

THE LEARNING STRATEGIES OF TAIWANESE UNIVERSITY STUDENTS: ENGLISH MAJORS VERSUS NON-ENGLISH MAJORS AND MALES VERSUS FEMALES

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Abstract

This study intends to investigate the learning strategies of Taiwanese university students. Two groups of students – 66 English majors and 86 non-English majors – were the subjects of the study. They responded to the Strategy Inventory for Language Learning (SILL) (Oxford, 1989) of ESL or EFL version of 50 questions. The responses were calculated through statistical analysis in terms of frequency, mean, and standard deviation. It was found that all subjects use compensation strategies most frequently, and affective ones most infrequently. When English majors were compared with non-English majors, the former used learning strategies more frequently than the latter. Similarly, when gender was compared, female students tended to apply learning strategies more frequently than male students did. The top one and two strategies employed by all subjects were “If I can’t think of an English word, I use a word or phrase that means the same thing,” and “To understand unfamiliar English words, I make guesses.” The strategy least used was “I write down my feelings in a language learning diary.” The paper concludes by discussing the pedagogical implications of the findings.

Keywords: EFL learners, EFL university students, learning strategies

INTRODUCTION

With its admission to WTO in 2002, Taiwan has entered a new era of being a member of the global market. With this new development, the government of Taiwan has been widely promoting the learning of English at various levels in eight-year national development projects in order to make Taiwan more competitive in the international market. Meanwhile, the English education has been introduced at the elementary school level since 2002 to get young students oriented to the English language at an earlier

stage of their education. Under these circumstances, most of the universities in Taiwan have been planning to adopt new measures such as establishing language centers to build up self-accessed language learning classrooms and to offer tutoring assistance to students, increasing required credits of English courses, or requiring English graduating scores in TOEFL or General English Proficiency Test (GEPT developed specifically in Taiwan) to upgrade the students' English proficiency. This study intends to investigate the learning strategies of Taiwanese university students by finding out what learning strategies they employ most frequently. It also aims to compare the differences in learning strategies used between the English majors and the non-English majors and between male and female students.

The research questions addressed in this study are:

- (1) What are the learning strategies that EFL university students use?
- (2) What are the differences in learning strategies used between English majors and non-English majors students and between male and female students?

LITERATURE REVIEW

All educational processes lead to a common goal of helping students become self-directed, independent, and lifelong learners. In language teaching or EFL teaching, learners should be instructed not only in using the target language, but also in knowing theories of learning as well as language acquisition, and learning strategies so that they can increase their learning awareness that can result in "learning autonomy" (Dickinson, 1987; Hsiao, 1999, p. 352) and eventually become lifelong, self-directed learners not only in language learning but also in various aspects of knowledge. This is why research on language education has shifted its focus from how to teach a language to how a language is learned. Moreover, the center of the classroom has changed from the teacher to the learner.

Research on learning strategies has been concerned with the characteristics of effective learners. Stern (1975) attempted to specify plans of action as ten strategies, the use of which might distinguish successful language learners and unsuccessful ones. He named the strategies "features that mark out good language learning" (p. 31). Rubin (1975) reported "what the good language learner can teach us" by identifying strategies reported by students and observed in language learning situations. Rubin (1981) proposed two primary groupings of learning strategies, i.e., first, strategies that directly affect learning, such as clarification/verification, monitoring, memorization, guessing /inductive inferencing, deductive reasoning, and practice; second, processes that contribute indirectly to learning, such as creating opportunities for practice and production tricks.

Naiman *et al.* (1978) also defined the good language learner and demonstrated that students do apply learning strategies while learning a second language and that these strategies can be described and classified. They classified primary learning strategies, which are common to all good language learners, as five broad categories including an active task approach, realization of language as a system, realization of language as a means of communication and interaction, management of affective demands, and monitoring of second language performance. Under the primary strategies, they identified a number of secondary categories, represented only in some of the good learners they interviewed. For example, under the primary strategy of realization of language as a system, there are secondary strategies such as analyzing individual problems, making L1/L2 comparisons, analyzing the target language to make inferences, and making use of fact that language is a system.

Following a cognitive theory of learning, O'Malley and Chamot (1990) classified learning strategies as metacognitive, cognitive, and social/affective strategies (p. 46). The representative strategies under metacognitive classification are selective attention, planning monitoring, and evaluation. Those under cognitive classification are rehearsal, organization, summarizing, deducing, imagery, transfer and elaboration. The social/affective strategies are cooperation, questioning for clarification, and self-talk.

McDonough (1995) in his *Strategy and Skill in Learning a Foreign Language* synthesized four kinds of learning strategies as beliefs, metacognitive strategies, and cognitive strategies, which are internal to the learner, and social-affective strategies, which are external to the learner. He presented strategies for four language skills and test-taking strategies, posed eight questions about learning strategies, and eventually explicated implications for classroom management and materials design.

As Oxford (1989) indicates, language learning strategies contribute to the main goal, communicative competence, and allow learners to become more self-directed, and at the same time, to expand the role of teachers. Besides, learning strategies are problem-oriented, action-based, and beyond cognition. They directly and indirectly support learning and are not always observable but often conscious. In contrast to learning styles or personality traits, which are difficult to change, learning strategies can be taught and modified through training. The training guides learners to become more aware of strategy use and to adopt more appropriate strategies in language learning and eventually attain a better achievement.

Learning strategies are specific actions taken by the learner (Oxford, 1989). Direct strategies are memory, cognitive, and compensation strategies. Indirect strategies are metacognitive, affective, and social strategies. When

learners take actions to create mental linkages, apply images and sounds, review well, and employ actions, then they are using memory strategies. If they are practicing, receiving and sending messages, creating structure for input and output, they are applying cognitive strategies. When guessing intelligently and overcoming limitations in speaking and writing, learners are employing compensation strategies. In contrast, when learners are arranging and planning their learning, and evaluating their learning, they are utilizing metacognitive strategies. If learners are trying to lower their anxiety, encourage themselves, and take their emotional temperature, then they are employing affective strategies. When asking questions, cooperating with others, and empathizing with others, they are applying social strategies to learn the target language (Oxford, 1989, pp. 17-21).

In short, to be a good or successful learner, there is always a need to be “learning to learn” (McDonough, 1995, p. 80) and learn about learning. There is also a need to “select a strategy for learning” (Cotton, 1995, p. 11). In order to achieve the effectiveness of language teaching, it is necessary for teachers to investigate various aspects of students’ language learning such as their perceptions, attitudes, and learning strategies. Thus, this study, following Oxford’s (1989) theoretical framework, was conducted to investigate the learning strategies of Taiwanese university students.

METHOD

Subjects

The subjects of this study were 152 university students from two non-major freshman English classes and four English major classes of freshmen and sophomores in a large national university in the south of Taiwan. Non-major freshman English course is a required two-credit hour class in the General Education Program for all non-English majors students. The non-English subjects in this study were freshman students with mixed levels of English proficiency from various departments such as Chinese, History, Philosophy, Psychology, Social Welfare, Finance, Business Management, Accounting, Information Management, Political Science, Economics, Law, Mathematics, Physics, Chemistry, Mechanical Engineering, Chemical Engineering, Computer Science and Engineering, Electrical Engineering, and Adult Education. All non-major subjects were taking freshman English courses when participating in this study, while the English majors were taking an English skill course of English Audio-Visual Training, a required two-credit hour class for the English major freshman and sophomore students.

Instrument

The measuring tool of learning strategies was adopted from Oxford's (1989) Strategy Inventory for Language Learning (SILL), a version for speakers of other languages learning English. There are fifty statements about learning English in the questionnaire. The subjects responded to the statements with five scales ranging from 1: never or almost never true of me, 2: usually not true of me, 3: somewhat true of me, 4: usually true of me, to 5: always or almost always true of me.

Statistical analysis to calculate frequency, mean, and standard deviation was employed to identify the most frequently used learning strategies and the least used ones. Different groups, that is, English majors vs. non-English majors and males vs. females were also compared to discover their differences in applying the strategies when learning English as a foreign language.

RESULTS

This section presents the results from the subjects' responses to the Strategy Inventory for Language Learning (SILL): Version 7.0 (ESL/EFL) (Oxford, 1989). The results were reported in narrative accounts with illustrations of tables. The foci were on the strategy categories used most frequently, comparison between groups, ten most frequently used learning strategies, various groups' most frequently used learning strategies, and the least used learning strategies.

The Strategy Categories Used Most Frequently

As Table 1 shows, all subjects of the study generally applied learning strategies when learning English, for the mean of the most frequently used strategy, compensation, 3.25 was quite high. Even for the least used strategy, affective strategy, the mean was still 2.95, which indicates that they all applied some kind of strategy in learning English. Among six categories of learning strategies, all participants, both English majors and non-English majors, employed compensation strategies most frequently, then in order, cognitive, metacognitive, memory, social, and affective, the least used strategy.

Table 1: The subjects' responses to the strategy categories (N=152)

| Strategy Category | Rank | Number | Mean | Standard Deviation |
|-------------------|------|--------|------|--------------------|
|-------------------|------|--------|------|--------------------|

| | | | | |
|------------------|---|-----|------|------|
| C: Compensation | 1 | 152 | 3.25 | 1.08 |
| B: Cognitive | 2 | 152 | 3.18 | 1.21 |
| D: Metacognitive | 3 | 152 | 3.14 | 1.03 |
| A: Memory | 4 | 152 | 3.00 | 1.07 |
| F: Social | 5 | 152 | 2.95 | 1.05 |
| E: Affective | 6 | 152 | 2.90 | 1.12 |

Table 2 shows 66 English major subjects' responses to learning strategies use. They used compensation, cognitive, and metacognitive strategies as well; however, the memory learning strategies were the least used category, which was different from the responses of all subjects, i.e., affective ones. The mean of the most frequently used strategy, compensation was 3.34; cognitive 3.28; metacognitive 3.28; social 3.07; affective 2.99; and memory, the least used strategy with the mean 2.98. All these indicate that English majors used learning strategies very actively because overall the means of English majors employing each learning strategy tended to be higher than those of all subjects.

Table 2: The English majors' responses to the strategy categories (N=66)

| Strategy Category | Rank | Number | Mean | Standard Deviation |
|-------------------|------|--------|------|--------------------|
| C: Compensation | 1 | 66 | 3.34 | 1.06 |
| B: Cognitive | 2 | 66 | 3.28 | 1.01 |
| D: Metacognitive | 3 | 66 | 3.28 | 1.07 |
| F: Social | 4 | 66 | 3.07 | 1.03 |
| E: Affective | 5 | 66 | 2.99 | 1.15 |
| A: Memory | 6 | 66 | 2.98 | 1.08 |

Table 3 indicates that 86 non-English major subjects, both male and female, applied the six categories of learning strategies in the same order as all subjects in terms of using frequency. That is to say, if checked separately as a small group, non-majors, both male and female subjects, have similar frequency in using direct and indirect learning strategies in an order from the most used category to the least used one, that is, compensation, cognitive, metacognitive, memory, social, and affective. The mean of the most frequently used strategy is compensation, 3.19; cognitive 3.08; metacognitive 3.03; memory 3.01; social 2.85; and affective 3.83. Compared with English majors, non-English major students seemed to employ learning strategies less frequently, for the means were overall lower than those of English majors. However, the means also indicate that despite using strategies less frequently than English majors, non-English majors still applied learning strategies in learning English. Thus, it could be concluded

that it was a common phenomenon that both English majors or non-English majors utilized learning strategies and they were conscious in using them.

Table 3: The non-English majors' responses to the strategy categories (N=86)

| Strategy Category | Rank | Number | Mean | Standard Deviation |
|-------------------|------|--------|------|--------------------|
| C: Compensation | 1 | 86 | 3.19 | 1.08 |
| B: Cognitive | 2 | 86 | 3.08 | 1.02 |
| D: Metacognitive | 3 | 86 | 3.03 | 0.99 |
| A: Memory | 4 | 86 | 3.01 | 1.06 |
| F: Social | 5 | 86 | 2.85 | 1.05 |
| E: Affective | 6 | 86 | 2.83 | 1.09 |

Table 4 shows 59 males subjects' responses to the strategy categories. It indicates that male students also employed learning strategies in learning English widely, for the means from the most frequently used to the least used one are 3.17, 3.08, 3.05, 2.94, 2.92, and 2.82. The most frequently used learning strategies were also compensation ones, then, in order, cognitive, metacognitive, memory, social, and the least used strategies, affective ones, which were in the same order as non-English majors' application of learning strategies.

Table 4: The male students' responses to the strategy categories (N=59)

| Strategy Category | Rank | Number | Mean | Standard Deviation |
|-------------------|------|--------|------|--------------------|
| C: Compensation | 1 | 59 | 3.17 | 1.11 |
| B: Cognitive | 2 | 59 | 3.08 | 1.02 |
| D: Metacognitive | 3 | 59 | 3.05 | 1.02 |
| A: Memory | 4 | 59 | 2.94 | 1.09 |
| F: Social | 5 | 59 | 2.92 | 1.10 |
| E: Affective | 6 | 59 | 2.82 | 1.13 |

Table 5 shows 93 female students' responses to the strategy use, and it indicates that female students even used learning strategies more frequently than male students because their means of all categories tended to be higher than those of male students' responses, i.e., 3.31, 3.22, 3.19, 3.04, 2.97, and 2.96. Likewise, female students used compensation strategies most frequently, then, cognitive, metacognitive, memory, social, and affective ones, the least used. Generally, it seems that female students had more consciousness in using learning strategies when learning English than male students.

Table 5: The female students' responses to the strategy categories (N=93)

| Strategy Category | Rank | Number | Mean | Standard Deviation |
|-------------------|------|--------|------|--------------------|
| C: Compensation | 1 | 93 | 3.31 | 1.05 |
| B: Cognitive | 2 | 93 | 3.22 | 1.01 |
| D: Metacognitive | 3 | 93 | 3.19 | 1.04 |
| A: Memory | 4 | 93 | 3.04 | 1.05 |
| F: Social | 5 | 93 | 2.97 | 1.01 |
| E: Affective | 6 | 93 | 2.96 | 1.11 |

Overall Comparison between Groups in Using Learning Strategies

Table 6 shows an overall comparison by majors between English and non-English majors, and by genders between male and female students in using learning strategies. The results indicate that the mean of the responses of all participants was 3.09. It means that generally all subjects tended to use some strategies in learning English. As for different groups, there was a difference between English majors and non-English majors in using learning strategies. That is, English major students used strategies more frequently than non-English major students. If male and female students were compared, there was also a difference between them, that is, female students tended to apply learning strategies more frequently than males did.

Table 6: The comparison of different groups in their learning strategies

| | | | |
|------------------|-----|------|------|
| By majors | | | |
| 1. Majors | 66 | 3.17 | 1.07 |
| 2. Non-majors | 86 | 3.05 | 1.05 |
| By sex | | | |
| 1. Males | | | |
| 2. Females | | | |
| All Subjects | 152 | 3.09 | 1.11 |

Ten Most Frequently Used Learning Strategies

Table 7 indicates the ten most frequently used learning strategies. Top one strategy used was "If I can't think of an English word, I use a word

or phrase that means the same thing.” The mean of all responses is 3.82, which means that the statement is almost true for most of the subjects. Top two strategy used was “To understand unfamiliar English words, I make guesses.” The mean of all responses was 3.78. The statement is quite true for most of the participants as well. The third strategy used was “I pay attention when someone is speaking English.” The mean was 3.74, which was quite high as well, in the range from 1 to 5 scales. The fourth strategy used was “If I do not understand something in English, I ask the other person to slow down or say it again,” which is a social strategy. The fifth most used strategy was a metacognitive one “I try to find out how to be a better learner of English.”

Table 7: The ten most frequently used of the 50 learning strategies for all subjects (N=152)

| Learning Strategies | Category | Rank | Mean | Standard Deviation |
|---|---------------|------|------|--------------------|
| 29. If I can't think of an English word, I use a word or phrase that means the same thing. | Compensation | 1 | 3.82 | 0.92 |
| 24. To understand unfamiliar English words, I make guesses. | Compensation | 2 | 3.78 | 0.91 |
| 32. I pay attention when someone is speaking English. | Metacognitive | 3 | 3.74 | 0.94 |
| 45. If I do not understand something in English, I ask the other person to slow down or say it again. | Social | 4 | 3.69 | 0.98 |
| 33. I try to find out how to be a better learner of English. | Metacognitive | 5 | 3.62 | 0.96 |
| 15. I watch English language TV shows spoken in English or go to movies spoken in English. | Cognitive | 6 | 3.59 | 1.18 |
| 12. I practice the sounds of English. | Cognitive | 7 | 3.53 | 0.96 |
| 39. I try to relax whenever I feel afraid of using English. | Affective | 8 | 3.41 | 0.99 |
| 31. I notice my English mistakes and use that information to help me do better. | Metacognitive | 9 | 3.39 | 0.89 |
| 1. I think of relationships between what I already know and new things I learn in English. | Memory | 10 | 3.38 | 0.79 |

Most Frequently Used Learning Strategies for Various Groups

Table 8 shows different groups' preferences in employing learning strategy when learning English. The top one strategy that English major students used was "I pay attention when someone is speaking English," a metacognitive strategy. The mean was as high as 4.08. This statement was almost always true for English majors students, which was probably due to their academic orientation. Then, the top two strategy that English majors used was "If I can't think of an English word, I use a word or phrase that means the same thing," a compensation strategy. The mean, 3.98, was very high as well. As for non-English major students, the top one and two were "To understand unfamiliar English words, I make guesses," and "If I can't think of an English word, I use a word or phrase that means the same thing." Both are compensation strategies.

In addition, it was found that male students applied the same top one and two strategies as non-English majors did. Meanwhile, the top one and two strategies female students used were the same as those of the English majors, but with the top one and two in reverse order. It was interesting to find that females' learning behaviors were similar to those of the English majors, while male students' to the non-English majors'.

Table 8: Five most frequently used learning strategies for various groups

| Learning Strategies / English Majors, N=66 | Category | No. | Rank | Mean | StDev |
|---|---------------|-----|------|------|-------|
| 32. I pay attention when someone is speaking English. | Metacognitive | 66 | 1 | 4.08 | 0.90 |
| 29. If I can't think of an English word, I use a word or phrase that means the same thing. | Compensation | 66 | 2 | 3.98 | 0.92 |
| 33. I try to find out how to be a better learner of English. | Metacognitive | 66 | 3 | 3.89 | 0.90 |
| 15. I watch English language TV shows or go to movies spoken in English. | Cognitive | 66 | 4 | 3.89 | 1.10 |
| 24. To understand unfamiliar English words, I make guesses. | Compensation | 66 | 5 | 3.82 | 0.92 |
| Non-English Majors, N=86 | | | | | |
| 24. To understand unfamiliar English words, I make guesses. | Compensation | 86 | 1 | 3.74 | 0.97 |
| 29. If I can't think of an English word, I use a word or phrase that means the same thing. | Compensation | 86 | 2 | 3.69 | 0.91 |
| 45. If I do not understand something in English, I ask the other person to slow down or say it again. | Social | 86 | 3 | 3.60 | 1.02 |
| 32. I pay attention when someone is speaking English. | Metacognitive | 86 | 4 | 3.49 | 0.89 |

| | | | | | |
|---|---------------|----|---|------|------|
| 39. I try to relax whenever I feel afraid of using English. | Affective | 86 | 5 | 3.42 | 0.96 |
| Males, N=59 | | | | | |
| 24. To understand unfamiliar English words, I make guesses. | Compensation | 59 | 1 | 3.73 | 1.06 |
| 29. If I can't think of an English word, I use a word or phrase that means the same thing. | Compensation | 59 | 2 | 3.71 | 0.91 |
| 45. If I do not understand something in English, I ask the other person to slow down or say it again. | Social | 59 | 3 | 3.63 | 1.05 |
| 32. I pay attention when someone is speaking English. | Metacognitive | 59 | 4 | 3.54 | 0.95 |
| 15. I watch English language TV shows or go to movies spoken in English. | Cognitive | 59 | 5 | 3.41 | 1.10 |
| Females, N=93 | | | | | |
| 29. If I can't think of an English word, I use a word or phrase that means the same thing. | Compensation | 93 | 1 | 3.88 | 0.93 |
| 32. I pay attention when someone is speaking English. | Metacognitive | 93 | 2 | 3.87 | 0.91 |
| 33. I try to find out how to be a better learner of English. | Metacognitive | 93 | 3 | 3.83 | 0.92 |
| 24. To understand unfamiliar English words, I make guesses. | Compensation | 93 | 4 | 3.81 | 0.81 |
| 45. If I do not understand something in English, I ask the other person to slow down or say it again. | Social | 93 | 5 | 3.73 | 0.93 |

The Least Frequently Used Learning Strategies

Table 9 shows that the least frequently used learning strategy for all subjects or various groups was “I write down my feelings in a language learning diary.” The mean of all responses was 2.13; for English major subjects, it was 2.05, non-English majors 2.20, males 2.07, and females 2.17. The results show that most students did not apply free writing strategy to express or reflect themselves to learn English. Besides, they seldom used flashcards to remember new words or physically act out new English words. The two strategies ranked the second and the third least used ones, except that the third least used one for non-English majors was “I ask questions in English.” Obviously, non-English majors were not used to speaking English yet.

Table 9: The least used learning strategies for all subjects and various groups

| Learning Strategies/All Subjects, N=152 | Category | No. | Rank | Mean | StDev |
|--|----------|-----|------|------|-------|
|--|----------|-----|------|------|-------|

| | | | | | |
|---|-----------|-----|---|------|------|
| 43. I write down my feelings in a language learning diary. | Affective | 152 | 1 | 2.13 | 1.03 |
| 6. I use flashcards to remember new English words. | Memory | 152 | 2 | 2.35 | 1.08 |
| 7. I physically act out new English words. | Memory | 152 | 3 | 2.62 | 0.93 |
| English Majors, N=66 | | | | | |
| 43. I write down my feelings in a language learning diary. | Affective | 66 | 1 | 2.05 | 0.98 |
| 6. I use flashcards to remember new English words. | Memory | 66 | 2 | 2.23 | 1.03 |
| 7. I physically act out new English words. | Memory | 66 | 3 | 2.47 | 0.83 |
| Non-English Majors, N=86 | | | | | |
| 43. I write down my feelings in a language learning diary. | Affective | 86 | 1 | 2.20 | 1.07 |
| 6. I use flashcards to remember new English words. | Memory | 86 | 2 | 2.44 | 1.10 |
| 49. I ask questions in English. | Social | 86 | 3 | 2.49 | 0.93 |
| Males, N=59 | | | | | |
| 43. I write down my feelings in a language learning diary. | Affective | 59 | 1 | 2.07 | 1.06 |
| 6. I use flashcards to remember new English words. | Memory | 59 | 2 | 2.24 | 1.06 |
| 44. I talk to someone else about how I feel when I am learning English. | Affective | 59 | 3 | 2.58 | 1.09 |
| Females, N=93 | | | | | |
| 43. I write down my feelings in a language learning diary. | Affective | 93 | 1 | 2.17 | 1.02 |
| 6. I use flashcards to remember new English words. | Memory | 93 | 2 | 2.42 | 1.09 |
| 7. I physically act out new English words. | Memory | 93 | 3 | 2.60 | 0.82 |

DISCUSSION

As discussed above, the subjects of this study used compensation strategies most frequently, followed with cognitive, metacognitive, memory, social, and affective, the least used. This result is consistent with Chang's (1990) findings of Taiwanese students' highest use of compensation strategies and lowest use of affective strategies, and Yang's (1993a, 1993b) findings of Taiwanese universities first-year students' medium use of all six SILL categories, with compensation strategies ranked the highest. The mean of the responses of all subjects was 3.09, which indicated that these EFL

university students tended to apply strategies when learning English. It also meant that learning strategies played an important role in their learning English, and they were aware of using them in their process of learning English.

However, Davis and Abas' (1991) study of Indonesian language faculty with SILL 7.0 revealed that Indonesian language specialists showed high use of metacognitive, social, compensation, cognitive, and memory strategies and medium use of affective strategies. Oh's (1992) study of 59 Korean students with a Korean translation of the SILL 7.0 showed students' high use of metacognitive strategies, medium use of compensation, affective, social, and cognitive strategies, and low-to-medium use of memory strategies. As for Thai, Mullins (1992), using the SILL 7.0 with 110 English majors at Chulalongkorn University, found that students showed high or near-high use of compensation, cognitive, and metacognitive strategies, and medium use of social, affective, and memory strategies. With these findings, it seems that there is a cultural difference among different ethnic and cultural contexts in Asia, which demonstrates that the strategy used in language learning is affected by cultures.

Moreover, when compared with students of scientific and technological university in Taiwan (see Teng, 1999), the subjects of the present study used learning strategies more frequently in learning, English. As has been found, English majors used learning strategies more frequently than the non-English majors with means 3.17 to 3.05. This finding is also consistent with Chang's (1990) findings that students who rated themselves above average in proficiency used more strategies overall than those who rated themselves below average. Similarly, female students utilized strategies more frequently than male students with means 3.13 to 3.01. This finding seems to add more evidence that females tended to be more interested in language learning and, naturally, used more strategies to learn it well.

Besides, among 50 learning strategies, the most frequently used strategy for all subjects was "If I can't think of an English word, I use a word or phrase that means the same thing." The top two strategy used was "To understand unfamiliar English words, I make guesses." This finding is similar to Haastrup's (1991) finding about L2 learners, in that among various word-learning strategies, lexical inferencing has been found to be the strategy most widely used by L2 learners, a process involving making informed guesses about the meaning of an utterance from all available linguistic cues.

The top three strategy was "I pay attention when someone is speaking English," and the fourth was "If I do not understand something in English, I ask the other person to slow down or say it again." These results seem to show that EFL university students in Taiwan have high awareness

and willingness in learning English, for they have sensitivity to listen to English; furthermore, they dared to expose themselves to the English environment or express themselves when listening to English or conversing in English.

As for preferences in using strategies to learn English, there was also a difference between majors and non-majors. The strategy English majors used most was "I pay attention when someone is speaking English" with mean 4.08, which revealed that their academic training in the English Department worked quite well. For both non-English majors and male students, they applied a compensation strategy "To understand unfamiliar English words, I makes guesses" most frequently, while for female students, it was "If I can't think of an English word, I use a word or phrase that means the same thing." With these results, male and non-English major students probably need to be encouraged to be more active in learning English.

Regarding the least used strategy, it was found that "I write down my feelings in a language learning diary" was the one least used, which was universal for all subjects and groups. This fact shows that EFL university students need to be encouraged more to use free writing in learning English and to be instructed about writing processes in order to learn how to initiate their writing and how to write well.

CONCLUSION AND IMPLICATIONS

As discussed above, most Taiwanese university students were conscious in using learning strategies in learning English though they had no special training in using learning strategies. They seemed to be aware of the importance of learning English and were applying some kind of measures to facilitate their own learning. As Oxford (1990) suggests, learning strategies can be instructed to language learners. McDonough (1995) also indicates "learning to learn and teaching to learn" (p. 80). The findings of this study seem to imply that there is a need to instruct learning strategies more explicitly to English learners, especially for university level EFL learners because they have a relatively higher awareness and control of their own language learning processes. In other words, university EFL students are to some extent more independent learners with more self-awareness and self-control in their own learning. If they are offered "awareness-raising" (Yang, 1996, p. 205) practice and strategy instruction, they have more opportunities to develop their strategic competence and to direct as well as to reflect their own learning process better.

Oxford (1996) indicates that levels of consciousness are directly related to strategy instruction and awareness, attention, intention, and control should be all interwoven with strategy instruction stages (p. 249).

Meanwhile, as Cohen (1998) proposed, teachers in the twenty-first century must reconsider the role of the teacher and change their belief system to learner-centeredness. If they can offer a “strategy-based instruction” (p. 17) to language learners to accommodate individual learners in the classroom and meet their learning needs, then students can take more responsibilities in learning English and learn more independently even outside the classroom. As a result, learners can eventually develop their learning autonomy and achieve their learning goals.

In line with Cohen’s (1999) proposal that teachers reconceptualize their role as language teachers in the new era, Nyikos (1996) further points out that teachers need strategy instruction and must make a conceptual shift to learner-centered classrooms. That is to say, before strategy instruction for students can occur, strategy instruction for teachers is also necessary. Teachers need to be trained specific techniques and strategy in strategy instruction, and be equipped with the competence to discover optimal learning strategies for various students of different cultures. Then, they would be able to teach language learners of various backgrounds how to learn. Thus, with efforts from both teachers and students, effective language learning can be expected and achieved.

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