

# LANGUAGE LEARNING STRATEGIES AND THEIR RELATIONSHIP TO ACHIEVEMENT IN ENGLISH AS A FOREIGN LANGUAGE<sup>1</sup>

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## INTRODUCTION

Many factors are believed to be involved in successful second and foreign language acquisition (hence SFLA) by adult learners, and efforts have been made to investigate these factors (e.g., aptitude, attitude, motivation, input).<sup>2</sup> The use of language learning strategies (hence LLS) is considered to be one important factor in SFLA.

LLS are defined here as operations used by learners for exploiting available information to improve their second/foreign language competence (Rigney, 1978; Bialystok, 1978). Research on this factor began with the studies by Rubin (1975) and Stern (1975).<sup>3</sup> They examined the behaviors of "good (=successful) language learners", and found independently several behaviors (=LLS) specific to them.

Bialystok (1978), in her theoretical model of second language acquisition, hypothesized that LLS played an important role in increasing the learner's proficiency in the second language. More specifically, in her model, LLS are considered to be optional but important means for increasing a learner's exposure to language, improving his / her production, and systematically utilizing stored knowledge sources. These early studies stimulated the interest of researchers, and, by now, many theoretical and empirical studies have been conducted (See Oxford, 1989, 1990; O'Malley & Chamot, 1990; Takeuchi, 1991 for details.).

One of the chief motivations to investigate the use of LLS by second & foreign language learners is the possibility that the use of all or some of LLS promotes SFLA. Studies that try to establish this relation generally adopt one of the following two approaches: (A) correlational approach; or (B) experimental training approach.

(A) *Correlational Approach*: In a correlational study, the relationships are sought by using a multiple regression or a correlation analysis between the frequency of LLS use and the achievement or the gain of proficiency as measured by tests.

Bialystok & Fröhlich (1978), in their study of 157 high school students learning

French as a second language, reported that the use of three LLS combined (practicing, inferencing, and monitoring) was responsible for the achievement on reading, listening, and grammar tests ( $p < .05-.01$ ). The use of LLS, however, was not related to the results of a writing test. According to the researchers, this null finding may be due to the nature of the writing test.

Bialystok (1979) investigated individually the effects of the three LLS discussed in Bialystok & Fröhlich (1978). She ascertained that the functional practicing strategy was most responsible for achievement on the tests, while inferencing was not related.

Politzer & McGroarty (1985) studied 87 graduate students in an eight-week intensive English course. They administered three tests twice at an eight-week interval, and sought the relationships between the score gains on the tests and the results of a questionnaire examining the subjects' use of LLS. Their findings are (a) a significant but weak ( $r = .37$ ) correlation between a test of communicative ability and interactional strategies ( $p < .05$ ), and (b) a positive but not significant correlation between a test of communicative ability and the use of individual study strategies (i.e., strategies concerning what learners do when they are by themselves and study English).

Padron & Waxman (1988), who were interested in the use of reading strategies by 82 Hispanic elementary school pupils of ESL, found that the results of a post-test of reading comprehension were, on the one hand, related to the results of a pre-test (i.e., reading proficiency, stepwise  $R$  square = .66,  $F = 173.65$ ,  $p < .001$ ). On the other hand, the results were attributable to the adverse effects of two negative reading strategies: thinking about something else while reading; and saying the main idea over and over ( $R$  square increment = .06,  $F = 17.77$ ,  $p < .001$ , and  $R$  square increment = .01,  $F = 6.70$ ,  $p < .05$ , respectively). No relation, however, was established between positive reading strategies and the results of the post-test.

(B) *Experimental Training Approach*: In the experimental approach, a comparison is made between the experimental group (which receives LLS training) and the control group. To my knowledge, only two studies have been carried out using this approach.

Cohen & Aphek (1980) gave a brief lecture on the use of a mnemonic strategy (association) to 26 American students of Hebrew, and had them make associations in memorizing Hebrew vocabulary. In the five-week period, three recall tests were given, and their results showed that words remembered with associations were retained more successfully than those with no association (86% vs. 72%).

O'Malley (1987) conducted the only full-scale experimental study of LLS in SFLA. He and his associates divided 75 high school students of ESL into three groups (metacognitive, cognitive, and control groups). They then gave training on LLS in vocabulary, listening, and speaking for fifty minutes a day over eight days in the natural classroom environment.<sup>4</sup> More specifically, the metacognitive group was instructed mainly in the use of metacognitive strategies, and the cognitive group was instructed mainly in the use of cognitive strategies.<sup>5</sup> The control group received no instruction. Teacher effects were controlled, and explicit directions and cues for using strategies for the two experimental groups were "faded" on successive days of the treatment. (See Table 1 for the details of the treatments.)

The results showed that no effect was found for strategy training in either vocabulary, or in listening. The effect of training for speaking was confirmed between the two experimental groups and the control group ( $\bar{X} = 3.60$ ,  $SD = 0.88$  for metacognitive group;  $\bar{X} = 3.04$ ,  $SD = 0.80$  for cognitive group;  $\bar{X} = 2.88$ ,  $SD = 0.73$  for control group;  $p = .008$ ; neither  $F$  nor  $T$  values were supplied in this study.)<sup>6</sup>

Table 1. Tasks & treatments in each group

Task & Strategy	Experimental groups		Control group
	Metacognitive group	Cognitive group	Control group
«Vocabulary»			
Metacog.	* Self-evaluation	* None	* None
Cog.	* Grouping/Imagery	* Grouping/Imagery	* None
Socio.	* None	* None	* None
«Listening»			
Metacog.	* Selective Attention	* None	* None
Cog.	* Note-taking	* Note-taking	* None
Socio.	* Cooperation	* Cooperation	* None
«Speaking»			
Metacog.	* Functional Planning	* None	* None
Cog.	* None	* None	* None
Socio.	* Cooperation	* Cooperation	* None

See O'Malley & Chamot (1990) for the definition of each strategy.

O'Malley and his colleagues ascribed the null findings in the vocabulary and

listening training to the facts that (a) Asian subjects showed no interest in the strategies taught in the vocabulary training, but stuck instead to their own familiar ways; (b) the explicit directions and cues which encouraged the use of the strategies taught were planned to be faded too quickly in the training; and (c) the listening training task was rather difficult.

The findings of the seven studies reviewed above indicate the possibility that some LLS identified by the studies so far do facilitate SFLA. Our knowledge on this topic, however, is rather scant, so more research should be directed to the empirical validation of the relationship between the use of LLS and SFLA.

## **PURPOSES & HYPOTHESIS**

This study is an attempt (1) to establish the relationship between the frequency of LLS use and foreign language (in this case English) ability through the use of correlational approach mentioned above; and (2) to give suggestions for strategy training, based on the results of the correlational study. (For strategy training, see Chamot & O'Malley, 1987; Rubin, 1989; Oxford, 1990; among others.) The null hypothesis ( $H_0$ ) of the correlational study, therefore, is: there is no statistically significant relationship between the frequency of LLS use (as measured by the SILL) and English language ability (as measured by the CELT). The details of the SILL and the CELT are explained under the method section of this paper.

## **SUBJECTS**

Subjects of this research were 78 Japanese first-year students of English at Doshisha Women's College (hence DWC), Kyoto, Japan. They had studied the language for six years before being admitted to DWC. All the subjects fell in the age range between 18-20.

The reason I chose a female-only subject group is that a growing body of evidence shows the use of LLS by female learners is significantly different from that by male learners (Politzer, 1983; Oxford, Nyikos & Ehrman, 1988; Ehrman & Oxford, 1989; Oxford & Nyikos, 1989; among others). To control the influence of the sex difference variable on the results, therefore, I chose a female-only subject group. In addition, to avoid the influence of ethnic differences on the use of LLS, all the subjects in this research were Japanese. (See, for example, Politzer & McGroarty, 1985; O'Malley, 1987 on the influence of ethnic differences.)

## METHOD

To assess the subjects' ability in English, the Comprehensive English Language Test (Form B: henceforth, CELT) was administered to the subjects. The CELT is made up of three sections: listening, structure, and vocabulary, and its validity has been rigorously tested. The reason the CELT was chosen is that the test is said to measure a part of communicative ability as well as linguistic ability. Detailed information on the test can be found in Harris & Palmer (1986).

To measure the frequency of the use of LLS, the non-native speaker version of the Strategy Inventory for Language Learning (SILL; Oxford, 1990) was given to the subjects. (See Appendix for the SILL.) The reason I chose the SILL is that it has been administered to a large population of learners and, based on the data, has been revised several times (Oxford, 1990, pp.255-256).

There are two more reasons for using the SILL. First, the inventory can be readily administered to a large population. Second, the data collected are amenable to statistical analysis. However, the data collected in this method can be subject to the influence of other factors, such as intelligence, a desire to give the right answer or to please the teachers, and so forth (Oller & Perkins, 1978).<sup>7</sup>

In the SILL, subjects are given a list of LLS in non-technical terms, and asked to indicate, one by one, the degree of their use in language learning activity. In answering, a frequency scale of one (never) to five (whenever possible) is used.

In the analysis of the relationship, stepwise multiple regression in the SPSS statistical package was used. The critical value was set at .05. A relationship was sought between the score of each strategy in the SILL and the CELT listening, structure, and vocabulary scores as well as the CELT total score respectively.

In using stepwise multiple regression, caution is in order in two respects. First, a problem of multicollinearity (i.e., possible high correlations among the score of each strategy in the SILL) should be dealt with properly and carefully (Norusis, 1988). In this analysis, therefore, in order to minimize the effect of multicollinearity, the value of tolerance was set at more than .01. Second, since multiple regression is a kind of correlational approach, direct cause-effect claims should not be made.

The reason I adopted a correlational approach rather than an experimental approach is three-fold: in the former approach, (1) more naturalistic data can be obtained; (2) compared with experimental studies, less rigorous control of variables is required; and (3) relatively large-scale research is possible.

## RESULTS

Table 2 shows the results of the CELT administration. The table shows that the standard deviations (SDs) of the listening section and the total score were rather large. It also indicates that the mean score of the vocabulary section was the lowest, while that of the structure section was the highest among the three subtests. This is the trend often observed in the CELT, when administered to Japanese learners of English.

Table 2. Descriptive statistics: CELT results

	Listening	Structure	Vocabulary	Total
$\bar{X}$	51.33	67.28	43.82	162.44
SD	15.32	9.05	10.86	28.58
N	78	78	78	78

Each subtest has 100 points possible, for a total of 300 total points.

The results of the SILL administration can be seen in Table 3. The most frequently used LLS was #29 (i.e., If I can't think of an English word, I use a word or phrase that means the same thing:  $\bar{X}=3.72$ ;  $SD=1.17$ ), while the LLS used least frequently was #43 (i.e., I write down my feeling in a language learning diary:  $\bar{X}=1.05$ ;  $SD=0.27$ ). Generally speaking, the results show that our subjects used LLS moderately (overall  $\bar{X}=2.51$ ;  $SD=0.63$ ).

In order to establish the relationships, the results of the each CELT subtest and those of the SILL were analyzed through the use of stepwise multiple regression procedure. Table 4 shows the results of the regression between the scores of the listening section and those of the SILL. There are seven LLS which were significantly related to the results of the listening section. Among them, four (#17, 22, 46, 32 in the order that each LLS entered in the equation of regression) were positively related, while three (#42, 30, 47: See the minus values of the B slope in the table.) were negatively related.<sup>8</sup>

Another point worth mentioning is that about 60% (total of the R square increments) of the variance was explained by the seven LLS. This is unusually high, compared with the results of the previous studies (e.g., Bialystok, 1979).

We can see the results of the regression between the scores of the structure section and those of the SILL in Table 5. The table shows that four LLS were significantly related to the results of the structure section. Among them, two (#17, 31) were positively related, whereas two (#30, 28) were negatively related. The

Table 3. Descriptive statistics: frequency of LLS use

Strategy	$\bar{x}$	SD	Min.	Max.
1	2.70	1.00	1	5
2	2.00	1.03	1	5
3	3.41	1.23	1	5
4	2.24	1.05	1	5
5	3.48	1.26	1	5
6	2.38	1.33	1	5
7	1.55	.97	1	5
8	2.34	.87	1	4
9	2.93	1.17	1	5
10	2.96	1.33	1	5
11	3.20	1.40	1	5
12	2.66	1.19	1	5
13	1.86	.96	1	4
14	1.82	1.17	1	5
15	2.59	1.27	1	5
16	2.08	1.09	1	5
17	1.63	1.05	1	5
18	3.32	1.40	1	5
19	1.59	.88	1	4
20	2.33	1.21	1	5
21	2.99	1.36	1	5
22	3.09	1.28	1	5
23	2.63	1.28	1	5
24	3.18	1.10	1	5
25	3.47	1.42	1	5
26	2.60	1.41	1	5
27	3.00	1.09	1	5
28	1.91	1.03	1	4
29	3.72	1.17	1	5
30	2.79	1.23	1	5
31	2.50	.98	1	5
32	3.48	1.26	1	5
33	2.83	1.20	1	5
34	1.74	1.00	1	5
35	1.96	1.14	1	5
36	2.16	1.18	1	5
37	2.63	1.24	1	5
38	2.04	1.08	1	5
39	2.88	1.22	1	5
40	2.38	1.16	1	5
41	2.14	1.37	1	5
42	3.61	1.33	1	5
43	1.05	.27	1	3
44	2.70	1.33	1	5
45	2.64	1.34	1	5
46	1.59	.85	1	5
47	1.59	.94	1	5
48	2.55	1.16	1	5
49	1.79	1.00	1	5
50	2.58	1.35	1	5

Mark range: 1-5    Max: Maximum value observed    Min: Minimum value observed

total of R square increments was about 34%.

Table 6 is the results of the regression between the scores of the vocabulary section and those of the SILL. Four LLS were identified as significantly related to the results of the vocabulary section. Two (# 1, 32) were positively related, while the rest (# 49, 9) were negatively related. The total of R square increments was about 35%.

The relationships between the total scores of the three subtests and those of the SILL were also analyzed in this study (Table 7). Eight LLS were found to be significantly related to the total scores of the CELT. Four of them (# 17, 22, 32, 21) had a positive relationship, while the rest (# 49, 6, 43, 30) had a negative relation. The total of the R square increments was about 58%, which is considered to be very high.

Table 4. Results of multiple regression for listening section

S No.	B	SE B	Beta	R <sup>2</sup> increment	F	Sig F
17	5.56195	1.32942	.37201	.24679	17.504	.0001
22	3.60591	1.01893	.30186	.15445	12.524	.0007
42	- 2.10619	.94705	- .18110	.06208	4.946	.0294
46	5.24141	1.60631	.27920	.03513	10.647	.0017
30	- 2.95301	1.09920	- .23931	.02505	7.217	.0090
32	3.24599	1.07344	.26606	.02504	9.144	.0035
47	- 3.65641	1.52385	- .19514	.02476	5.757	.0191
(Constant)	33.51420	6.17987			29.410	.0000

Table 5. Results of multiple regression for structure section

S No.	B	SE B	Beta	R <sup>2</sup> increment	F	Sig F
17	4.36789	.90674	.51192	.15285	23.205	.0000
31	3.54420	.89687	.38880	.08990	15.616	.0002
30	- 1.68478	.75485	- .23165	.05645	4.982	.0286
28	- 1.90243	.90979	- .21991	.03861	4.373	.0399
(Constant)	59.58893	2.84538			438.582	.0000



Table 6. Results of multiple regression for vocabulary section

S No.	B	SE B	Beta	R <sup>2</sup> increment	F	Sig F
1	3.81876	1.03818	.35496	.13493	13.530	.0004
32	2.33495	.81779	.27439	.08264	8.152	.0056
49	− 3.20310	1.00591	− .29884	.07901	10.140	.0021
9	− 2.11080	.87184	− .22922	.05099	5.862	.0179
(Constant)	37.32501	4.56089			66.973	.0000

Table 7. Results of multiple regression for total scores

S No.	B	SE B	Beta	R <sup>2</sup> increment	F	Sig F
17	15.61761	2.44645	.56011	.21680	40.753	.0000
22	4.97057	2.01300	.22311	.10332	6.097	.0160
49	− 4.96844	2.50631	− .17580	.08606	3.930	.0514
6	− 3.51507	1.78215	− .16495	.05583	3.890	.0526
43	− 22.09664	8.83616	− .21213	.03296	6.254	.0148
32	6.05478	2.08388	.26611	.03171	8.442	.0049
30	− 4.59219	2.20862	− .19954	.02636	4.323	.0413
21	3.74422	1.74919	.17973	.02626	4.582	.0358
(Constant)	143.61644	11.48660			156.324	.0000

## DISCUSSION

### *Listening Comprehension and SILL*

Strategy # 17 (i.e., I write notes, messages, letters, or reports in English) was the first LLS which entered the regression equation. Follow-up interviews with some of the subjects show that they considered strategy # 17 to be “meaningful exchange of information” in the target language. By “meaningful exchange of information”, they meant transmission of information which was unknown to the receivers. One subject who had rated this strategy high said, “I don’t think chatting in English is meaningful. I have used English to exchange meaningful information with my teachers or friends who are native speakers of English. I thought strategy # 17 meant the meaningful use of English irrespective of the mode of production (writing vs. speech). So, I rated it five.” (The translation of the subject’s comments is mine.). We, therefore, can say that the use of the LLS which refers to the meaningful exchange of information in the target language was positively related to the listening ability in the language.

Strategy # 22 (i.e., I try not to translate word-for-word) refers to the avoidance of bottom-up processing and the preference for top-down processing. A

significant relation between the use of this strategy and the scores of the listening section lends support to the arguments made by several researchers about the importance of top-down processing in listening comprehension (e.g., Anderson & Lynch, 1988; Richards, 1988).

The frequent use of strategies #46 (i.e., I ask English speakers to correct me when I talk) and #32 (i.e., I pay attention when someone is speaking English) indicate that the learner actively seeks target language input. #46 appeared to mean the importance of correction. Interviews with some subjects, however, confirmed that the important thing was not to be corrected by native speakers, but to speak to them and get input from them. The results, thus, show the importance of actively seeking input.

Strategy #42 (i.e., I notice if I am tense or nervous when I am studying or using English) was negatively related to the scores of the listening section. Oxford (1990) seems to assume that learners who notice that they are anxious, nervous, or tense can control the anxiety, nervousness, or tenseness, and controlling their feelings, in turn, leads to better performance. The assumption, however, did not hold, at least in this study. The negative relation suggests that our subjects who noticed that they were nervous or tense in using English could not control the feeling, and, thus, performed poorly in the listening section of the CELT. Considering our subjects were all Japanese students, we can hypothesize that the effectiveness of strategy #42 may be culturally determined, or at least culturally mediated.

Strategy #30 (i.e., I try to find as many ways as I can to use my English) was also found to be negatively related to the scores of the listening section. This might mean that diversifying the activities does not help improve listening comprehension ability of the learners.

Some researchers have stressed the importance of interlanguage talk in language learning (e.g., Porter, 1983; Varonis & Gass, 1985). A negative relation between the scores of the listening section and strategy #47 (i.e., I practice English with other students) suggests that interlanguage talk is not necessarily good, at least, in terms of improving listening comprehension ability.

Lastly, 60% of the variance was explained by the use of the seven LLS. This figure is unusually high compared with the previous studies. For example, Bialystok (1979) attributed nine to 24% of the variance to the use of the three LLS depending on the tasks. Some 14% of the variance can be ascribed to the use of LLS in Hayashi (1990). A possible reason behind this high percentage is the combined effect of (1) a small number of the subjects; and (2) a relatively large number of items in the

SILL (Norusis, 1988). Due caution, therefore, should be exercised in generalizing the results.

### ***Structures and SILL***

As was the case with the listening section, “meaningful exchange of information in the target language” (# 17) was related positively to the scores of the structure section. Another interesting finding is that strategy # 31 (i.e., I notice my English mistakes and use that information to help me do better) was positively related to the scores of the structure section. The strategy refers to the effective use of metalinguistic knowledge, and, as was expected, its use contributed significantly to the mastery of structures.

Strategy # 30 was negatively related to the scores of the structure section. This seems to imply that simply diversifying the activities does not help improve the mastery of grammatical structures.

This study also shows that those who reported using a guessing strategy ( # 28) often tended to show poor performance in the structure section. This seems to indicate that grammar, after all, is not a guessing game.

### ***Vocabulary and SILL***

A positive relation was found between strategy # 1 (i.e., I think of relationships between what I already know and new things I learn in English) and the scores of the vocabulary section. O'Malley & Chamot (1990), in their longitudinal study, called this strategy “elaboration”, and demonstrated that this strategy was frequently used for successful learning of vocabulary. The positive relation found in this study supports their observation concerning the importance of “elaboration” strategy in vocabulary learning.

Strategy # 32 was also positively related to the scores of the vocabulary section. This strategy, as explained before, means the active seeking of input. By processing the input obtained, the learners seem to acquire the words and phrases used in context.

A negative relation was found between reported use of strategy # 49 (i.e., I ask questions in English) and the scores of the vocabulary section. This means, for most of our subjects, learning the meanings of new vocabulary in English was not efficient. There is a possibility, however, that it works for more advanced students.

Lastly, strategy # 9 (i.e., I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign) was

negatively related to the scores of the vocabulary section. Location may help learners to store information temporarily. Its effect, however, does not seem to last.

### ***CELT and SILL***

The scores of the CELT were the sum total of the scores of the three subtests. It was expected, therefore, that the scores were positively related to strategies #17, 22, and 32, which were highly and positively related to one or some of the subtests. In addition to these strategies, #21, which refers to an analytical (bottom-up) approach to language learning, was found to be positively related to the total CELT scores. The fact that both #21 and #22 (a top-down approach) were significantly related to the total scores shows the importance of striking the balance between the two approaches: analytical (bottom-up) and holistic (top-down).

Negative relations between the total scores and strategies #49 and 30 were somewhat expected. (#49, 30 were negatively related to one or some of the subtests.) In addition to these two strategies, strategy #6, which refers to using flashcards to remember new vocabulary, was also found to be negatively related to the total scores. This means that those who are good at remembering new vocabulary have adopted strategies other than using flashcards. Considering all our subjects were Japanese, the effectiveness of this strategy might be culturally determined, or at least culturally mediated.

Due caution should be advised in interpreting the negative relation found between strategy #43 (i.e., I write down my feelings in a language learning diary) and the scores. This is because an analysis of the raw data shows all but three subjects rated the use of this strategy as one. The negative correlation found, therefore, can be attributed to the results of only three subjects.

In this study, about 58% of the total CELT score variance can be explained by the use of the seven strategies. As is the case with listening comprehension, this unusual high figure means caution should be used in generalizing the results.

### **CONCLUDING REMARKS**

Before concluding, some limitations and shortcomings of the study should be pointed out. First, in this study, about 60% of the variance in the scores of the listening section was explained by the use of some LLS. This was also the case with the variance in the total scores of the CELT. Compared with the previous studies, the percentage is unusually high. This means there is a possibility that a combined effect of a small number of subjects and a relatively large number of the SILL items

might have had influence on the results (Norusis, 1988).

Second, the subjects of this study were highly homogeneous in terms of sex, age, ethnicity, and language learning background. The homogeneous nature of the subjects might have had some influence on the results of the study.

Third, there is a possibility that any effects which the use of LLS might have will only become apparent at some point *after* the high frequency of the LLS has been observed. Thus, a research design which relates the use of LLS and proficiency at the same point in time might not be productive.

Due to the limitations and shortcomings mentioned above, the results obtained should only be generalized with caution. In addition, before putting the results to any practical use, they should be reconfirmed, hopefully, through rigorous experimental studies as well as larger scale correlational studies.

In conclusion, I would like to summarize the results obtained, and briefly mention their implications. This study confirmed that the self-reported frequency of some LLS was positively related to proficiency of English. Contrary to expectations, however, the number of LLS which were related positively to the proficiency was rather small. It also demonstrated that the frequent use of some LLS could be detrimental to language learning depending on the conditions. Top priority on the future LLS research list, therefore, is to determine the conditions in which the use of LLS can have an adverse effect on learning.

The results also suggest that people providing LLS training should be very careful in implementing their training. They should always pay attention to the results of empirical studies which investigate the conditions in which the use of LLS negatively contributes to learning, and incorporate the relevant results in their training. Otherwise, their training could have adverse effects on language learning.

## NOTES

1. This article was written while the author studied at the Monterey Institute of International Studies, USA, as a Fulbright scholar (Program # 33540, ID # 15910764). For her constructive criticism, my thanks go to Professor K.M.Bailey. I also extend my thanks to Mr. F.L. Juran and Dr.E.S.Kucekova of Defense Language Institute, USA, for their helpful comments on the draft.
2. On aptitude, see, for example, Carroll (1962), and Skehan (1982). For attitude & motivation, see Gardner & Lambert (1972), and Crookes & Schmidt (1989). For input, see, for instance, Long (1983), and Gass & Madden (1985).
3. Kovac (1978) and Naiman et al. (1978) are also considered to be pioneers in this field.

4. About a third of the subjects were from Spanish-speaking countries, another third from Asian countries, and the remainder of the students were from other language backgrounds.
5. Metacognitive strategies include strategies concerning either (a) thinking about or the knowledge of the learning process, or (b) planning for learning, manipulating learning opportunities, monitoring the performance, and evaluating how well one learned. Cognitive strategies, on the other hand, include strategies involving mental manipulation or transformation of materials to enhance comprehension or retention. Socio/affective category includes strategies concerning either (a) the use of social interactions to assist learning, or (b) control over personal affect (See O'Malley & Chamot, 1990 for more explanation and examples.).
6. In interpreting the results of this study, caution is in order. This is because (1) the research design of his study is complicated, and (2) some vital information, especially concerning statistics, is missing in his paper.
7. Ericsson & Simon (1980) and Gardner (1985) can be regarded as rejoinders to Oller & Perkins (1978).
8. The order that each LLS entered in the equation of regression is consistent, in this study, with the order of the amount of R square increment.

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## APPENDIX

### Strategy Inventory for Language Learning (SILL)

Version 7.0 (ESL/EFL)

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#### *Part A*

1. I think of relationships between what I already know and new things I learn in English.
2. I use new English words in a sentence so I can remember them.
3. I connect the sound of a new English word and an image or picture of the word to help me remember the word.
4. I remember a new English word by making a mental picture of a situation in which the word might be used.
5. I use rhymes to remember new English words.
6. I use flashcards to remember new English words.
7. I physically act out new English words.
8. I review English lessons often.
9. I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.

#### *Part B*

10. I say or write new English words several times.
11. I try to talk like native English speakers.
12. I practice the sounds of English.
13. I use the English words I know in different ways.
14. I start conversations in English.
15. I watch English language TV shows spoken in English or go to movies spoken in English.
16. I read for pleasure in English.
17. I write notes, messages, letters, or reports in English.
18. I first skim an English passage (read over the passage quickly) then go back and read carefully.
19. I look for words in my own language that are similar to new words in English.
20. I try to find patterns in English.
21. I find the meaning of an English word by dividing it into parts that I understand.
22. I try not to translate word-for-word.
23. I make summaries of information that I hear or read in English.

*Part C*

- 24. To understand unfamiliar English words, I make guesses.
- 25. When I can't think of a word during a conversation in English, I use gestures.
- 26. I make up new words if I do not know the right ones in English.
- 27. I read English without looking up every new word.
- 28. I try to guess what the other person will say next in English.
- 29. If I can't think of an English word, I use a word or phrase that means the same thing.

*Part D*

- 30. I try to find as many ways as I can to use my English.
- 31. I notice my English mistakes and use that information to help me do better.
- 32. I pay attention when someone is speaking English.
- 33. I try to find out how to be a better learner of English.
- 34. I plan my schedule so I will have enough time to study English.
- 35. I look for people I can talk to in English.
- 36. I look for opportunities to read as much as possible in English.
- 37. I have clear goals for improving my English skills.
- 38. I think about my progress in learning English.

*Part E*

- 39. I try to relax whenever I feel afraid of using English.
- 40. I encourage myself to speak English even when I am afraid of making a mistake.
- 41. I give myself a reward or treat when I do well in English.
- 42. I notice if I am tense or nervous when I am studying or using English.
- 43. I write down my feelings in a language learning diary.
- 44. I talk to someone else about how I feel when I am learning English.

*Part F*

- 45. If I do not understand something in English, I ask the other person to slow down or say it again.
- 46. I ask English speakers to correct me when I talk.
- 47. I practice English with other students.
- 48. I ask for help from English speakers.
- 49. I ask questions in English.
- 50. I try to learn about the culture of English speakers.