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## Strategy Use, Self-efficacy Beliefs, and Self-regulatedness in Adult Foreign Language Learning



AKIHIRO SAITO <sup>a</sup>

<sup>a</sup> *Hakuoh University, Japan*  
[akihiro.saito@gmail.com](mailto:akihiro.saito@gmail.com)

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### Abstract

The aim of this study was to understand adult learners' strategy use in foreign language learning. It also explored how such strategy use relates to learners' sense of self-efficacy, self-regulated learning, and language proficiency. Two questionnaires were administered to obtain data from 90 education majors in a Japanese university. Differences in strategy use in relation to self-efficacy, self-regulatedness, and proficiency were examined using Kruskal-Wallis H tests. Whilst some preferred and less preferred strategy items were identified, the findings suggested that possession of a high self-efficacy profile and self-regulatedness related to both greater use of language learning strategies and a higher level of language proficiency. However, a closer look detected a nuanced, important difference in the magnitude of the effect, whereby self-regulatedness may be more yielding than self-efficacy. Namely, self-regulatedness played a substantial role in differentiating use of several strategy items among different proficiency groups, whereas self-efficacy seems to play a smaller part than self-regulatedness in this respect, considering the effect sizes. Thus, this empirical study contributes to the ongoing discussion of the different roles and nature of the self-efficacy and self-regulatedness constructs in the context of language learning and teaching. Implications for language teaching are discussed, and directions for future research are suggested.

**Keywords:** language learning strategies, self-efficacy, self-regulation, university English, foreign language learning

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### Introduction

Learning strategies have been a major part of the scope of second and foreign language (L2) learning research over the past 40 years. The motive behind this endeavour has been the observation that use of language learning strategies is linked in some way to L2 learning outcome. Language learners need to adopt an active role along the path of learning, and hence must master learning strategies that allow them to regulate their own learning (Griffiths, 2018; Oxford & Amerstorfer, 2018). The increasingly

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skill-focused English language learning as advocated in Japan's current education sector as well as business circles presupposes a greater initiative on the part of learners to equip themselves with global communication skills (Kobayashi, 2018; Yamao & Sekiguchi, 2015). In this progressively entrepreneurial spirit of the time, learners are bestowed with more room to exert agency in selecting one L2 strategy from another or orchestrating any number of L2 strategies, so that they emerge as competent communicators in today's global lingua franca, English.

According to the literature, L2 strategy use is related to successful language learning (Ardasheva, 2016), with some strategy types preferred by lower level learners and others by higher level learners (Griffiths, 2018). Evidence indicates that, as L2 learners progress in learning and develop their proficiency, they resort to a different repertoire of strategies at different stages (Green & Oxford, 1995; Griffiths, 2018; Yamamori, Isoda, Hiromori, & Oxford, 2003). In the same vein, since L2 strategy use is presumed to be conditioned by mediating factors, many studies have focused on a wide array of learner variables, such as cultural membership and nationality (Griffiths, 2003a; see Oxford, 2002), gender (Radwan, 2011; Wharton, 2000), learning styles (Chou, 2017; Ma & Oxford, 2014), beliefs (Abedini, Rahimi, & Zare-ee, 2011; Yang, 1999), age (Magogwe & Oliver, 2007), and general academic performance (Ardasheva, 2016; Ardasheva & Tretter, 2013a). While past studies indicate a possible linkage between L2 strategy use and individual affect variables, the potential impact of learners' affect on L2 strategy selection remains under-researched (Griffiths, 2018). In this light, the current study investigates whether and how these variables might inform L2 learners' strategy use and L2 learning outcome. Before turning to the study's methodology, the paper reviews the key literature.

## Literature review

### L2 strategies, self-regulatedness, and proficiency

The current literature recognises language learning strategies as “actions chosen by learners (either deliberately or automatically) for the purpose of learning or regulating the learning of language” (Griffiths, 2015, p. 426). This up-to-date definition presupposes that successful language learning involves strategy use in some form or other. Meanwhile, the concept of L2 strategies has been under continuous criticism since the late 1980's. Some scholars viewed the strategy construct as elusive (Wenden & Rubin, 1987) and fuzzy (Ellis, 1994), while others have called for the concept of strategy itself to be abandoned, and replaced with a shift towards the construct of self-regulation (Dörnyei & Skehan, 2003; Tseng, Dörnyei, & Schmitt, 2006). Nonetheless, the latest conceptual provocation to circulate the construct of self-regulation is whether L2 strategy use involves self-regulatedness (Thomas & Rose, 2019). As Thomas and Rose argue, while self-regulated, autonomous, agentic learners, as presupposed in the theorizing of language learning strategies to date, may select and use language learning strategies, this ideal scenario by no means applies in all contexts. Some dependent, “other”-regulated language learners are still able to deploy complex strategies while remaining other-regulated, or dependent on the other to choose, teach, and scaffold their strategy use (Tao & Gao, 2017). This fact necessitates viewing L2 strategies on a self- and other-regulated learning continuum, rather than presuming that every successful learner is inherently self-regulated, since doing so enhances the distinction between strategies and self-directedness (Thomas & Rose, 2019).

While L2 strategy classification comes in multiple forms (Cohen & Dörnyei, 2002; O'Malley & Chamot, 1990), Oxford's multi-faceted model (1990) has been prominent to date (Rose, 2015). This model categorises specific strategies into six groups (i.e., memory, cognitive, compensation, metacognitive, affective, and social strategies), which together underpin the much-used Strategy Inventory for Language Learning (SILL) (Cáceres-Lorenzo, 2015; Gunning & Oxford, 2014; Luo & Weil, 2014; Rochecouste, Oliver, & Mulligan, 2012). Despite persistent difficulty with assigning

strategy items to statistically dependable strategy categories (Hsiao & Oxford, 2002; Robson & Midorikawa, 2001), Ardasheva and Tretter (2013b) have recently developed a validated instrument, called SILL-English Language Learner Student Form (SILL-ELL/SF), which has produced robust measures of school-aged learners' language learning strategies (Rose, Briggs, Boggs, Sergio, & Ivanova-Slavianskaia, 2018).

Despite much variety in how language learning strategies have been approached, there is some agreement that this research endeavour should be targeted at identifying the relationship between strategy use and successful language learning. While many studies suggest a pattern of correlation between strategy use frequency and proficiency levels (Green & Oxford, 1995; Griffiths, 2003a; Hong-Nam & Leavell, 2006; Park, 1997), substantial evidence has accumulated that high proficiency level is not only linked to strategy use frequency but also to flexibility and appropriateness of strategy selection (Vandergrift, 2003; Wong & Nunan, 2011; Yamamori, Isoda, Hiromori, & Oxford, 2003; Zhang, Gu, & Hu, 2008). That is, some low proficiency learners may use strategies as frequently as high proficiency learners, but they do so in an ineffective way and, as such, fail to achieve a better outcome sooner. These contingent results entail the need for more research to be conducted before any more definite relationship between strategy use and successful learning emerges (Griffiths, 2018).

### **Self-efficacy and L2 strategy use**

While many studies have investigated the linkage between strategy use and proficiency, several potent variables have yet to come under vigilant scrutiny. One such variable is self-efficacy. Self-efficacy involves people's perceived beliefs regarding their ability to successfully perform a specific task under certain conditions (Bandura, 1997). People cultivate their perceived efficacy beliefs in different degrees of magnitude, each of which is linked to a variety of domains of functioning (Bandura, 2006). For example, a chef may have a strong sense of cooking efficacy but little sense of engineering efficacy. There are four domains from which self-efficacy beliefs derive (Bandura, 1997): mastery experience, vicarious experience, verbal persuasion, and emotional and physiological states. There is tremendous merit in nurturing a sense of capacity in performing L2 tasks through these domains since a strong self-efficacy belief facilitates learners' behavioural, cognitive, and motivational engagement in an at-times troubling learning process (Linnenbrink & Pintrich, 2003).

By no means surprisingly, self-regulated learners typically display self-efficacy. The literature states that "student involvement in self-regulated learning is closely tied to learners' self-efficacy beliefs about their capability to perform classroom tasks and to their beliefs that these classroom tasks are interesting and worth learning" (Pintrich & de Groot, 1990, p. 38). Further, self-efficacy plays a crucial role in strategy use and selection for effective learning. For learners to be able to put strategies to effective use, it is not sufficient to simply know those strategies: They also need to have belief in their self-regulatory capabilities (Usher & Pajares, 2008; Zimmerman, 2000). In the context of learning English as a foreign language (EFL), Sardegna, Lee, and Kusey (2018) illuminated that foreign language students with higher self-efficacy tended to more actively select pronunciation-related strategies and implied that students with higher self-efficacy may be more inclined to take actions, such as seeking strategies to improve their pronunciation and self-regulate the learning process successfully. En route to self-directed learning, strategies and self-efficacy are each supposed to play an important part.

Despite its potency in promoting L2 learning, only limited attention has been paid to the effect of self-efficacy on L2 strategies in EFL settings (Anam & Stracke, 2016; Kim, Wang, Ahn, & Bong, 2015; Li & Wang, 2010; Magogwe & Oliver, 2007; Mizumoto, 2012; Mori, 2004). Even fewer studies have narrowed the focus to the association between self-efficacy and L2 strategy in the Japanese context

(Mizumoto, 2012; Mori, 2004). Mori (2004) sought to examine the function of self-efficacy on the developmental trajectory of L2 strategy use among university students. However, none of the scale items intended to measure self-efficacy in her study followed Bandura's (2006) caveat that a self-efficacy measure should address context-specificity and judgment of confidence in capability. For example, both items in Mori's study "I can do well in class" and "I can perform the tasks and homework assignments well" fail to reflect the learning context, such as the specific class subjects or exact task contents. Failure to heed Bandura's warning could jeopardise accurate measurements and threaten the trustworthiness of the research outcome. Meanwhile, Mizumoto (2012) examined tertiary students' use of strategies, narrowing the scope on vocabulary learning. He showed that a high self-efficacy group had more active use of metacognition than the medium and low groups, suggesting that stronger self-efficacy beliefs promoted a more efficient and active usage of vocabulary learning strategies. In brief, despite recurring allusions to the potency of self-efficacy in L2 learning, few studies have addressed how this construct fits into an understanding of L2 strategy in Japan's foreign language contexts broadly.

### Research questions

This study addressed the paucity of research undertaken on the following topic in EFL settings: the relationships among L2 strategies, self-efficacy, self-regulatedness, and proficiency levels. This was done by alleviating the methodological concern over measurement of the construct of self-efficacy, as explained below. The following questions guided the inquiry: (1) How is L2 strategy use related to L2 learning outcome? and (2) What is the relationship among strategy use, self-efficacy, self-regulatedness, and L2 learning outcome?

## Method

### Participants

This study employed convenience sampling to recruit survey respondents in the lecture rooms of a four-year university located at the outskirts of one of the greater metropolitan areas of Japan. The author distributed flyers to students in some of his classes at the university, containing information about the project details, such as the purpose and anticipated outcome of the study and the research policy, assurance of participants' anonymity and privacy, and the estimated time to complete the online questionnaire (see details below). Informed consent was obtained, and potential participants were assured of their right to withdraw from the project at any time without explanation or consequence. Of the students who were approached, 90 agreed to participate (Table 1). Forty-six students were male and 44 were female. Most participants ( $n = 67$ ) were first- and second-year undergraduates in the primary education ( $n = 7$ ) and secondary education ( $n = 83$ ) programs.

**Table 1.** Cross-tabulation of the demographics of the sample (N = 90)

	Male	Female	Total
Year 1	14	18	32 (35.6%)
Year 2	19	16	35 (38.9%)
Year 3	12	7	19 (21.1%)
Year 4	1	3	4 (4.4%)
Total	46 (51.1%)	44 (48.9%)	90

## **Instruments**

The study used two questionnaires to collect data: the SILL-ELL/SF (Ardasheva & Tretter, 2013b) and the Self-efficacy and Self-regulatedness in Language Learning Scales (SERLS). The 28-item SILL-ELL/SF measures frequency of strategy use in six areas (memory, cognitive, compensation, metacognitive, affective, and social strategies) on a 4-point rating scale (1 = “almost never,” 2 = “occasionally,” 3 = “frequently,” 4 = “almost always”) (Appendix A). This instrument was selected for several reasons. The SILL-ELL/SF has alleviated concerns over the structural validity of the original SILL, such as strategy category overlap and item specificity levels, through rigorous validation (Ardasheva & Tretter, 2013b; see also Rose et al., 2018). As wording of the scale items is comprehensible, its readability is assured for the current study’s participants. Further, the SILL-ELL/SF requires approximately half the length of time to complete as the original SILL; hence, there is less chance of fatigue effects such that the data deteriorate.

The SERLS consists of two scales to assess self-efficacy and self-regulatedness in L2 learning on a 4-point scale (1 = “untrue of me,” 2 = “somewhat untrue of me,” 3 = “somewhat true of me,” 4 = “true of me”). The 10-item self-efficacy scale assesses self-efficacy in learning English, whereas the other scale contains seven items to measure self-directedness. According to Bandura (2006), a self-efficacy measure should target one’s perceived capability in a specific domain of functioning. Without judgment of confidence in capability regarding specific situational demands and circumstances, a self-efficacy scale could raise concerns over its accuracy of measurement and validity of the research findings. Further, “there is no all-purpose measure of perceived self-efficacy” (Bandura, 2006, p. 307). The author, therefore, wrote the self-efficacy items considering the context in which the participants learned English at their institution. The self-regulatedness scale was informed by Usher and Pajares’ (2008) Self-Efficacy for Self-Regulated Learning Scale. The SILL-ELL/SF and SERLS were translated into Japanese, and some minor alterations were added for equivalency in the translated versions. This was followed by multiple iterations of independent translation and back-translation (Brislin, 1970). Participants were requested to provide their year, gender, and TOEFL-ITP scores in the final section of the questionnaire. The study used TOEFL-ITP scores as a proxy for respondents’ current English-language proficiency.

## **Procedure**

The data were collected by the author attending classes and helping participants to access and complete the online questionnaires while he was present and assisting with any questions that arose. The participants returned responses from their own personal smartphones at the end of class. The purpose of the study was restated in the cover letter displayed online, and participants were assured that participation was voluntary and anonymous, and any information returned would be confidential.

The data were analysed using IBM SPSS Statistics Version 26. Statistics were produced to determine the central tendency and normality of the entire dataset as well as the appropriateness of the subscales for further statistical analysis. Since none of the data followed the normal curve, non-parametric tests were used thereafter. Differences in strategy use in relation to self-efficacy, self-regulatedness, and proficiency were examined using Kruskal-Wallis H tests. This was done by sorting participants into three groups, low, moderate, and high, in terms of the three variables of self-efficacy, self-regulatedness, and proficiency levels. Exact differences according to self-efficacy, self-regulatedness, and proficiency levels were discerned using Mann-Whitney tests with the Bonferroni technique. Further, the numbers of strategies most frequently used by each group were also noted.

## Results

### Descriptive statistics

Across all respondents, some positively rated items included compensatory strategy items like, “If I can’t think of an English word, I show what I mean with my hands” ( $M = 3.51$ ) and “I make up a new word if I can’t think of an English word” ( $M = 3.43$ ). Among the least rated items were the affective strategy item “I write in my journal about how I feel when I am learning English” ( $M = 1.39$ ) and the memory strategy item “I act out new English words” ( $M = 1.93$ ) (Appendix A). Since the Shapiro-Wilk test of normality outputs for the dataset indicated that the normality did not hold, except for the TOEFL scores ( $p = .84$ ), non-parametric methods were used thereafter. Reliability coefficients were computed for the SILL-ELL/SF and SERLS (Appendices B & C). Cronbach’s alpha was 0.72 over the 28 items of the SILL-ELL/SF. The alphas for the SERLS’s self-efficacy and self-regulatedness subscales were 0.83 and 0.79 each. Deletion of any of the questionnaire items altered the alpha values substantially. These outputs suggested that the scales constituted a reliable instrument for measuring the target constructs with this research sample.

### L2 strategy use by proficiency level

Means were computed to locate any difference in strategy use among the three proficiency groups: low ( $n = 32$ ), moderate ( $n = 26$ ), and high ( $n = 32$ ). Of the 28 items of the SILL-ELL/SF, eight items were most frequently used by the low group. Of the remaining 20 items, the moderate and high groups each used 10 items the most often, respectively. The strategy used most often by the low group was the compensatory strategy as expressed in Item 13 “If I can’t think of an English word, I show what I mean with my hands” ( $m = 3.56$ ). The strategies preferred by the moderate and high groups were the metacognitive strategies as expressed in Item 18 “I see my English mistakes and try to do better” ( $m = 3.12$ ) and Item 19 “I listen well [carefully] when people speak English” ( $m = 3.47$ ). Each proficiency group reported an almost equal number of frequently used strategies (Table 2).

In pursuit of a statistically clearer picture, multiple Kruskal-Wallis H tests were performed to explore participants’ strategy use with respect to proficiency levels.

**Table 2.** Summary of means,  $p$  values, effect size for strategy use by proficiency

No	Category	Item	Means			$p/r$		
			L ( $n=32$ )	M ( $n=26$ )	H ( $n=32$ )	L&M	L&H	M&H
15	Com 3	When I read in English, I don't look up every new word in a dictionary	1.69	2.15	2.34	.21/-.22	.01*/-.39	.95/-.11
16	Com 4	I try to guess (predict) what people will say next in English	2.38	2.65	2.84	.22/-.26	.02*/-.30	1.00/-.12
21	Met 4	I think about how well I am doing in English	2.28	2.69	2.72	.09/-.30	.03*/-.33	1.00/-.04
24	Aff 3	I talk to people about how I feel when I am learning English	2.03	2.04	2.66	1.00/0.00		.02*/-.34
Number of most frequently used strategies across three groups out of the 28 items			10	10	8			

*Note:* Com = compensation strategy; Met = metacognitive strategy; Aff = affective strategy. L = low group; M = moderate group; H = high group;  $p = p$  value;  $r =$  effect size. \* $p < .05$ .

Statistically significant differences were found among the three groups in terms of compensatory, metacognitive, and affective strategies as expressed in Item 15 ( $\chi^2(2) = 9.05$ ,  $p = .01$ ), Item 16 ( $\chi^2(2) = 7.63$ ,  $p = .02$ ), Item 21 ( $\chi^2(2) = 7.60$ ,  $p = .02$ ), and Item 24 ( $\chi^2(2) = 9.19$ ,  $p = .01$ ). Pairwise

comparisons were conducted to ascertain where the differences lay by using adjusted  $p$  values (Table 2). The results showed that the high group employed the compensatory (Items 15 & 16) and metacognitive strategy (Item 21) significantly more frequently than the low group. The high group also used the affective strategy (Item 24) significantly more frequently than the low and moderate groups. As the effect sizes for these differences indicated, participants' proficiency held medium practical significance, suggesting a substantive linkage between proficiency levels and strategy use frequency.

### **The relationship between proficiency, self-efficacy, and self-regulatedness**

Further, Kruskal-Wallis H tests were run to examine any significant difference in the participants' self-efficacy beliefs and self-regulatedness in relation to their proficiency level: low ( $n = 32$ ), moderate ( $n = 26$ ), and high ( $n = 32$ ). There was a statistically significant difference among the three groups as an effect of self-efficacy ( $\chi^2(2) = 10.26, p = .01$ ), whereas no such relationship was found for self-regulatedness ( $\chi^2(2) = 2.70, p = .26$ ). Post-hoc tests with adjusted  $p$  values were run to pin down where the differences in self-efficacy lay. The result indicated that both the moderate ( $Mdn = 2.75, U = 236.00, p = .01$ ) and high ( $Mdn = 2.70, U = 313.50, p = .01$ ) proficiency groups displayed a significantly stronger sense of efficacy than the low proficiency group, suggesting a substantive linkage between a sense of self-efficacy and learning outcome.

### **L2 strategy use and self-efficacy beliefs**

Kruskal-Wallis H tests were run to determine whether there was any significant difference in the participants' use of L2 strategies as a function of their self-efficacy beliefs: low ( $n = 33$ ), moderate ( $n = 29$ ), and high ( $n = 28$ ). There were statistically significant differences among the three groups in terms of memory, compensatory, and metacognitive strategy use: Item 3 ( $\chi^2(2) = 7.76, p = .02$ ); Item 16 ( $\chi^2(2) = 9.60, p = .01$ ); Item 17 ( $\chi^2(2) = 8.14, p = .02$ ); Item 18 ( $\chi^2(2) = 8.44, p = .02$ ); Item 20 ( $\chi^2(2) = 13.73, p = .00$ ); Item 21 ( $\chi^2(2) = 18.68, p = .00$ ); and Item 27 ( $\chi^2(2) = 7.79, p = .02$ ). It was also notable that the high self-efficacy group reported the largest number of frequently used strategies ( $n = 19$ ) (Table 3).

Pairwise comparisons were conducted to detect the differences by using adjusted  $p$  values (Table 3). The results showed that the high self-efficacy group used the memory (Item 3), compensatory (Items 16 & 17), and metacognitive (Items 18 & 21) strategies significantly more often than the low efficacy group. The high efficacy group also reported significantly more frequent use of the compensatory strategy (Item 17) than both the low and moderate groups, whereas the low group reported significantly less use of the metacognitive strategy (Item 20) than either the moderate or high groups. Meanwhile, the moderate group reported a significantly more frequent use of the social strategy (Item 27) than the low group. As the effect sizes for these differences indicate, participants' sense of efficacy held medium to large practical significance over strategy use in relation to these seven strategy items, suggesting a substantive relation between self-efficacy beliefs and strategy use frequency.

### **L2 strategy use and self-regulatedness**

Kruskal-Wallis H tests were run to examine any significant difference in participants' use of L2 strategies as a function of self-regulatedness: low ( $n = 33$ ), moderate ( $n = 28$ ), and high ( $n = 29$ ). There were statistically significant differences among the three groups in terms of compensatory, metacognitive, affective, and social strategies: Item 15 ( $\chi^2(2) = 8.64, p = .01$ ); Item 18 ( $\chi^2(2) = 13.5, p = .00$ ), Item 20 ( $\chi^2(2) = 15.0, p = .00$ ), Item 21 ( $\chi^2(2) = 16.2, p = .00$ ); Item 22 ( $\chi^2(2) = 6.98, p = .03$ ); and Item 27 ( $\chi^2(2) = 12.8, p = .00$ ).

**Table 3.** Summary of means, *p* values, effect Size for strategy use by self-efficacy

No	Category	Item	Means			<i>p/r</i>		
			L ( <i>n</i> = 33)	M ( <i>n</i> = 29)	H ( <i>n</i> = 28)	L&M	L&H	M&H
3	Mem 3	I learn new words by thinking about when I can use them.	2.36	2.52	2.89	1.00/-.07	.03*/-.32	.10/-.31
16	Com 4	I try to guess (predict) what people will say next in English.	2.30	2.72	2.89	.15/-.25	.01*/-.38	.89/-.14
17	Com 5	If I can't think of an English word, I use a word that means the same thing.	3.03	3.03	3.39	1.00/.00	.04*/-.31	.04*/-.34
18	Met 1	I see my English mistakes and try to do better.	2.91	3.07	3.32	1.00/-.15	.01*/-.35	.19/-.24
20	Met 3	I look for ways to be a better student of English.	2.67	3.14	3.25	.02*/-.35	.00*/-.45	1.00/-.09
21	Met 4	I think about how well I am doing in English.	2.18	2.55	3.00	.13/-.28	.00*/-.53	.08/-.32
27	Soc 3	I practice English with other students.	1.82	2.28	2.29	.05*/-.35	.05/-.28	1.00/-.02
Number of most frequently rated strategies across the three groups out of the 28 strategies			1	8	19			

Note: Mem = memory strategy; Com = compensation strategy; Met = metacognitive strategy; Soc = social strategy. L = low group; M = moderate group; H = high group; *p* = *p* value; *r* = effect size. \**p* < .05.

Pairwise comparisons were made to locate the differences using adjusted *p* values (Table 4). The results suggest that the highly self-regulated group rated the compensatory strategy (Item 15), metacognitive strategies (Items 18, 20, & 21), affective strategy (Item 22), and social strategy (Item 27) as significantly more frequently used strategies than did the low group. Further, the highly self-regulated group reported significantly more frequent use of metacognitive strategies (Items 20, 21, & 22) than either the low or moderate groups. The effect sizes indicated that all these differences held medium practical significance, suggesting a substantive linkage of self-regulatedness to strategy use frequency for these items. In relation to the number of strategies used group-wise, again, the highly self-regulated group reported the largest number (*n* = 21) (Table 4).

**Table 4.** Summary of means, *p* values, effect size for strategy use by self-regulatedness

No	Category	Item	Means			<i>p/r</i>		
			L ( <i>n</i> = 33)	M ( <i>n</i> = 28)	H ( <i>n</i> = 29)	L&M	L&H	M&H
15	Com 3	When I read in English, I don't look up every new word in a dictionary.	1.73	2.07	2.41	.24/-.25	.01*/-.35	.83/-.17
18	Met 1	I see my English mistakes and try to do better.	3.00	2.89	3.38	.97/-.16	.02*/-.32	.00*/-.44
20	Met 3	I look for ways to be a better student of English.	2.79	2.86	3.38	1.00/-.05	.00*/-.43	.01*/-.42
21	Met 4	I think about how well I am doing in English.	2.27	2.46	2.97	.89/-.15	.00*/-.48	.02*/-.38
22	Aff 1	I give myself a gift or a treat when I do well in English.	2.18	2.43	2.83	1.00/-.13	.03*/-.31	.30/-.24
27	Soc 3	I practice English with other students.	1.82	2.04	2.52	.75/-.19	.00*/-.41	.07/-.33
Number of most frequently rated strategies across three groups out of the 28 strategies			3	4	21			

Note: Com = compensation strategy; Met = metacognitive strategy; Aff = affective strategy; Soc = social strategy. L = low group; M = moderate group; H = high group; *p* = *p* value; *r* = effect size. \**p* < .05.

## Discussion and Implications

This inquiry began with an intention to explore possible roles of the affect variables in the context of L2 strategy use among EFL students in a tertiary setting. Specifically, the study sought to measure the impact of learners' self-efficacy and self-regulatedness on their L2 strategy use. This section evaluates

the study's overall and key findings. On average, a larger number of compensatory strategies were preferred, such as gestures and word coinage, and some of the affective and memory strategies were not preferred, namely, acting out new words (Item 6) and jotting down emotions in the form of diary entries (Item 23). The preference for compensatory strategies may suggest the respondents' overall positive, proactive communicative attitude. Regardless of proficiency level, their responses signal their willingness and perseverance in carrying through their cross-linguistic communication, drawing on strategies to "compensate" their inability and insufficiency with respect to L2 skills and knowledge. On the other hand, the lower preference for affective strategy items indicates that many participants at all three proficiency levels had discernibly not been introduced as often to the use of the acting-out and emotional awareness strategies.

In terms of proficiency (Table 5), higher proficiency seems to link to more frequent use of some compensatory and metacognitive strategies than lower proficiency. Likewise, while affective strategies were not popular overall, the high-level group used some affective strategies more often than either the moderate or low groups.

**Table 5.** Differences in L2 use frequency by proficiency

Strategy category	Magnitude of use frequency
Compensatory (Items 15 & 16)	Low < High
Metacognitive (Item 21)	Low < High
Affective (Item 24)	Low/Moderate < High

Note: < indicates where a significant difference lay

These results reinforce the claim made by Griffiths (2003a, 2003b) that L2 strategies fall into various groups; those mobilised by lower-level learners and those deployed more often by high-level learners. Indeed, using specific strategies assumes that L2 users have some proficiency and skills. For instance, learners need to have acquired a reasonable level of lexical competence to guess the meaning of a new word in context (Item 15). Similarly, they need to be comfortably proficient in an L2 before they can predict what their conversational partner may say next (Item 16) and self-evaluate their L2 learning progress (Item 21). In addition, executing metacognitive strategies requires attentive monitoring of communication processes, involving errors and concentration (Items 18 & 19). This demands larger cognitive capacity from L2 learners, such as enhanced working memory, in order to put those strategies to effective use while using an L2. In short, as far as the study's sample is concerned, the data indicate that some strategies are more suitable for use by more proficient L2 users in terms of their proficiency-wise characteristics. It can be inferred, therefore, that there are optimal stages at which L2 learners comfortably deploy some L2 strategies rather than others.

In relation to Item 24 "I talk to people about how I feel when I am learning English," L2 learners encounter more opportunities to feel tension, fear, and apprehension as they are exposed to real-world language performance, which involves productive skills, such as writing and speaking. The literature states that these negative feelings, conceived as anxiety in L2 learning, are both the cause and effect of language performance and are conceptualised as debilitating (MacIntyre, 2017). In his case studies, Imai (2010) found that his students employed their emotionality to their advantage, reconfiguring their affective level of participation in a joint L2 learning task. In this way, the strategy "talking to people about how one feels while learning a language" is certainly a strategy that may well be promoted. In the researcher's eyes, emotions such as "anxiety" hold the potential to empower the learner while working as a mediator between learning demands and learners' subsequent behaviour that facilitates or inhibits their response when learning is considered an interpersonal transaction (Imai, 2010).

As regards self-efficacy and proficiency, the results echo some other studies in primary and secondary schooling settings, which endorse the presence of self-efficacy in any positive outcome of learning in general (Ardasheva, 2016; Ardasheva & Tretter, 2013a) as well as in language learning (Anam & Stracke, 2016). To reiterate, one of the major four domains from which self-efficacy beliefs derive is mastery experience (Bandura, 1997). Therefore, it is possible either that learners' sense of self-efficacy emerges as a result of attaining a positive learning outcome or that self-efficacy beliefs promote behaviours that lead to a desirable learning outcome. As in all self-concept type research, self-efficacy research, too, cannot escape the chicken or egg question (Pajares, 2002). This reciprocal nature of human conation and behaviour can be resolved with causal modelling, which involves inferring all latent constructs, measuring a large sample's language proficiency at least twice, and fitting the data to a variety of confirmatory factor analytic models.

Although detecting the cause and effect link between self-efficacy and proficiency is beyond the scope of the current study, it can be postulated that any possible attempts to nurture self-efficacy in learners will always be the right option for language teachers. Indeed, Choi and Lee (2016) reported an interactive effect of L2 proficiency and teaching self-efficacy, showing that these two traits together caused an increase in EFL teachers' classroom English as an outcome behaviour. Kim and Cha (2017) found the combination of experience abroad and English proficiency associated with self-efficacy factors among EFL students. Further, the results indicate that students may have benefitted most in self-efficacy formation in production and comprehension aspects from a prolonged, four-to-six-month length of experience abroad. In the same vein, it may be reasoned by analogy that in the Japanese higher education context, too, the possession of not just L2 proficiency, but also self-efficacy promotes L2 learners' more active L2 performance in output domains such as writing and speaking, leading to positive results. In so doing, it is essential for teachers and syllabus writers to design a pedagogic structure as well as a series of steps that enhance learners' sense of mastery along with their awareness and use of optimal strategies (see Chamot & Hariss, 2019).

In respect to self-efficacy and strategy use, too, self-efficacy plays a substantial role in inducing more use of some strategies. In fact, the high self-efficacy group used a wider array of strategies significantly more frequently, such as memory, compensatory, metacognitive, and social strategy items. A notable difference lay in the high group's use of metacognitive strategy as expressed in Item 20 "I look for ways to be a better student of English" and Item 21 "I think about how well I am doing in English." These items suggest the presence of a possible threshold level of conation and perseverance in the L2 learners. Namely, they need to plan what content and skills to target, carry through that plan, and evaluate the learning process and outcome. Emergent in this scenario is a learner who can define their learning goal and mobilise needed strategies to that end. As regards the study's sample, a self-efficacious learner tends to resort more to the metacognitive strategies. This finding resonates with both the tenets of the theory of self-efficacy (Linnenbrink & Pintrich, 2003) and past research findings (Mizumoto, 2012; Sardegna, Lee, & Kusey, 2018). Overall, a strong sense of self-efficacy paves the way for learners' active engagement in behaviour, cognition, and motivation (Linnenbrink & Pintrich, 2003). In this respect, highly efficacious learners more actively select one strategy from another in pronunciation and vocabulary learning strategies, while remaining cognizant and self-regulatory of the learning process (Mizumoto, 2012; Sardegna, Lee, & Kusey, 2018).

Finally, as regards the effect of self-regulatedness on strategy use, on the face of it, there seems to be a similar pattern of association between self-regulatedness and strategy use frequency in relation to some strategy items. For instance, the high self-regulatedness group used several strategies (Items 15, 18, 20, 21, 22, & 27) more often than the low group. This finding echoes the research evidence that students' involvement in self-regulated learning is tied to their beliefs in their capabilities to perform tasks at hand (Pintrich & de Groot, 1990) as well as to self-direct their learning behaviours (Usher &

Pajares, 2008; Zimmerman, 2000). However, despite this possible similarity in the effect of self-efficacy and self-regulatedness on the frequency and selection of L2 strategies, a closer look at the strategy items that received a similar pattern of frequent use detects a nuanced, important difference in the magnitude of the effect, whereby self-regulatedness may be more yielding than self-efficacy. Namely, self-regulatedness plays a substantial role in differentiating use of the four strategy items (Items 18, 20, 21, 27) for both low versus moderate, and moderate versus high group dyads, whereas self-efficacy seems to play a smaller part than self-regulatedness in this respect, considering the effect sizes (Tables 3 & 4). This result necessitates more research, and a future study should investigate the possible difference in the scale of effects generated by self-efficacy and self-regulatedness respectively over the language learners' L2 strategy use pattern.

### Conclusion

The aim of this study was to understand the possible impact of self-efficacy beliefs and self-regulatedness as learner affect variables on the L2 strategy use and L2 proficiency of Japanese tertiary EFL learners. In so doing, the study attempted to alleviate methodological concerns over the validity of the measures of the SILL (Ardasheva & Tretter, 2013b; Rose et al., 2018) as well as the ontological status of the self-efficacy construct (Bandura, 2006). It was suggested that possession of a high self-efficacy profile and self-regulatedness related to both a greater use of L2 strategy and a higher level of language proficiency. It was notable that self-regulatedness seemed to yield more impact on proficiency. Thus, this empirical study contributes to the ongoing discussion of the different roles of the self-efficacy and self-regulatedness constructs in the context of language learning. As regards pedagogical implications, the study has identified the need to intervene in learners' master experience, inter alia, to enhance the possible cyclical relation of learners' sense of efficacy and positive learning behaviour, which helps them to achieve an outcome, namely, language proficiency. Meanwhile, not immediately obvious were the different ways and magnitude of influence that self-efficacy and self-regulatedness have over the language learning strategy usage pattern. This aspect merits further exploration since the pedagogical intervention measures for these two constructs must be very different in terms of their theoretical status. Some limitations of the study indicate possible directions for future research. This cross-sectional inquiry only snapshotted the preferences for strategies. Future research should address the ways in which the strategies are used by different levels of learners and may be effective by resorting to longitudinal designs.

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## Author biodata

**Dr Akihiro Saito** is an associate professor in the Faculty of Education at Hakuoh University, Japan. His research focuses on using empirical and interpretive methods and discourse theory with diverse data types to gain an insight into the psychology and sociology of language learning, education policy, and intercultural communication. He currently serves on the editorial board of the *IAFOR Journal of Education*, *Dialogic Pedagogy*, and the *TESOL International Journal*. He has published in such recognised journals as the *International Journal of Applied Linguistics* (Wiley-Blackwell) and *System* (Elsevier).

## Appendix A

### *Descriptive Statistics of the SILL-ELL/SF ( $\alpha = .72$ )*

	Category	Item	<i>M</i>	<i>SD</i>
1	Mem	I use new English words in a sentence to help me learn them.	2.61	0.74
2	Mem	When I hear a new English word, I think of a picture to help me learn the word.	3.03	0.61
3	Mem	I learn new words by thinking about when I can use them.	2.58	0.78
4	Mem	I use rhymes to help me learn new English words.	2.72	0.86
5	Mem	I use flashcards to learn new English words.	2.06	0.98
6	Mem	I act out new English words.	1.93	0.86
7	Mem	I learn new words by thinking about where I first saw them on the page, on the board, or on a street sign.	2.29	0.81
8	Cog	I read for fun in English.	1.94	0.77
9	Cog	I first read a page of text quickly and then go back and read it carefully.	2.91	0.86
10	Cog	I look for words in English that are similar to those in my own language.	2.90	0.78
11	Cog	I break long words into small parts to figure out what they mean.	2.84	0.89
12	Cog	I make summaries of things I hear or read in English.	2.74	0.80
13	Com	If I can't think of an English word, I show what I mean with my hands.	3.51	0.62
14	Com	I make up a new word if I can't think of an English word.	3.43	0.60
15	Com	When I read in English, I don't look up every new word in a dictionary.	2.06	0.89
16	Com	I try to guess (predict) what people will say next in English.	2.62	0.74
17	Com	If I can't think of an English word, I use a word that means the same thing.	3.14	0.55
18	Met	I see my English mistakes and try to do better.	3.09	0.57
19	Met	I listen well (carefully) when people speak English.	3.38	0.63
20	Met	I look for ways to be a better student of English.	3.00	0.65
21	Met	I think about how well I am doing in English.	2.56	0.72
22	Aff	I give myself a gift or a treat when I do well in English.	2.47	0.95
23	Aff	I write in my journal about how I feel when I am learning English.	1.39	0.65
24	Aff	I talk to people about how I feel when I am learning English.	2.26	0.88
25	Soc	If I don't understand, I ask English speakers to slow down or say it again.	3.40	0.60
26	Soc	I ask English speakers to correct me when I talk.	2.51	0.74
27	Soc	I practice English with other students.	2.11	0.76
28	Soc	I ask for help from English speakers.	2.98	0.75

*Note:* Mem = memory strategy; Cog = cognitive strategy; Com = compensation strategy; Met = metacognitive strategy; Aff = affective strategy; Soc = social strategy.

## Appendix B

### *Descriptive Statistics of the Language Learning Self-Efficacy Scale ( $\alpha = .83$ )*

Items		<i>M</i>	<i>SD</i>
1	I am sure that I can act out a dialogue about my favorite sports in English.	2.56	0.86
2	I can make a request in English to turn on the air conditioner when it is hot in the classroom.	2.68	0.95
3	I can tell the way if a tourist asks me for directions on the street.	2.94	0.62
4	I can take part in a conversation in English if it is about my hobby.	2.63	0.83
5	I can tell my friends the gist of a short passage read aloud in English.	2.99	0.63
6	I can teach an English grammar point to friends if I learn it once.	2.71	0.69
7	I can get the gist when I hear a conversation in English between two people.	2.66	0.62
8	I am sure that I can pronounce English words about business.	1.86	0.70
9	I can get a pass or higher grade for the final exam in English.	2.48	0.78
10	I am able to carry out the tasks and assignments of the English class.	2.60	0.80

## Appendix C

### *Descriptive Statistics of the Self-Regulated Learning Efficacy Scale ( $\alpha = .79$ )*

Items		<i>M</i>	<i>SD</i>
1	I can finish my assignment tasks on time.	2.67	2.67
2	I can study when there are other interesting things to do.	2.42	2.42
3	I can concentrate on my university work.	2.71	2.71
4	I can remember information presented in class and in my university books.	2.48	2.48
5	I can arrange a place to study at home where I won't get distracted.	2.50	2.50
6	I can motivate myself to do university work.	2.43	2.43
7	I can participate in class discussions.	2.40	2.40