Language learning strategies of some university students in Hong Kong

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ABSTRACT

A general definition for the term *strategy* in language learning is 'mental or behavioural activity related to some specific stage in the overall process of language acquisition or language use' (Ellis, 1994:529). The measurement instrument developed by Oxford (1990) was applied to three groups of first-year students of Science, Humanities, and Business Communication at Baptist University (N=602). Students' 'direct' and 'indirect' strategies in English language learning were measured in relation to four research questions. It was found that students' gender and proficiency in English and Chinese affected their strategy use. However, students' field of study (majors) did not have any significant effect on the results. The Use of English Examination results (Hong Kong Advanced Level Examinations (HKALE)) and grades in the Chinese Language and Culture Examination (HKALE) were used to measure the students' language proficiency levels in this study.

1. INTRODUCTION

The term *strategy* has been defined as 'the art of planning movements of armies or forces in war', 'a particular plan for winning success in a particular activity, as in war, a game, a competition, or for personal advantage', and 'skilful planning generally' (Longman Dictionary, 1978). However, in language learning, the term has been used differently. Strategy is 'planning movements', mental or behavioural, that have nothing to do with wars. It is a 'particular plan' that may or may not be successful. It may create personal

disadvantage and not ever be 'skilful'. Thus a general definition for the term *strategy* can be 'mental or behavioural activity related to some specific stage in the overall process of language acquisition or language use' (Ellis, 1994).

Learning strategies depend on a large number of factors. Some of these are related to each individual, i.e. age, sex, education, social status, etc. Some others are related to the language being learned, the educational setting, teaching methodology, learning tasks, etc. Discussion of each of these factors in detail is beyond the scope of this paper. The present research looks at the language learning strategies of a number of Hong Kong university students. Four major research questions are posed to be answered by the findings, namely (1) Will male and female students differ in the use of overall as well as individual strategies? (2) Will students with different English language proficiency use different strategies? (3) Will students with different Chinese language proficiency use different strategies? and (4) Will students majoring in the Sciences, Arts, and Communication use different strategies? The Use of English Examination results (HKALE) and grades in the Chinese Language and Culture Examination (HKALE) will be used to measure the students' language proficiency levels in this study.

2.   REVIEW OF LITERATURE

Applied linguists have not always been in agreement about the definition of strategy in language learning. Ellis (1994:531) provides the following five examples and then discusses a number of inherent problems.

'In our view strategy is best reserved for general tendencies or overall characteristics of the approach employed by the language learner, leaving techniques as the term to refer to particular forms of observable learning behaviour.' (Stern, 1983)

'Learning strategies are the behaviours and thoughts that a learner engages in during learning that are intended to influence the learner's encoding process.' (Weinstein and Mayer, 1986)

'Learning strategies are techniques, approaches or deliberate actions that students take in order to facilitate the learning, recall of both linguistic and content area information.' (Chamot, 1987)

'Learning strategies are strategies which contribute to the development of the language system which the learner constructs and affect learning directly.' (Rubin, 1987)

'Language learning strategies are behaviours or actions which learners use *to make language learning more successful, self-directed and enjoyable.*' (Oxford, 1989)

According to Ellis, the first problem is, 'It is not clear whether they (strategies) are to be perceived of as behavioural (and, therefore, observable)

or as mental, or as both'. A second problem is 'the precise nature of the behaviours that are to count as learning strategies'. A third problem is 'whether learning strategies are to be seen as conscious and intentional or as subconscious'. The fourth problem is 'whether learning strategies are seen as having a direct or an indirect effect on interlanguage development', and finally 'differences in opinions about what motivates the use of learning strategies' is given as the fifth problem. Because of these problems, Ellis proposes to list the 'main characteristics' of strategies. They 'refer to both general approaches and specific actions or techniques'. They are 'problem-oriented'. 'Learners are generally aware of the strategies'. They involve 'linguistic' (performed in both L1 and L2) and 'non-linguistic' behaviour. Some are 'behavioural', some 'mental'. They can contribute to learning 'directly' and/or 'indirectly'. Finally, strategies vary 'considerably'. (ibid, 531-2)

Another important issue in learning strategies has been their identification and classification. Skehan (1989) discusses three aspects in relation to the existing taxonomies, i.e. in one group of strategies, the learners are able to impose themselves on the learning situation. This means that they are actively involved in the task and carry out the necessary practices designed to enhance learning. They ask questions, seek clarification, and use words, phrases, and sentences in meaningful contexts. The second aspect concerns the learners' ability to apply their L1 language expertise cross-linguistically. This means that they compare the new system with the system they have already internalised and make inferences about phonological, syntactic, lexical, and discoursal patterns and systems. The third aspect relates to the learners' strategic competence. This means that they are able to evaluate and monitor their progress by rewording sentences, reformulating phrases and, in general, correcting errors.

One of the more comprehensive classifications of strategies is that of O'Malley and Chamot (1987) who see three major types, namely (1) metacognitive strategies, e.g. directed attention, self-management, self-evaluation; (2) cognitive strategies, e.g. repetition, note-taking, deduction, and (3) social/affective strategies, e.g. co-operation, question for clarification. There are a total of 25 strategies with 8 for the metacognitive, 15 for the cognitive and 2 for the social/affective category.

Ellis (1994:539) states that 'Perhaps the most comprehensive classification of learning strategies to date is that provided by Oxford' (1990). A fundamental feature of this classification is a distinction between 'direct' and 'indirect' strategies. Oxford defines these as 'The direct class is composed of memory strategies for remembering and retrieving new information, cognitive strategies for understanding and producing the language, and compensation strategies for using the language despite gaps.' The indirect class '... is made up of metacognitive strategies for co-ordinating

the learning process, affective strategies for regulating emotions, and social strategies for learning with others'. The direct category is like 'the Performer in a stage play'; the indirect category is like 'the Director of the play' (ibid:14-15). Thus there is a total of six strategy groups all interrelated with one another. This is shown in the following figure from Oxford (ibid:15).
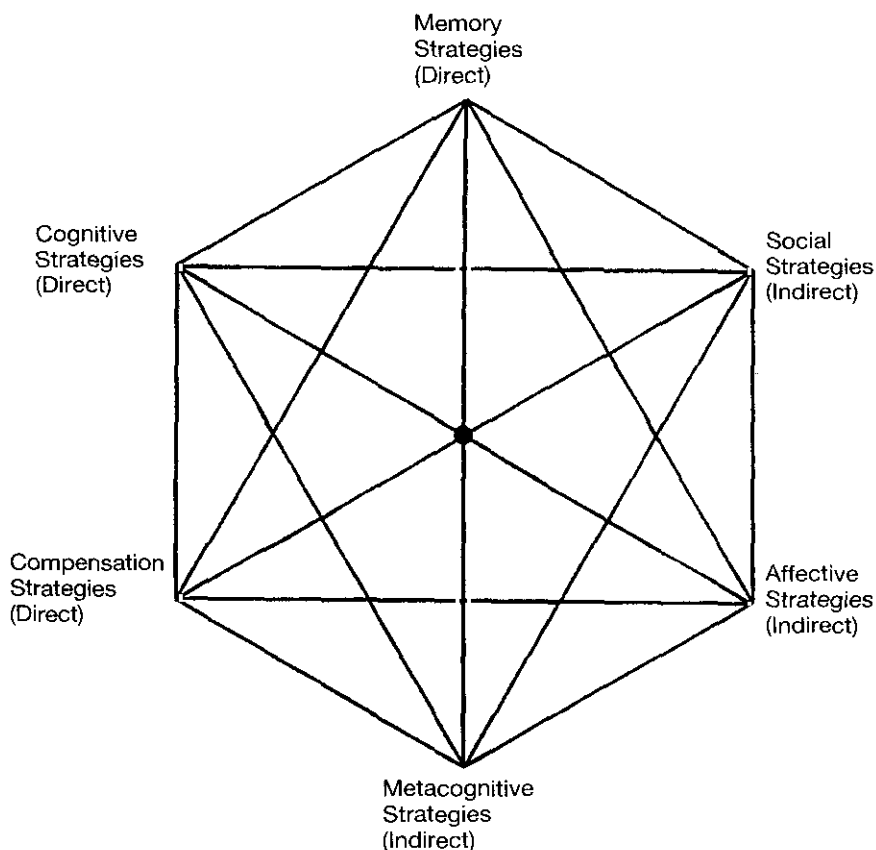

Figure 1.1.   Interrelationships Between Direct and Indirect Strategies and Among the Six
Strategy Groups. (Source: Original).
(Oxford, 1990)

3.   RESEARCH QUESTIONS

No doubt there are a large number of factors affecting strategy use by EFL/ESL students. The present research sets out to find answers to the following questions.

The first question: Will male and female students differ in the use of overall as well as individual strategies? The question of sex differences has been addressed by several researchers in the literature on language learning. Green and Oxford (1995:266) refer to the finding by Oxford and Nyikos (1989) that 'females taking the SILL [Strategy Inventory for Language Learning] reported using strategies far more often than did males in three of the five factors: formal rule-related practice, general studies strategies, and conversational input elicitation strategies.' Sy (1994) found that 'students of English in the Republic of China showed significant gender differences on the SILL ...females significantly surpassed males in their use of cognitive, compensation, metacognitive, and social strategies.' (Reported in Green and Oxford, p. 266) And more recently Green and Oxford (1995) again found significant differences between males and females (N=374) in the use of individual strategies. According to them (ibid:291) 'gender difference trends in the strategy use are quite pronounced within and across cultures, and this means that women and men are using different approaches to language learning.' However, Heuring and Rong (1995), using the SILL test with some distance and classroom learners in China, found that 'males reported slightly higher frequency of strategies use than females in three parts of the questionnaire, but the overall average frequency of strategy use was the same'. The present study set out to replicate the above findings with a much larger group of university students. It was hypothesised that there would be significant differences between the males and females in overall as well as individual strategy use.

The second question: Will students with different English language proficiency use different strategies? This question is based on a common-sense assumption that students with better language proficiency use different language learning strategies or use the same strategy more effectively/efficiently than those with poorer proficiency. There is a large body of research on the 'good language learner' in the literature (see Ellis 1994 for a good summary). The underlying assumption of this research is that there is an 'overall pattern' that can be established for successful language learners and that these patterns (strategies) can be taught to other students to improve their proficiency. According to Ellis (ibid:546), five aspects of successful language learning can be identified. They are: '(1) a concern for language form, (2) a concern for communication (functional practice), (3) an active task approach, (4) an awareness of the learning process, and (5) a capacity to use strategies flexibly in accordance with task requirements'.

The present study sought to investigate the use of strategies in relation to the students' performance on the Use of English Examinations (HKALE) in Hong Kong. This examination is given to all secondary school students at the end of their studies. All universities in Hong Kong require a passing grade, i.e. A, B, C, D, or E in these exams before accepting students.

Sometimes a few students with an F or a U (unclassified) grade are also accepted provided that their grades on other required subjects are high enough for admission purposes. Depending on the university and the major selected by the student, the accepted grade for English can vary. The English examination comprises listening (18%), writing (18%), reading (6%), language systems (12%), oral English (18%), and practical skills for work and study (28%).

The third question asked: Will students with different Chinese language proficiency use different strategies? Some clarification is needed here. Our students as speakers of Cantonese, one of the more popular 'dialects' of Chinese, have competency in their L1. They will have to learn Mandarin or Putonghua as an additional dialect /'language'. The research question here can be reinterpreted as (a) Did better strategy users in English receive higher grades in Chinese?, and (b) Was there a correlation between English and Chinese grades?. It is a common-sense assumption that speakers of more than two languages may be using different sets of strategies more effectively with varying frequencies. The common observation is that some people are good at learning languages.

Chamot et al. (1988) found that 'novice', namely high school learners of an FL, and 'expert', i.e. those who had studied another FL, used different strategies. Nation and McLaughlin (1986) also found that among a group of monolingual, bilingual, and multilingual learners, the last group 'were more able to utilise learning strategies automatically'. (Ellis:543). For our purposes here, the students' scores for Chinese language and culture in the HKALE were used. The examination comprised reading (45%), writing (25%), listening (10%), oral (10%), and Chinese culture (10%). The same scoring range as for English is used for the Chinese, namely A, B, C, D, E, F, U. Also the minimum grade acceptable by the University for the students in the Science and Arts programmes was E; for the Communication group it was D. The research question was to find out whether or not there was any similarity between strategy use in the two languages and also if the students with higher grades for Chinese also scored higher in English. For the latter objective, the correlation between the English Grade and the Chinese grade for each student was calculated.

And finally the fourth question was: Will students majoring in the Sciences, Arts, and Communication use different strategies? To this writer's knowledge, previous research on strategy use has not addressed this question. This question is based on the assumption that students in the Sciences, Arts, and Communication use different strategies for language learning. This is related to their 'learning styles' defined as ' ... the characteristic cognitive, affective and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment ...Learning style is a consistent way of

functioning, that reflects underlying causes of behaviour' (Keefe, 1979, quoted in Ellis, 1994:499). For example, it may be assumed that science students are 'referential' learners, i.e. they use the language for naming, while the Arts students are 'expressive', that is they use the language to show their feelings and needs. This could be related to the common observation that the discipline of science is more objective, while in Arts and Humanities subjectivity is also allowed. Science students may pay more attention to the formal/structural properties of language whereas arts and humanities students are preoccupied more with the notional/functional characteristics. On the other hand, Communication students may be similar to Science students in certain strategies and have something in common also with the Arts students.

For the fourth research question, three groups of first-year students in three different degree programmes at Baptist University were selected. The largest group belonged to the BSc in Combined Sciences (Science) programme with 241 students majoring in applied biology, applied chemistry, applied computing, applied physics and mathematical science. The second group came from the BA in Arts and Social Sciences (Arts) programme with 228 students majoring in Chinese language and literature, English language and literature, geography, government and international studies, history, religious studies, and sociology. The last group came from the BSocSc in Communication (Communication) programme with 133 students majoring in applied communication studies, cinema and television, digital graphic communication, journalism, and public relations/advertising. An important point to mention here is that the minimum English language requirement, namely the Use of English Examination grade, was different for the communication students. The minimum grade for the BSoc Sc students was D; for the other two groups it was E.

4.   POPULATION AND DATA COLLECTION

All the subjects in this study, 602, came from the first-year students at Baptist University. Based on the results of Hong Kong Advanced Level Examinations in a number of subjects at the end of high school education, students are offered places in the seven universities of Hong Kong. Two important subjects are English and Chinese. Almost all universities require a passing grade, i.e. A, B, C, D, and E for admission purposes. In a few cases, if students have very good grades in other subjects, grades of F and U (unclassified) are also accepted. At Baptist University, after an introductory intensive English course for students with grades of E and below, almost all students take English for academic purposes (EAP) for one or two semesters. The SILL test was administered to the students when they were taking EAP in

the first semester of their first year. As for Chinese (Mandarin), different programmes have different requirements, but most students study especially the written form of the Chinese language for one or two semesters as well. The following Table provides the necessary information for the number of students, their sex, and subject specification.

TABLE 1

Statistics on gender of students and subject specification

Subject	Male	Female	Total
Arts	76 (33.4 %)	152 (66.6 %)	228 (37.9 %)
Communication	27 (20.3 %)	106 (79.7 %)	133 (22.1 %)
Science	181 (75.1 %)	60 (24.9 %)	241 (40 %)
Total	284 (47.2 %)	318 (52.8 %)	602 (100 %)

5. METHODOLOGY

For this research, the SILL strategy test (Oxford,1990), was used. This instrument comprises fifty questions divided into six parts. Part A includes 9 questions related to memory strategies. Part B has 14 questions for cognitive strategies. Part C contains 6 questions on compensation strategies. Part D gives 9 questions on metacognitive strategies. Part E presents 6 questions for affective strategies, and part F tests for social strategies with 6 questions. The test was administered during the normal class hour. It took about 25-30 minutes to complete. (Please see Appendix I for a copy of the test and other instructions to students as well as their instructors.) Some additional information obtained from the students was not used for the present research. Only answers to the 50 items for strategies and answers on Gender, Subject, English and Chinese grades were used.

The SILL test can be used in three different ways. The first is that the students' responses to all 50 items are averaged and then compared within and across groups. The second is that students' responses to each of the 6 categories are tallied, averaged and then compared. The last way is to measure students' responses to each of the 50 items and then compare the results. The first two methods have been mainly used so far by researchers in the field. In this research the last method is also applied and the results provided. Significant variation in strategy means across the entire SILL as well as variation in means in the 6 categories (dependent variables) were then detemined by a two-way analysis of variance (ANOVA) for the gender, English proficiency, Chinese proficiency, and students' majors (independent

variables) at the 0.05 level of signicance. All responses were entered into the computer to be analysed by Microsoft Excel for the statistics required for the research questions.

6. RESULTS

6.1. Variation in overall use of strategies

TABLE 2

Variation in the use of all strategies

Independent Variable	F-statistics	P-value	Significant
Gender	13.49	0.0003	Y
Chinese	2.21	0.0405	Y
English	8.73	0.0001	Y
Subject	9.75	0.0001	Y

The information in Table 2 shows that there is a significant difference in the use of overall strategies in relation to the four independent variables at the 0.05 level of significance.

6.2. Variation in the use of each category of strategies

The results of ANOVA for each group of strategies:
Group 1 – Strategy 1 to 9: Memory Strategies (Direct)
Group 2 – Strategy 10 to 23: Cognitive Strategies (Direct)
Group 3 – Strategy 24 to 29: Compensation Strategies (Direct)
Group 4 – Strategy 30 to 38: Metacognitive Strategies (Indirect)
Group 5 – Strategy 39 to 44: Affective Strategies (Indirect)
Group 6 – Strategy 45 to 50: Social Strategies (Indirect)

TABLE 3

Gender and Strategy Groups

Group	F-statistics	P-value	Significant
1	0.50	0.4797	N
2	11.66	0.0007	Y
3	9.09	0.0027	Y
4	6.81	0.0093	Y
5	4.89	0.0274	Y
6	12.85	0.0004	Y

   The information in Table 3 indicates that apart from the first group of
strategies, namely Memory, there is a significant difference between Gender
and each of the other five strategy groups. This finding together with the
results for strategy groups 2 and 3 are different from the findings of Green
and Oxford (p.274). In their study, there was a significant difference between
male and female students in the use of strategy group 1, but no difference in
strategy groups 2 and 3. Strategy use for groups 4, 5, and 6 are the same in
both studies, namely there is a significant difference. The average of the total
for overall strategy and each of the six categories was then calculated. In all
cases, females scored higher than males as indicated in Chart 1 (for overall
strategy) and Chart 2 (for the six strategy groups).

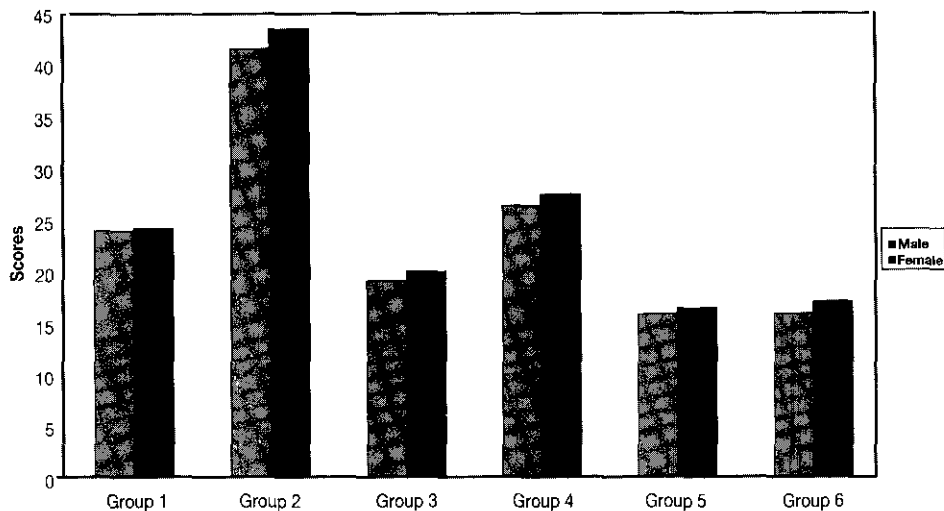Chart 1.   Plots of Total Scores vs Gender

Chart 2. Plots of Scores in Different Groups

TABLE 4

English Proficiency and Strategy Groups

Group	F-statistics	P-value	Significant
1	2.81	0.0163	Y
2	10.46	0.0001	Y
3	4.40	0.0006	Y
4	4.79	0.0003	Y
5	1.79	0.1126	N
6	5.77	0.0001	Y

A different picture emerges for English proficiency and strategy use. Only in the case of strategy group 5, i.e. Affective strategies, there is no significant difference. There is similarity between the findings here and the findings by Green and Oxford (p.274). The same picture emerged in their study with the only difference that there was no significant difference in the use of Memory strategies, namely group 1. The average of the total for overall strategy and each of the six categories was then calculated for grades B, C, D, and E. There were no A grades in the data. It is clear from Chart 3 that the overall average for B students is higher than the others. However, the average for C and D students seems to be the same. Chart 4 shows the averages for strategy groups.
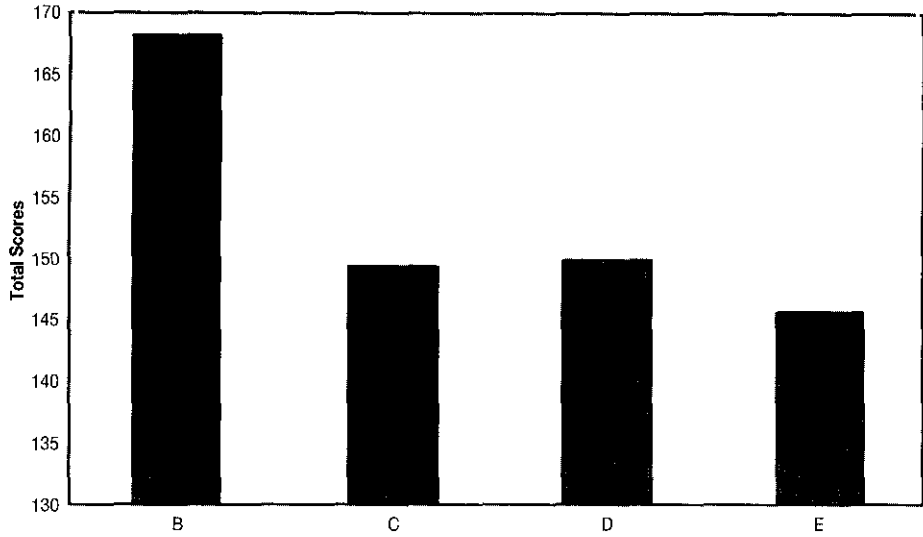
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Chart 3.   Plots of Total Scores vs English Proficiency

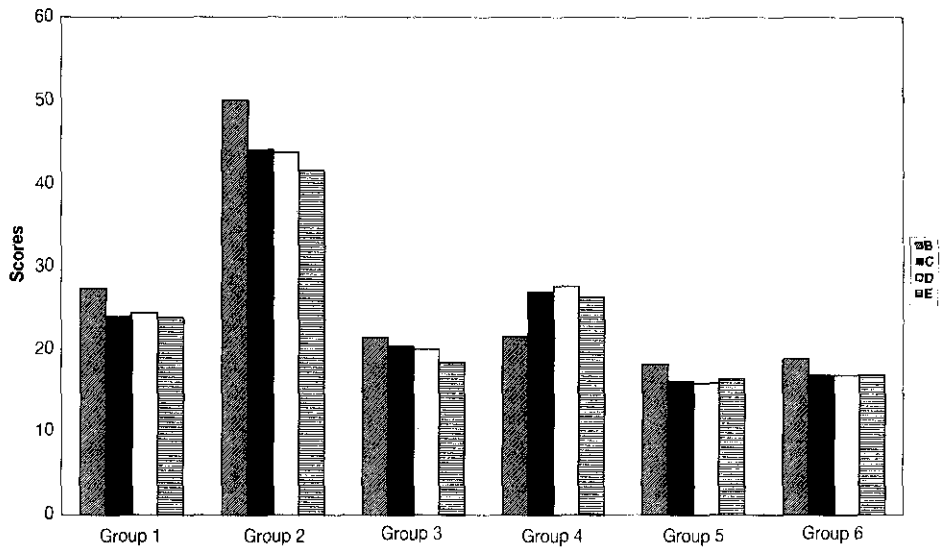Chart 4.   Plots of Scores in Different Groups (English Proficiency)

TABLE 5

Chinese Proficiency and Strategy Groups

Group	F-statistics	P-value	Significant
1	0.56	0.7618	N
2	2.28	0.0346	Y
3	2.21	0.0409	Y
4	0.65	0.6865	N
5	1.78	0.1003	N
6	3.73	0.0012	Y

Again a different picture emerges for Chinese proficiency and strategy use. Out of the six groups, the statistics for Cognitive, Compensation, and Social strategies are significant. The statistics for Memory, Metacognitive and Affective strategies are not. There is similarity between these findings and the findings by Green and Oxford for English proficiency. The only difference is that in their study the statistic for Metacognitive, i.e. group 4, was significant. In the present study it is not. The average for overall strategy use (Chart 5) and strategy groups (Chart 6) shows that there is a regular pattern for overall strategy use and Chinese language proficiency.
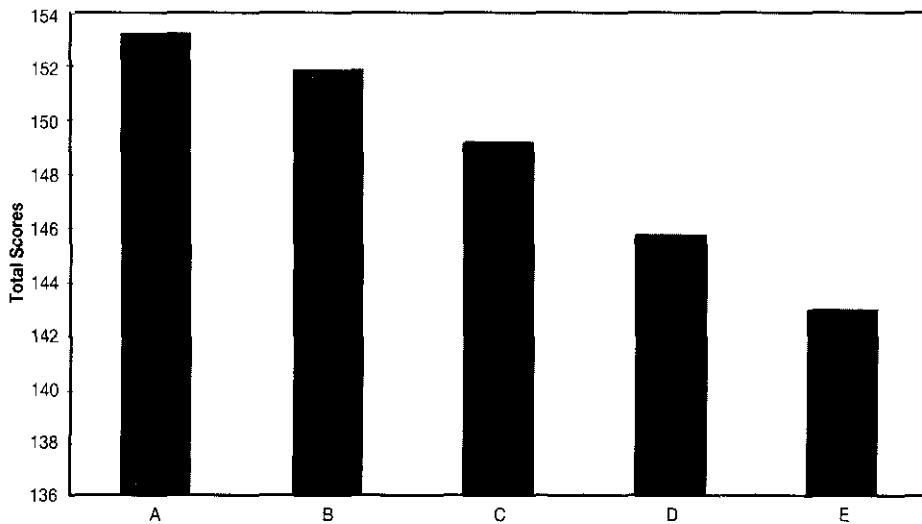
Chart 5.   Plots of Total Scores vs Chinese Result

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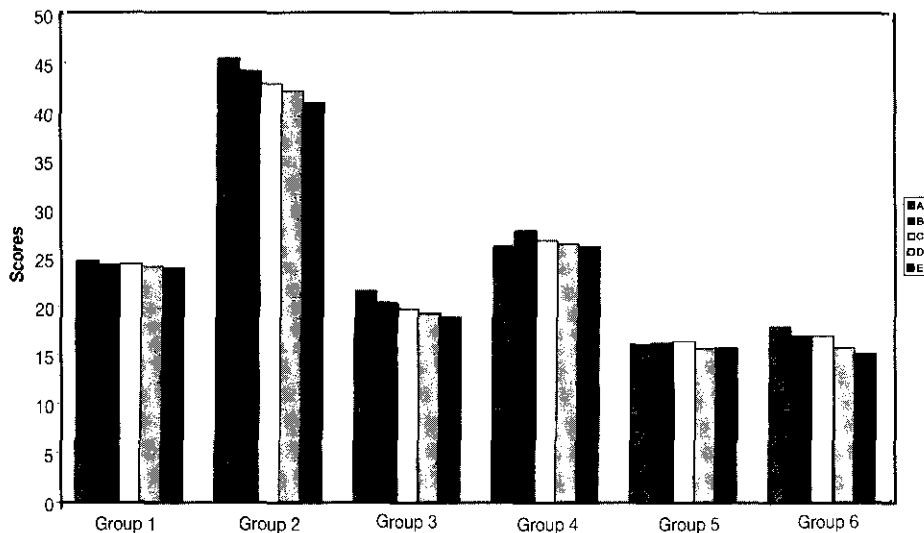
Chart 6.   Plot of Total Scores in Different Groups (Chinese)

TABLE 6

Subject and Strategy Groups

Group	F-statistics	P-value	Significant
1	1.69	0.1857	N
2	10.98	0.0001	Y
3	5.23	0.0056	Y
4	3.36	0.0355	Y
5	4.53	0.0112	Y
6	11.65	0.0001	Y

The same picture emerges with strategy use in relation to choice of subject. There is no significant difference between Memory strategies and subject. On the other hand, the choice of subject has a significant relationship to the other five strategies. This is an interesting finding, however, there are two problems to be considered. The first one is that all the Communication students had a minimum grade of D in the Use of English and the Chinese language examinations; the minimum for the other two groups was E in the same two exams. The second problem is that there were more male students in the Science group, namely 75.1% male and 24.9% female. The reverse was true with the other two groups, i.e. for Arts it was 66.6% female, 33.4%

male, and for the Communication it was 79.7% female and 20.3% male. Thus both proficiency levels and gender could have affected the results for subject choice. In order to control these two variables, only the C and D students, most frequent ones, were selected for the subject choice. Also the ANOVA was done for male and female separately to control for gender effect.

The total number of males with C and D grades was 69 (9C, 60D). The ANOVA statistics (F = 1.09, P = 3422, P>F) showed no significant difference between the three subjects and strategy use. For females, the total number of C and D grades was 159 (39C, 120D). Again the statistics (F = 0.72, P = 0.4864, P>F) showed no significant difference between the subject choice and strategy use. The following Charts show the differences for all the students with grade D only for males (Chart 7 : overall strategy) and (Chart 8, group strategy), and for females (Chart 9, overall strategy) and (Chart 10, group strategy). Subject 1 is Arts and Humanities with 228 students. Subject 2 is Communication with 133 students, and Subject 3 is the Sciences with 241 students.
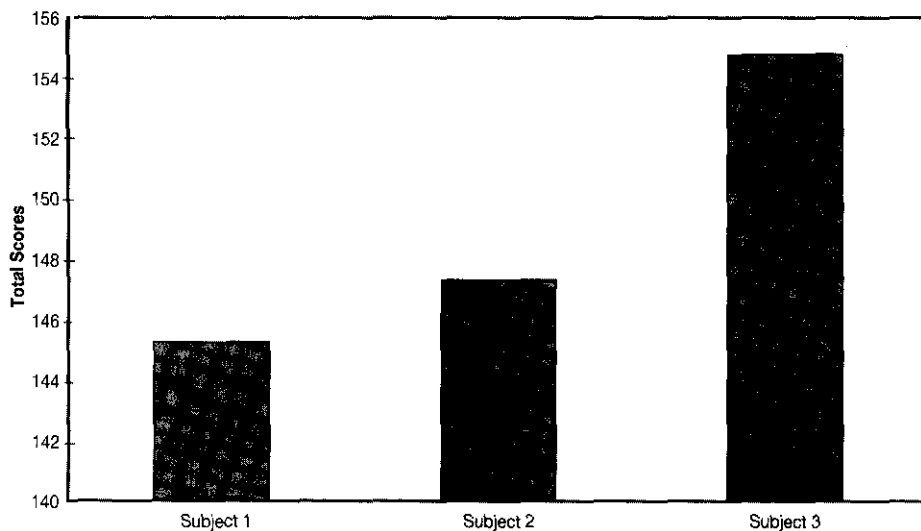
Chart 7.   Plot of Total Scores vs Subject (English=D and Male only)

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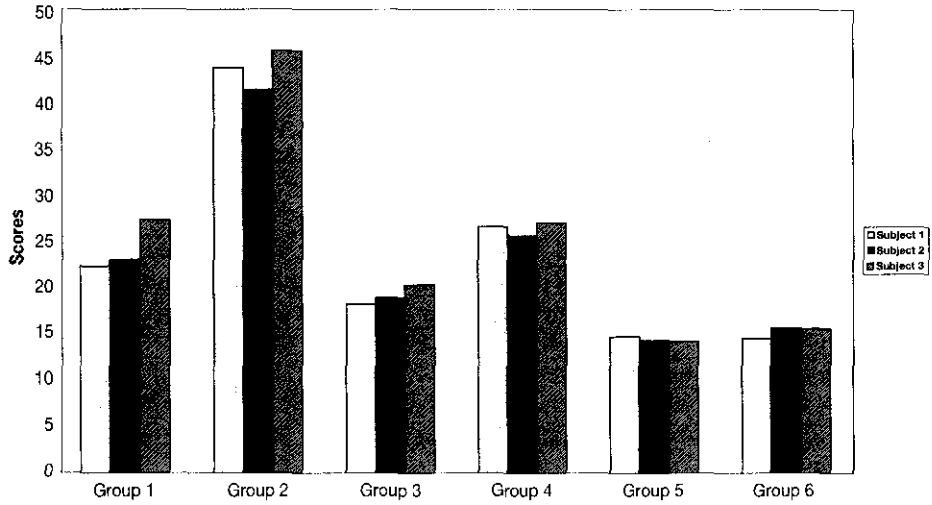
Chart 8. Plots of Scores in Different Groups (Subject, with English=D and Male only)
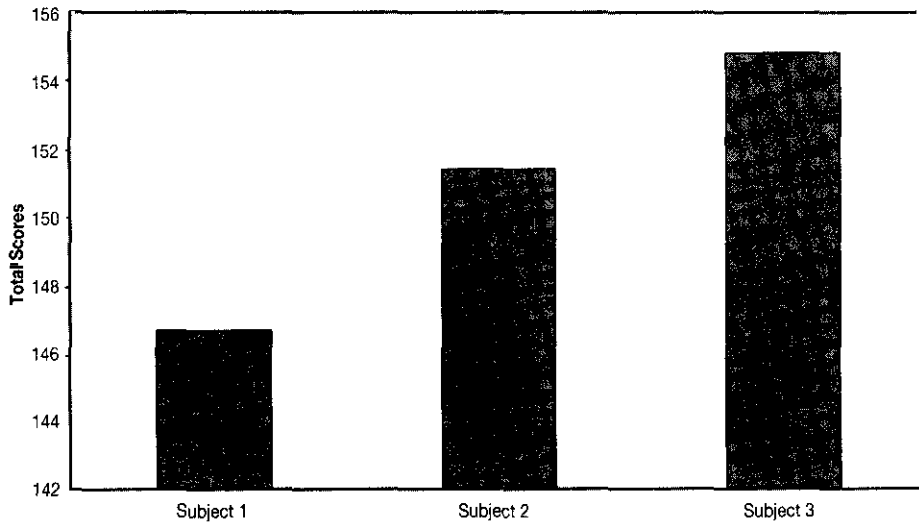
Chart 9. Plots of Total Scores vs Subjects (English=D and Female only)
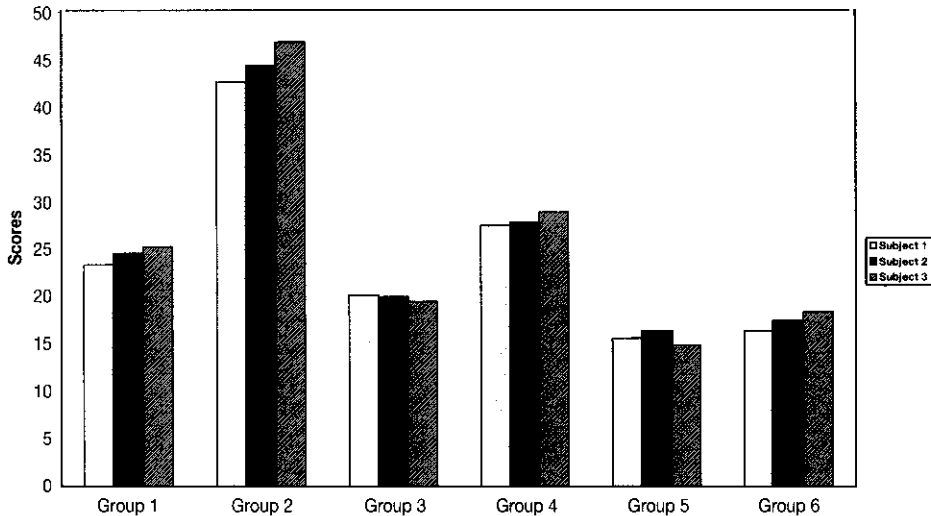
Chart 10. Plots of Scores in Different Groups (Subjects, with English=D and Female only)

6.3. Variation in the use of individual strategies

In order to provide a more detailed picture of the use of strategies, the ANOVA statistics were applied to each individual strategy for Gender, English and Chinese only. This was not done for Subject. The following Table summarises the findings. In the discussion section first the findings on each variable and the fifty strategies will be discussed. Then the findings across the variables will be considered for possible similarities and differences. In the Results column, the information on Y (significance) and N (non-significance) is summarised. (Detailed information on the statistics on each strategy and the three variables of Gender, English, and Chinese is given in Appendix II.)

TABLE 7

Relationship of individual strategies to independent variables, overall pattern

Strategy	Gender	English	Chinese	Results
1	N	Y	N	-
2	N	Y	N	-
3	N	Y	N	-

TABLE 7 *(continued)*

Relationship of individual strategies to independent variables,
overall pattern

Strategy	Gender	English	Chinese	Results
4	N	N	N	N
5	N	N	N	N
6	N	N	N	N
7	N	N	N	N
8	N	N	N	N
9	Y	Y	Y	Y
10	N	Y	N	-
11	Y	Y	Y	Y
12	Y	Y	Y	Y
13	N	Y	N	-
14	N	N	N	N
15	Y	Y	N	-
16	N	Y	N	-
17	N	Y	N	-
18	N	N	N	N
19	N	N	Y	-
20	N	Y	N	-
21	N	Y	N	-
22	N	Y	N	-
23	N	Y	Y	-
24	N	N	N	N
25	N	N	N	N
26	N	N	N	N
27	Y	Y	Y	Y
28	Y	Y	Y	Y
29	Y	Y	N	-
30	N	Y	N	-
31	Y	Y	N	-
32	N	Y	N	-
33	Y	N	N	-
34	N	N	N	N
35	Y	N	N	-
36	N	N	N	N
37	N	Y	N	-
38	Y	Y	N	-
39	N	N	N	N
40	N	N	N	N
41	N	Y	N	-
42	N	N	N	N
43	N	N	N	N
44	Y	N	Y	-

TABLE 7 *(continued)*

Relationship of individual strategies to independent variables,
overall pattern

Strategy	Gender	English	Chinese	Results
45	Y	Y	Y	Y
46	N	N	N	N
47	Y	N	N	-
48	N	N	N	N
49	N	Y	N	-
50	N	Y	N	-

7. DISCUSSION

Gender: The interesting point here is that different patterns emerge within each group of strategies. For example, for Memory, only strategy 9 is significant; the rest are not. For Cognitive, only numbers 11, 12, and 15 are significant and so on. Thus out of the 50 strategies, only 14 or 28% are significant. 36 strategies, namely 72% are not. Green and Oxford use the term 'bedrock strategies' for the latter group. They define bedrock strategies as 'The strategies used frequently or moderately frequently by successful and unsuccessful learners alike' (ibid:289). Despite the greater percentage use of bedrock strategies, there is a significant difference between total strategy use and Gender (Table 2), and, except in the case of Memory strategies, there is also a significant difference between the other five strategy groups and Gender (Table 3).

English Proficiency: We have a different picture for English proficiency. The pattern of significant and non-significant differences is altered. For example, for Memory numbers 1, 2, 3, and 9 are significant; the rest are not. For Affective, only number 41 is significant; the rest are not and so on. In comparison with Gender, the distribution of significant and non-significant strategy use is more evenly balanced, i.e. 27 or 54% are significant; 23 or 46% are not. The 46% are of the 'bedrock' type mentioned above.

Chinese Proficiency: For Chinese language we have a pattern different from English proficiency. Only 9 strategies or 18% are significant. 41 or 82% are not. The latter constitutes the 'bedrock' type mentioned above. If we compare the use of individual strategies in the two languages (Table 7), we get 27 strategies or 54% that are similarly used (6 or 12% significant, 21 or 42% non-significant) and 23 strategies or 46% that are differently used in the two languages. Correlation between English and Chinese grades was approximately 0.38.

Looking across the variables, 18 strategies, 36%, are of the 'bedrock' type' namely the Ns. We can call these the 'core' strategies. There are also

six strategies, 12%, that are significant (Y) across the variables. The other 26 strategies, 52%, are different. However, there are more similarities between Gender and Chinese language proficiency in strategy use than between Gender and English language proficiency, or between English and Chinese language proficiency. The differences between English and Chinese strategy use may be due to the fact that the students' L1, i.e. Cantonese may have an effect on the use of strategies in Chinese, namely Mandarin. There are many relationships between the two dialects. Jernudd (1995:29-30) compares the two,

> Modern Standard Chinese (MSC) is the norm in public writing and is taught in schools. It is based on and can therefore of course be pronounced in Putonghua/Mandarin or it can be read out with Cantonese phonetics. Its vocabulary and syntax are quite different from Cantonese, although intermediate varieties exist by default of course (i.e. by deviation from norm).

There is, however, no such relationship between English and Mandarin. In terms of strategy groups, the results column shows that Memory with 5 N and Affective with 4 N are the least discriminative groups. These could be modified in future applications of the SILL test. On the other hand, 6 individual strategies, namely numbers 9, 11, 12, 27, 28, and 45 discriminate significantly for each of the variables studied here. It may be possible to expand the number of this set.

8.   CONCLUSIONS

The answer to the first research question, i.e. 'Will male and female students differ in the use of overall as well individual strategies?' is positive according to the obtained results. The findings on overall strategy use (Table 2) and six groups of strategies (Table 3) confirm Green and Oxford's observation that '... gender difference trends in strategy use are quite pronounced within and across cultures, and this means that women and men are using different approaches to language learning' (ibid:291). The results on the use of individual strategy use for gender (Table 7), however, show that the 'difference' is related to 14 strategies, or 28% only, of the 50 strategies considered. The other 36 strategies or 72% are the 'bedrock strategies' used by males and females alike.

The answer to the second research question, namely 'Will students with different language proficiency use different strategies?' is also positive according to the obtained results. Green and Oxford state that ' ... in research of this kind, the strength of the findings obtained can depend to a significant extent on the range of ability levels in the study' (ibid:286). For English, seven ability levels based on the grades in the Use of English Examination in Hong Kong were

considered. This is a comprehensive examination of almost all language related skills and hence a good indication of students level of competency. Findings on both the overall strategy use (Table 2) and use of strategy groups (Table 5) confirm Green and Oxford's findings. As regards the use of individual strategies, an interesting finding here is that a larger number than in the gender case, 27 strategies or 54%, account for the differences. The rest, 23 strategies or 46%, are of the 'bedrock' kind mentioned for the gender differences.

The answer to the third research question, i.e. 'Will students with different Chinese language proficiency use different strategies?' is positive. That is to say that better strategy users in English had higher grades in Chinese language. However, proficiency in Chinese does not have a dramatic effect on proficiency in English as the correlation between the two sets of scores was .38. One reason for the low correlation may be attributed to the different weights given to the components of the two language tests. For example, while in English scores in reading (6%) and writing (18%) constitute 24% of the final grade, for the Chinese test, reading (45%) and writing (25%) constitute a much higher or 70% of the final grade. Also, the components Language Systems (12%) and Practical Skills for Work and Study (28%) for the English test are not found in the Chinese test. Conversely, the component Chinese Culture (10%) is missing from the English test.

And finally, the answer to the fourth research question, namely 'Will students majoring in the Sciences, Arts, and Communication studies use different strategies?' is negative. There was no significant difference between students with the same grade in the Use of English taking different subjects and the use of the strategies. This finding was based on a total of 238 students (69 boys and 159 girls) from the 602 original pool due to the control for sex and English proficiency explained in the discussion of Table 4 above.

The findings of this research are in line with the findings of other research on language learning strategy use in relation to Gender and level of English language proficiency for overall strategy use. There are a few differences in relation to strategy categories and individual strategies. These could be due to student population and their level of proficiency in English. For example in the case of Green and Oxford (op. cit.), the subjects came from three different course levels, namely Prebasic, Basic, and the Intermediate. Another factor which could have influenced the results in their study is that the SILL test was given to the students in their native language.

There is also a significant difference between proficiency levels in Chinese (Putonghua) and strategy use for the subjects in the present study. On the whole, better strategy users in English obtained higher grades in Chinese. However, strategy use is not similar in relation to English and Chinese and proficiency in Chinese does not seem to have a marked effect on proficiency in English; the correlation between the two sets of grades being .38. Also there is no significant difference between students with the same English proficiency level in the

Sciences, Arts, and Communication and strategy use. Finally, comparing the use of strategies across Gender, English, and Chinese, we can establish a set of strategies (18 or 36%) based on 'bedrock' strategies for each variable. The term 'core' can be applied to these strategies. Future research may shed more light on the nature of this core and the other remaining strategies which contribute significantly to the observed differences in the present study.

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APPENDIX I

Dear student,

Please answer the following questions accurately. In section **ONE** where there is a choice, circle the appropriate answer. In section **TWO** choose one of the numbers from 1 to 5 and then place an **X** in the appropriate box for the number on the answer sheet. This is not a test of your English language proficiency. Your answers will be used for research purposes only. Thank you.

Section ONE

1. What is your major? ....
2. What is your gender?   **Male   Female**
3. What grade did you obtain in the HKALE Use of English Examination?
   A   B   C   D   E   F   U
4. What grade did you obtain in the HKALE Chinese Culture and Language Examination?
   A   B   C   D   E   F   U
5. Have you studied Mandarin (Putonghua) at school or privately?
   Yes   No
   If your answer is 'Yes', How good is your proficiency in Mandarin?
   very poor   poor   average   good   very good
6. Do you know any other language?   **Yes   No**
   If your answer is 'Yes', What is the language? ....
   What is your proficiency in it?
   very poor   poor   average   good   very good

Section TWO

Read each statement carefully in this section. In the boxes on the answer sheet place an **X** that tells **how true of you the statement is.** Answer in

terms of **how well the statement describes you. There are no right or wrong answers to these statements.** The meaning of each number is as follows:

1. Never or almost never true of me, i.e. **very rarely true of me.**
2. Usually not true of me, i.e. **less than half the time true of me.**
3. Somewhat true of me, i.e. **about half the time true of me.**
4. Usually true of me, i.e. **more than half the time true of me.**
5. Always or almost always true of me, i.e. **almost always true of me.**

If you have any questions, let the teacher know immediately

The following notes were given to the instructors separately.

1. This questionnaire should take about 20-30 minutes to complete.
2. Please make sure that students understand what they are supposed to do.
3. Students are not supposed to write their names on the sheets.
4. Tell students that they can ask questions about words they do not understand.
5. You can explain in Cantonese if you want to.
6. Tell students this is NOT a test of their English language proficiency.
7. Tell students that all answers for section two should be printed on the answer sheet.

Good luck!

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.

APPENDIX II

Variation in the use of individual strategies: Tables 8-10

TABLE 8

Gender and individual strategies

Strat.	F-statistics	P-value	Significant	Strat.	F-statistics	P-value	Significant
1	3.4	0.0658	N	26	0.39	0.5320	N
2	1.17	0.2806	N	27	5.6	0.0183	Y
3	0.66	0.4181	N	28	5.23	0.0226	Y
4	0.02	0.8901	N	29	7.49	0.0064	Y
5	0.10	0.7571	N	30	0.35	0.5522	N
6	0.21	0.6442	N	31	11.65	0.0007	Y
7	2.53	0.1119	N	32	2.81	0.0939	N
8	0.82	0.3665	N	33	6.24	0.0128	Y
9	9.33	0.0024	Y	34	0.38	0.5388	N
10	3.53	0.0608	N	35	10.19	0.0015	Y
11	8.65	0.0034	Y	36	1.56	0.2129	N
12	19.71	0.0001	Y	37	0.36	0.5465	N
13	0.57	0.4523	N	38	4.34	0.0376	Y
14	0.16	0.6917	N	39	0.19	0.6621	N
15	12.07	0.0005	Y	40	3.62	0.0576	N
16	2.67	0.1028	N	41	1.09	0.2973	N
17	1.83	0.1706	N	42	3.2	0.0740	N
18	3.01	0.0831	N	43	0.23	0.6348	N

TABLE 8 *(continued)*

Gender and individual strategies

Strat.	F-statistics	P-value	Significant	Strat.	F-statistics	P-value	Significant
19	1.46	0.2274	N	44	17.02	0.0001	Y
20	1.34	0.2482	N	45	8.26	0.0042	Y
21	2.11	0.1464	N	46	2.72	0.0996	N
22	3.38	0.0666	N	47	12.38	0.0005	Y
23	3.82	0.0512	N	48	3.44	0.0640	N
24	0.66	0.4171	N	49	0.28	0.5984	N
25	2.39	0.1225	N	50	1.78	0.1827	N

TABLE 9

English proficiency and individual strategies

Strat.	F-statistics	P-value	Significant	Strat.	F-statistics	P-value	Significant
1	3.10	0.0091	Y	26	0.98	0.4272	N
2	2.35	0.0394	Y	27	4.98	0.0002	Y
3	2.23	0.0497	Y	28	2.63	0.0338	Y
4	1.76	0.1199	N	29	4.17	0.0010	Y
5	0.92	0.4673	N	30	3.78	0.0022	Y
6	0.69	0.6311	N	31	6.76	0.0001	Y
7	1.12	0.3486	N	32	3.33	0.0057	Y
8	1.26	0.2800	N	33	1.42	0.2144	N
9	2.41	0.0351	Y	34	1.27	0.2769	N
10	5.77	0.0001	Y	35	1.13	0.3406	N
11	5.74	0.0001	Y	36	1.45	0.2032	N
12	8.54	0.0001	Y	37	2.30	0.0434	Y
13	5.55	0.0001	Y	38	4.19	0.0040	Y
14	1.18	0.3153	N	39	0.86	0.5078	N
15	5.07	0.0001	Y	40	1.99	0.0787	N
16	4.55	0.0004	Y	41	5.22	0.0001	Y
17	5.32	0.0001	Y	42	1.74	0.1236	N
18	0.65	0.6626	N	43	2.15	0.0582	N
19	1.83	0.1043	N	44	1.08	0.3678	N
20	2.46	0.0318	Y	45	3.29	0.0061	Y
21	3.54	0.0036	Y	46	1.44	0.2063	N
22	3.33	0.0056	Y	47	1.49	0.1899	N
23	4.97	0.0002	Y	48	1.62	0.1524	N
24	1.87	0.0973	N	49	4.83	0.0002	Y
25	1.19	0.3140	N	50	4.35	0.0007	Y

Table 10

Chinese proficiency and individual strategies

Strat.	F-statistics	P-value	Significant	Strat.	F-statistics	P-value	Significant
1	1.34	0.2373	N	26	0.74	0.6164	N
2	0.45	0.8470	N	27	2.28	0.0344	Y
3	0.44	0.8545	N	28	2.40	0.0267	Y
4	0.80	0.5694	N	29	1.45	0.1940	N
5	0.73	0.6286	N	30	0.18	0.9830	N
6	1.07	0.3788	N	31	2.04	0.0583	N
7	0.89	0.4995	N	32	1.85	0.0872	N
8	0.59	0.7351	N	33	1.25	0.2800	N
9	2.16	0.0449	Y	34	1.39	0.2152	N
10	0.89	0.5016	N	35	0.89	0.5007	N
11	2.18	0.0419	Y	36	0.56	0.7634	N
12	4.04	0.0006	Y	37	0.90	0.4919	N
13	0.71	0.6421	N	38	0.89	0.5054	N
14	1.41	0.2101	N	39	0.76	0.5996	N
15	2.60	0.0172	N	40	0.84	0.5407	N
16	0.48	0.8230	N	41	1.34	0.2374	N
17	0.52	0.7901	N	42	0.82	0.5556	N
18	0.41	0.8728	N	43	0.98	0.4394	N
19	4.86	0.0001	Y	44	3.66	0.0014	Y
20	0.65	0.6870	N	45	2.72	0.0130	Y
21	0.94	0.4640	N	46	1.76	0.1055	N
22	1.41	0.2097	N	47	1.81	0.0949	N
23	2.12	0.0491	Y	48	0.67	0.6746	N
24	0.16	0.9870	N	49	1.38	0.2220	N
25	1.01	0.4150	N	50	1.55	0.1606	N