The Investigation of Self-Regulated Learning among Low Proficiency EFL Students

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Abstract

This study aimed at investigating (1) the characteristics of self-regulated learning (SRL) among low proficiency EFL students and (2) the variation for SRL among students with different English proficiency. Participants were 85 Thai university students who were categorized as low proficiency EFL students based on their Test of English for International Communication (TOEIC) score. These students were divided into two groups: G1 and G2. The results revealed that students in the G1 group had a significantly lower TOEIC score than the students in the G2 group. For the investigation of SRL, the exploratory factor analyses (EFA) demonstrated ten subscales: Five for motivational and five for learning strategy factors. Multiple regressions that determined the influences of SRL on proficiency revealed that the students who possessed higher task value and intrinsic goal orientation were more proficient. On the contrary, if the students had higher test anxiety, they were less proficient. Students in the G1 and G2 groups differed significantly for extrinsic goal orientation. The students in the G2 group (with higher TOEIC score) had more extrinsic goal orientation than did the G1 group students. For Learning strategy in SRL, a multiple regression for learning strategy factors revealed that there were correlations between elaboration and critical thinking and proficiency of Thai EFL students. This factor was a significant predictor of the variation of proficiency. Significant differences were also found between the G1 and G2 groups in peer learning. The lower proficient group tended to rely more on their peers and seek for help. For pedagogical implications, teachers need to provide motivational environments in order to improve the mental state of low proficiency students. Attention should be paid to students who cannot perform well in class in order to raise their confidence and lessen anxiety in learning English.

Keywords: Self-regulated learning (SRL), low proficiency EFL students, English proficiency

1. Introduction

Academic self-regulation research has proliferated and provided insightful perspectives on students' learning behaviors and implications for classroom teaching (Schunk, 2005). As Gambo and Shakir (2021) state, self-regulated learning (SRL) has been found to be one of the critical factors that influences students' learning process. Self-regulated learning (SRL) strategies have been widely investigated in order to examine the language learning process among students. High proficiency students have been found to differ from low proficiency students in many aspects, especially in the application of effective learning strategies, which lead high proficiency students to be more successful than low proficiency students (Zimmerman & Schunk, 2011).

Pintrich (2000) defined self-regulated learning (SRL) as "an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment" (p. 453). Students with self-regulation are able to systematically process their thoughts, feelings, and actions in order to achieve learning goals (Bandura, 1986; Zimmerman, 2000). As described by Zimmerman (1989), self-regulated students are "metacognitively, motivationally, and behaviorally active participants in their own learning process (p. 329). Their responsibility and control of learning are essential for their academic success (Zimmerman, 1990). The common six steps for self-regulation are self-observation, goal setting, planning, self-controlling and monitoring, self-evaluating, and self-reaction. Since cognitive and behavioral regulations are essential factors of learning, students' learning behaviors and their achievement could affect self-regulation (Corno & Mandinace, 1983, as cited in Pintrich & De Groot, 1990).

The current study focused on the low proficiency EFL students in order to better understand their learning behaviors and be able to provide further guidance for their learning. This study aimed at investigating (1) the characteristics of self-regulated learning among low proficiency EFL students and (2) the variation for SRL among students with different English proficiency.

2. Literature Review

It has been widely reported that despite many years of formal English education in school, Thai students' English proficiency is below the effective operational proficiency level. In 2021, Thai people were ranked 100th out of 112 for their English proficiency compared with

people from around the world who do not use English as their mother tongue. Their English proficiency was considered 'very low' (EF EFP, 2021).

In an attempt to improve Thai students' English proficiency, several studies have investigated Thai students' English learning problems and strategies in order to find out the effective English teaching tools. Nawa (2018) was interested in investigating gender factor on Thai students' learning strategies. He found that female students used more of social strategies than male students. Iamla-ong (2014) studied first and second year Thai students' language learning problems and strategies. She found that while first and second year students mostly used metacognitive strategies, the fourth-year students tended to use social strategies and asked for help from native speakers when they experienced learning problems. Pratontip and Chiwonno (2008) studied the relationship between reading comprehension performance and self-regulated learning strategies in two groups of students: the upper- and lower-level groups of proficiency. Students in the upper level were found to often use goal setting and planning, self-evaluation, and environment structuring strategies. Both groups did not show frequent use of help seeking strategies. The authors explained that since the text read may not be difficult, students did not need to ask for help while doing extensive reading.

Previous findings revealed significant differences in the characteristics of SRL between high and low Proficiency groups. The current study aimed to further explore (1) the characteristics of self-regulated learning among low proficiency EFL students and (2) the variation for SRL among students with different English proficiency.

The research questions were as follows:

RQ1: What are the characteristics of self-regulated learning among low proficiency EFL students?

RQ2: What is the variation of SRL for students with different English proficiency?

3. Methodology

3.1 Participants

Participants in this study were 85 third year English major students at a public university in Thailand. They were divided into two groups (G1 and G2) based on their Test of English for International Communication (TOEIC) scores. A Wilcoxon rank sum (W) test was conducted between the G1 and G2 groups because the TOEIC scores of the G2 group were not normally distributed. The median score of the G1 group was 200. For the G2 group, the median score was 320. The analysis showed a significant difference between these two groups (W = 37.5, $p < .05$). The median of the TOEIC score of the students in the G2 group was significantly higher than that of the students in the G2 group, as shown in Table 1.

Table 1. Mean, Standard Deviation (SD), Median, Minimum (Min) and Maximum (Max) of TOEIC Score in G1 and G2 Groups

| | G1 | | | | | G2 | | | | | Difference |
	Mean	SD	Median	Min	Max	Mean	SD	Median	Min	Max	Median
TOEIC score	181.429	32.907	200	120	220	332.265	74.551	320	225	540	120
N			21					64			

3.2 Instruments

In order to measure students' English proficiency and self-regulated learning, the TOEIC scores and the Motivational Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991) were used. Pintrich et al. (1991) already conducted a confirmatory factor analysis to verify the reliability and validity of MSLQ. The analysis was administered for both the motivational and learning strategy sections.

3.3 Procedures

The TOEIC test was administered for the proficiency data. The Motivational Strategies for Learning Questionnaire (MSLQ) was also conducted to measure students' perception on their self-regulated learning. The students completed the 81-item MSLQ questionnaire on the website. The questionnaire was a 7-point Likert scale. The students selected only one value on the scale.

3.4 Data Analysis

According to the original procedure of Pintrich et al. (1991), an exploratory factor analysis (EFA) was conducted to analyze the data from the MSLQ to identify the factors. The influence of SRL on students' proficiency was investigated using multiple regressions. The analyses for the motivation and learning strategy sections were administered separately. In addition, the comparison between the G1 and G2 groups was analyzed using T-test analyses.

4. Results

Items from MSLQ were subjected to exploratory factor analyses. The concept of the exploratory factor analysis is that unobserved or latent variables underlie the variation of scores on observed or measured variables by question (Bollen, 2002). The motivation strategy questions are obtained by research of Pintrich et al. (1991). The number of factors was considered by the screen plot to predicate that a five-factor result to be passable from the dataset. The five-factor structure was analyzed to organize into a group of all questions using promax rotation method (Tabachnick & Fiddell, 2007). The minimum loading was set at .30. The items in each factor were cogitated. Five

defined factors were (1) task value and intrinsic goal orientation (TVIGO) (2) self-efficacy (SE) (3) extrinsic goal orientation (EGO) (4) test anxiety (TA) and (5) control of learning (CL). The five factors were reported for 65.64% of the total variance in Table 2 and the correlation coefficient of factors seemed in Table 3. Internal consistency reliability of each factor extracted in the EFA was done by Cronbach's alpha. The factor and alpha value (factor, alpha) are detailed as follows (TVIGO, α = .89), (SE, α = .87), (EGO, α = .74), (TA, α = .67), and (CL, α = .66).

Table 2. Motivation Section: Exploratory Factor Analysis (EFA)

Question Item	Factor				
	TVIGO	SE	EGO	TA	CL
In the English class, I prefer course material that arouses my curiosity, even if it is difficult to learn.	**.823**	.025	.056	.195	-.251
The most satisfying thing for me in the English class is trying to understand the content as thoroughly as possible.	**.841**	.058	-.069	.111	.000
When I have the opportunity in the English class, I choose course assignments that I can learn from even if they don't guarantee a good grade.	**.566**	.135	.135	-.126	.078
I think I will be able to use what I learn in the English class in other courses.	**.304**	.441	.107	-.021	.101
It is important for me to learn the course material in the English class.	**.650**	-.025	.174	-.061	.127
I am very interested in the content are of the English class.	**.537**	.128	.106	-.125	.193
I think the course material in the English class is useful for me to learn.	**.802**	-.092	.082	-.172	.198
I believe I will receive an excellent grade in the English class.	.007	**.554**	.428	-.152	.077
I'm certain I can understand the most difficult material presented in the readings for the English class	.057	**.833**	-.246	.047	.131
I'm confident I can learn the basic concepts taught in the English class.	.591	**.403**	-.054	.125	-.135
I'm confident I can understand the most complex material presented by the instructor in the English class.	-.004	**.919**	-.175	-.017	-.097
I'm confident I can do an excellent job on the assignments and tests in the English class.	.251	**.749**	-.106	.041	-.173
I'm certain I can master the skills being taught in the English class.	-.281	**.727**	.398	.030	.010
Considering the difficulty of the English class, the teacher, and my skills, I think I will do well in the English class.	.107	**.429**	.267	-.011	.140
Getting a good grade in the English class is the most satisfying thing for me right now.	.536	-.139	**.449**	.103	-.010
If I can, I want to get better grades in the English class than most of the other students.	.426	-.149	**.607**	-.052	-.017
I want to do well in the English class because it is important to show my ability to my family, friends, employer, and others.	.161	-.150	**.973**	.001	-.221
When I take a test, I think about how poorly I am doing compared with other students.	-.119	.026	.324	**.509**	.243
When I take test, I think of the consequences of failing.	.011	.094	-.236	**.652**	.080
I have an uneasy, upset feeling when I take an exam.	.162	-.130	-.102	**.745**	.233
I feel my heart beating fast when I take an exam.	-.124	.061	.378	**.712**	-.174
It is my own fault if I don't learn the English class.	-.045	-.047	.306	.095	**.683**
If I don't understand the course material, it is because I didn't try hard enough.	.111	-.020	-.331	.110	**.944**

Table 3. Motivation Section: Factor Correlation Matrix

Factor	TVIGO	SE	EGO	TA	CL
TVIGO	1.000				
SE	.500	1.000			
EGO	.358	.406	1.000		
TA	.144	.156	.142	1.000	
CL	.425	.359	.517	.170	1.000

Tables 4 and 5 show the results from another exploratory factor analysis for the learning strategy section. The minimum loading was set to .30. The five factors accounted for 65.40% of the total variance. Based on the MSLQ, the names for each factor are Elaboration and Critical Thinking (ELACT, α =.85), Organization and Metacognition (ORGMETA, α = .77), Peer Learning (PL, α = .71), Effort Regulation (ER, α = .65) and Help-Seeking (HS, α = .38). The factor analysis produced five scales for the motivation and five for the learning strategy sections.

Table 4. Learning Strategies: Exploratory Factor Analysis (EFA)

Question Item	Factor				
	ELACT	ORGMETA	PL	ER	HS
When reading for the English class, I try to relate the material to what I already know.	**.771**	-.105	.185	-.042	-.018
I try to apply ideas from course readings in other class activities such as lecture and discussion.	**.452**	.311	.176	-.182	-.414
When I study for the English class, I pull together information from different sources, such as lectures, readings, and discussions.	**.705**	-.039	.137	-.008	.052
I often find myself questioning things I hear or read in the English class to decide if I find them convincing.	**.790**	.138	-.209	.031	-.100
When a theory, interpretation, or conclusion is presented in the English class or in the readings, I try to decide if there is good supporting evidence.	**.905**	-.172	-.027	-.003	.007
I try to play around with ideas of my own related to what I am learning in the English class.	**.493**	.094	.164	.202	.228
When I study for the English class, I go through the readings and my class notes and try to find the most important ideas.	.114	**.577**	.288	-.038	.124
I make simple charts, diagrams, or tables to help me organize course material.	-.361	**.502**	.600	.168	-.085
When I study for the English class, I go over my class notes and make and outline of important concepts.	-.092	**.706**	.170	.025	.146
When studying for the English class I try to determine which concepts I don't understand well.	.305	**.685**	-.324	.084	-.026
When I study for the English class, I set goals for myself in order to direct my activities in each study period.	-.148	**.802**	.077	-.104	.036
When studying for the English class, I often try to explain the material to a classmate or friend.	.053	-.019	**.908**	-.077	-.168
When studying for the English class, I often set aside time to discuss course material with a group of students from the class.	.195	-.045	**.688**	-.026	.120
I often feel so lazy or bored when I study for the English class that I quit before I finish what I planned to do.	-.071	.056	-.194	**.872**	-.042
When course work is difficult, I either give up or only study the easy parts.	.121	-.124	.191	**.791**	-.136
Even if I have trouble learning the material in the English class, I try to do the work on my own, without help from anyone.	.387	.158	-.012	.099	**-.592**
When I can't understand the material in the English class, I ask another student in this class for help.	.171	.356	-.180	-.125	**.723**
I try to identify students in the English class whom I can ask for help if necessary.	.337	-.021	.293	.056	**.452**

Table 5. Learning Strategies: Factor Correlation Matrix

Factor	ELACT	ORGMETA	PL	ER	HS
ELACT	1.000				
ORGMETA	.601	1.000			
PL	.444	.422	1.000		
ER	.092	.054	.080	1.000	
HS	.145	.075	.268	-.067	1.000

The descriptive statistics of all students is shown in Table 6. The mean TOEIC score was 298.11 (SD = 108.32, Range = 535). The mean of all the factors was higher than 4.0 out of 7.0. From these ten factors, the highest score was found for extrinsic goal orientation (5.21). This factor structure was used to perform the following statistical procedures.

Table 6. The Descriptive Statistics of Students

Variables	Mean	Min	Max	SD
TOEIC	298.11	50	585	108.32
TVIGO	5.09	2	7	1.06
SE	4.79	1	7	1.01
EGO	5.21	1	7	1.18
TA	4.71	1	7	1.21
CL	4.67	1	7	1.12
ELACT	4.89	1	7	0.98
ORGMETA	4.78	1	7	1.2
PL	4.63	1	7	1.16
ER	4.11	1	7	1.42
HS	5.08	1	7	1.31

Motivation in Self-Regulated Learning

The multiple regression analysis demonstrated correlations between TVIGO (r = .230, p < .05), TA (r = -.282, p < .05) and proficiency of Thai EFL students, as shown in Table 7. These five factors together explain 10% of the variance in proficiency (Adj. R2 = .106). This result indicates that the higher TVIGO students possess, the more proficient they are. On the contrary, if the students have higher TA, the less proficient they are.

Table 7. Multiple Regression Result (Motivational Strategies to TOEIC Scores)

Independent variables	β	t		r
TVIGO	28.606	2.166	*	0.230
SE	-12.537	-0.955		-0.104
EGO	4.898	0.370		-0.040
TA	-29.914	-2.697	*	-0.282
CL	16.034	1.198		-0.130

β = standardized partial regression coefficient, r = partial correlation coefficient,
R^2 = 0.156, adjusted R^2 = 0.106, n= 90, * p<0.05

In not normality distribution of the motivational strategies data between the G1 and G2 groups, Wilcoxon rank test between the G1 and G2 groups showed significant differences between the G1 and G2 groups. This result indicates that the G1 and G2 groups differ significantly for extrinsic goal orientation. The students in the G2 group had more extrinsic goal orientation than did the G1 group students.

Table 8. Descriptive Statistic and Comparison for Motivational Strategies of the G1 and G2 Groups

Variables	G1(n=21)			G2 (n=64)			Wilcoxon Rank Sum	p-value
	Median	Mean	SD	Median	Mean	SD		
TVIGO	5	4.95	0.93	5	5.13	1.08	29712.50	.06
SE	5	4.84	0.87	5	4.77	1.05	34213.00	.45
EGO	5	4.95	0.94	5	5.29	1.24	5005.50	.03*
TA	5	4.68	1.01	5	4.72	1.27	10503.00	.74
CL	4	4.45	0.8	5	4.75	1.22	2187.50	.06

Note: TVIGO = task value and intrinsic goal orientation, SE = self-efficacy, EGO = extrinsic goal orientation, TA = test anxiety, and CL = control of learning, * p<0.05

Learning Strategies in ~~in~~ Self-Regulated Learning

For learning strategy factors, the analysis of a multiple regression showed partial correlations between ELACT (r = .313) and TOEIC scores, as shown in Table 9. This factor was a significant predictor of the variation of English proficiency (ELACT; β= 43.58, p < .05). The five predictors accounted for the 7% effect on students' proficiency (Adj. R2 = .068).

Table 9. Multiple Regression Result (Learning Strategies to TOEIC Scores)

Independent variables	β	t		r
ELACT	43.58	3.025	*	.313
ORGMETA	-21.91	-1.541		-.166
PL	-13.603	-1.042		-.113
ER	-18.18	-1.628		-.175

β = standardized partial regression coefficient, r = partial correlation coefficient,

R^2 = 0.120, adjusted R^2 = 0.068, n= 90, * p-value <0.05

Table 10 shows the descriptive statistics for learning strategies of students from the G1 and G2 groups. The score for all the factors was higher than 4.00.

From the analysis of Wilcoxon rank test, significant differences were found between the G1 and G2 groups in PL (W =3340.50, p = <0.05). G1 students received higher scores in this factor than did the G2 group. This indicates that the lower proficient group tended to rely more on peer learning.

Table 10. Descriptive Statistic and comparison for Learning Strategies of the G1 and G2 students

Variables	G1 (n=21)			G2 (n=64)			Wilcoxon Rank Sum	p-value
	Median	Mean	SD	Median	Mean	SD		
ELACT	5	4.79	0.98	5	4.89	0.97	22940.50	0.36
ORGMETA	5	4.84	1.04	5	4.74	1.26	17204.50	0.70
PL	5	5.02	1	5	4.48	1.22	3340.50	0.01*
ER	5	4.17	1.34	4	4.07	1.46	2862.00	0.52
HS	5	5.16	1.21	5	5.06	1.35	6248.50	0.69

Note: ELACT = Elaboration and Critical Thinking, ORGMETA = Organization and Metacognitive Self-Regulation, PL = Peer Learning,

ER = Effort Regulation, HS = Help-Seeking, * *p*-value <0.05

5. Discussion

This study aimed at investigating (1) the characteristics of self-regulated learning (SRL) among low proficiency EFL students and (2) the variation of SRL among students with different English proficiency. The exploratory factor analysis for motivation section reported five SRL factors for Thai EFL students: Task value and intrinsic goal orientation (TVIGO), self-efficacy (SE), extrinsic goal orientation (EGO), test anxiety (TA), and control of learning (CL). For the learning strategy section, the five factors that were deemed plausible included elaboration and critical thinking (ELAC), organization and metacognition (ORGMETA), peer learning (PL), effort regulation (ER) and help-seeking (HS). From the multiple regression analysis, there were correlations between task value and intrinsic goal orientation (TVIGO), test anxiety (TA) and proficiency of Thai EFL students. Students who possessed higher task value and intrinsic goal orientation were more proficient. On the contrary, if the students had higher test anxiety, the less proficient they were. In addition, the G1 and G2 groups differed significantly for extrinsic goal orientation. The students in the G2 group had more extrinsic goal orientation than did the G1 group students.

For learning strategy in SRL, a multiple regression for learning strategy factors revealed that there were partial correlations between elaboration and critical thinking (ELAC) and proficiency of Thai EFL students. This factor was a significant predictor of the variation of proficiency. From the analysis of Wilcoxon rank test, significant differences were found between the G1 and G2 groups in peer learning. Since G1 students received higher scores in this factor than did the G2 group, this indicated that the lower proficient group tended to rely more on peer learning.

The results found in this study are in line with the findings reported in Wahyuni and Ilyas (2016). The authors studied learning strategies by Thai students and found that those who struggled with their learning sought for help from their foreign classmates and instructors. Ngersawat and Kirkpatrick (2014) also found that Grade 10 Thai students who experienced English learning problems also asked for help from their lecturers and peers. Iamla-ong (2014) studied first and second year Thai students' language learning problems and strategies. She found that while first and second year students mostly used metacognitive strategies, the fourth year students tended to use social strategies and asked for help from native speakers when they experienced learning problems. Fukuda (2019) investigated how less-proficient EFL students perceived SRL and found that this group of students had difficulty applying SRL strategies. Xie (2020) focused on the mental state of students, especially the negative impact that influenced students' English learning. The researcher found that low proficiency EFL students lacked long-term study plan and were affected by anxiety. These caused them not to be able to effectively learn English.

The results also conform with the SRL studies conducted in other countries. Garrido-Vargas (2012) investigated how Hispanic students' self-regulated learning strategies affected their academic performance. These students completed the Motivated Strategies Learning Questionnaire (MSLQ). The results revealed the significant relationship between SRL and students' reading, writing and mathematics achievement. Kosnin (2007) also found that SRL was a significant predictor of Malaysian student's academic achievement. Effeney, Carroll and Bahr (2013) investigated the role of SRL strategies among high school students and found that students who were academically better were more self-directed and self-initiated. They did not rely on the other individuals. In contrast, students with lower academic achievement preferred SRL strategies that involve other people such as seeking help from classmates and instructors. Nikoopour and Khoshroudi (2021) investigated 200 students with different levels of English proficiency based on TOEFL score. They found that the higher the students' score, the more self-regulated they were.

As Zimmerman (2002) suggests, the application of SRL strategies contributes to academic success among students. It is essential to train students for SRL strategies. Cazan (2013) adopted self-regulated learning strategies in a psychology course and found that the implementation of SRL improved students' academic self-regulation. Cleary and Platten (2012) investigated the effects of SRL intervention program on students' academic achievements and motivational behaviors. Although individual variability was found because of different SRL strategies and beliefs, positive changes were found among students who consistently attended the SRL intervention program. As Schunk and Ertmer (2000) added, SRL intervention over time could lead to transfer and generalization.

6. Conclusion

Empirical research on self-regulated learning (SRL) has demonstrated how students can be supported and enhance their SRL skills. This study revealed different characteristics of self-regulated learning among low proficiency students. The findings highlighted the need for teachers to provide motivational environments in order to improve the mental state of less proficient students. According to Sovakandan, Jaganathan and Husain (2017), teachers should create a friendly classroom environment to promote students' motivation and confidence. This will encourage students to actively engage in classroom activities. Additional support should also be provided for lower proficiency students to enhance both language skills and regulatory behaviors (Aizawa, Rose, Thompson & Curle, 2020). In addition to academic support, attention should be paid to students who cannot perform well in class in order to raise their confidence and lessen their anxiety in learning English. It is essential for teachers to understand the characteristics of self-regulated learning among low proficiency students in order to be able to provide further guidance for their learning.

References

Aizawa, I., Rose, H., Thompson, G. & Curle, S. (2020). Beyond the threshold: Exploring English language proficiency, linguistic challenges, and academic language skills of Japanese students in an English medium instruction programme. *Language Teaching Research, 15*(03), 240-258. https://doi.org/10. 1177/1362168820965510

Al Mulhim, E. N. (2021). Flipped learning, self-regulated learning and learning retention of students with internal/external locus of control. *International Journal of Instruction, 14*(1), 827-846. https://doi.org/10.29333/iji.2021.14150a

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4,* 359-373. https://doi.org/10.1521/jscp.1986.4.3.359

Bollen, K. A. (2002). Latent variables in psychology and the social sciences. *Annual Review of Psychology, 53*(1), 605-634. https://doi.org/10.1146/annurev.psych.53.100901.135239

Cazan, A. (2013). Teaching self-regulated learning strategies for psychology students. *Procedia - Social and Behavioral Sciences, 78,* 743-747. https://doi.org/10.1016/j.sbspro.2013.04.387

EF EPI. (2021). *EF EPI reports.* Retrieved from https://www.ef.co.th/epi/

Effeney, G., Carroll, A., & Bahr, N. (2013). Self-regulated learning: Key strategies and their sources in a sample of Adolescent males. *Australian Journal of Educational & Developmental Psychology, 13,* 58-74.

Fukuda, A. (2019). What less-proficient EFL learners tell us about their language learning: Qualitative analysis of self-regulated learning. *Journal of Pan-Pacific Association of Applied Linguistics, 23*(1), 103-126. https://doi.org/10.25256/PAAL.23.1.6

Gambo, Y., & Shakir, M. Z. (2021). Review on self-regulated learning in smart learning environment. *Smart Learn. Environ, 8*(12). https://doi.org/10.1186/s40561-021-00157-8

Garrido-Vargas, M. (2012). *Relationship of self-regulated learning and academic achievement among English language learners* (Unpublished dissertation). University of Arizona.

Iamla-ong, H. (2014). Language learning problems and language learning strategies of MFU students. *MFU CONNEXION, 3*(1), 54-86.

Jackson, J. E. (2005). *Oblimin rotation.* In Encyclopedia of Biostatistics; John Wiley & Sons: Hoboken, NJ, USA. https://doi.org/10.1002/0470011815.b2a13060

Kosnin, A. M. (2007). Self-regulated learning and academic achievement in Malaysian undergraduates. *International education journal, 8,* 221-228.

Nawa, A. T. (2018). An investigation of Thai students' English language learning strategies. *Pedagogy Journal of English Language Teaching, 6*(1), 47-56. https://doi.org/10.32332/pedagogy.v6i1.1110

Ngersawat, S., & Kirkpatrick, R. (2014). An investigation of ACT students' English language and their learning strategies in grade 10 bilingual program. *Procedia – Social and Behavioral Sciences, 98,* 1356-1365. https://doi.org/10.1016/j.sbspro.2014.03.553

Nikoopour, J., & Khoshroudi, M. S. (2021). EFL learners' learning styles and self-regulated learning: Do gender and proficiency level matter? *Journal of Language Teaching and Research, 12*(4), 616-623. https://doi.org/10.17507/jltr.1204.13

Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 451-502). San Diego, CA: Academic Press. https://doi.org/10.1016/B978-012109890-2/50043-3

Pintrich, P. R., & Groot, E. D. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82,* 33-40. https://doi.org/10.1037/0022-0663.82.1.33

Pintrich, P. R., Smith, D. A., Garcia, T., & McKeachie, W. J. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire* (MSLQ). Ann Arbor, MI: University of Michigan.

Pratontip, C., & Chiwonno, A. (2008). Self-regulated learning by Thai university students in an EFL extensive reading program. *MANUSYA: Journal of Humanities, 11*(2), 104-124. https://doi.org/10.1163/26659077-01102006

Schunk, D. H. (2005). Commentary on self-regulation in school contexts. *Learning and Instruction, 15,* 173-177. https://doi.org/10.1016/j.learninstruc.2005.04.013

Schunk, D. H., & Ertmer, P. A. (2000). Self-regulation and academic learning: self-efficacy enhancing interventions. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 631649). San Diego: Academic Press. https://doi.org/10.1016/B978-012109890-2/50048-2

Sovakandan, H., Jaganathan, P., & Hussin, F. M. (2017). Investigating low proficiency ESL students' perception of the use of i-Think Maps in writing practices. *Malaysian Journal of ELT Research, 14*(2), 1-13.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). New York: Allyn and Bacon.

Wahyuni, S., & Ilyas, M. (2016). An Investigation of Thai students' English language problems and their Learning strategies at English study program of teacher training at Education Faculty of Riau Islamic University. *J-SHMIC, 3*(2), 81-91. https://doi.org/10.25299/jshmic.2016.vol3(2).530

Xie, N. (2020). Mental state of English learners and its influential factors. *Revista Argentina de Clínica Psicológica, 19*(2), 1468-1473.

Zeng, Y. & Goah, C. M. (2018). A self-regulated learning approach to extensive listening and its impact on listening achievement and metacognitive awareness. *Studies in Second Language Learning and Teaching, 8*(2), 193-218.

https://doi.org/10.14746/ssllt.2018.8.2.2

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology, 81*(3), 329-339. https://doi.org/10.1037/0022-0663.81.3.329

Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: An Overview. *Educational Psychologist, 25,* 3-17. https://doi.org/10.1207/s15326985ep2501_2

Zimmerman, B. J. (2000). Attainment of self-regulation: A social cognitive perspective. In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation, research, and applications* (pp. 13–39). Orlando, FL: Academic Press.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice, 41*(2), 64-70. https://doi.org/10.1207/s15430421tip4102_2

Zimmerman, B. J., & Schunk, D. H. (2011). Self-regulated learning and performance. In B. J. Zimmerman, & D. H. Schunk (Eds.), *Handbook of Self-Regulation of Learning and Performance* (pp. 1-12). New York: Routledge.