Awareness of Metacognitive Reading Strategies Employed by University Japanese Learners of English

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Abstract

Metacognitive strategies play an important role in reading comprehension. Being aware of one's reading strategies can help learners improve their comprehension, particularly for academic materials. The awareness of metacognitive reading strategies can be the key to successful second language or foreign language reading. The present study investigated the awareness of metacognitive reading strategies among university Japanese learners of English (JLEs) to identify differences in awareness between the two different levels of groups. In search of this research issue, the Survey of Reading Strategies (SORS) was conducted to examine the learners' Global, Problem-Solving, and Support reading strategies used in academic reading. A total of 38 university Japanese learners of English divided into two classes, upper-intermediate and lower-intermediate, participated in the survey. The results indicate that the participants in the upper-intermediate class reported a higher level of awareness and strategy use for Global Reading Strategies (GLOB) than did those who were in lower-intermediate class. The findings show that skilled learners seem to use more of the monitoring strategies as compared to those of less skilled learners. Furthermore, the findings of the study suggest that there is a link between the awareness of metacognitive reading strategies and the proficiency while reading academic texts.

Introduction

Reading can be described as a complex and multifaceted activity (Demiröz, 2010). Reading involves many factors such as automatic recognition skills, vocabulary and structural knowledge, content/world background knowledge, formal discourse structure knowledge, synthesis and evaluation skills/strategies, metacognitive knowledge, and skills monitoring (Grabe, 1991).

Moreover, reading comprehension is defined as an interactive cognitive process (Yuksel & Yuksel, 2011). Readers interact with a text through complicated and multiple cognitive and

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metacognitive processes for reading comprehension while reading (Demiröz, 2008). Moreover, comprehending a text also requires the effective use of appropriate strategies (e.g., Sheorey & Mokhtari, 2001). Major learning strategies include metacognitive strategies, cognitive strategies, and social or affective strategies (e.g., O'Malley & Chamot, 1990; Oxford, 1990).

Particularly, metacognitive strategies play an important role in second language (L2) reading comprehension (e.g., Cubukcu, 2008). Readers allocate significant attention to controlling, monitoring, and evaluating the reading process through metacognitive strategies (Pressley, 2000). Furthermore, these strategies allow learners to plan, sequence, and monitor their learning in a way that improves their performance (Sheorey & Mokhtari, 2001; Ahmadi, Ismail, & Abdullah, 2013).

However, learners are not often aware of the importance of metacognitive strategies, and even if they were, they are not actively using the strategies for their reading process (e.g., Oxford et al., 1985a; Oxford & Nyikos, 1989). In teaching such strategies, teachers need to explain both cognitively and affectively that the targeted strategies are very useful in advancing their learning.

Thus, to better understand the effective use of metacognitive reading strategies, more research is needed to gain a clearer picture of the learners' awareness of the reading process. For this reason, this study aims to gain more insights as to the awareness of metacognitive reading strategies among EFL learners in the Japanese learning context.

Literature Review

Metacognition is referred to as "the ability to reflect upon, understand, and control one's learning (Shaw & Dennison, 1994). Moreover, metacognitive strategies are referred to as "those strategies that require students to think about their own thinking as they engage in academic tasks" (Cubukcu, 2008). According to Cubukcu (2008), metacognitive awareness of reading strategies involves the following three aspects:

First, these strategies include elaboration strategies such as the building of links to prior knowledge, or memory strategies such as note taking. Second, metacognitive control strategies such as the planning and monitoring of learning activities, the evaluation of learning outcomes and the adaptation to varying tasks. Third, resource management such as the control of the general conditions associated with learning, for example, time management and management of the learning environment. (p. 84)

Several studies suggest that these strategies can contribute significantly to successful second language L2 reading (e.g., Ahmadi, Ismail, & Abdullah, 2013; Ghaith & El-Sanyoura, 2019). Recent research has focused on the relationship between students' English proficiency and the use of metacognitive awareness of reading strategies while reading academic texts. In the previous studies, a correlation has been found between the frequency of learning strategy use and language proficiency. And it is reported that skilled learners use more strategies than those of less skilled learners (Cohen, 1998; Green & Oxford, 1995; O'Malley & Chamot, 1990; Oxford & Erman,

1995).

It has also been reported that skilled learners are likely to employ global reading strategies, which means to monitor one's comprehension of academic reading materials than those of less skilled learners (e.g., Melhi, 2000; Salataci & Akyel, 2002; Mehrdad, Ahghar, & Ahghar, 2012). However, there is little research that compared the use of these strategies between skilled and less skilled learners among L2 or EFL students.

Thus, further research is needed to confirm the previous findings as to whether differences exist between skilled and less skilled learners. With these in mind, this study aims to investigate the metacognitive awareness of reading strategies employed by Japanese learners of English (JLEs).

The purpose of this study is to compare the awareness of metacognitive reading strategies between two different groups to determine differences in strategy type and frequency of use. The research question is: Are there differences in the awareness of metacognitive reading strategies between the two different levels of groups?

Method

Participants

A total of 38 JLEs in a private university in Aichi prefecture participated in the study. They were English majors enrolled in the second year reading course. The reading course was divided into two classes which were upper intermediate and lower intermediate levels respectively based on a university's independent placement system. There were 14 students in the upper-intermediate class and 24 students in the lower-intermediate class. The first group of upper- intermediate students is called Group 1 and the second group of 24 lower-intermediate students is called Group 2 in the study for a matter of convenience.

Data collection and Analysis

The survey was conducted in class separately in both groups under the directions of their teachers. The participants were informed that the survey was for a research purpose and would not affect their course grades. The main instrument used in the study is the Survey of Reading Strategies (SORS). It was developed by Mokhtari and Sheorey (2002) based on Metacognitive Awareness of Reading Strategies Inventory (MARSI), which was originally published by Mokhtari and Reichard (2002) as a tool for measuring native English speaking students' awareness and perceived use of reading strategies while reading academic or school related materials. Several items in SORS were modified to make them more comprehensive to non-English speaking students. SORS is intended to measure the type and frequency of reading strategies that EFL students perceive while reading academic texts in English.

The type of strategies is divided into three major categories as follows: Global Reading Strategies (GLOB), which are "those intentional, carefully planned techniques by which learners monitor or manage their reading, such as having a purpose in mind, previewing the text as to its length and organization, or using typographical aids and tables and figures (13 items)" Problem

Solving Strategies (PROB), which are "the actions and procedures that readers use while working directly with the text. These are localized, focused techniques used when problems develop in understanding textual information; examples include adjusting one's speed of reading when the material becomes difficult or easy, guessing the meaning of unknown words, and rereading the text to improve comprehension (8 items). Support Strategies (SUP), which are "basic support" mechanisms intended to aid the reader in comprehending the text such as using a dictionary, taking notes, underlining, or highlighting textual information (9 items) (Mokhtari & Sheorey, 2002: 4).

Descriptive statistics in the form of number of group, minimum and maximum scores, and mean scores are used to present and summarize the data of each strategy category, i.e., Global Strategies (GLOB), Problem Solving Strategies (PROB), and Support Strategies (Sup). T-test is used to compare and analyze Group 1 and Group 2. Test statistics are used to present the data of each survey item. In addition, Pearson's correlation coefficient is used to examine the correlation among the categories.

Results

The results of the descriptive statistics are shown in Table 1. It was found that GLOB has a mean score of 41.9 with a standard deviation of 7.0. Meanwhile, PROB has a mean score of 28.1 with a standard deviation of 3.6, and SUP has a mean score of 27.5 with a standard deviation of 4.8. The findings clearly show that the overall mean for Group 1 and Group 2 combined for GLOB is higher than those for PROB and SUP whereas not so much difference can be found between those for PROB and SUP.

Table 1　Results of the Descriptive Statistics

	n	*Minimum*	*Maximum*	*Mean*	*SD*
GLOB	38	26	53	41.9	7.0
PROB	38	22	37	28.1	3.6
SUP	38	18	35	27.5	4.8

Note: GLOB = Global Strategies, PROB = Problem Solving Strategies, SUP = Support Strategies

The results of group statistics are shown in Table 2. It shows a comparison of the means and standard deviations for Group 1 and Group 2. In the results of Group 1, the mean score of GLOB is 45.2 with a standard deviation of 6.0, that of PROB is 29.7 with a standard deviation of 3.0, and that of SUP is 27.4 with a standard deviation of 4.8. On the other hand, in the results of Group 2, the mean score of GLOB is 40.4 with a standard deviation of 6.9, that of PROB is 28.0 with a standard deviation of 3.9, and that of SUP is 27.5 with a standard deviation of 4.8 respectively.

It was found that the mean score of Group 1 for GLOB is higher than that of Group 2 by 5.25 points. However, the differences between the mean scores for PROB and SUP are relatively small. As for PROB, Group 1 has a mean score of 29.7 and Group 2 has that of 28.0. The mean score of Group 1 for PROB is higher than that of Group 2 by 1.7 points. Regarding SUP, Group 1 has a

mean score of 27.4 whereas Group 2 has that of 27.5. The mean score of Group 2 for SUP is higher than that of Group 1. However, the difference here is only 0.15. Thus, it can be said that the difference in the mean scores of GLOB between Group 1 and Group 2 is relatively large. It appears that the participants in Group 1, which is the upper-intermediate class, may have used more of these strategies than those in Group 2, which is the lower-intermediate class.

Table 2　Results of the Group Statistics

	Group	*n*	*Mean*	*SD*
GLOB	Group 1	14	45.2	6.0
	Group 2	24	40.4	6.9
PROB	Group 1	14	29.7	3.0
	Group 2	24	28.0	3.9
SUP	Group 1	14	27.4	4.8
	Group 2	24	27.5	4.8

Note: GLOB = Global Strategies, PROB = Problem Solving Strategies, SUP = Support Strategies

Table 3　Independent Sample Test

	Lavene's Test for Equality of Variance		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std Error Difference	Lower	Upper
GLOB									
Equal Variance assumed	0.613	0.439	2.354	36	0.024	5.24	2.228	0.726	9.762
Equal Variance not assumed			2.446	30.6	0.020	5.24	2.144	0.869	9.619
PROB									
Equal Variance assumed	0.837	0.366	1.389	36	0.173	1.7	1.226	−0.783	4.188
Equal Variance not assumed			1.488	33.036	0.146	1.7	1.144	−0.626	4.03
SUP									
Equal Variance assumed	1.23	0.728	−0.095	36	0.925	−0.15	1.637	−3.475	3.166
Equal Variance not assumed			−0.094	27.144	0.926	−0.15	1.641	−3.521	3.211

Note: $p < .05$

The results of Levene's test are shown in Table 3. To see if the two groups have approximately equal variance on the dependent variable, Levene's test was conducted. The results show that the sig for GLOB is 0.43, which is greater than 0.05. Thus, it can be said that the variances are approximately equal. In the results of the independent sample T-test for GLOB, the t value is 2.35 with a degree of freedom of 36. The sig is 0.024, which is less than 0.05 ($t = 2.35$, $df = 36$, $p < .05$). Thus, the results indicate that the participants in the upper-intermediate class had significantly higher scores on GLOB than those who were in the lower-intermediate class. In the results of the independent sample T-test for PROB, t value is 1.38 with a degree of freedom of 36. The sig is 0.17, which is greater than 0.05 which is not significant ($t = 1.38$, $df = 36$, *n.s*). In the results of the independent sample T-test for SUP, t value is 0.09 with a degree of freedom of 36. The sig is 0.92, which is greater than 0.05 which is not significant ($t = 0.09$, $df = 36$, *n.s*). Thus, the results indicate that no significant differences were found between the two groups with respect to PROB and SUP. Both groups were found to be the same.

Table 4 Test Statistics

Category, Item Number & Statement	Mann-Whitney	U Wilcoxson W	Asymp. Sig. (2–tailed)	
GLOB 1. I have a purpose in mind when I read.	129.500	429.500	−1.223	.221
SUP 2. I take notes while reading to help me understand what I read.	134.000	434.000	−1.070	.284
GLOB 3. I think about what I know to help me understand what I read.	92.500	392.500	−2.381	.017*
GLOB 4. I take on overall view of the text to see what it is about before reading it.	156.000	456.000	−.377	.706
SUP 5. When text becomes difficult, I read aloud to help me understand what I read.	142.000	247.000	−.810	.418
GLOB 6. I think about whether the content of the text fits my reading purpose.	122.000	422.000	−1.442	.149
PROB 7. I read slowly and carefully to make sure I understand what I am reading.	119.500	419.500	−1.542	.123
GLOB 8. I review the text first by noting its characteristics like length and organization.	82.500	382.500	−2.680	.007*
PROB 9. I try to get back on track when I lose concentration.	145.500	445.500	−.741	.458
SUP 10. I underline or circle information in the text to help me remember it.	162.000	462.000	−.189	.850
PROB 11. I adjust my reading speed according to what I am reading.	158.500	458.500	−.301	.764
GLOB 12. When reading, I decide what to read closely and what to ignore.	128.000	428.000	−1.287	.198
SUP 13. I use reference materials (e.g., a dictionary) to help me understand what I read.	167.000	272.000	−.032	.975
PROB 14. When text becomes difficult, I pay attention to what I am reading.	142.000	442.000	−.857	.391
GLOB 15. I use tables, figures, and pictures in text to increase my understanding.	156.000	261.000	−.377	.706
PROB 16. I stop from time to time and think about what I am reading.	164.500	269.500	−.111	.911
GLOB 17. I use context clues to help me understand what I am reading.	167.000	272.000	−.032	.975
SUP 18. I paraphrase (restate ideas in my own words) to better understand what I read.	138.000	438.000	−.948	.343
PROB 19. I try to picture or visualize information to help remember what I read	151.500	451.500	−.522	.602
GLOB 20. I use typographical features like bold face and italics to identify key information.	146.000	241.000	−.699	.485
GLOB 21. I critically analyze and evaluate the information presented in the text.	163.500	463.500	−.143	.886
SUP 22. I go back and forth in the text to find relationships among ideas in it.	152.000	452.000	−.512	.609
GLOB 23. I check my understanding when I come across new information.	104.000	404.000	−2.058	.040*
GLOB 24. I try to guess what the content of the text is about when I read.	119.000	419.000	−1.594	.111
PROB 25. When text becomes difficult, I reread it to increase my understanding.	166.000	271.000	−.066	.948
SUP 26. I ask myself questions I like to have answered in the text.	150.000	450.000	−.577	.564
GLOB 27. I check to see if my guesses about the text are right or wrong.	108.500	408.500	−1.900	.057
PROB 28. When I read, I guess the meaning of unknown words or phrases.	121.000	421.000	−1.558	.119
SUP 29. When reading, I translate from English into my native language.	123.000	228.500	−1.378	.168
SUP 30. When reading, I think about information in both English and my mother tongue.	164.000	269.000	−.125	.900

Note: * *p* < .05

To determine where the differences lie in GLOB, Mann-Whitney U test was used to find out the differences for each survey item. Table 4 demonstrates the results of computed Mann-Whitney Statistics, and it is associated with its significant value in Mann-Whitney U test. In this table, the item number 3, 8, and 23 show the significant mean difference of Group 1 and Group 2 for Mann-Whitney U test. The results indicate that the item 3 ($p = 0.017$, $p < 0.05$), the item 8 ($p = 0.007$, $p < 0.05$), and the item 23 ($p = 0.04$, $p < 0.05$) are significantly higher than the other items. Thus, based on the results, it is assumed that there are significant differences for these variances as follows: the item 3, which is "I think about what I know to help me understand what I read", the item 8, which is "I review the text first by noticing its characteristics like length and organization.", and the item 23, which is "I check my understanding when I come across new information". between Group 1 and Group 2. Thus, the findings show that the participants in Group 1, which is the upper-intermediate class, seem to be more aware of these strategies when they read academic texts in English as compared to those who are in Group 2, which is the lower-intermediate class.

Table 5   Correlation Matrix for GLOB, PROB, and SUP

	GLOB	PROB	SUP
GLOB	——	.29	.36*
PROB		——	.08
SUP			——

Note: *$p < .05$, $df = 36$

Pearson correlation coefficient was used to examine the correlation among GLOB, PROB, and SUP. The results of Pearson's correlation coefficients are shown in Table 5. In the results of GLOB and PROB, no significant difference was found between these categories, $r = .29$ ($df = 36$, $t = .07$, $p < .05$). In the results of GLOB and SUP, there is a significant difference between these categories, $r = .36$ ($df = 36$, $t = .024$, $p < .05$). However, a correlation coefficient between 0.25 and 0.5 is considered to be a "weak" correlation between two variables. Thus, it is assumed that there is little correlation between these variables. In the results of PROB and SUP, the correlation coefficient was not significantly different from each other, $r = .08$ ($df = 36$, $t = .63$, $p < .05$). The findings indicate that GLOB, PROB, and SUP are not interrelated and independent of each other in their characteristics. Scatterplots are provided below (Figures 1 to 3).

Discussion

The research question of the present study is that: Are there differences in the awareness of metacognitive reading strategies between the two different levels of groups? The results of the present study show that there are differences between the two groups according to their levels of English based on a university's independent placement system.

The findings indicate that the participants who were in the upper-intermediate class (Group 1) had statistically higher scores on a particular category named GLOB (Global Reading Strategies)
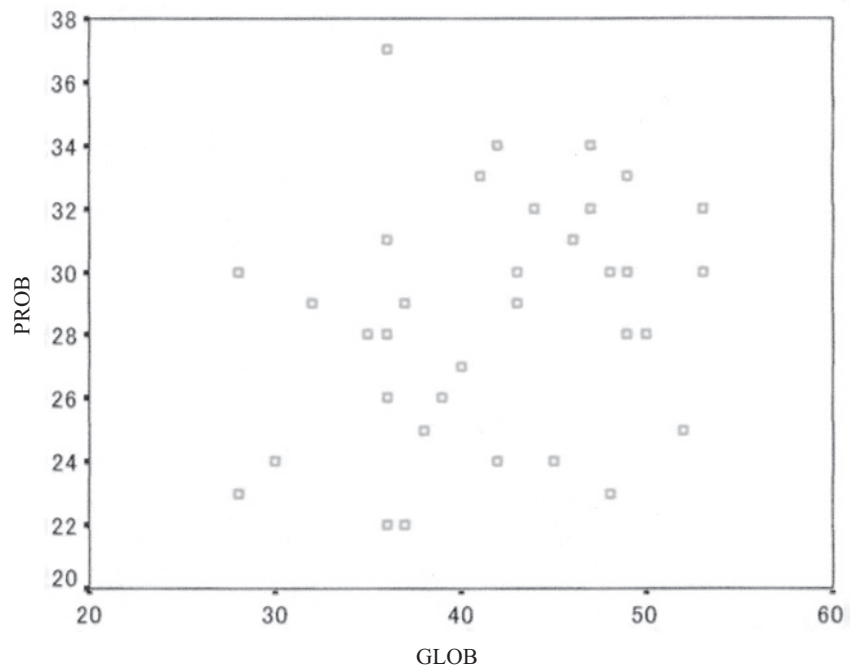
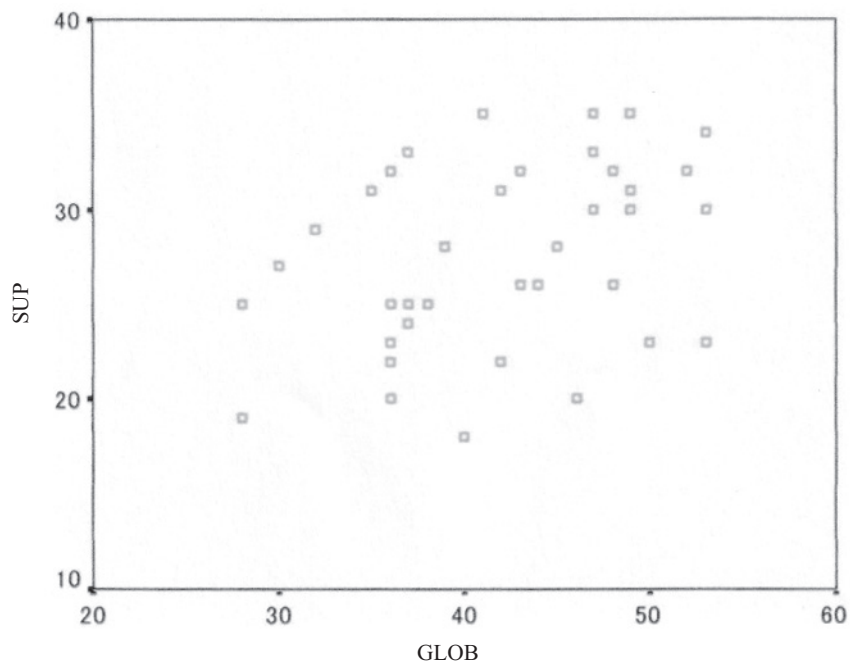Figure 1   Scatterplot for GLOB and PROB
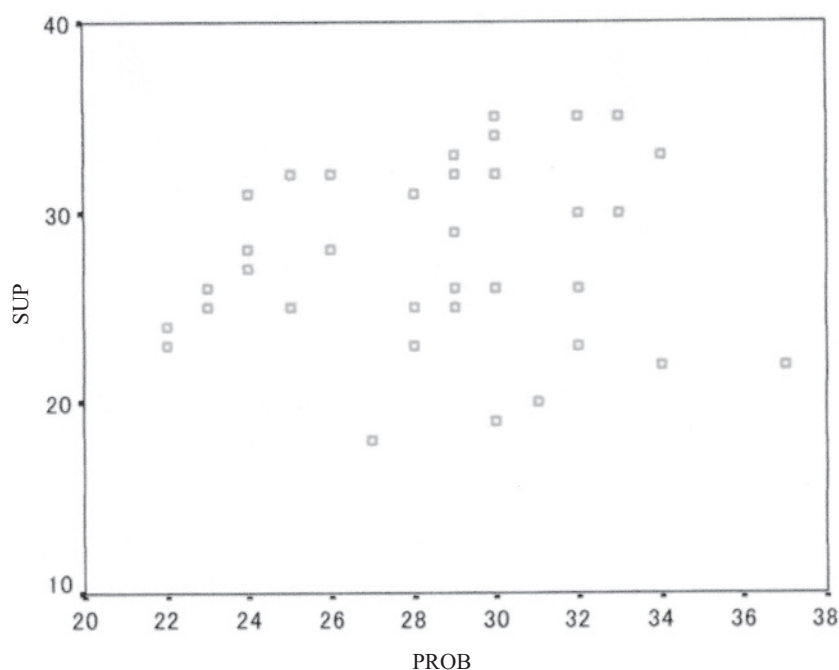

Figure 2   Scatterplot for GLOB and SUP

Figure 3   Scatterplot for PROB and SUP

than those who were in the lower-intermediate class (Group 2). This category is referred to as "intentional, carefully planned techniques by which learners monitor or manage their reading, such as having purpose in mind, previewing the text as to its length and organization" (Mokhtari & Sheorey, 2002). The results show that the participants in Group 1 seem to be strongly aware of the specific items for GLOB, which are the item number 3, 8 and 23 as follows: " I think about what I know to help me understand what I read." (#3), "I review the text first by noticing its characteristics like length and organization." (#8), "I check my understanding when I come across new information." (#23).

It is assumed that these statements support Cubukcu (2008) in that all these strategies are related to reflective thinking about their own learning process. The findings suggest that skilled learners can reflect on their own reading process whereas less skilled learners cannot. The results of the present study are also in line with the previous studies that claimed that proficient learners tend to be more aware of global reading strategies as compared to those of less proficient learners (e.g., Melhi, 2000; Salataci & Akyel, 2002; Mehrdad, Ahghar, & Ahghar, 2012). As for the other two categories, PROB (Problem Solving Strategies), which are the actions and procedures that readers use while working directly with the text, and SUP (Support Strategies), which are basic support mechanisms intended to aid the readers in comprehending the text (Mokhtari & Sheorey, 2002). The statistical difference was not found between these categories, and thus, there is no link between the awareness of metacognitive reading strategies.

Conclusion

The present study investigated a relationship between the awareness of metacognitive reading strategies of JLEs and their proficiency level. The results of the present study show that a group of university JLEs who were in Group 1 (upper-intermediate class) reported a higher level of awareness and strategies for GLOB (Global Reading Strategies) than those of Group 2 (lower-intermediate class) when reading academic texts in English. The study has an implication for the use of these strategies among JLEs in that skilled learners of English can monitor and reflect on their own reading process as compared to those who are less skilled learners. Thus, teachers should focus on these strategies for JLEs to enhance their reading comprehension of academic texts in their teaching. There are, of course, limitations of the present study as it measured JLEs' English proficiency level based on a university's independent placement system but failed to do so with a standardized test such as TOEIC or TOEFL. Further studies should be conducted in order to improve the validity and reliability of the findings of the present study.

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