

## Exploring Learners' Thoughts and Attributes Affecting Learning Strategy Use<sup>1</sup>

ISODA, Takamichi

Waseda University (graduate student)

### 1. INTRODUCTION

This article reports on the results of two studies which looked into factors affecting strategy use by Japanese EFL learners. The first study is a correlational study examining the relationship between perceived effectiveness and frequency of use. Based on the result of the first study, the second study aims to reveal what other factors are involved in strategy use by collecting learners' accounts of not using strategies in spite of their reported high effectiveness. The second study takes a rather bottom-up approach of data collection, i.e., finding factors in an exploratory manner though collecting learners' voices. This is intended as complementary to the top-down approach taken by earlier studies, i.e., specifying particular variables in advance.

### 2. BACKGROUND

Numerous studies have been undertaken to date on learners' strategy use. Interest in learning strategy use was evoked by the pedagogical concern to improve the learning by less successful learners through teaching them the techniques used by successful learners. Earlier studies aimed to find such special techniques that were alleged to make learners successful (e.g., Naiman, Frohlich, Stern, & Todesco, 1978, reprinted 1996). However, it was later found that what distinguishes successful and less successful learners lies, not in the kinds of strategies, but in the ability to differentiate strategies depending on the task at hand (Abraham & Vann, 1987; Vann & Abraham, 1990). This recognition was important both in research and in practice.

After flexible use of strategies was recognized as crucial for successful learning, some researchers advocated the importance of metacognition (Chamot & O'Malley, 1994; Wenden, 1987a; 1998). In order to use strategies flexibly, learners are required to take into account various conditions including task purposes, task demands, the amount of acquired knowledge, and so forth. Researchers also endorse learner training, which is intended to facilitate learners' metacognition. In particular, Wenden (1995) proposed an inclusion of metacognitive knowledge, or knowledge

that learners have about learning, into a training program on the ground that metacognition operates on metacognitive knowledge. It follows that metacognition is affected by learners' conceptualization of language learning. In an earlier study, Wenden (1987b) found that types of strategies were related to learners' beliefs about how best to approach the learning of a second language.

In addition to metacognitive knowledge, a wide range of factors were studied in relation to strategy use. Proficiency was found to be related to strategy use by Green and Oxford (1995), who found greater overall strategy use by learners of higher proficiency. They also analyzed gender differences in strategy use. In this analysis, women were generally found to use strategies more frequently than men. Oxford and Nyikos (1989) conducted an extensive survey on factors affecting strategy use. Among their findings, motivation was the most powerful, pervasive factor affecting strategy use. Learners' cultural background was also found to affect strategy use by Politzer and McGroaty (1985), who, in a comparison of Asian and Hispanic learners, found greater use of socially-interactive strategies by Hispanic learners. The variation was attributed to the types of instruction that the learners from different cultures had supposedly received: the instruction that the Asian learners received placed focus on rote learning, while the type of instruction that the Hispanic learners received favored social interaction. Also, with regard to cultural differences in strategy use, Oxford and Burry-Stock (1995) compared the results of factor-analytic studies conducted in different countries. They concluded that learners from different cultural backgrounds use different strategies. As well as learner characteristics, types of task seem to affect types of strategies used. O'Mally and Chamot (1990), reporting the results of their longitudinal studies, say that different strategies were found to be used for different types of learning task. As research accumulates, more and more factors will be found to be related to strategy use.

This article aims to add to the literature on factors affecting strategy use, but in a different fashion than previous studies. Most of the studies that examined the relationship between various factors and strategy use took a top-down approach; particular variables were chosen in advance, and then the relationships were examined. In contrast, the second of the two studies reported here takes a bottom-up approach; collecting learners' accounts of what is on their mind in choosing strategies. It is intended as complementary to the top-down approach. Top-down, theory-driven

studies are surely advantageous in that they can provide fine-grained analyses. There is a possibility, however, that those studies might miss the reality of the learner's thought process by deriving research questions from researchers' frame of reference. To make up for the possible disadvantage of the top-down approach, studies are necessary which listen to what learners have to say.

Listening to learners' voices is necessary, but it also has a limitation. Asking learners what is on their mind necessarily limits the range of factors to those that learners can be conscious of. The effects of some factors such as cognitive style and gender would not be perceived by learners. Therefore, it must be recognized that the factors that emerge from the analysis of learner accounts are not those that affect strategy use under their consciousness, but those that learners are able to be aware of.

In addition to the limitation above, there is a methodological difficulty in collecting learner accounts. Even though the goal is to reveal what is on learners' mind in planning their approaches to learning, it would not be an effective research strategy simply to ask them what they are thinking when they study. In order to make such an ambiguous question more concrete and easy for learners to answer, the following approach was taken here. First, given a list of strategies, learners were asked to rate the perceived effectiveness and frequencies of use for the strategies listed on the inventory. Perceived effectiveness was included here because it is part of learners' strategic knowledge and thus, it is likely to affect strategy use. Takeuchi (2001) found positive correlation between perceived effectiveness (or in his word, utility) and strategy use frequency. The relationship of the two variables is also analyzed here through correlation. Second, the data on effectiveness and frequencies were cross-tabulated with the intention of finding wide gaps between them. If strategies are believed to be effective and are used frequently, it is highly likely that strategy use is driven by strategic knowledge. However, if strategies are not used despite the highly perceived efficiency, it is likely that there are other factors affecting strategy use more powerfully than perceived efficiency. Showing learners such discrepancies will make it easier for them to reflect on their learning, which will consequently enable them to provide more elaborate accounts of their strategy use.

### 3. STUDY 1

The purpose of Study 1 is to investigate the relationship between perceived effectiveness of strategies and frequencies of strategy use. Correlation was calculated between the two variables.

#### 3.1 Participants and Instructional Procedures

The participants were 95 Japanese junior high school students (third year, all male) enrolled in the classes under the author's instruction. The class was grammar-centered. The syllabus was graded by grammatical forms, and it placed an emphasis on understanding the target structures. The instructor introduced new forms in class by explaining their usages. Following the introductory lesson, learners were expected to work on the exercise questions in the textbook at home. In the next class, answers and further explanations were given to consolidate their learning.

#### 3.2 Questionnaire and Data Collection

A questionnaire was used to elicit the learners' views about effectiveness of strategies and frequencies of use. The questionnaire items were originally developed in the author's previous study to design an inventory of strategies specifically for the learners under his instruction (Isoda, 2002). The items were obtained by classifying the open response data reported by the same learners in this study on their studying techniques. In asking them to provide their accounts, their learning was divided into separate phases; before, while, after solving the problems; before hearing the answers; when their answers turned out to be correct; when their answers turned out to be wrong. The learners were asked to write out what they usually did in these six phases of learning. In addition, they were asked when they made use of their explicit grammatical knowledge. Their accounts were classified by the instructor to construct an inventory of strategies. The inventory retains the differentiated phases of learning. There are forty two items for strategies and three items for situations where grammatical knowledge is utilized. These three items may not be learning strategies, but they are still included in the questionnaire because it is one of the objectives of grammar instruction to promote the utilization of grammatical knowledge in language use. Since the inventory was prepared specifically for the Japanese learners under the author's instruction, the original version was written in Japanese. An English translation is provided in Appendix.

For the purpose of this study, there were two 6-point rating scales in this questionnaire, strategy use frequency and perceived effectiveness of the strategies. Thus, there were forty five pairs of effectiveness and frequency (for effectiveness, 6: very effective, 5: effective, 4: relatively effective, 3: relatively not effective, 2: not effective, 1: not effective at all; and for frequency, 6: always, 5: very often, 4: more than half of the time, 3: less than half of the time, 2: almost never, 1: never). The questionnaire was distributed in class, and the learners were given ample time to respond to it. The sheets were collected after it was confirmed that all the learners completed it.

### 3.3 Analysis & Results

Pearson's product-moment correlation coefficient was calculated for each pair of frequency and efficiency belief. Table 1 shows the descriptive statistics and correlation coefficients.

In this study, items were analyzed individually without aggregating them by means of factor analysis. There are two reasons for this. One is that the sample size, relative to the number of the variables, was not large enough for factor analysis to be performed. The other reason is that the use of factor analysis may contradict the nature of effective strategy use. Factor analysis works on the assumption that variables are linearly correlated. When factor analysis is applied to the data on strategy use, the assumption seems contradictory to the research finding that effectiveness of strategy use lies in the learner's flexibly differentiating strategies in response to various conditions. Suppose, for example, that three strategies are categorized under the same factor. What this solution indicates is that the use of one strategy always leads to the use of the other two strategies, or that if one strategy is not used, the others are not used either. When the individual scores under the factor are aggregated by means of factor score or calculating a mean for the factor, it implicitly favors only one type of strategy use, i.e., using all the strategies at a frequent level. This is contradictory to the nature of flexibility in strategy use because flexible use of strategies allows various patterns of strategy use. For some learners, effective use of strategies may be to employ a number of strategies frequently, while other learners may learn effectively by using only selected strategies frequently. The use of factor analysis overshadows the variety of strategy use as it presupposes a simple additive relationship between variables.

### 3.4 Discussion on Study 1

Given the results of the correlational analysis, three things are important to note. First, all the correlation coefficients are positive. This indicates that the more effective the strategies are believed to be, the more frequently they are used, or *vice versa*. The design of this survey does not allow us to postulate a causality between perceived effectiveness and frequencies because there is no time sequence between the two sets of data, thus no solid evidence for perceived effectiveness preceding frequencies. Yet, if a causal relationship is assumed based on a theoretical underpinning that strategy use is driven by strategic knowledge, it would be possible to say that strategies are used more often as they are perceived more effective.

Table 1.

Descriptive statistics for, and correlation coefficients between, strategy use frequencies and efficiency beliefs

item no.	frequency		efficiency		<i>r</i>	item no.	frequency		efficiency		<i>r</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			Mean	<i>SD</i>	Mean	<i>SD</i>	
1	3.64	1.39	4.34	1.08	.45 **	26	2.32	1.21	3.74	1.48	.38 **
2	3.53	1.26	4.60	1.12	.41 **	27	2.91	1.51	3.15	1.52	.57 **
3	3.75	1.33	4.45	1.14	.46 **	28	3.15	1.42	4.09	1.35	.52 **
4	2.39	1.50	2.59	1.28	.55 **	29	3.33	1.41	4.45	1.15	.26 *
5	2.87	1.55	3.27	1.39	.60 **	30	2.58	1.32	3.82	1.40	.41 **
6	3.69	1.36	4.48	1.17	.40 **	31	3.43	1.23	4.65	1.16	.25 *
7	4.11	1.55	5.05	1.16	.39 **	32	4.45	1.65	5.06	1.24	.54 **
8	3.84	1.26	4.67	1.12	.29 **	33	3.48	1.22	4.59	1.22	.47 **
9	4.01	1.78	4.93	1.28	.43 **	34	3.57	1.36	4.74	1.26	.44 **
10	3.24	1.70	4.53	1.44	.31 **	35	2.59	1.51	3.52	1.46	.46 **
11	3.33	1.32	4.00	1.34	.21 *	36	2.00	1.10	3.43	1.53	.41 **
12	3.60	1.33	4.35	1.14	.49 **	37	4.08	1.32	4.94	1.12	.44 **
13	3.75	1.32	4.40	1.25	.44 **	38	4.04	1.22	5.05	1.10	.34 **
14	2.68	1.61	3.47	1.48	.44 **	39	4.81	1.51	5.22	1.22	.69 **
15	3.76	1.42	3.83	1.23	.35 **	40	4.06	1.77	4.89	1.26	.39 **
16	3.04	1.30	3.82	1.33	.41 **	41	2.52	1.39	3.61	1.47	.48 **
17	3.84	1.35	4.89	1.12	.47 **	42	2.02	1.28	4.41	1.46	.22 *
18	3.09	1.43	4.26	1.17	.38 **	43	3.95	1.41	4.43	1.29	.67 **
19	1.93	1.04	3.65	1.40	.34 **	44	3.95	1.33	4.63	1.22	.64 **
20	3.11	1.54	4.34	1.41	.43 **	45	3.81	1.36	4.61	1.21	.47 **
21	3.79	1.56	4.72	1.44	.43 **						
22	3.84	1.77	4.63	1.42	.45 **						
23	2.48	1.25	4.17	1.47	.16 <i>n.s.</i>						
24	1.62	1.06	3.15	1.57	.38 **						
25	3.40	1.57	4.12	1.30	.44 **						

\*\*  $p < .01$  \*  $p < .05$  *n.s.* not significant

Second, the highest correlation is .69 (for item no. 39), which suggests that, besides efficiency beliefs, there are other factors involved in strategy use. The square of a correlation coefficient is equal to the variance of one variable accounted for by the other. Thus, the strongest relationship found in this analysis accounts for only about 48 % of the variance. In other words, the remaining 52% of the variance resulted from the effect of other factors. Therefore, the correlation of .69 is not as high as it indicates that perceived efficiency is the sole factor contributing to strategy use if, of course, efficiency beliefs are assumed to have a causal effect on frequency.

Third, the correlation coefficients vary greatly, ranging from .69 down to .16. The lowest correlation (.16 for item no. 23) did not prove to be significant. The results can be interpreted to indicate that the degree to which perceived effectiveness of strategies is involved in strategy use is not consistent at all times. It may be the case that, for some strategies, other factors may exert more powerful influence than perceived effectiveness.

These results discussed above indicate the influence of factors other than perceived effectiveness of strategies. To find out what they are is the aim of the next study.

#### 4. STUDY 2

Study 1 pointed to the influence of factors other than efficiency beliefs. Study 2 aims to find out what those other factors are. A particular feature of this study is a rather bottom-up approach. The same learners in Study 1 explained individually why they did not use strategies which they believed were effective.

##### 4.1 Cross-tabulation

The data collected in Study 1 was first reanalyzed. On each item, the frequency data and efficiency belief data were cross-tabulated. The original six-point rating scales were categorized into three classes, i.e., high (6 and 5), medium (4 and 3), and low (2 and 1). Wide gaps between frequency and efficiency were identified by locating a pair of HIGH on one side and LOW on the other. Consequently, 452 gaps of high efficiency and low frequency, and 19 gaps of low efficiency and high frequency were found. Checks were given on the questionnaire sheets of the learners who were found to have gaps, and then, the questionnaire sheets were returned to the learners.

## 4.2 Collection of Learner Accounts

After the questionnaire sheets were returned to the learners, they were directed by the author to write the reasons for not using the strategies if they had gaps of high efficiency beliefs and low use frequency, and, if they had gaps of low efficiency beliefs and high frequency, the reasons for using the strategies even though they believed the techniques were ineffective. This was assigned as homework. In-class data collection was not possible because of time constraints. The learners were directed to turn in their accounts in the next class. Consequently, 316 accounts (67%) were collected. It was not possible to collect all the accounts because this was a take-home assignment and this was conducted at the end of the term. Yet, the collected accounts were judged to constitute an adequate amount of data for analysis.

## 4.3 Analysis & Results

The accounts were classified by two EFL teachers who worked at junior high schools. Both had expertise in the research on psychological aspects of language learning including learning strategies. They went about the classification together, not independently. Any disagreements were talked over and resolved. The accounts of the gaps of low efficiency and high frequency were excluded from the classification due to the small number of accounts: there were only eight accounts for this type. Thus, the remaining 308 accounts were subjected to the classification.

Table 2. Categories, percentages, and the numbers of accounts

Higher categories	Original categories	%	<i>N</i> of accounts
motivation	cumbersome	27.28	84
	only in the preparation for the exams	8.45	26
	giving up	1.95	6
goal setting	superficial learning	12.34	38
strategic knowledge	high cost	4.88	15
	cannot remember to do so	6.17	19
unsuccessful execution	lack of domain or strategic knowledge	4.55	14
social factor	embarrassing	6.82	21
contextual factor	time constraints	2.6	8
awareness raising	didn't know about the strategies	5.52	17
active management	using alternative strategies	8.12	25
	not necessary	3.58	11
unclassifiable		7.8	24



The classification yielded 12 categories with an additional category for the unclassifiable accounts. Because the categories were suspected to be interrelated, they were grouped to form higher-order categories (See Table 2).

#### 4.4 Discussion on Study 2

About 27.3% of the reasons for not using strategies were that it was “cumbersome.” This was interpreted to indicate that learners were not willing to expend effort on learning even though they knew their learning could be elaborated by employing strategies which they believed to be effective. Similar to this tendency was the accounts in the second category, in which learners said that they did not use strategies frequently because they used them “only in the preparation for the exams.” This was also interpreted as their unwillingness to expend effort on learning in that they usually avoided effortful learning. They did not feel willing to invest effort unless there was an urgent need.

The third category of motivation-related accounts is “giving up.” This is the kind of accounts in which learners said that they did not use strategies because, whatever they did, they did not expect they could learn the target grammatical points. This type of accounts seems to be the reflection of the learners’ low self-efficacy or low expectancy for success.

The above three categories are grouped together to form a higher category because they are all related to motivation. It is significant that motivation-related accounts take up the largest percentage; the total percentage of the three categories goes up to about 38%. This accords with Oxford and Nyikos’ (1989) finding that motivation was the most powerful influence on strategy use. These results indicate that it may be a prerequisite for strategy use that learners are willing to expend effort on learning. Strategies are tools used by learners in order to facilitate their learning. Using strategies requires learners to expend some level of extra effort because they need to improvise a more elaborate approach than simply getting by. Therefore, in order for strategy use to take place, learners need to be mindful and oriented toward learning, otherwise they are not willing to accept the labor of a more elaborate approach to learning. This observation is closely related to the next category, goal-setting.

About 12.3% of the accounts attributed strategy non-use to the learners’ goal-setting. They said that they did not use strategies because they did not intend to learn; instead, they just tried to

give answers, whether right or wrong. These accounts seemed to reflect the learners' avoidance of learning. As discussed above, active strategy use will not take place unless learners are oriented toward learning. In other words, learners do not use strategies if they do not intend to learn. If learners do not intend to learn, the best strategy would be to use no strategies.

Aspects of strategic knowledge other than perceived effectiveness, namely perceived cost and conditional knowledge, were found to play a role in strategy use. If a strategy is perceived to take too much attention and effort, it does not seem to be employed. About 4.9% were the accounts concerning perceived cost of strategies. The same observation was made by Takeuchi (2001), who found negative correlation between frequency and cost. In addition to perceived cost, the knowledge about when to use strategies seem to affect strategy use. About 6.2% of the accounts were about learners' being unable to transfer the strategies. Common in this type of accounts was the learners' reflection that they knew that the strategies were effective but could not remember to use them in actual learning situations. This was interpreted as the lack of conditional knowledge about when to use strategies. Conditional knowledge is given an emphasis in strategy training as it aims to train learners to transfer the strategies taught in class to other situations (Carrell, Gajdusek, & Wise, 2001). Without conditional knowledge, learners cannot generalize the use of strategies.

About 4.6% were the accounts saying that they could not use strategies successfully. This was reflected in the accounts from some learners who said that although the strategies looked effective, they did not use them because they were not able to use them. The causes of the unsuccessful execution found in this analysis were the lack of procedural knowledge and the lack of the knowledge of the target language. The lack of procedural knowledge was reflected in the accounts from the learners who said that they did not know how to use them. In addition to the knowledge of strategies, the knowledge of English seemed to affect strategy use. For instance, some learners valued the strategy to pay attention to forms, particularly the use of the articles. However, they did not do so because, they said, they did not know how the articles should be used. This suggests that the use of strategies may be partly dependent on the amount of the knowledge of the target language. The effect of domain-specific knowledge on strategy use may accord with Green and Oxford's (1995) finding that learners of different proficiency levels varied in strategy use. Taking these results into consideration, strategies are sometimes beyond learners' ability due to the lack of strategic knowledge or domain-specific knowledge.

What have been discussed so far concerned the learner's attributes. In addition to learner factors, there emerged a factor which concerns a social aspect of strategy use. In about 6.8% of the accounts, learners said that strategies were not used because using them was "embarrassing." The majority of the accounts in this category concerned the strategy of asking the teacher in class. The learners knew that when they did not understand something, it would be helpful to ask the teacher about it in class. They, however, felt inhibited to do so because they thought asking questions in class is embarrassing. Their accounts may also be able to be interpreted as the influence of the learners' cultural background. Their belief that asking the teacher in class is embarrassing seems to be typical for Japanese learners. Related to this type of accounts may be the phenomenon in which students who have questions come up to the teacher individually after the class even though the teacher has taken some time for questioning during the class. This phenomenon and the accounts discussed here seem to reflect learners' culturally-bound beliefs about appropriate behaviors in class. Avoidance of asking questions in class might not emerge in a culture where class participation is highly valued by learners.

Contextual conditions were touched upon in 2.6% of the accounts, all of which concerned time constraints. The learners said that they did not use strategies because they did not have enough time. Since students have several different assignments in various subjects, they need to allocate time. Time is limited, and learners cannot continue to work on one assignment endlessly. This situational limitation caused them to take a less time-consuming approach. This seems to reflect learners' effort to balance the cost of strategies and the situational constraints.

In about 5.5% of the accounts, learners said that they rated the effectiveness of some strategies as high because they came to see the strategies to be effective at the time of questionnaire administration. They added that they did not know the strategies until they saw them on the strategy inventory. This is intriguing in that simply administering a questionnaire led to awareness raising, suggesting that, if carefully planned, a questionnaire can be a useful tool for strategy training. Strategy training is advocated (e.g., Chamot, Barnhardt, El-Dinary, & Robbins, 1999; Grenfell & Harris, 1999), and its significance is probably recognized by a lot of instructors. However, introducing strategy training into an existing curriculum is quite difficult due to time-constraints or inflexibility of the curriculum. If a teacher is to devise a training program in such a disadvantaged context, one needs to employ a time-saving, economical way of intervention

(though this may sound like a compromise). Questionnaires, the learners' accounts from this study suggest, have the potential of being an ideal tool for teachers planning a strategy training program in a fixed curriculum.

Lastly, some accounts of not using strategies turned out to be the reflection of learners' active management of the learning process. There are two types of accounts in this higher category. In one type of the accounts, learners said that they did not use strategies because it was "not necessary" to do so. They reported that they could learn successfully without using the strategies. This type of accounts shows that they did not need to rely on the strategies and, therefore, that using strategies can sometimes be redundant for some learners. In addition to this type of accounts, there was a slightly different type of accounts reflecting active management. Some learners said that strategies were not used because they chose to use alternative strategies. For example, learners avoided asking the teacher in class because it could make them look foolish, but instead, they chose to ask their friends. By choosing this strategy, they could achieve the original goal of getting help for their questions, and they could also save their face. These two types of accounts discussed here suggest that strategy non-use is not always a sign of ineffective strategy use. Rather, it is sometimes the result of active management by the learner. It seems necessary to recognize that actively selecting strategies for effective learning does not necessarily lead to strategy use at a high level of frequency. Strategy non-use can also be a sign of strategic behaviors.

## 5. CONCLUDING REMARKS

The findings in Studies 1 and 2 suggest that strategy use involves not only cognitive factors such as strategic knowledge and domain-specific knowledge, but also other factors including motivational and contextual influences. It is also suggested that learners' perceptions of social appropriateness is a factor affecting strategy use. Although the current studies targeted only a limited range of population, i.e., male Japanese adolescent learners of English, and it is likely that more factors could be found from a wider range of learners (e.g., females, younger/older learners, learners of languages other than English), the results of the studies show that strategy use is under the influence of cognitive, motivational, contextual, and social factors.

The above observation brings up a research agenda. Since there are various factors involved in strategy use, it is not possible to understand strategy use to the full as long as we only look at

strategies. Strategy use is not purely cognitive or purely affective. It involves both, as well as social and contextual factors. The complicated nature of strategy use necessitates a framework which incorporates various learner characteristics and contextual/social conditions in order for researchers and teachers to better understand learning behaviors. However, the understanding of the interplay among multiple factors is not sufficient. A more detailed account of learners' decision making is hoped for. This is an endeavor to integrate findings and implications which have been pursued in somewhat isolated research fields<sup>2</sup>.

It was also suggested in Study 2 that active management of the learning process by the learner may not necessarily lead to frequent strategy use: learners were found to make decisions not to use strategies for good reasons. This aspect of the learner's decision making poses a question about the nature of numerical data on strategy use. Most of the strategy studies, including the first study reported here, measure frequency of use as an index of strategic behavior. By measuring frequency, i.e., how often strategies are *used*, there seems to be a tendency to give preference to higher scores. It seems that analyses are conducted based on the hidden presupposition that good strategy use results in high frequency of use. However, as the learner accounts discussed earlier show, the learner's active management of the learning process does not necessarily result in the employment of strategies. It sometimes involves decisions not to use strategies. If learners strategically choose not to employ strategies, their choice can only be represented on numerical data as a low frequency of use, and this has traditionally been viewed as inactive behaviors. It is likely that the learner's active management, if represented as a low frequency of strategy use, is indistinguishable from the low frequency of strategy use resulting from negative reasons, e.g., a lack of motivation. Future research needs to take this into account so that research methods will reflect the nature of strategy use more accurately.

#### Notes

<sup>1</sup> An earlier version of this paper was presented at the 13th World Congress of Applied Linguistics (AILA 2002) in Singapore, December 20th, 2002.

<sup>2</sup> An attempt of this sort has been made in educational psychology. Self-regulated learning (SRL) is a concept that is fundamentally identical to the concept of learner autonomy in applied linguistics. Pintrich (2000) provides a general description of the process of SRL. See Zimmerman and

Schunk (2001) for various models of SRL.

## References

- Abraham, R. G & Vann, R. J. (1987). Strategies of two language learners: a case study. In A. L. Wenden & J. Rubin (Eds.), *Learner strategies in language learning* (pp. 85-102). London: Prentice Hall.
- Carrell, P. L., Gajdusek, L., and Wise, T.. (2001). Metacognition and EFL/ESL reading. In H. J. Hartman (Ed.), *Metacognition in learning and instruction* (pp. 229-243). Dordrecht: Kluwer Academic Publishers.
- Chamot, A. U. & O'Malley, J. M. (1994). Language learner and learning strategies. In N. C. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 371-392). San Diego, Academic Press.
- Chamot, A. U., Barnhardt, S., El-Dinary, P. B., & Robbins, J. (1999). *The learning strategies handbook*. New York: Addison Wesley Longman.
- Grenfell, M. & Harris, V. (1999). *Modern languages and learning strategies: In theory and practice*. London: Routledge.
- Green, J. H. & Oxford, R. (1995). A closer look at learning strategies, L2 proficiency, and gender. *TESOL Quarterly*, 29, 261-297.
- Isoda, T. (2002). EFL no meijiteki bunpogakushuu ni okeru gakushu sutorateji no shiyou [Learning strategy use in explicit EFL grammar learning]. *The bulletin of the graduate school of Education of Waseda university; separate volume*, 9, 237-245.
- Naiman, N., Frohlich, M., Stern, H. H., & Todesco, A. (1996). *The good language learner*. Clevedon: Multilingual Matters. (Original work published in 1978).
- O'Malley, J. M. and Chamot, A.U. (1990). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press.
- Oxford, R. & Burry-Stock, J. A. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFL version of the Strategy Inventory for Language learning (SILL). *System*, 23, 1-23.
- Oxford, R. & Nyikos, M. (1989). Variables affecting choice of language learning strategies by university students. *The Modern Language Journal*, 73, 291-300.
- Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In M. Boekaerts, P. R.

- Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 451-502). San Diego: Academic Press.
- Politzer, R. L. & McGroarty, M. (1985). An exploratory study of learning behaviors and their relationship to gains in linguistic and communicative competence. *TESOL Quarterly*, 19, 103-123.
- Takeuchi, O. (2001). Gaikokugogakushuuhouryaku no shiyō ni taisite “yūkousei” “kosuto” “konomi” no ninsiki ga ataeru eikyō ni tsuite [Effects of perceived utility, cost, and preference on the use of language learning strategies]. *Kotoba no kagaku kenkyū*, 2, 23-33
- Vann, R. J. & Abraham, R. G. (1990). Strategies of unsuccessful learners. *TESOL Quarterly*, 24, 177-198.
- Wenden, A. L. (1987a). Metacognition: An expanded view on the cognitive abilities of L2 learners. *Language Learning*, 37, 573-597.
- Wenden, A. L. (1987b). How to be a successful language learner: Insights and perceptions from L2 learners. In A. L. Wenden & J. Ruben (Eds.), *Learner strategies in language learning* (pp. 103-117). London: Prentice Hall.
- Wenden, A.L. (1995). Learner training in context: A knowledge-based approach. *System*, 23, 183-194.
- Wenden, A. L. (1998). Metacognitive knowledge and language learning. *Applied Linguistics*, 19, 515-537.
- Zimmerman, B. J. & Schunk, D. H. (Eds.). (2001). *Self-regulated learning and academic achievement: Theoretical perspectives* (2nd. ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

## Appendix

English translation of the questionnaire items used in the studies

### **Before solving the problems**

- 1: I think about how much I know about the grammatical points in the section I am going to work on.
- 2: Before solving the problems, I review what was taught in the class and try to understand what I have not understood.

- 3: I try to remember what I learned in the class.
- 4: I look over the problems and estimate how long it will take to finish them.
- 5: I look over the problems and think about how difficult they are.
- 6: I think about what the important points of the problems are.

### **While solving the problems**

- 7: I look up the word which I don't know the meaning of.
- 8: I keep in mind the grammatical features in question and try to study how they are used in the problems.
- 9: I put a check on the problems that I cannot solve so that I can review them later.
- 10: I put a check on the words I don't know so that I can review them later.
- 11: I think about if the sentences are correct with my answers.
- 12: I think about the meanings of the sentences.
- 13: When I cannot solve a problem, or when I am not sure about the answer, I consult the textbook or my notebook.
- 14: I read the sentences with the answers (silently or aloud).
- 15: I try again to solve the problems that I cannot solve.
- 16: I look back to see whether this is what I learned before.
- 17: I try to be careful about the use of tense, articles, or spelling.

### **After solving the problems**

- 18: I compare my answers with the model sentences in the textbook to see if they are correct.
- 19: I look for other possible answers.
- 20: I work again on the problems I could not solve.
- 21: I study about the problems that I cannot understand or the words that I don't know.
- 22: I put a check on the problem that is too difficult to solve.
- 23: I list up the things I want to ask in the next class.
- 24: I read the sentences aloud.



**Before hearing the answers in class**

- 25: I look over my answers to see whether they are correct.
- 26: Before hearing the answers, I solve the problems again without looking at my answers.
- 27: I work with my neighbors to check the answers.
- 28: I work on the questions that I could not solve at home.
- 29: I try to recollect what I looked up.
- 30: I think about how I reached this particular answer.
- 31: I reflect on myself to find things that I have not understood.

**When my answer is correct**

- 32: I write down in my notebook the things that I see important.
- 33: I think about whether I understand the grammatical points.
- 34: Even when my answer is correct, I review the problems which I was not sure about.
- 35: I read the sentences with the answers (aloud or silently).
- 36: I look for other possible answers.

**When my answer is wrong**

- 37: I try to detect what I got wrong or what I have not learned.
- 38: I think about how and why the answer fits in the sentence and try to learn the usage.
- 39: I write down the correct answers and important explanations.
- 40: I put a check on the problems I was wrong about so that I can review them later.
- 41: I read the sentences with the correct answers (aloud or silently).
- 42: I ask the teacher about what I don't understand.

**Making use of the knowledge of grammar**

- 43: for translation exercises
- 44: when I read a passage to understand what it says
- 45: when I come across a part which I cannot understand in reading a passage