitazawa et al. 2008; Park 2004; Park and Kim 2004; Pintrich 1999; Schunk and Swartz 1993; Sung and Kim 2003); (c) the development and effectiveness of methods or programs that enhance the SRL components and promote SRL (Baumann and Kuhl 2005; Bielaczyc et al. 1995; Fujiwara 2006; Hong 2008; Kim 2019, 2020; Kohen and Kramarski 2012; Laru et al. 2015; Lee et al. 2021; Nishida and Kuga 2018; Šliogerienė 2016; van den Boom et al. 2004; Winne et al. 2006); and (d) measurement instruments or methods of assessing and measuring SRL (Bak et al. 2005; Jung 2003; Kim et al. 2018; Linder and Harris 1992; Pintrich 2004; Winne and Perry 2000; Zimmerman and Martinetz-Pons 1986).

As SRL has been considered a core topic in the study of human learning activities, discussions and exploration of SRL have continued from the late 1980s to the present

(Paris and Paris 2001; Park and Kim 2004). Educational attempts to develop SRL competence and the results of such attempts have also been examined widely in various educational settings (Corno and Randi 1999; Graham and Harris 2000; Hofer et al. 1998; Ley and Young 2001; Moos and Rindal 2012). Although the crucial role of reflection in learning is emphasized and has attracted attention as an essential factor of SRL (Boud et al. 1985; Chang 2019; Ertmer and Newby 1996; Harvey et al. 2016; Lee and Hutchison 1998; Moon 1999; von Wright 1992), attempts to focus on reflection in SRL seem insufficient. In particular, there is a lack of practical guidance on how to support the development of reflection ability through the specific design and practice of reflection activities (Kim 2019; van den Boom et al. 2004).

Based on the perspective that reflection ability is one of the prerequisites for learners to develop SRL competence, this study attempts to raise awareness and promote SRL through reflection activities. The purpose of this study is to explore how reflection activities can be designed and practiced to scaffold for SRL in a JFL context. The study first introduces the pedagogical design of content-based reflective learning. Second, the study suggests a reflection sheet as a support tool for increasing learner awareness of SRL in reflection activities. Third, the study examines how and to what extent the components of SRL emerge in learners' reflections. The findings of this study are expected to provide some practical implications for supporting SRL through reflection activities.

## **2. Background on reflection for learning and self-regulated learning**

Reflection in the context of learning is a generic term for intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations (Boud et al. 1985). Reflection does not only consist of looking back on one's experience but is also an act of reinterpretation; that is, it is a proactive act that creates new perspectives through the reorganization and systematization of existing knowledge and is an activity that helps one use one's own experience as another opportunity to learn (Boud et al. 1985; Kim 2008). Reflection allows a learner to connect existing knowledge with new knowledge and experience; to perform abstract, conceptual, and critical thinking; to use specific learning strategies; or to understand one's own thinking and learning strategies (Lin et al. 1999; Odiba and Baba 2013). In a

literature review of 16 articles on Japanese language and Japanese culture classes that implemented reflection activities, Kim (2017) stated that reflection activities accelerated the improvement of self-learning competence (i.e., the basic and general ability to learn) and task performance skills (i.e., language skills in performing each learning task), and also enabled the learners to recognize and improve their learning process and achievement themselves. As such, reflection plays an important role in the learning process (Boud et al. 1985; Lee and Hutchison 1998) and is an important factor in the acquisition of learning competence (Ertmer and Newby 1996; von Wright 1992).

Based on study findings that reflection promotes cognitive structure and development, which can then be used for learning activities (Schunk and Ertmer 2000; Seale and Cann 2000), van den Boom et al. (2004) assumed that reflection prompts can serve as cues for eliciting reflection that facilitates learners' SRL strategy construction. The authors examined the effect of reflection prompts and tutor feedback on the self-regulated learning competencies (SRLCs) of four different groups in web-based learning environments. They found that the groups that performed the tasks with the embedded reflection prompts that were related to SRLC aspects achieved higher scores on the regulation subscales than the groups that performed the tasks with the embedded reflection prompts that were unrelated to SRLC aspects. Among the groups that worked on the tasks with the reflection prompts that were related to SRLC aspects, the reflection prompts more significantly affected the group that was given tutor feedback. Therefore, the results showed that SRL-related reflection prompts accompanied by appropriate feedback can be useful for promoting SRLC.

Reflection is considered a means of prompting SRL and a goal for learning (von Wright 1992; Waguri 2010). Reflection ability should be developed and supported because the ability to objectify and externalize one's thoughts on learning is not innate or self-occurring and rather, causes embarrassment or burden unless one is familiar with such psychological task (Kim 2017; Waguri 2010). Due to the fact that the level of reflection ability can affect the learner's attitudes toward or quality of reflection, a range of material, personal, and social resources are used to reduce the burden of fostering reflection ability among learners and to support reflection. For example, learners could write portfolios, reflection journals, reflection diaries, and reflection sheets; participate in peer reflection with other learners; and attend related conference with their teachers or tutors (Kim 2017). According to Xhaferi and Xhaferi (2016), when learners were prompted to write a reflection journal to promote their critical thinking skills in learning,

they became more independent in their choice and use of learning strategies, developed positive attitudes toward reflection, and perceived reflection as a valuable tool for learning.

Veine et al. (2020) highlighted reflection as a core learning activity in higher education and attempted various activities and approaches to foster learners' reflective capacity. The study suggested a reflection pyramid composed of personal reflection using a reflection journal, team reflection in which the team members share with and one another and discuss their personal reflections, and meta reflection by reflecting on one's previous reflection experiences. The study found that these three levels of reflection could promote conceptually integrated and structured reflective capacity by supporting the step-by-step improvement of reflection skills. The findings of the study provided some implications for future practical research on fostering reflective capacity, because they provide a conceptual framework that views reflection beyond individual thoughts and assists learners in integrating diverse perspectives into their reflections. More studies are needed to explore practical methodology on design and practice of reflection activities in the classroom.

### 3. Method

#### 3.1 Participants and pedagogical design

The participants were 23 undergraduate students (13 Korean JFL learners and 10 native Japanese speakers) who attended an elective course titled "Current Events Japanese Language" at a Korean university.<sup>1</sup> The 75-minute-long class was held twice a week for a total of 15 weeks. The class dealt with various social issues based on 13 Japanese news items. The class had the following objectives: (i) to improve the learners' Japanese communication skills, such as their Japanese listening, reading, and speaking skills, by learning the Japanese vocabulary and expressions used in the news; (ii) to help the learners critically recognize their own perspectives on the background and current status

---

1 Although the participants' language levels were not strictly measured, both the Korean JFL learners and the Japanese native speakers (international students) could communicate in Korean and Japanese. In the case of the Korean JFL learners, their language level was judged above level 1 or level 2 of the Japanese Language Proficiency Test (JLPT). Therefore, both languages were used during the class as needed.

of news topics; and (iii) to foster reflection ability and build scaffolding for SRL through reflection activities on learning processes and achievements. The pedagogical design of the Japanese language class consisted of personal pre-class activities, in-class whole activities and peer activities, and post-class reflection activities on each news item.

#### *Pre-class*

The pre-class personal activities involved a form of pre-learning in which each learner wrote a script in Japanese while listening to the news provided to them in advance. For this, the learners needed to understand the overall content before attending the class. This activity required all the learners to write their scripts and bring them to class, as the class was conducted based on the individual scripts instead of textbooks.

#### *In-class*

The in-class whole activities encompassed the teacher's instructions and some activities in which all the learners participated. First, both the teacher and the learners listened to the news together, and then the learners read and interpreted a given sentence one by one. During this time, the learners compared their scripts with the PowerPoint presentation that had been prepared by their teacher and corrected what they have either not heard properly or written incorrectly. After checking the overall vocabulary and expressions all together, the teacher explained the background and related content to help the learners to understand the news better. After these linguistic and content checks, the learners performed activities such as shadowing, filling in the blanks, and replacing Korean vocabulary and expressions in the news with Japanese to familiarize themselves with the latter'. If needed, the teacher drew the learners' attention by comparing the news with that of other countries or by introducing the latest trends, to provide the learners an opportunity to reconsider the topic and to raise their awareness of it. In the ensuing peer activities, the learners discussed a topic related to the news.

In the in-class peer activities, the learners formed groups of 4–5 mixed Korean and Japanese people, and the group members were rearranged for every task. First, the groups practiced shadowing to strengthen their shadowing skills for class activities, and the learners exchanged their script sheets to cross-check and correct any errors that the other learners might not have noticed, and freely asked or answered questions. Then the learners discussed a topic related to the news, wrote on the worksheet, and shared it with the whole class. During the peer activities, the teacher primarily observed each group but

did not intervene as much as possible. The peer activities provided the learners with an arena where they could interact by teaching each other and learning from each other both language and content.

#### *Post-class*

Post-class reflection activities refer to intellectual and affective activities in which individuals engage in exploring their experiences to lead to new understandings and appreciations (Boud et al. 1985). In the abovementioned class, the learners reflected on their learning process and achievements from their pre-class personal activities and their in-class whole and peer activities through multilayered reflection activities, such as self-reflection, reflection sharing, and meta-reflection. These post-class reflection activities were expected to foster the learners' reflection ability and build scaffolding for SRL. All the reflection activities were performed after class to secure sufficient time for reflection.

### **3.2 Multilayered reflection activities using a reflection sheet**

Although the importance of reflection on learning has been emphasized, its practice in the classroom remains a problem. Reflection has limits in explicit instruction alone, as it is psychological work that requires learners to confront, objectify, and accept themselves. Hence, learners often do not know what to reflect on and how to reflect. Thus, in this class, the learners were provided a reflection sheet that served as a guide to help them to get used to the process of reflection itself and to develop their reflection ability through multilayered reflection activities. As shown in Figure 1, a series of reflection activities, such as self-reflection, reflection sharing, and meta-reflection, were implemented over the course of one semester.

|                |            | 1                              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11              | 12 | 13 | 14 | 15 (Week) |
|----------------|------------|--------------------------------|---|---|---|---|---|---|---|---|----|-----------------|----|----|----|-----------|
| Each news item | Pre-class  | Personal activity              |   |   |   |   |   |   |   |   |    |                 |    |    |    |           |
|                | In-class   | Whole activity & Peer activity |   |   |   |   |   |   |   |   |    |                 |    |    |    |           |
|                | Post-class | Self-reflection                |   |   |   |   |   |   |   |   |    |                 |    |    |    |           |
|                |            | Reflection Sharing             |   |   |   |   |   |   |   |   |    | Meta-reflection |    |    |    |           |

Figure 1. Class design of multilayered reflection activities

*Self-reflection*

Self-reflection is the most common type of personal reflection done by learners. This activity enables learners to become aware of the reflection itself and to familiarize themselves with reflection activities through self-reflection on their pre-class personal activities and in-class whole and peer activities on each news item. It is intended to help learners externalize their reflective thinking by objectifying and assessing their learning experiences and then writing them on the reflection sheet. To achieve this, questions were provided on the reflection sheet to effectively elicit the learners' reflection and raise awareness of SRL, as presented in Table 1.

Table 1. Self-reflection sheet

| <b>(1) How much could you do?</b><br>Select the level of achievement.<br>(1. Not at all, 2. Not much, 3. A little, or 4. Most) |                      |                                           |                                                    |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------|----------------------------------------------------|
| Pre-class                                                                                                                      | Level of achievement | What and how much could you do or not do? | What do you think you should do to perform better? |
| Dictation                                                                                                                      |                      |                                           |                                                    |
| Korean interpretation                                                                                                          |                      |                                           |                                                    |
| Understanding content                                                                                                          |                      |                                           |                                                    |

| <b>(2) How satisfied were you?</b><br>Select the level of satisfaction.<br>(1. Not at all satisfied, 2. Not very satisfied, 3. A little satisfied, or 4. Mostly satisfied) |                    |                                                   |                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------|-------------------------------------------------------|
| In-class                                                                                                                                                                   | Satisfaction level | What and how much were you satisfied with or not? | What do you think you should do to be more satisfied? |
| Whole-class activity                                                                                                                                                       |                    |                                                   |                                                       |
| Cross-checking scripts                                                                                                                                                     |                    |                                                   |                                                       |
| Peer activity                                                                                                                                                              |                    |                                                   |                                                       |

Among the reflection questions, (1) “How much could you do?” was asked about the learners’ perceived achievement levels in writing news scripts (such as their task performance levels in Japanese dictation, Korean interpretation, understanding content, etc.) during their pre-class personal activities. The learners were asked to assess themselves by choosing one of the following options: 1. Not at all, 2. Not much, 3. A little, and 4. Most, and then to respond to the following questions: “What and how much could you do or not do?” and “What do you think you should do to perform better?” The purposes of these reflection questions were to allow the learners to monitor their level of task performance in their learning progress and to realize their weaknesses in autonomously making learning plans or strategies that would provide them with better task performance. In other words, they sought to promote the learners’ metacognition through their perception of their process of learning activities and their selection of learning strategies to achieve goals. Metacognition is known to play a significant role in SRL as a learning management skill that helps to monitor, evaluate, and control one’s cognitive activities (Flavell 1987; Koichiyama 2016).

Another reflection question, (2) “How satisfied were you?” was asked about the learners’ satisfaction levels with the in-class whole and peer activities. The learners were asked to perform a self-assessment by choosing one of the following options: 1. Not at all satisfied, 2. Not very satisfied, 3. A little satisfied, and 4. Mostly satisfied, and responding to the questions “What and how much were you satisfied with or not?” and “What do you think you should do to be more satisfied?” Satisfaction is related to self-efficacy, an essential component of SRL. Self-efficacy refers to the recognition of being able to succeed in performing a certain task or action (Bandura 1977). Learners’

satisfaction increases if they perceive that they have performed in-class activities well; but if they perceive that they have not performed properly, their satisfaction is supposed to decrease. The purposes of these reflection questions were to encourage learners to monitor their own satisfaction and to promote their awareness of the affective aspect of self-efficacy, which is a major factor of motivation. As such, specifying the method or directions for reflection by suggesting specific reflection questions assisted the learners in understanding the reflection process and provided scaffolding for their reflection activities. In other words, reflection questions (1) and (2) were intended to activate reflection and improve the learners' reflection ability by encouraging them to monitor and control the cognitive and affective aspects of learning activities.

### *Reflection sharing*

Reflection sharing is literally sharing of learners' reflections with others. Parallel to self-reflection, as mentioned above, the learners were asked to share their reflections on some topics related to the news. For several of such news, the learners were required to share their reflections as well as comment on other's reflections. This activity was conducted from week 6 to week 15 of the semester, which was tracked using a bulletin board on the Cyber Campus (i.e., the learning management system (LMS) of the university). The activity further improved the learners' own inner speech and helped them to communicate their thoughts and feelings more adequately, as they were asked to disclose each of their self-reflections to everyone in the class. Moreover, the learners' exposure to different perspectives was expected to encourage them to better understand and critically reconsider themselves by objectively monitoring themselves and comparing themselves with others.

### *Meta-reflection*

Meta-reflection refers to reflection on the overall reflection activity itself at the end of the semester. In the case class, the purpose of the meta-reflection was to help the learners find meaning in the reflection activities themselves by evaluating their self-reflection and reflection sharing activities in the semester and carefully thinking of the ways in which they facilitated or affected their learning. After the last class of the course, the learners were asked to reflect on the entirety of their learning process by reviewing their former reflection sheets and writing their responses to the meta-reflection questions 1 and 2 listed below. The meta-reflection was expected to show how the

learners perceived reflection activities, to verify the effectiveness of those activities, and hence, to examine the potential of those activities for enhancing awareness and promotion of SRL.

Q1. What level of achievement and personal satisfaction did you reach for each news item, and how much of your improvement measures did you implement accordingly?

Q2. Have your reflection activities, such as self-reflection, reflection sharing, and meta-reflection, helped improve your learning? If they have, in what ways have they improved your learning?

### **3.3 Data collection and analysis**

This study analyzed the potential for awareness and promotion of SRL based on the emergence of SRL components, in the learners' answer to the abovementioned meta-reflection questions. The data consisted of meta-reflection data (on week 15) which had reviewed one's self-reflection sheets (from weeks 1 to 15). The meta-reflection data were qualitatively analyzed with respect to how and to what extent the components of SRL emerged in them. To reiterate, SRL includes three main components: motivation, metacognition, and cognition; that is, SRL involves a combination of motivational belief, metacognitive processing, and use of cognitive strategy (Schraw et al. 2006). The main components can be further subdivided into the subcomponents of motivation (e.g., self-efficacy and expectancy); metacognition (e.g., planning, monitoring, and evaluating); and cognitive/learning strategies (e.g., rehearsal, elaboration, organization, managing time and effort, peer learning, and help seeking) (Bulter and Winne 1995; Pintrich 1999; Winne and Perry 2000; Zimmerman 2000). The study employed the categories of main components and respective subcomponents of SRL. The results are expected to show whether multilayered reflection activities assist in scaffolding for SRL.

## **4. Results**

The result of the analysis of the meta-reflection content are presented in this section according to the main components of SRL—motivation/affect, metacognition, and learning strategy—with their subcomponents. These SRL components and subcomponents are shown in Figure 2.

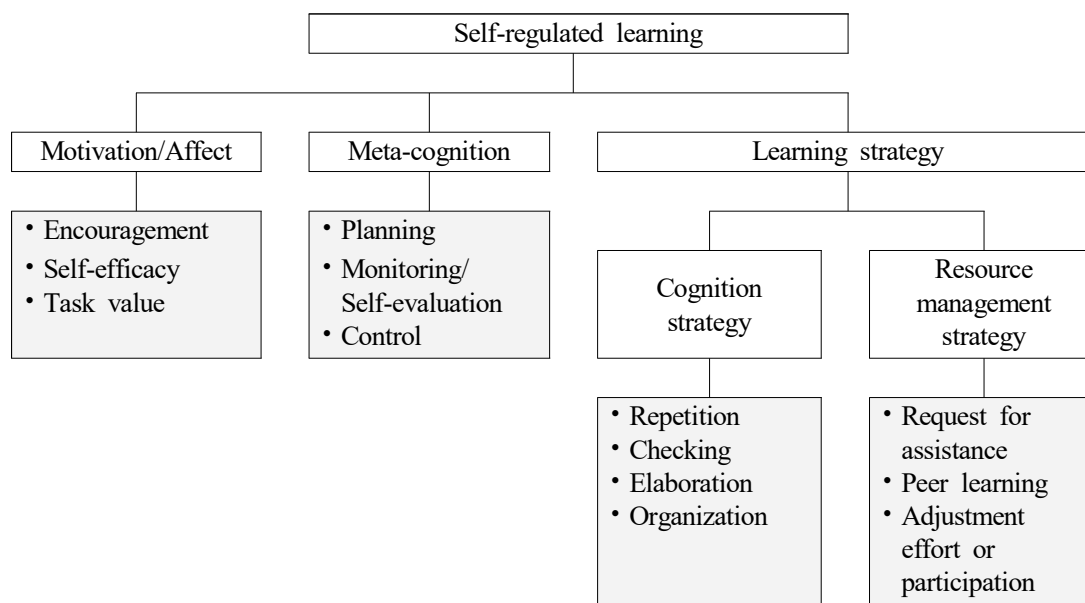


Figure 2. Components and subcomponents of SRL

#### 4.1 Motivation/affective component

Motivation/affective component is the psychological component that allows a learner to begin, set the direction of, and sustain learning. These are the driving forces behind the strengthening of a learner's sense of purpose and of the learner's determination to achieve the learning goals. The results of the analysis highlighted the emergence in the learners' meta-reflections of the subcomponents of this motivation/affective component, namely, encouragement, self-efficacy, and task value. *Encouragement* refers to growing interest, eagerness, and will to learn due to being inspired or motivated by the learning activities in this study. *Self-efficacy* is having the belief in one's own potential to successfully perform a given task or learning activity. *Task value* is understanding the significance or effect of learning activities and recognizing their values. Excerpts of the reflection content that demonstrated these SRL components are presented below.<sup>2</sup>

2 The excerpts from the reflection content were originally written in Korean or Japanese and translated to English by the author. The numbers such as (1) and (2) next to the excerpts represent the meta-reflection questions 1 and 2. Abbreviations such as L6, L14, L15, and L16 represent learner 6, learner 14, learner 15, and learner 16 respectively, who wrote the reflection content.

### Encouragement

*My achievements such as 'I unexpectedly talked a lot' and 'people empathized with me', which I thought about during the reflection, seemed to be a virtuous cycle of enthusiasm for preparing for the next class. (1) L6*

*It allows me to know what I lack and gives me the will to improve them. (1) L14*

*Seeing Korean students talk about content in Japanese that is difficult for even Japanese students, I was motivated to be able to speak in Korean like that too. (2) L15*

*I had time to think about the topic again after class, which made me more interested. (2) L16*

### Self-efficacy

*When I listened to it repeatedly, it became easier for me to guess the meaning according to the context without being obsessed over the pronunciation; and the more I listened to it, the fewer words I misheard. (1) L1*

*It certainly helped in shadowing compared to the beginning. (1) L4*

*I can now translate more smoothly than in the beginning. (1) L19*

*I was able to improve my sentence expressions in the latter half by writing literary sentences, and so on. (1) L21*

### Task value

*I wasn't very good or neat at organizing my thoughts, but through reflection, I was able to know what opinion I wanted to talk about most and find what perspective I had on a topic step by step through organizing my thoughts twice or three times and thinking over and over again. (2) L12*

*I think it's really great that I had time in the last class to reflect on all our activities so far because I can literally look back on myself for that semester. (2) L13*

*It provides you a chance to grow as a human being because it gives you an opportunity to know how you think, what kind of a person you are, and what your strengths and weaknesses are, and thus, to think about how you can improve them. (2) L17*

*By doing reflection activities after sharing various opinions of oneself and others in the class ... I was able to have new perspectives about an opinion or fact that I had never thought about before. (2) L21*

## 4.2 Metacognition component

Metacognition is a cognitive activity in which one's learning process and achievement are viewed from an upper perspective. In other words, it is the ability to plan, monitor, evaluate, and control learning. In this reflection analysis, the subcomponents of metacognition, namely, planning, monitoring/self-evaluation, and control, were found. *Planning* is the setting of goals and the formulation of ideas that are necessary to achieve such goals. *Monitoring/self-evaluation* refers to identifying one's strengths and weaknesses as well as any improvements, and managing the learning process and achievement, such as by monitoring the learning activities. *Control* is the continuous adjustment of the learning strategies for the effective performance of learning activities or tasks.

### Planning

*By thinking about what I lacked and what I should do to improve them I was able to come up with learning methods and plans accordingly ... (2) L7*

*It became easy to think about what to consider to move on to the next step. (2) L18*

### Monitoring/Self-evaluation

*Through the reflection activities, I was able to objectively look back on how I was like when I was writing scripts or doing peer activities, and finding what I need to supplement through that process was the most helpful for me. (2) L1*  
*The most helpful thing when doing the reflection activities was that I found the problem. The most difficult thing was facing what I lacked, but I was aware that I had a lot of room for improvement while reflecting back on the class. (2) L6*

*I thought that the activity of thinking and comparing myself to the last class itself made me find room for improvement and to understand myself better. (2) L8*

*I can think once again about whether my thoughts or knowledge are right through reflection activities. (2) L21*

### Control

*I was able to know my level of learning through the reflection activities, and I*

*tried to apply the content of the reflection activities in the next class. (2) L2*  
*The associations made between learning methods, attitudes, and subsequently*  
*learning performance were only possible due to reflection. (2) L6*  
*(By thinking about what I lacked and what I should do to improve it, I was able*  
*to come up with learning methods and plans accordingly, and) it became for*  
*me easier to do activities that were actually difficult for me to do while*  
*practicing them. (2) L7*  
*It makes me constantly think about what I need. (2) L10*

### 4.3 Learning strategy component

Learning strategy is the action that a learner performs or intends to perform for effective learning. It specifically refers to the selection and management of specific methods or resources for improving learning ability. In this reflection analysis, the learning strategy subcomponents, namely, the cognition strategy and the resource management strategy were observed. The cognition strategy involved the specific strategies of repetition, checking, elaboration, and organization; and the resource management strategy involved the specific strategies of request for assistance, peer learning, and adjustment of effort or participation.

Among the cognition strategies, *repetition* refers to repeatedly listening, reading, or memorizing the learning contents; *checking* refers to searching for information about or researching the learning contents in advance; *elaboration* refers to the process of building upon what is already known or associating it with the learning contents; and *organization* refers to classifying and systematizing the learning contents.

#### Cognition strategy

##### Repetition

*I often used the wrong word when writing the scripts as I couldn't catch the*  
*subtle differences in pronunciation, so I decided to listen to the files more*  
*carefully, and I actually listened to one file about five times when I was*  
*writing the script. (1) L1*  
*I tried to familiarize myself with longer scripts by listening to them several more*  
*times before the class, and this certainly helped more with shadowing than in*  
*the beginning. (1) L4*

*After listening to the listening file many times. I was able to distinguish between confusing words when I heard them about 10 times. (1) L5*

*The biggest reason I was able to improve was that I read the script many times. The more I read the script, the more I was able to correct even minor mistakes and practice translation as well. (1) L9*

### Check

*At first, I wrote words or sentences as I heard them in hiragana and practiced transforming them into the right words by searching them in the dictionary again. I was confused a lot with the pronunciation of ず and づ or of the あ line and the か line, so at first, I searched them all and found the words that made sense; and even though it took a lot of time, it was good because I could remember the words and know the correct pronunciations. (1) L3*

*It has become easier to do discussions than in the beginning, after writing the words on the topic or organizing my thoughts the day before the class. (1) L7*

*I was able to organize my thoughts by intensely researching the contents beforehand. My understanding of the content has improved by independently researching or searching for videos. (1) L14*

*I looked up dictionaries on the internet or my smartphone, and for words that I still couldn't find, I looked them up in paper dictionaries. (1) L15*

### Elaboration

*I translated by thinking about Korean and Japanese word correspondence and so I was able to write more smoothly. (1) L10*

*I referred to the previous script to write my script, and that way, I could reduce errors, and while in the beginning, I could only use a repeated expression after checking back at my previous script, now, I can use them more and more without checking. (1) L17*

### Organization

*Parts with hanja [Chinese characters] that I wasn't sure of or parts where I missed the case markers were difficult problems for me until the end. However, listening to them several times and writing them down first, then listening to them once more to correct the details, then transferring them to another paper, or memorizing a word and highlighting similar words and so on, are some methods that helped me to write more effectively. (1) L6*

One of the resource management strategies, *request for assistance*, involves asking for help from teacher or other learners when one is unsure of the learning contents; *peer learning* is acquiring the learning contents through or with other learners; and *adjustment of effort or participation* refers to putting forth more effort and actively participating in difficult learning contents or tasks.

#### Resource management strategy

##### Request for assistance

*If I thought what I found in the dictionary was unnatural, then I asked a Korean student. Because they taught me meticulously, I could understand natural expressions and I learned a lot. (1) L15*

*I think I was able to gain more by asking Korean students about +α. (1) L18*

##### Peer learning

*Sometimes I used hanja incorrectly and my Japanese friends and teacher corrected it for me. I tried to memorize the corrected hanja on the spot so that I could use it properly next time. Thanks to this, I now write hanja correctly. (1) L2*

*It was good that I could think about things that I wasn't able to think about by reading other people's reflections. (1) L4*

*I wrote an improvement plan to focus on the feedback that my Japanese friend gave me, and it certainly helped me learn more natural expressions. I still get hanja wrong, but I try to be aware of them and correct them. (1) L8*

*By listening to various opinions on the issues of Japanese society, I realized how to act in the future as a Japanese person myself. (1) L20*

##### Adjustment of effort or participation

*I aimed to improve my checking speed because I couldn't do shadowing as it took me a long time to check the scripts during peer activities, and I revised the script contents by almost memorizing the script the day before the class so that I could check quickly and accurately. Thanks to this, my checking speed accelerated, and I was able to spend more time on shadowing and discussion. (1) L1*

*I tried to participate in the class with a more active attitude. One of the group*

*members actively engaged in the activities, so we were able to engage in better group activities and concentrate more on the activities and class. (1) L2*  
*I spent time before the class brainstorming on the relevant topics beforehand so that I wouldn't waste time, and also speaking more actively and fluently was very helpful. I didn't spend too much time but used about 10–15 minutes thinking or searching on my smartphone before the class. I felt that even this helped to improve the quality of the discussions I participated in. (1) L3*  
*At first, I wasn't the type to actively speak out my thoughts, but I was able to speak better after gradually researching on the internet or preparing notes in advance, which helped me understand the class content. (1) L17*

## 5. Discussion

This study explored the potential to raise awareness of and promote SRL through multilayered reflection activities using a reflection sheet. To verify its feasibility, the study analyzed how and to what extent the components of SRL emerged in the learners' reflection content. First, the study identified the main components of SRL, i.e., motivation/affect, metacognition, and learning strategy, and their respective subcomponents. As noted by Zimmerman and Bandura (1994), SRL is cyclical in that self-reflection affects subsequent forethought and performance processes. This study is meaningful in that the motivation/affective components (encouragement, self-efficacy, and task value) that emerged in the self-reflection phase could lead to higher levels of self-motivation beliefs and increased effort to perform task analysis in the subsequent forethought phase. They could also lead to the deployment, in the subsequent performance phase, of specific methods or more effective strategies that were selected during the forethought phase. The results of this study support the cyclical view of SRL in previous studies, in which high correlations were found among the learners' use of the forethought, performance, and self-reflection phase processes in cyclical SRL processes (Zimmerman and Kitsantas 1997). The findings of the study suggest that by continuously enhancing reflection activities in a multilayered manner, it may be possible to raise learners' awareness of the SRL components, to lead these components of SRL organically to the components of other phases, and ultimately, to promote the cyclical SRL processes. This is schematically shown Figure 3.

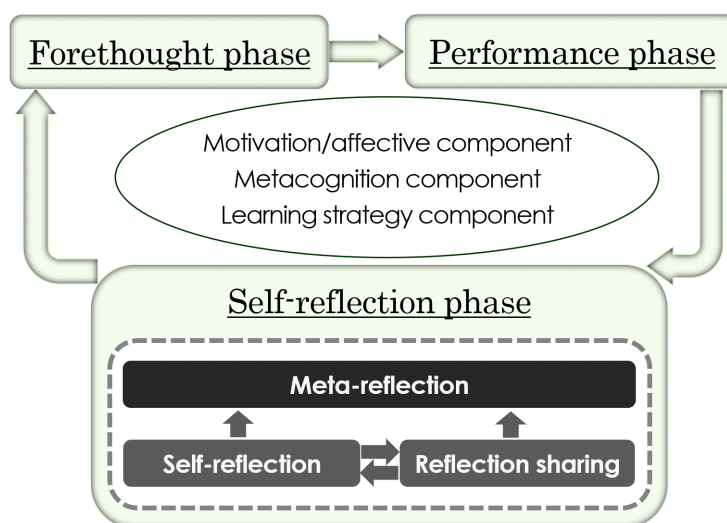


Figure 3. SRL cycle with multilayered reflection activities

Next, the study found that the emergence patterns of the components of SRL tended to differ according to the question in the reflection activity. We provided the long-term reflection questions 1 and 2 for the meta-reflection, in which the learners reflected on their reflection activity itself throughout the whole semester to question and discover the effects or significance of the reflection activities on their learning. The learning strategy components mainly emerged in the meta-reflection on the self-reflection activities (see the excerpts from the reflection content in 4.3); the metacognition components mainly emerged in the meta-reflection on the overall reflection activities (see the excerpts from the reflection content in 4.2); and the motivation/affective components emerged in both (see the excerpts from the reflection content in 4.1). These results indicate that the components of SRL that learners pay attention to differ according to the timing or the type of the reflection activity, and consequently, the components of SRL that learners become more aware of differ as well. Among the reflection activities, the self-reflection activity evaluated achievement and satisfaction pertaining to each of the news items; and thus, attention was likely paid to the learning strategy components, such as specific learning methods or resources, to improve learning. In contrast, it is presumed that greater attention was paid to the metacognition components because meta-reflection, which derives the affects and significance of reflection activities throughout the semester, examines the learning activity from various angles and ranges. The results of this study support previous research (e.g., Xhaferi and Xhaferi 2016) that found that lead one to

conclude that reflection is one of the most useful activities that can be used aware of and promote SRL in learners.

As Paris and Paris (2001) noted, SRL is more likely when teachers create classroom environments in which students have opportunities to seek challenges, to reflect on their progress, and to take responsibility for and pride in their accomplishments. However, reflection activities to support SRL in class need to be carefully designed and practiced because they may not meet the expected achievements if their purposes or intentions had not been clearly defined. Moreover, reflection activities generally have various elements, such as their type, time, place, subject, method, and goal, and thus, reflection activities should be designed by combining these elements in different ways (Kim 2017). In addition, since the design of reflection activities depends on the course goals, the learning environment, and the purpose of the learning and reflection activities, such design must combine the above elements while considering the students' needs and abilities.

## 6. Conclusion

This study contributes to the pedagogical design that integrates reflection activities into teachers' lesson plans. Since reflection is an intellectual and affective activity wherein one objectifies, confronts, and accepts oneself, it is not easy for teachers to explicitly teach learners how they can foster their reflection ability. Hence, teachers must make adequate scaffoldings that consider learning environments.

To help teachers to do so, this study first designed and demonstrated the multilayered reflection activities, in which reflection abilities are developed step by step at three levels—from self-reflection, to reflection sharing, to meta-reflection. Second, this study devised a structured reflection sheet as a tool for supporting reflection activities. The reflection sheet provides guidelines for supporting SRL based on three principles: fostering awareness, encouraging externalization, and promoting regulation. As the pedagogical design is key to enhancing reflection ability for SRL, these suggestions contribute practical methods of promoting SRL, including in Japanese language education, as well as methods of designing and practicing reflection activities.

The ultimate goal of the reflection activities in this study was to enable learners to eventually reflect on their own learning processes and achievements without support tools, and to sustain SRL by applying their reflections. This study had a limitation in

accomplishing such goal. Further studies are needed to examine the quantitative analysis of self-evaluation, as well as the verification and measurement of improvement in reflection ability or in SRL competence.

## References

- Bak, Byung-Gee, Ki-Soo Jung, Sun-Mi Kim, and Jong-Ug Lee. 2005. Development and validation of a complex scale of self-regulated learning: Focused on integrating the subscale of motivation regulation. *Korean Journal of Educational Psychology* 19(2): 455-476.
- Bandura, Albert. 1977. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review* 84: 191-215.
- Baumann, Nicola and Julius Kuhl. 2005. How to resist temptation: The effects of external control versus autonomy support on self-regulatory dynamics. *Journal of Personality* 73(2): 443-470.
- Bielaczyc, Katherine, Peter L. Pirolli, and Ann L. Brown. 1995. Training in self-explanation and self-regulation strategies: Investigating the effects of knowledge acquisition activities on problem solving. *Cognition and Instruction* 13(2): 221-252.
- Boud, David, Rosemary Keogh, and David Walker. 1985. What is reflection in learning? In David Boud, Rosemary Keogh, and David Walker (eds.), *Reflection: Turning experience into learning*, 7-17. London: Kogan Page.
- Butler, Deborah L. and Philip P. Winne. 1995. Feedback and self-regulated learning: A theoretical synthesis. *Review of Educational Research* 65(3): 245-281.
- Chang, Bo. 2019. Reflection in learning. *Online Learning* 23(1): 95-110.
- Corno, Lyn and Judy Randi. 1999. A design theory for classroom instruction in self-regulated learning. In Charles M. Reigeluth (ed.), *Instructional-design theories and models: A new paradigm of instructional theory Volume II*, 293-318. Mahwah, NJ: Lawrence Erlbaum.
- Dinsmore, Daniel L., Patricia Alexander, and Sandra M. Loughlin. 2008. Focusing the conceptual lens on metacognition, self-regulation, and self-regulated learning. *Educational Psychology Review* 20(4): 391-409.
- Ertmer, Peggy A. and Timothy J. Newby. 1996. The expert learner: Strategic, self-regulated, and reflective. *Instructional Science* 24: 1-24.
- Flavell, John H. 1987. Speculations about the nature and development of metacognition. In Franz E. Weinert and Rainer H. Kluwe (eds.), *Metacognition, motivation, and understanding*, 21-29. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Fujiwara, Mieko. 2006. Training of autonomous learners in foreign language education. *The Journal of the Institute for Language and Culture* 10: 83-114.
- Graham, Steve and Karen R. Harris. 2000. The role of self-regulation and transcription skills in

- writing and writing development. *Educational Psychologist* 35(1): 3-12.
- Harvey, Marina, Debra Coulson, and Anne McMaugh. 2016. Towards a theory of the ecology of reflection: Reflection practice for experiential learning in higher education. *Journal of University Teaching and Learning Practice* 13(2): 1-20.
- Hofer, Barbara K., Shirley L. Yu, and Paul R. Pintrich. 1998. Teaching college students to be self-regulated learners. In Dale H. Schunk and Barry J. Zimmerman (eds.), *Self-regulated learning: From teaching to self-reflective practice*, 57-85. New York, NY: Guilford Press.
- Hong, Sunghoon. 2008. The effects of self-regulated learning strategy training on middle school students' attitude of learning and English academic achievement. *Secondary Education Research* 56(2): 197-220.
- Igarashi, Ryo. 2019. A study of relationship between self-regulated learning strategy and active class attitude in college students. *Journal of the Human Development Research, Minamikyushu University* 9: 35-44.
- Ishikawa, Naoko and Chiraru Kogo. 2017. Causal analysis of self-regulated learning strategies used by adult students in university online courses. *Japan Journal of Educational Technology* 40(4): 315-324.
- Jung, Mikyong. 2003. The development of self-regulated learning test for secondary school students. *Korean Journal of Educational Research* 41(4): 157-182.
- Kim, Dongho and Heoncheol Yun. 2020. Effects of motivational regulation strategies on cognitive learning and academic achievement between online and face-to-face learners in higher education. *The Journal of Yeolin Education* 28(5): 347-373.
- Kim, Dongsim, Myunghwa Lee, and Youngsun Lee. 2018. Development the measurement instrument of online self-regulated learning in higher education. *Journal of Educational Technology* 34(4): 901-927.
- Kim, Hyogyung. 2008. *Study of "peer reflection" activities in Japanese language class as a second language*. Tokyo: Hituzi Syobo Publishing.
- Kim, Jisun. 2017. Review of literature on learner reflection activity in educational practice. *Global Center for Japanese Studies* 40: 217-237.
- Kim, Jisun. 2019. Effectiveness of reflection activities using reflection sheets: Focused on supporting autonomous learning in Japanese language education. *Korean Journal of Japanese Education* 49: 5-21.
- Kim, Jisun. 2020. Supporting autonomous learning through reflection activities in Japanese language education: Focused on learners' awareness and the use of learning strategies. *Global Center for Japanese Studies* 49: 325-341.
- Kim, Mankwon and Kihak Lee. 2003. The effect of self-regulated learning strategy on academic achievements and psychological characteristics. *The Korean Journal of Counseling and Psychotherapy* 15(3): 491-504.
- Kitazawa, Takeshi, Masahiro Nagai, and Jun Ueno. 2008. Effects of e-learning system in blended learning environments: Exploring the relationship between motivational beliefs and self-regulated

- learning strategies. *Japan Journal of Educational Technology* 32(3): 305-314.
- Kochiyama, Akiko. 2016. Theory and framework for building self-regulated learning model. *Bulletin of Department of Education, Meisei University* 6: 65-84.
- Kohen, Zehavit and Bracha Kramarski. 2012. Developing self-regulation by using reflective support in a video-digital microteaching environment. *Education Research International* 2012: 1-10.
- Kuhl, Julius. 1992. A theory of self-regulation: Action versus state orientation, self-discrimination, and some applications. *Applied Psychology* 41: 97-129.
- Laru, Jari, Jonna Malmberg, Hanna Järvenoja, Vesa-Matti Sarenius, and Sanna Järvelä. 2015. Designing simple tools for socially shared regulation: Experiences of using Google Docs and mobile SRL tools in mathematics education. In Oskar Lindwall, Paivi Hakkinen, Timothy Koschmann, Pierre Tchounikine, and Sten Ludvigsen (eds.), *Proceedings of the 11th International Conference on Computer-Supported Collaborative Learning (CSCL) Volume 1*, 403-410. Gothenburg: ISLS.
- Lee, Adrienne Y. and Laura Hutchison. 1998. Improving learning from examples through reflection. *Journal of Experimental Psychology: Applied* 4(3): 187-210.
- Lee, Eunjoo, Jaewoo Do, Mina Yoo, Jaewon Jung, and Juyun Lee. 2021. Learning analytics model to support self-regulated learning in open secondary school. *The Journal of Educational Information and Media* 27(1): 223-251.
- Ley, Kathryn and Dawn B. Young. 2001. Instructional principles for self-regulation. *Educational Technology Research and Development* 49: 93-103.
- Lin, Xiaodong, Cindy Hmelo, Charles K. Kinzer, and Teresa J. Secules. 1999. Designing technology to support reflection. *Educational Technology Research and Development* 47: 43-62.
- Linder, Reinhard W. and Bruce R. Harris. 1992. The development and evaluation of a self-regulated learning inventory and its implications for instructor-independent instruction. *ERIC Document Reproduction Service No. ED 348010*. Paper presented at the American Educational Research Association Annual Meeting.
- Moon, Jennifer A. 1999. *Reflection in learning and personal development: Theory and practice*. London: Kogan Page.
- Moos, Daniel C. and Alyssa Rindal. 2012. Self-regulated learning in the classroom: A literature review on the teacher's role. *Education Research International* 2012: 1-15.
- Nishida, Hiroko and Naoto Kuga. 2018. Development and effects of English teaching guidance program that creates "students' autonomous learning" based on the theory of self-regulated learning. *Educational Technology Research* 42(2): 167-182.
- Odiba, Isaac A. and Pauline A. Baba. 2013. Using reflective thinking skills for education quality improvement in Nigeria. *Journal of Education and Practice* 4(16): 196-201.
- Paris, Scott G. and Alison H. Paris. 2001. Classroom application of research on self-regulated learning. *Education Psychologist* 36(2): 89-101.
- Park, Seongik and Meekyong Kim. 2004. Review on the construct factors of self-regulated learning and the results of experimental studies about self-regulated learning. *Asian Journal of Education*

- 5(2): 137-158.
- Park, Seungho. 2004. Self-regulated learning and motivation: Educational implications of meta-motivation and volitional control. *The Korean Journal of Educational Methodology Studies* 16: 1-20.
- Pintrich, Paul R. 1999. The role of motivation in prompting and sustaining self-regulated learning. *International Journal of Educational Research* 31: 459-470.
- Pintrich, Paul R. 2004. A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review* 16(4): 385-407.
- Schraw, Gregory, Douglas F. Kauffman, and Stephen Lehman. 2006. Self-regulated learning. In Lynn Nadel (ed.), *The encyclopedia of cognitive science*, 1063-1073. New York, NY: Macmillan.
- Schunk, Dale H. and Peggy A. Ertmer. 2000. Self-regulation and academic learning: Self-efficacy enhancing interventions. In Monique Boekaerts, Paul R. Pintrich, and Moshe Zeidner (eds.), *Handbook of self-regulation*, 631-649. San Diego, CA: Academic Press.
- Schunk, Dale H. and Carl W. Swartz. 1993. Goals and progress feedback: Effects on self-efficacy and writing achievement. *Contemporary Educational Psychology* 18(3): 337-354.
- Schunk, Dale H. and Barry J. Zimmerman. 2008. *Motivation and self-regulated learning: Theory, research, and applications*. New York: Lawrence Erlbaum Associates.
- Seale, Jane K. and Alan J. Cann. 2000. Reflection on-line or off-line: The role of learning technologies in encouraging students to reflect. *Computer and Education* 34: 309-320.
- Shin, Min-Hee. 1998. Self-regulated learning theory: Meaning, components and design principles. *Journal of Educational Technology* 14(1): 143-162.
- Šliogerienė, Jolita. 2016. Using portfolios to enhance self-regulated learning. *Sustainable Multilingualism* 9: 186-204.
- Sung, Hyun-sook and Ohn-Juh Kim. 2003. Relationships of the use of self-regulated learning strategies and motivation to academic achievement among the three different age groups of adult learners. *Korean Journal of Educational Psychology* 17(1): 333-354.
- van den Boom, Gerard, Fred Paas, Jeroen J. G. van Merriënboer, and Tamara van Gog. 2004. Reflection prompts and tutor feedback in a web-based learning environment: Effects on students' self-regulated learning competence. *Computers in Human Behavior* 20: 551-567.
- Veine, Sven, Martha Kalvig Anderson, Nina Haugland Anderson, Thomas Christian Espenes, Tove Bredesen Søyland, Patric Wallin, and Jonathan Reams. 2020. Reflection as a core student learning activity in higher education: Insights from nearly two decades of academic development. *International Journal of Academic Development* 25(2): 147-161.
- Vohs, Kathleen D. and Roy F. Baumeister. 2004. Understanding self-regulation. In Roy F. Baumeister and Kathleen D. Vohs (eds.), *Handbook of self-regulation: Research, theory, and applications*, 1-12. New York, NY: Guilford Press.
- von Wright, Johan. 1992. Reflections on reflection. *Learning and Instruction* 2: 59-68.
- Waguri, Momo. 2010. Reflection and learning: Fostering reflective learning in Japanese higher education. *Bulletin of National Institute for Educational Policy Research* 139: 85-100.

- Winne, Philip H., John C. Nesbit, Vive Kumar, Allyson F. Hadwin, Susanne P. Lajoie, Roger Azevedo, and Nance E. Perry. 2006. Supporting self-regulated learning with gStudy software: The learning kit project. *Technology, Instruction, Cognition and Learning (TICL)* 3(1): 105-113.
- Winne Philip H. and Nance E. Perry. 2000. Measuring self-regulated learning. In Monique Boekaerts, Paul R. Pintrich, and Moshe Zeidner (eds.), *Handbook of self-regulation*, 531-566. San Diego, CA: Academic Press.
- Xhaferi, Brikena and Gezim Xhaferi. 2016. Enhancing learning through reflection: A case study of SEEU. *SEEU Review* 12(1): 53-68.
- Zimmerman, Barry J. 1989. Models of self-regulated learning and academic achievement. In Barry J. Zimmerman and Dale H. Schunk (eds.), *Self-regulated learning and academic achievement: Theory, research, and practice*, 1-25. New York: Springer.
- Zimmerman, Barry J. 1998. Developing self-fulfilling cycles of academic regulation: An analysis of exemplary instructional models. In Dale H. Schunk and Barry J. Zimmerman (eds.), *Self-regulated learning: From teaching to self-reflective practice*, 1-19. New York, NY: Guilford Press.
- Zimmerman, Barry J. 2000. Attaining self-regulation: A social cognitive perspective. In Monique Boekaerts, Paul R. Pintrich, and Moshe Zeidner (eds.), *Handbook of self-regulation*, 13-39. San Diego, CA: Academic Press.
- Zimmerman, Barry J. 2002. Becoming a self-regulated learner: An overview. *Theory into Practice* 41(2): 64-70.
- Zimmerman, Barry J. and Albert Bandura. 1994. Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal* 31(4): 845-862.
- Zimmerman, Barry J. and Anastasia Kitsantas. 1997. Developmental phases in self-regulation: Shifting from process to outcome goals. *Journal of Educational Psychology* 89(1): 29-36.
- Zimmerman, Barry J. and Manuel Martinez-Pons. 1986. Development of a structured interview for assessing student use of self-regulated learning strategies. *American Educational Research Journal* 23(4): 614-628.

#### **Jisun Kim**

Associate Professor

Department of Japanese Language and Culture, College of Liberal Arts

Ewha Womans University

52, Ewhayeodae-gil, Seodaemun-gu,

Seoul, 03760 Korea

E-mail: jiskim@ewha.ac.kr

Received: 2021. 07. 01.

Revised: 2021. 08. 23.

Accepted: 2021. 09. 03.