WALIA journal 31(S3): 235-244, 2015
ISSN 1026-3861

Language learning strategies predicting resource management self-regulated learning

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Abstract: This study investigated the relationship between language learning strategy types and resource management self-regulated learning components (time/study environmental management, effort regulation, peer learning, and help seeking). 148 male and female B.A level students majoring in English translation and English language teaching participated in this study. To collect data, the participants were required to respond to a general proficiency test (MTELP) and the Strategy Inventory for Language Learning (SILL) and the Motivated Strategies for Learning Questionnaire (MSLQ). To analyze the obtained data, four separate stepwise multiple regression analyses were used. The results showed that meta-cognitive strategies were the best predictor of students' time management and study environment. The findings also indicated that compensation and meta-cognitive strategies had predictive power on effort regulation. In addition, the relationship between social strategies and peer learning was statistically significant; however, none of the language learning strategy types had predictive power on help seeking.

Key words: *Time/study environmental management; Effort regulation; Peer learning; Help seeking; Language learning strategies (LLS)*

Introduction

Educational psychology researchers have a particular interest in human behavior in the process of learning. One aspect of human behavior, which has a major role in academic learning, is self-regulated learning (Schunk & Zimmerman, 1994). According to Schraw, Crippen, and Hartley (2006), self-regulated students can comprehend and control their learning environment. In addition, self-regulated learning helps learners to set goals and choose strategies that enable them to attain the goals and monitor their progress towards their goals (Schunk, 1996; Zarei & Hatami, 2012; Zarei & Gilanian 2014b). Garcia and Pintrich (1994); Pintrich (1989); Pintrich and De Groot (1990); and Pintrich, Smith, Garcia, and McKeachie (1993) believe that self-regulated learning contains three general strategies: 1) cognitive learning strategies, 2) self-regulatory strategies to control cognition, and 3) resource management strategies. Zimmerman and Martinez-Pons (1986) and Pintrich (1999) add affective strategies as the fourth component.

Over the past four decades, educational researchers have investigated the role of language learning strategies in language learning. Chamot and Kupper (1989); Oxford and Crookall (1989); Oxford, Park-Oh, Ito, and Sumrall (1993); and Zarei and Shahidi Pour (2013) state that the use of suitable language learning strategies enables learners to improve their proficiency. Moreover, Oxford and Nyikos (1989); Zarei and Elekaei (2012); and Zarei and Gilanian (2014a) claim that the use of suitable language learning strategies enhances learners' autonomy, independence, and self-direction in the process of learning and makes students responsible for their own learning.

Although self-regulated learning as well as language learning strategies have been studied for years, there seems to be a paucity of the research on the relationship between resource management self-regulation and language learning strategy use. In an attempt to address this gap, the present study tried to answer the following research questions.

1. Which of the language learning strategies are better predictors of student's time management and study environment?
2. Which of the language learning strategies are better predictors of effort regulation?
3. Which of the language learning strategies are better predictors of peer learning?
4. Which of the language learning strategies are better predictors of help seeking?

2. Literature review

2.1. Resource management self-regulated learning

Resource management, as one of the components of self-regulated learning, refers to the strategies that learners use to manage and control their environment including their time, effort, study environment, and other people (Corno, 1986; Zimerman & Martinez-Pons, 1988). Pintrich (1999) defines resource management strategies as adaptive approaches which encourage individuals to meet

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their need and achieve their goals. Based on Pintrich's (2000) model, cognitive learning strategies are one of the components of self-regulated learning that help pupils to attend, choose, and organize information in such a way that they can comprehend deeply. Pintrich (1989) and Pintrich and De Groot (1990) refer to rehearsal, elaboration, and organizational strategies as various types of cognitive strategies being related to academic performance in the classroom. The second category of Pintrich's (2000) model is meta-cognitive strategies having a significant effect on students' achievement and helping them to plan, monitor, and control their cognitive strategies. Flavell (1979) claims that knowledge about cognition and self-regulation of cognition are two aspects of meta-cognitive strategies. Pintrich (2000) also maintains that a high level of resource management strategy use enables students to manage and control the material as well as internal and external resources such as time, effort, peers, and instructors in such a way that achievement occurs in the learning process. In another classification, Schraw et al., (2006) use motivation instead of resource management strategies and define it as a component that helps pupils to observe their behavior, to discover mismatches, and to reach learning goals. In addition, Boekaerts (1999) refers to motivation as an outer layer of self-regulation learning model, explaining students' prosperity or failure based on their own wishes, needs, and expectancies. From another viewpoint, Diener and Dweck (1978) and Nolen (1988) hold that resource management in the context of motivation leads to doing particular tasks. Additionally, Jonassen, Davidson, Collins, Campbell, and Haag (1995) believe that the less active role of teachers in online learning environments highlights the role of self-regulation more saliently than in traditional environments. Although there may be no direct relationship between the activities for resource management and cognitive and meta-cognitive activities, they are both necessary for academic success (Hofer, Yu, & Pintrich, 1998; Pintrich, 1999).

Pintirich, et al., (1993) describe four components of resource management self-regulated learning as follows:

1) Students' time and study environment: the first subscale of resource management refers to regulating and best using the time of the study as well as choosing a suitable place for study. According to Zimmerman (1998), time management is a specific strategy, controlling performance.
2) Effort management/Effort regulation: this component of resource management explains the students' tendency to persevere in doing difficult and boring tasks.
3) Peer learning: the third subclass of resource management is founded on the belief that learning will occur better if students study in a group or with their friends.
4) Help seeking: the last subscale of resource management refers to the ability of students to seek help from others (peer or instructors) when necessary.

Furthermore, Pintrich (1999) and Shin (1998) believe that learners' affective activities or feedback as well as cognitive, meta-cognitive, and resource management strategies influence their self-regulated learning. According to Bangert-Drowns, Kulik, Kulik, and Morgan (1991); Meyer (1986); and Rumelhart and Norman (1978), feedback usually focuses on external sources such as peers and teachers' statements or information provided for learners through a computer after doing an academic task, showing the quality of the cognitive processing that led to these information. But in self-regulated activities, feedback is an internal source taking place during learning activities in the process of self-monitoring.

A number of studies have been done on self-regulated learning components. Terry and Doolittle (2008) worked on the effect of time management in an online learning environment on fostering self-efficacy. 64 male and female students in an online graduate level educational psychology course received feedback during 16 days in order to monitor their time management behaviours and to engage in a self-regulated learning process. The results showed that the effect of engagement in the online time management tool on self-reported time management behaviours was positively significant, but it did not result in significant increase in students' self-efficacy or self-regulated learning.

In another study, Puzziferro (2008) studied the predictive power of online technologies self-efficacy and self-regulated learning on final grade and satisfaction in college-level online courses. To this end, 815 community college students participated in the study. The instruments used in this study included the Online Technologies Self-efficacy Scale (OTSES) and the Motivated Strategies for Learning Questionnaire (MSLQ). The findings showed no significant correlation between online technologies self-efficacy scores and students' performance. The results also showed that the relationship between time and study environment; effort regulation; and performance were significant. Moreover, the correlations between rehearsal, elaboration, meta-cognitive self-regulation, and time and study environment; and the level of satisfaction were positive and significant.

Arsal (2010) investigated the effect of diaries on self-regulation strategies (cognitive, meta-cognitive, and resource management strategies) of pre-service science teachers. 60 male and female participants of this study were divided into the experimental and control groups. The experimental group was trained to fill the Diary Report Form within the framework of regular classroom instruction. To gather data on the self-regulation strategies, the Motivated Strategies for Learning Questionnaire was administered to the participants. In addition, the Academic Achievement Test was used to collect data

on the academic achievement of the participants. The results showed significant differences between the experimental and the control groups. In other words, intrinsic motivation, task value, meta-cognition, and time management strategies as indicators of the participants' self-regulation strategies were significantly different between the experimental and the control groups.

Zarei and Hatami (2012) investigated the relationship between other components of self-regulated learning including: planning, self-checking, effort, and self-efficacy; and L2 vocabulary knowledge and reading comprehension. The participants of their study were 250 male and female university students majoring in English teaching, English language translation, and English literature. They were given a vocabulary and reading comprehension subtest of the TOEFL test and the Persian version of the Self-regulation Trait Questionnaire. To analyze the obtained data, Pearson correlation procedures were used. The findings showed significant correlations between reading and self-check; and reading and effort. The results also indicated that the correlations between vocabulary and planning; vocabulary and self-check; vocabulary and effort; vocabulary and self-efficacy; reading and planning; and reading and self-efficacy were not statistically significant.

Zarei and Azin (2013) investigated the predictive power of multiple intelligences on resource management and motivational self-regulated learning. The participants were 150 male and female intermediate level students who responded to the questionnaires. In order to analyze the obtained data, stepwise multiple regression analysis was used. The findings showed that the relationship between multiple intelligences and resource management self-regulated learning was statistically significant. However, there were no significant relationships between multiple intelligences and motivational self-regulated learning.

In another study, Zarei and Gilanian (2014a) examined the relationship between language learning strategy types and components of cognitive self-regulated learning including rehearsal, elaboration, organization self-regulated learning, and critical thinking. To this end, 148 male and female B.A level students majoring in English teaching and English translation were selected. In order to collect data, the Strategy Inventory for language learning (SILL) and Motivated Strategies for Learning Questionnaire (MSLQ) were administered to the participants. Stepwise multiple regression analysis was used to analyze the obtained data. Results showed that memory strategies had predictive power on rehearsal self-regulated learning. In addition, meta-cognitive, affective, and memory strategies were the predictors of elaboration self-regulated learning. Moreover, the relationship of meta-cognitive and cognitive strategies with organization self-regulated learning was statistically significant. The findings also showed that the combination of cognitive, affective, compensation, and social strategies as well as affective, compensation, and social strategies had predictive power on critical thinking.

2.2. Language learning strategies

Language learning strategies have been variously defined. Dhanapala (2007) believes that learning strategies are the procedures helping individuals to facilitate a learning task. Wenden and Rubin (1987) refer to these strategies as learners' behaviors which help them to improve performance in the process of language learning. Green and Oxford (1995) and O'Malley and Chamot (1990) refer to such behaviors as cognitive or affective actions, techniques, and a set of steps intentionally used to facilitate learning. According to Oxford (1990) and Oxford and Crookall (1989), there are various language learning strategies including memory, cognitive, compensation, meta-cognitive, affective, social, and communication strategies. Rubin (1981) classifies strategies into direct and indirect strategies. Oxford (1990) holds that memory, cognitive, and compensation strategies are directly related to language learning and are concerned with the mental processing of the new language while meta-cognitive, affective, and social strategies are indirectly related to language learning. According to Oxford (1990), memory strategies/mnemonics are used to create mental linkages to enter information into long-term memory, and to retrieve it for communication. Cognitive strategies are used to analyze internal mental modes, and to comprehend and produce new language. Compensation strategies are used to overcome lack of knowledge in reading, listening, speaking, and writing, by, for example, guessing unknown words, and using circumlocution and gestures. Learners can plan, arrange, coordinate, focus, evaluate, and direct the process of their own learning and to monitor their own errors through meta-cognitive strategies. Learners with a high level of affective strategies can reduce their anxiety and increase self-reward in order to control their emotions, attitudes, and motivation in language learning. Social strategies help learners to improve language learning through asking questions, cooperating with others, and increasing cultural awareness. Communication strategies are compensation strategies which are used in speaking to compensate the lack of language knowledge (Oxford & Crookall, 1989). In another classification, Brown and Palinscar (1982) and O'Malley, Chamot, Stewner-Manzanares, Russo and Kupper (1985) identify only three categories, including cognitive, meta-cognitive, and affective-social/ socio-affective strategies.

A number of studies have investigated the relationship between language learning strategies and other factors. Goh and Foong (1997) studied language learning strategy use of 175 male and female ESL students at different proficiency levels. The results showed that learners used meta-cognitive strategies more than the other strategies,

while memory strategies were used least frequently. The findings also revealed that the differences between the use of cognitive and compensation strategies of students with various levels of proficiency were statistically significant. In addition, female students tended to use compensation and affective strategies more than male students.

In another study, Kato (2005) investigated the relationship between language learning strategies and English proficiency. The Strategies Inventory of Language Learning questionnaire was administered to 195 university students. The results of data analysis showed that the correlation between meta-cognitive, affective, and cognitive strategies and English proficiency was significant.

Zarei and Shahidi Pour (2013) examined the relationship between language learning strategies and idioms comprehension. 112 male and female B.A. and M.A. students majoring in Teaching English, English translation, and English Literature answered the Michigan Test of English Language Proficiency (MTELP), an idiom comprehension test, and the Strategy Inventory for Language Learning (SILL). Data were analyzed through multiple regression analysis. The findings showed that the best predictors of L2 idioms comprehension were cognitive and affective learning strategies.

In a different study, Zarei and Gilanian (2014b) investigated the predictive power of various types of language learning strategies on different components of goal orientation. 145 participants of their study were selected from among B.A level students majoring in English translation and English language teaching. Data were collected using the Strategy Inventory for language Learning (SILL) and Motivated Strategies for Learning Questionnaire (MSLQ), and were analyzed using stepwise multiple regression analysis procedures. The results showed that meta-cognitive, compensation, and cognitive strategies were predictors of intrinsic goal orientation. Moreover, the relationship between affective strategies and extrinsic goal orientation was statistically significant. Furthermore, affective, meta-cognitive, and compensation strategies had predictive power on task goal orientation. There were also significant relationships between social and compensation strategies and ability approach goal orientation.

To conclude, although, there are a number of studies in the field of self-regulated learning and language learning strategies, there appears to be a gap in our understanding of the exact nature of the relationship between language learning strategies and resource management self-regulated learning components. This study is an attempt to fill part of this gap.

3. Method

3.1. Participants

The participants of the present study were initially 238 male and female B.A. level students at Imam Khomeini International University in Qazvin and Islamic Azad University in Takestan majoring in English translation and English teaching. After homogenization and the administration of the questionnaires, only 148 homogeneous participants who had answered all of the questionnaires were selected as the participants of the study.

3.2. Instruments

The first instrument was the Michigan English Language Proficiency (MTELP), which was used to homogenize the participants. It consisted of 100 grammar, vocabulary, and reading comprehension items in multiple-choice format.

The second instrument used to assess the general language learning strategies utilized by L2 learners, was the Strategy Inventory for Language Learning with 60 strategy items on a five-point Likert scale from 'Never' to 'Always'. This version of SILL was designed by Oxford (1990) to collect information about seven types of strategies.

The third instrument, used to assess the participants' resource management self-regulated learning, was 'Motivated Strategies for Learning Questionnaire-MSLQ' developed by Pintrich, et al. (1993). It consisted of 81 items in three general sections: cognitive strategies, meta-cognitive strategies, and resource management. However, only the last section, which consisted of 19 items, was used for the purpose of this study.

3.3. Procedure

To achieve the purpose of the study, the following procedure was gone through. First, 238 participants with the afore-mentioned characteristics were selected. Second, the students were asked to answer the Michigan language proficiency test. The time duration of this test was 60 minutes. To homogenize the participants, those who scored between one standard deviation above and below the mean were chosen as the participants.

Next, the Strategy Inventory for Language Learning (SILL) was administered. The participants were required to answer the questionnaire by choosing from the five-point Likert scale.

Then, the 'Motivated Strategies for Learning Questionnaire-MSLQ' developed by Pintrich, et al. (1993) was administered to determine the participants' use of different resource management self-regulated learning components. It consists of 81 items of which only 19 items were concerned with resource management self-regulated learning. The participants were required to complete the questionnaire by choosing from among five alternatives, from ' almost never' to 'always'.

3.4. Data Analysis

To analyze the collected data and to answer the research questions, four stepwise multiple regression analyses were used.

4. Results and discussion

4.1. Investigation of the first research question

The first question investigated types of language learning strategies as predictors of students' time management and study environment. To this end, a stepwise multiple regression procedure was used (Table 1), which indicated that meta-cognitive strategies entered into the regression equation as the single predictor of time/study environmental management.

Table 1: Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Meta-cognitive	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
a. Dependent Variable: time/study environmental management			

Based on Table 2, meta-cognitive strategies share above 9% of variance with time/study environmental management.

Table 2. Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df2	Sig. F Change
1	.319[a]	.102	.096	5.27831	.102	16.592	1	146	.000

a. Predictors: (Constant), meta-cognitive
b. Dependent Variable: time/study environmental management

Based on Table 3, the results of the ANOVA ($F_{(1,146)} = 16.59$, $p < .05$) show that the predictive power of the model is significant.

Table 3: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	462.272	1	462.272	16.592	.000[b]
	Residual	4067.647	146	27.861		
	Total	4529.919	147			
a. Dependent Variable: time/study environmental management						

b. Predictors: (Constant), meta-cognitive

To find out how strong the relationship between the students' time management and study environment and the predictor is, the unstandardized as well as standardized coefficients of the model, along with the observed t-value and significance level were checked. Table 4 shows the result.

Table 4: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.226	2.125		11.400	.000
	Meta-cognitive	.237	.058	.319	4.073	.000

a. Dependent Variable: time/study environmental management

Based on Table 4, the model shows that for every one standard deviation of change in meta-cognitive strategies score, there will be about .32 of a standard deviation change in time/study environmental management score. Moreover, the relationship between meta-cognitive strategies and time/study environmental management is statistically significant.

4.2. Investigation of the second research question

The second question attempted to see which types of language learning strategies are predictors of effort regulation. To this end, a second stepwise multiple regression procedure was run (Table 5), which showed that compensation and meta-

cognitive strategies entered into the regression equation as the predictors of effort regulation.

Table 5.
Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Compensation	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Meta-cognitive	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: effort regulation

The result of model summary (Table 6) shows that compensation strategies and effort regulation share 7%, and compensation and meta-cognitive strategies together share about 10% of variance with effort regulation.

Table 6: Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.276[a]	.076	.070	6.53937	.076	12.056	1	146	.001
2	.333[b]	.111	.099	6.43707	.035	5.678	1	145	.018

a. Predictors: (Constant), compensation
b. Predictors: (Constant), compensation, meta-cognitive
c. Dependent Variable: effort regulation

Based on Table 7, the results of the ANOVA ($F_{(1, 146)}$ =12.05, $p < .05$; $F_{(2, 145)}$ = 9.06, $p < .05$) show that the predictive power of both models are significant.

Table 7: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	515.559	1	515.559	12.056	.001[b]
	Residual	6243.459	146	42.763		
	Total	6759.018	147			
2	Regression	750.822	2	375.411	9.060	.000[c]
	Residual	6008.196	145	41.436		
	Total	6759.018	147			

a. Dependent Variable: effort regulation
b. Predictors: (Constant), compensation
c. Predictors: (Constant), compensation, meta-cognitive

To see the strength of the relationship between effort regulation and the predictors, the unstandardized as well as standardized coefficients of the two models, along with the observed t-values and significance levels were checked. Table 8 shows the results.

Table 8: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.809	2.686		8.866	.000
	compensation	.282	.081	.276	3.472	.001
2	(Constant)	19.283	3.255		5.924	.000
	compensation	.228	.083	.223	2.738	.007
	Meta-cognitive	.176	.074	.194	2.383	.018

a. Dependent Variable: effort regulation

Based on Table 8, the first model shows that for every one standard deviation change in compensation strategies score, there will be over .27 of a standard deviation positive change in effort regulation score. The second model shows that when compensation and meta-cognitive strategies are taken together, for every one standard deviation change in meta-cognitive and cognitive strategies score, there will be about .23 and .19 of a standard deviation positive change in effort regulation score, respectively. Meanwhile, all the standardized coefficients are statistically significant.

4.3. Investigation of the third research question

The third question examined the relationship between types of language learning strategies and peer learning. To this end, a third stepwise multiple regression was run (Table 9), based on which social strategies entered into the regression equation as the only predictor of peer learning.

Table 9: Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	social	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: peer learning

Model summary (Table 10) shows that social strategies and peer learning share over 7% of variance.

Table 10: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.283[a]	.080	.074	7.66339	.080	12.691	1	146	.000

a. Predictors: (Constant), social
b. Dependent Variable: peer learning

Based on Table 11, the results of the ANOVA ($F_{(1, 146)} = 12.69$, $p < .05$) show that the predictive power of the model is significant.

Table 11: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	745.316	1	745.316	12.691	.000[b]
	Residual	8574.214	146	58.727		
	Total	9319.529	147			

a. Dependent Variable: peer learning
b. Predictors: (Constant), social

To see how strong the relationship between the peer learning and its solitary predictor is, the unstandardized as well as standardized coefficients of the model, along with the observed t-value and significance level were checked. Table 12 shows the results.

Table 12: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.379	2.870		6.751	.000
	social	.311	.087	.283	3.562	.000

a. Dependent Variable: peer learning

Based on Table 12, the model shows that for every one standard deviation change in social strategies score, there will be over .28 of a standard deviation change in peer learning score. Moreover, the relationship between social strategies and peer learning is statistically significant.

4.4. Investigation of the fourth research question

The fourth question sought to investigate the relationship between types of language learning strategies and help seeking. To this end, another stepwise multiple regression procedure was run. The finding showed no significant relationship between types of language learning strategies and help seeking. None of the language learning strategy types enter into the regression equation.

4.5. Discussion

The findings of the present study partially support the findings of several previous studies and contradict those of others. Based on the results of this study, meta-cognitive strategies are predictors of students' time management and study environment. Moreover, there are significant relationships between compensation and meta-cognitive strategies and effort regulation. These findings corroborate the findings of Puzziferro (2008), showing the significant relationship between

time and study environment and effort regulation and performance as well as significant correlation between rehearsal, elaboration, meta-cognitive self-regulation, and time and study environment; and the level of satisfaction. The findings of the present study are also compatible with Kato's (2005) findings, based on which the relationships between meta-cognitive, affective, and cognitive strategies and English proficiency were significant. In line with the findings of this study, Zarei and Shahidi Pour (2013) reported the predictive power of cognitive strategies on L2 idioms comprehension. At the same time, these findings contradict another aspect of their findings, which showed a negative correlation between affective strategies and L2 idioms comprehension. The findings of the present study also support Zarei and Gilanian's (2014a) findings, which showed a significant relationship between language learning strategy types and cognitive self-regulated learning components. The findings of this study are also to some extent in line with the findings of Zarei and Gilanian (2014b), who reported that language learning strategies were predictors of goal orientation components. In addition, the findings of this study lend support to Zarei and Azin's (2013) findings, based on which multiple intelligences were predictors of resource management self-regulated learning.

The findings of the present study may have been affected by a number of factors such as students' level of proficiency, sex differences, social context, culture, and field of study. All of the participants of this study were EFL learners; however, some of the afore-mentioned studies were carried out in ESL contexts. The participants' level of proficiency was considered in some of studies (e.g. Kato, 2005) as a variable, whereas the participants of this study were only BA student at intermediate level of proficiency. In addition, the participants' major in this study was English, implying that the results of this study may have been difference if it were conducted with participants in fields of study.

5. Conclusion

The present study attempted to address the predictive power of language learning strategies on the resource management self-regulated learning components. The results showed significant relationship between meta-cognitive strategies and students' time management and study environment. The findings also indicated that compensation and meta-cognitive strategies were significant predictors of effort regulation. Moreover, it turned out that social strategies were significant predictors of peer learning while none of the language learning strategy types had predictive power on help seeking.

Since self-regulated learning is believed to systematically help students to achieve their own goal by using a large amount of valuable information about the processes and environment, and that resource management self-regulated learners can control their environment, time, effort, and other people (Corno, 1986; Pintrich, 2000; Zimmerman, 2000; Zimmerman and Martinez, 1988; Zimmerman & Schunk, 1989), it is hoped that the findings of the present study will provide insights for teachers as well as learners. The findings of this study can help teachers encourage their students to use those language learning strategies which can predict resource management self-regulated learning, and in so doing improve their self-management. Additionally, it can be useful for students in that students may consciously choose language learning strategies which are best predictors of various components of the resource management self-regulated learning if they know about the exact nature of the relationship between language learning strategies and the components of the resource management self-regulated learning.

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