

Self-regulated Learning and English Proficiency of Korean EFL College Students*

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(Gwangju University · Chonnam National University)

Cho, Young Ah · Ma, Jee Hyun. "Self-regulated Learning and English Proficiency of Korean EFL College Students." *Studies in English Language & Literature* 44.1 (2018): 219-241. The current study explores the relationship between self-regulated learning strategies and English proficiency in L2 settings, focusing on Korean college students. 170 participants were assigned to low-, medium-, and high-proficiency groups based on their English performance. In the study, a background questionnaire, a questionnaire for self-regulated learning strategies, and a TOEIC subtest was employed. The findings revealed that there were significant differences among groups on the motivation and learning strategy scales. The learners in the high-proficiency group were aware of the importance of intrinsic goal and metacognitive self-regulation strategies while both the intermediate and advanced learners indicated significantly larger outcomes than lower proficiency learners in terms of task-value, self-efficacy for learning performance, rehearsal, elaboration, critical thinking, and peer evaluation. Pedagogical implications for L2 acquisition have been suggested based on the results. (Gwangju University · Chonnam National University)

Key Words: self-regulation, motivation, learning strategies, proficiency levels, L2 English instruction

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I. Introduction

In the field of educational psychology, since there was a great shift from behaviorism to cognitivism, learner responsibility has been increasingly recognized as an important component affecting learning behaviors and learning outcomes (Chen, 2002; Inan, 2013). With the focus on learner-centeredness in the learning process, it has been noticed that learners can be independent and strategically successful by improving self-regulatory skills in their own learning (Abbasian & Hartoonian, 2014; Zimmerman, Bonner, & Kovach, 1996). Grounded in this understanding, empirical researchers have attempted to explain how learners manage their actions and accomplish academic goals through the learning process; this is known as the self-regulated learning (Daniela, 2015; Zeidner, Boekaerts, & Pintrich, 2000).

In general, self-regulation is regarded as “processes that learners use to activate and maintain cognition, emotions, and behaviors to attain personal goals” (Zimmerman & Kitsantas, 2014, p.145). Pintrich (2004) and Schunk (2005) argue that self-regulated learning is a multidimensional and constructive process in which learners manage and regulate their cognition, metacognition, motivation, thought, and behavior which are oriented toward achieving goals. Along with the crucial role of self-regulation in psychological and educational studies, self-regulated learning has recently attracted a considerable amount of attention in foreign language (FL) and second language (L2) learning contexts as well (Chen, 2002; Inan, 2013; Mahmoodi, Kalantari, & Ghaslani, 2014; Seker, 2016; Zarei & Hatami, 2012).

L2 research has been conducted on the mediating role of self-regulation on other variables, such as learners' beliefs, academic performance, motivation, self-efficacy, and teachers' autonomy support. The results proved that self-regulation had a positive association with these factors in general, and in particular, self-regulated learners who display a mature level of cognition and social development can attain a high level of language proficiency (Daniela, 2015; Jung, 2015; Oxford, 2001; Pintrich, 2000; Pintrich & Schrauben, 1992). As supported by previous literature,

learning performance can be deeply integrated into learners' capacity to efficiently self-regulate, and learners' capacity for self-regulation can be learned and developed in the classroom (Carver & Scheier, 2005; Nakata, 2010; Ziegler & Heller, 2000; Zimmerman, 2008).

However, despite the effects of self-regulation on L2 language acquisition, few studies have been done to examine the mutual relationship between self-regulated learning strategies, based on motivation, learning strategies, and also English competence. Identifying perceived self-regulated learning features evident in learners from different English levels could deliver meaningful pedagogical implications. Therefore, the research questions for the present study are:

1. Are there any differences in terms of motivational factors for self-regulated learning, dependant on the learner's English proficiency level?
2. Are there any differences in terms of learning strategy factors for self-regulated learning, dependant on the learner's English proficiency level?

II. Literature Review

2.1 Definition of self-regulation in the learning process

A great deal of theoretical approaches have been presented to conceptualize self-regulation in a slightly different way. Zimmerman (2000) mentioned defined self-regulation as learners' self-generated behavior and feelings which are systematically related to attain personal goals. Another definition by Tseng, Dörnyei, and Schmitt (2006) regarded self-regulation as the underlying capacity which drives learners' efforts to find and apply their own strategic learning mechanisms. According to Daniela (2015), self-regulated learning can be a mediator among learners' traits, contextual characteristics, and the level of performance.

As for models of self-regulated learning, Zimmerman and Schunk (2001) proposed a framework with seven categories: the operant, phenomenological, information processing, social cognitive, volitional, Vygotskian, and constructivist theories. Operant theory deals with the significance of delayed gratification, and phenomenological theory emphasizes self-perceived identities. Information processing is related to feedback loops based on monitoring and evaluation, while social cognitive theory highlights the role of tasks and beliefs toward self-efficacy. Volitional theory addresses learners' efforts to have desirable learning attitudes, and Vygotskian theory is explained by self-directed speech or verbalization. Finally, constructivist theory is concerned with learners' cognitive processes.

Pintrich (2000) organized four phases of self-regulated learning processes under behavioral and contextual aspects. In the forethought, planning, and activation phases, learners manage their time and effort in terms of task perception and context. Learners monitor their time and effort in accordance with task and context conditions in the monitoring phase. In the control phase, learners adjust their effort or ask for help by changing their task and context, and they choose their own learning behavior and evaluate tasks and contexts in the reflection phase. Zimmerman (2002) included three cyclical phases into self-regulated processes: forethought, performance, and self-reflection. The forethought phase involves task analysis and self-motivation levels, and the performance phase consists of self-control and self-observation. The self-reflection phase contains self-judgement and self-evaluation.

Nakata (2010), focusing on teachers' guidance, suggested three stages of self-regulated language learning. First, teachers need to investigate learners' background information in the preparation stage, and teachers can give their students interpersonal support during the developmental stage. Having received adequate teaching approaches and teacher feedback, learners could monitor and evaluate their learning processes in the self-regulated stage.

Even though terminological differences of self-regulation exist in the literature,

there appears to be consensus that self-regulation is closely related to various components of learning performance and plays an influential role in learning contexts.

2.2 The factors of self-regulated learning in empirical studies

Researchers have attempted to ascertain relations between self-regulation and distinct variables such as outcomes, motivation, and learners' beliefs in learning environments. Lavasani, Mirhosseini, Hejazi, and Davoodi (2011) examined the effects of self-regulated learning strategy training on motivation and self-efficacy for EFL elementary students. They used academic motivation and academic self-efficacy questionnaires; also, a questionnaire on motivated strategies for learning was employed as a measure for learners' self-regulation. As for instruction of self-regulated learning strategies, the experimental group was explicitly taught cognitive, metacognitive, resource management, and motivational strategies in sessions while the control group did not receive such intervention. The results suggested a significant impact of self-regulated learning strategies on learners' academic motivation and self-efficacy.

Inan (2013) investigated the correlation between self-regulated learning strategies and academic performance of Turkish college students. To do this, the researcher employed a self-regulated learning strategy questionnaire and used Grade Point Average (GPA) scores as a measure of academic performance. The questionnaire scale included four dimensions: motivation and action for learning, planning and goal setting, strategies for learning and assessment, and lack of self-directedness. Of these variables, the factors of motivation and action to learning, planning and goal setting, strategies for learning and assessment were significantly related to academic achievement. Furthermore, the highest correlation was found between the factor of motivation and action to learning and learners' outcomes.

Mahmoodi et al. (2014) investigated the relations among self-regulated learning,

motivation, and language performance for Iranian EFL learners, dependant on English proficiency levels. The questionnaire consisted of three scales: motivational orientation, motivational beliefs, and self-regulated learning strategies. The findings indicated that there was a positive relationship between motivation and self-regulated learning, while there was no significant relationship between self-regulated learning and learners' language achievement. Seker (2016) examined the correlations between self-regulated strategy use and English achievement for undergraduate learners in Turkey. Focused on three main factors of self-regulation, motivational orientation, performance, and evaluation, the results indicated that achievement was significantly associated with orientation and evaluation strategies, whereas performance displayed no significant relation with language achievement.

In Korea, Jung (2015) investigated the influence of self-regulation and teachers' autonomy support on middle school students' English performance. In the study, a questionnaire on motivated strategies for learning, a questionnaire on the learning climate, and mid- and final-exam scores were used. The findings demonstrated that self-regulation and teachers' autonomy support have a significant effect on learners' achievement, and higher level learners reported greater use of self-regulated learning strategies than lower level learners.

In brief, many studies have provided evidence for a correlation between self-regulation and diverse components in L2 learning. However, studies on self-regulated learning, based on motivation and learning strategies and English proficiency levels, have not been well established in L2 classrooms.

III. Methods

3.1 Participants

The participants in the current study consisted of a total of 170 first-year college

students (age=19-26). They attended a regular English course and were from five departments: nursing science, early childhood education, in-flight services, occupation therapy, and library & information science majors. To identify the participants' general English proficiency levels, two established listening and reading comprehension subtests of Test of English for International Communication (TOEIC) were used (see Instruments for details). The participants' test scores ranged from 20 to 39 (out of 40). Based on the mean scores (26.15) and standard deviation (4.497) on the TOEIC scores, the participants were divided into three groups, which included the high-proficiency group (HPG) with scores over 30 points, the medium-proficiency group (MPG) with scores between 29-24 points, and the low-proficiency group (LPG) with scores between 23-20 points (see Table 1). The ANOVAs results revealed that performance of the three groups showed a significant difference in terms of general English proficiency.

Table 1 Distribution of the participants and mean scores of English test

Group	<i>N</i>	Male	Female	<i>M</i>	<i>SD</i>	<i>Sig.</i>	<i>ES</i>
HPG	43	11 (25.6%)	32 (74.4%)	32.35	2.137	.000	.008
MPG	67	12 (17.9%)	55 (82.1%)	26.37	1.613		
LPG	60	8 (13.3%)	52 (86.7%)	21.47	1.186		
Total	170	31 (18.2%)	139 (81.8%)	26.15	4.497		

$p < .05$, *ES*= Effect Size

3.2 Instruments

Three major instruments were used in the study: a background questionnaire, Motivated Strategies for Learning Questionnaire (MSLQ), and the TOEIC subtests. To prevent any misunderstanding, all items on the questionnaires were translated into Korean.

Firstly, to ascertain participants' demographic information, the background information section contained four closed-ended questions, asking the participants'

gender, age, major, and their English proficiency self-assessment.

Secondly, to assess the participants' reported use of self-regulated learning strategies based on motivation and learning strategies, the Motivated Strategies for Learning Questionnaire (MSLQ), developed by Pintrich, Smith, Garcia, & McKeachie (1991), was adapted and slightly modified (recited in Duncan & McKeachie, 2005) (see Appendix). The construction of the MSLQ, which had 81 items, consisted of two sections: motivation orientations and learning strategies. The motivation category had 31 items with six subcategories: intrinsic goal orientation (4 items), extrinsic goal orientation (4 items), task value (4 items), control of learning beliefs (4 items), self-efficacy for learning and performance (8 items), and test anxiety (5 items). The learning strategy category had 50 items with 9 subcategories: rehearsal (4 items), elaboration (6 items), organization (4 items), critical thinking (5 items), metacognitive self-regulation (12 items), time and study environment management (8 items), effort regulation (4 items), peer learning (3 items), and help seeking (4 items). All items were scored on a five-point Likert scale with a response scale from 1 (strongly disagree) to 5 (strongly agree).

The last instrument was a TOEIC subtest which was used to measure the participants' general English proficiency levels. It contained two sections with 40 items in a multiple-choice format, worth one point each. More specifically, in the listening comprehension section, two test-types were presented: short conversation and short talk. In the short conversation part, the participants were expected to select the best response to the each question (10 items), while they were instructed to listen to short conversations and then answer questions related to the conversation in the short talk part (10 items). As for the reading comprehension section, the participants were given 10 texts, accompanied by two questions, and they were instructed to choose the best answer (20 items). All the question items were extracted from the *Pagoda TOEIC basic LC* (Pagoda Books, 2016a) and *Pagoda TOEIC basic RC* (Pagoda Books, 2016b).

3.3 Procedure and data analysis

The data were collected in regular English sessions. First, the participants took a TOEIC test. Shortly after, two questionnaires, a background questionnaire and MSLQ, were handed out the participants, and they were informed to sincerely respond to question items according their own English learning experience and learning behaviors. It took about one hour to complete the questionnaires and the test.

For the background questionnaire, a frequency analysis was run. The MSLQ was computed by Cronbach's alpha coefficients, descriptive statistics, and a MANOVAs. The outcomes of TOEIC test were calculated using descriptive statistics and an ANOVAs. Post-hoc pairwise comparisons were applied to investigate any significant difference within groups. Using SPSS software, version 20.0 for Windows, all collected data were analyzed in the current study.

IV. Results and discussion

4.1 Motivational factors in self-regulated learning

The internal consistency of MSLQ, which had a total of 81 items, were analyzed by Cronbach's alpha. The reliability coefficients for MSLQ was .960 with a very good fidelity. In addition, the reliability for 15 fifteen subcategories were ranged from .626 to .909.

The first research question pertained to whether or not there was any difference in motivation factors in terms of self-regulated learning, depending on L2 learners' English proficiency levels. Table 2 presents the results for the descriptive statistics for motivation factors.

Table 2 Descriptive statistics for motivation factors

Category	Subcategories	Group	M	SD	Rank
Motivation	intrinsic goal orientation	HPG (N=43)	3.436	.578	1
		MPG (N=67)	3.131	.633	2
		LPG (N=60)	3.088	.567	3
		sub-total	3.193	.610	6
	extrinsic goal orientation	HPG (N=43)	3.773	.636	1
		MPG (N=67)	3.720	.588	2
		LPG (N=60)	3.608	.721	3
		sub-total	3.694	.649	3
	task value	HPG (N=43)	3.985	.579	1
		MPG (N=67)	3.856	.474	2
		LPG (N=60)	3.569	.600	3
		sub-total	3.787	.570	2
	control of learning beliefs	HPG (N=43)	4.076	.542	1
		MPG (N=67)	3.888	.553	2
		LPG (N=60)	3.767	.563	3
		sub-total	3.893	.563	1
	self-efficacy for learning and performance	HPG (N=43)	3.509	.503	1
		MPG (N=67)	3.261	.714	2
		LPG (N=60)	2.925	.627	3
		sub-total	3.205	.672	5
	test anxiety	HPG (N=43)	3.014	.786	3
		MPG (N=67)	3.403	.702	1
		LPG (N=60)	3.280	.745	2
		sub-total	3.261	.751	4
sub-total	HPG (N=43)	3.619	.367	1	
	MPG (N=67)	3.522	.437	2	
	LPG (N=60)	3.325	.423	3	
Total	Group (N=170)	3.477	.430		

The total mean scores of the HPG were 3.619, the MPG were 3.522, and the LPG were 3.325, respectively. The outcomes of the HPG were numerically the highest, followed by those of the MPG and then the LPG in all the subcategories, except for the factor of test anxiety. On the test anxiety subscale, the performance of the MPG (M=3.403) was greater than those of the LPG (M=3.280) and the HPG

($M=3.014$). The results of the study also revealed that while the factor, control of learning beliefs, was rated the highest frequency, the factor of intrinsic goal orientation was reported as being the least used of the motivation strategies.

To exactly identify if any significant differences among groups existed, a MANOVAs was run on the motivation factors. The outcomes are demonstrated in Tables 3 and 4, indicating statistically significant differences in terms of motivational factors among groups ($Sig.=.000$). The results also showed that there were significant differences across all factors of subcategories with the exception of extrinsic goal orientation factor. Considering that learners' mean scores in the extrinsic goal orientation factor were close to each other, it is possibly assumed that achieving high grades in English tests similarly affected learners' motivation strategy use. It also might reflect the current situation in Korea that test scores can be closely related to students' future careers.

Table 3 MANOVA results of motivation factors

Effect	Value	F	Hypothesis	<i>df</i>	<i>df</i>	<i>Sig.</i>	<i>ES</i>
Intercept	Wilks' Lambda	.011	935.309	15.000	153.000	.000	.989
Group	Wilks' Lambda	.637	2.582	30.000	306.000	.000	.202

$p<.05$, *ES*= Effect Size

Table 4 Group comparison of motivation factors

Subcategories	Source	<i>SS</i>	<i>df</i>	<i>MS</i>	F	<i>Sig.</i>	<i>ES</i>
intrinsic goal orientation	Between Groups	3.469	2	1.734	4.875	.009	.055
	Within Groups	59.410	167	.356			
	Total	62.879	169	2.090			
task value	Between Groups	4.833	2	2.417	8.045	.000	.088
	Within Groups	50.167	167	.300			
	Total	55.000	169	2.717			
control of learning beliefs	Between Groups	2.393	2	1.196	3.901	.022	.045
	Within Groups	51.211	167	.307			
	Total	53.604	169	1.503			
self-efficacy for learning and	Between Groups	8.882	2	4.441	10.981	.000	.116
	Within Groups	67.541	167	.404			

performance	Total	76.423	169	4.845			
test anxiety	Between Groups	3.997	2	1.998	3.659	.028	.042
	Within Groups	91.207	167	.546			
	Total	95.204	169	2.544			

$p < .05$, ES = Effect Size

Table 5 indicates the outcomes of the post hoc pairwise comparison. The results demonstrated that the HPG learners had significantly larger strategy use than the MPG and the LPG in terms of intrinsic goal orientation, while the latter two groups were not significantly different.

Table 5 Post hoc pairwise comparison on motivation factors

Subcategories	Group	MD (I-J)	Std. Error	Sig.	
intrinsic goal orientation	HPG	MPG	.305*	.117	.029
		LPG	.349*	.119	.012
	MPG	LPG	.043	.106	1.000
task value	HPG	MPG	.129	.107	.693
		LPG	.415*	.110	.001
	MPG	LPG	.286*	.097	.011
control of learning beliefs	HPG	MPG	.188	.108	.255
		LPG	.309*	.111	.018
	MPG	LPG	.121	.098	.658
self-efficacy for learning and performance	HPG	MPG	.248	.124	.144
		LPG	.584*	.127	.000
	MPG	LPG	.336*	.113	.010
test anxiety	HPG	MPG	-.389*	.144	.023
		LPG	-.266	.148	.220
	MPG	LPG	.123	.131	1.000

* $p < .05$

Considering that intrinsic goal orientation is related to learning and mastery, learners with higher proficiency levels may challenge themselves with more difficult course materials and assignments that make them curious, and this may be closely associated with language achievement. Apparently, this is well supported in Daniela's

(2015) findings, which mentioned that internal motivation and activities can make learners confident and aware of their own levels of responsibility and their development towards achieving success. This study also was in line with Seker's (2016) study in that self-regulated learners are likely to set self-generated learning goals rather than externally set goals, and thus, they can accomplish their learning tasks.

In terms of task-value and self-efficacy for learning and performance, the outcomes of both the HPG and MPG were significantly higher than those of the LPG learners. As Pajares (2000) put forward, learners with higher levels of self-efficacy are more tolerant and use strategies in solving cognitional problems. Viewed from the results in the study, it is possible to note that intermediate- and advanced-level learners had similar levels of awareness for the importance of task and self-efficacy in L2 English learning, compared to the less successful learners, relatively.

In addition, a significant difference with the factor, control of learning beliefs, was found between the HPG and LPG. The HPG learners, those with positive individual beliefs, might think that learning performance is contingent on their own effort, rather than other external limitations. Since adjusting learning beliefs contribute to organizing and executing a task successfully, the learning outcomes the HPG learners have might be high. Here, what is a quite interesting result is that the intermediate-level learners reported significantly higher frequency than the high-performing learners in terms of test anxiety. The reason why test anxiety was rated as having the greatest score in the MPG may have been because the intermediate-level learners seemed to be less confident and also had more worries and concerns about test grades while taking exams, which is particularly true in L2 settings (Cho, 2016).

Taken together, the findings in the present study assumed that positive motivational factors substantially led to higher levels of self-regulation, as well as L2 proficiency. That is, the pursuit of intrinsic goals to successfully perform tasks

could connect to language competence. In this respect, the current study is partially in line with previous studies, adding that successful and self-regulated learners have intrinsic motivation and self-satisfied beliefs (Cleary & Zimmerman, 2001; Pajares, 2000; Seker, 2016). Along with enhancing learning motives, competence of self-regulated learning can make learners assign value to their learning tasks and ultimately have high probabilities of L2 acquisition.

4.2 Learning strategy factors in self-regulated learning

The second research question was concerned with how the different learning strategy factors, those oriented toward self-regulated learning, are affected by different proficiency levels. Table 6 shows the results from the descriptive statistics on learning strategy factors. As can be seen, the HPG ($M=3.342$) showed the highest mean scores among groups, followed by those of the MPG ($M=3.241$) and then the LPG ($M=2.994$) in all subcategories, except for the factor of help seeking. In addition, learners in the study rated the factor of effort regulation as the most used learning strategy, whereas the critical thinking factor was regarded as the least used strategy.

Table 6 Descriptive statistics for learning strategy factors

Category	Subcategories	Group	M	SD	Rank
Learning strategies	rehearsal	HPG ($N=43$)	3.628	.749	1
		MPG ($N=67$)	3.552	.652	2
		LPG ($N=60$)	3.233	.748	3
		sub-total	3.459	.728	2
	elaboration	HPG ($N=43$)	3.190	.570	1
		MPG ($N=67$)	3.124	.572	2
		LPG ($N=60$)	2.853	.623	3
		sub-total	3.045	.604	7
	organization	HPG ($N=43$)	3.221	.664	2
		MPG ($N=67$)	3.243	.666	1

	LPG (N=60)	3.017	.639	3
	sub-total	3.157	.661	6
critical thinking	HPG (N=43)	2.912	.731	1
	MPG (N=67)	2.710	.613	2
	LPG (N=60)	2.393	.605	3
	sub-total	2.649	.671	9
metacognitive self-regulation	HPG (N=43)	3.517	.553	1
	MPG (N=67)	3.258	.464	2
	LPG (N=60)	3.028	.545	3
	sub-total	3.242	.547	5
time and study environment management	HPG (N=43)	3.366	.551	1
	MPG (N=67)	3.269	.568	2
	LPG (N=60)	3.150	.566	3
	sub-total	3.252	.566	4
effort regulation	HPG (N=43)	3.663	.732	1
	MPG (N=67)	3.638	.697	2
	LPG (N=60)	3.388	.648	3
	sub-total	3.556	.696	1
peer learning	HPG (N=43)	3.124	.742	1
	MPG (N=67)	3.065	.821	2
	LPG (N=60)	2.511	.727	3
	sub-total	2.884	.813	8
help seeking	HPG (N=43)	3.215	.594	3
	MPG (N=67)	3.392	.701	1
	LPG (N=60)	3.246	.765	2
	sub-total	3.297	.700	3
sub-total	HPG (N=43)	3.342	.462	1
	MPG (N=67)	3.241	.469	2
	LPG (N=60)	2.994	.463	3
Total	Group (N=170)	3.179	.484	

Next, to precisely investigate whether or not any significant differences among the groups existed, a MANOVAs was applied to the learning strategy factors. The outcomes are shown in Tables 7 and 8, indicating statistically significant differences with regard to frequency of learning strategies among groups ($Sig=.000$). The results also indicated that significant differences were found in the factors of rehearsal, elaboration, critical thinking, metacognitive self-regulation, and peer learning.

Table 7 MANOVA results of learning strategy factors

Effect			Value	F	Hypothesis	<i>df</i>	<i>df</i>	<i>Sig.</i>	<i>ES</i>
Intercept	Wilks'	Lambda	.020	845.720	9.000		159.000	.000	.980
Group	Wilks'	Lambda	.729	3.029	18.000		318.000	.000	.146

$p < .05$, *ES* = Effect Size

Table 8 Group comparison of learning strategy factors

Subcategories	Source	<i>SS</i>	<i>df</i>	<i>MS</i>	F	<i>Sig.</i>	<i>ES</i>
rehearsal	Between Groups	4.865	2	2.432	4.802	.009	.054
	Within Groups	84.597	167	.507			
	Total	89.462	169	2.939			
elaboration	Between Groups	3.542	2	1.771	5.085	.007	.057
	Within Groups	58.168	167	.348			
	Total	61.710	169	2.119			
critical thinking	Between Groups	7.141	2	3.570	8.661	.000	.094
	Within Groups	68.844	167	.412			
	Total	75.985	169	3.982			
metacognitive self-regulation	Between Groups	6.032	2	3.016	11.297	.000	.119
	Within Groups	44.583	167	.267			
	Total	50.615	169	3.283			
peer learning	Between Groups	13.007	2	6.504	10.990	.000	.116
	Within Groups	98.829	167	.592			
	Total	111.836	169	7.096			

$p < .05$, *ES* = Effect Size

Table 9 indicates the outcomes of the post hoc pairwise comparison. The results revealed that the performance both the HPG and the MPG were more significantly larger than that of the LPG as for the factors of rehearsal, elaboration, critical thinking, and peer learning. With the factor, metacognitive self-regulation, the HPG learners showed the highest strategy use, followed by the intermediate-level learners, and then the low-level learners.

Table 9 Post hoc pairwise comparison on learning strategy factors

Subcategories	Group	MD (I-J)	Std. Error	Sig.	
rehearsal	HPG	MPG	.0757	.13907	1.000
		LPG	.3946*	.14221	.018
	MPG	LPG	.3189*	.12651	.038
elaboration	HPG	MPG	.0655	.11532	1.000
		LPG	.3371*	.11792	.014
	MPG	LPG	.2716*	.10490	.031
critical thinking	HPG	MPG	.2012	.12546	.332
		LPG	.5183*	.12829	.000
	MPG	LPG	.3171*	.11412	.018
metacognitive self-regulation	HPG	MPG	.2600*	.10096	.033
		LPG	.4897*	.10324	.000
	MPG	LPG	.2297*	.09184	.040
peer learning	HPG	MPG	.0594	.15032	1.000
		LPG	.6129*	.15371	.000
	MPG	LPG	.5536*	.13673	.000

* $p < .05$

More precisely, the intermediate- and high-level learners tended to have similar usage for cognitive strategies, namely rehearsal, elaboration, and critical thinking. The frequency use of these strategies in both groups was significantly higher than the low-level learners. In other words, learners in the MPG and LPG might connect their existing knowledge with newly learned information and also retrieve the knowledge for studying materials. In addition, they memorized or repeated the new information to keep it in working memory. As for the peer learning factor, the MPG and LPG learners preferred learning collaboratively with their classmates.

On the other hand, the HPG learners rated the greatest strategy-use factor to be metacognitive self-regulation. Broadly defined, metacognition is explained as one's own knowledge about cognition, including planning, monitoring, and evaluating learning processes (Harris, 2003). As indicated by empirical studies (Desoete, 2001; Goh, 2008), metacognitive learning strategies are a meaningful predictor of language acquisition. The findings of the current study support the literature as well,

suggesting that high-ability learners who frequently adopt metacognitive strategies may regulate and accommodate the cognitive knowledge needed to plan learning, accomplish the tasks, and obtain learning goals.

In sum, the findings of the study demonstrated that L2 learners who more frequently used cognitive and metacognitive learning strategies were statistically better than those who did not. Employing cognitive and metacognitive knowledge in learning process was seen as a means to foster higher performance in mastering English. This is consistent with Zimmerman's (2008) conclusions that learners' performance can be deeply integrated with ability to self-regulate. Hence, it can be said that encouraging low-level learners to practice their less used self-regulated learning strategies and train more adaptive learning strategy skills through L2 instruction may be helpful for them to become more autonomous and successful learners.

V. Conclusions

The current study explored the relationship between self-regulated learning and learners' competence by different English proficiency levels. The findings revealed that there existed significant differences among groups on the motivation and learning strategy scales. Of the significant variables, intrinsic goal orientation and metacognitive self-regulation proved to be pivotal predictors of L2 learning success. In addition, both intermediate and advanced learners showed significantly higher outcomes than less-achieving learners in the factors of task value, self-efficacy for learning and performance, rehearsal, elaboration, critical thinking, and peer learning. As for test anxiety, the performance of the MPG was higher than that of the HPG in the study.

This study partially corresponded to the conclusions that the high-proficiency learners are more conscious of how to regulate their learning processes and behavior

(Mezei, 2008). Considering the fact that the advanced-level learners reported more frequent use of self-regulated learning strategies in comparison with the intermediate- and low-level learners, it can be assumed that when learners employ self-regulation strategies, they are more likely to accomplish language learning. Therefore, this study recommends that programs that introduce self-regulated learning strategies and apply appropriate self-regulatory skills would be helpful for the low-achieving learners in L2 settings, in particular. In this respect, teachers need to figure out learners' characteristics, such as their learning styles, language learning histories, goals for language learning, and language proficiency levels. Plus, by doing learner needs analyses, teachers can assist their students to become self-regulated learners by providing activities and meaningful feedback.

As Daniela (2015) pointed out, learners' self-regulation facilitates their motivation and also gives an opportunity for them to change their learning strategies, which positively affects the level of learning outcomes. Furthermore, as self-regulation capabilities can enhance self-efficacy, motivation, and future academic success, self-regulation strategies makes it possible for learners to develop their own learning efficiency (Abbasian & Hartoonian, 2014; Lavasani et al., 2011; Liew & Mctigue, 2008; Perry, Hutchinson, & Thauberger, 2008).

The current study contains some limitations. Learners' proficiency levels were calculated by listening and reading competence. Thus, more various English skills, such as vocabulary, grammar, writing, and speaking, should be measured from short- and long-term perspectives to have more concrete results. This study also recommends that more qualitative approaches be used, interviewing namely, which would yield more in-depth insight regarding self-regulated learning in the L2 classroom.

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Appendix

Selected question items for MSLQ

문항	내용	1	2	3	4	5
1	나는 영어를 배울 때, 학습에 도움이 될 수 있도록 조금 어려운 수준의 내용이 좋다.	1	2	3	4	5
2	나는 영어를 배울 때, 배우기에 어렵더라도 호기심을 자극하는 내용을 공부하는 것이 더 좋다.	1	2	3	4	5
3	나는 영어 수업시간에 가능한 한 완전히 영어를 이해하는 것은 나에게 큰 만족감을 준다.	1	2	3	4	5
4	나는 기회가 된다면, 비록 낮은 점수를 받더라도 내가 배울 수 있는 영어 과제를 선택한다.	1	2	3	4	5
5	나는 영어 점수를 잘 받는 것이 지금 나에게 중요하다.	1	2	3	4	5
6	나는 전체 학점을 올리기 위해 영어 과목에서 좋은 점수를 받으려고 노력한다.	1	2	3	4	5
7	나는 영어 과목에서 다른 학생들보다 더 나은 성적을 받기를 원한다.	1	2	3	4	5
8	나는 내 능력을 가족이나 친구들에게 보여주기 위해 영어를 잘 하고 싶다.	1	2	3	4	5
9	나는 영어를 다른 과목에서 활용할 수 있을 것이라고 생각한다.	1	2	3	4	5
10	나에게 영어를 배우는 것은 중요하다.	1	2	3	4	5

1: 전혀 아니다, 2: 아니다, 3: 보통이다, 4: 그렇다, 5: 매우 그렇다

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