# CHAPTER V

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

The first part of this chapter provides a brief summary of the research study. It includes the discussion of the problems, the relevant background literature concerning the listening skill and cognitive and metacognitve strategies, and the research methodology. The second part deals with the findings as well as the discussion of the findings. The last part presents recommendations for future research.

## 5.1 Research Summary

The study was derived from the gap underlying the importance of the listening skill and the weak listening competence of most Thai learners of English (Oranoot Chirdchoo and Jirada Wudthayagorn, 2001; Rivers, 1981, cited in Duzer 1997). The difficulty of the listening skill, as compared to others, has been discussed in association with its complicating decoding processes (Duzer, 1997; Buck, 2001). With an attempt to bridge the gap, researchers have explored how proficient and non-proficient listeners coped with listening input and whether there were any strategies they employed to increase the level of comprehension. The past research revealed an apparent contribution of learning strategies, especially cognitive and metacognitive strategies, in language learning such as in Chamot, KÜpper, and Impink-Hernandez (1988), cited in Purpura (1999), O'Malley and Chamot (1990) and Purpura (1999). However, only little has the research in this area focused on the learning strategies with respect to the listening skill (Kim, Kim and Shin, 2001; Vandergrift, 2003), particularly those involving a computer-based listening test, leaving more room for investigation of the issue.

In Chapter 2, past literature in the area of the listening abilities, cognitive and metacognitive strategies and computer-based tests was reviewed. The definitions of listening abilities such as that provided by Buck (2001) were presented. Past literature also discussed the processes involving listening comprehension. Like the reading

processes, the listening processes involve the top-down and the bottom-up approaches. However, arguments among researchers related to which approach is preferable by proficient and non-proficient students were found (Richards, 1988; Kelly, 1991; Buck 2001). The processes of decoding auditory input are not limited only in relation with the top-down and the bottom-up approaches, but are also explained by researchers as steps which occur in rapid succession (Duzer, 1997) and that require cognitive processing.

Various factors reported by researchers (Yorio, 1971, cited in Hadley, 2000; Gass and Selinker, 1994; Brindley, 1997; Yi'an, 1998) that can affect listening comprehension are, for example, lexical knowledge, memory capacity, attitudes, background knowledge, accents, etc.. As for the accents, awareness of the role of international English accents has been increasing (Talebinezhad and Aliakbari, 2001). However, including the accents in an English listening test is still doubted as to whether it will affect the reliability of the test.

The literature review also included learning strategies that have been widely discussed as very useful for language learning and testing. The two strategies mostly explored are cognitive and metacognitive strategies. Based on the study of the frameworks proposed by researchers such as O'Malley and Chamot (1990), Oxford (1990), Wenden (1991) and Purpura (1999), various views towards the strategies lie in how they are grouped and termed. The analysis showed congruent strategies listed by the researchers. Regarding research studies about cognitive and metacognitive strategies, they showed greater and more appropriate use of the strategies by the high-ability group (Abraham and Vann, 1987; Chamot, Küpper and Impink-Hernandez, 1988; Kaylani, 1996; Oxford, 1990; Hoang, 1999; Liu, 2004).

The issues concerning computer-based tests focused in this research are the principles underlying computer-based test development and relevant research studies. Firstly, the development process of a valid and reliable computer-based listening test was reviewed to ensure the quality of the tool in terms of 'authenticity' and 'interactiveness' (Coniam, 1998). The literature strengthened the importance of such principles as interface design and revealed various factors affecting students'

performance on a computer-based test such as visuals, task types, question previewing, gender, computer familiarity, etc (e.g. Sherman, 1997; Yi'an, 1998, Parshall et al, 2001; Ginther, 2002) implied more studies in the area need to be conducted.

Based on the literature concerning cognitive and metacogntive strategies, benefits of using the strategies are found in reading, writing and speaking (Vandergrift, 2003). To extend the findings into the skill least studied, which is the listening skill, this research study aimed at:

1. investigating the relationships between cognitive and metacognitive strategies and student performance on the EIL CBT, a computer-based listening test

2. comparing the differences in the nature of cognitive and metacognitive strategy use across high and low-listening ability groups

The population was fourth-year students from the Faculty of Commerce and Accountancy, Chulalongkorn University. The subjects were from academic year 2005 and were chosen on a volunteer basis. The pilot study involved 34 students whereas 186 students participated in the main study. The scores they achieved from the EIL CBT were used to categorize them into the high and the low-listening ability groups. The criteria were set at or above 1 SD for the proficient group and at or below − 1 SD for the non-proficient group. Finally, there were 30 students who met the criterion of the high-listening ability group while 36 students were put into the low-listening ability group. Since the number of the participants in both groups was not equal, an analysis of variances was conducted. The remainder of the students was classified as intermediate students, and the data obtained from this group of students were not used in the study.

The instruments consisted of the CULI Test PIC, which serves as a standardized test, the EIL CBT, two questionnaires (i.e., the EIL CBT questionnaire and the strategy questionnaire), and retrospective interviews.

The research was divided into two main stages: the pilot study and the main study. During the pilot study, the test and the questionnaires underwent a validating process before they were used in the main study. The main study investigated the

relationships between the two strategies and the students' performance. Also, differences in how the two groups of students used their strategies were carefully examined. The strategies that the students applied were elicited from the answers they chose on the strategy questionnaire which was integrated into the computer program. The questionnaire required the students to provide their answers concerning the strategies that they used for every question item. The retrospective interviews with randomly selected students were conducted to counterbalance their answers on the questionnaire. During both stages, the EIL CBT questionnaire, which was designed to draw students' opinions about the computer-based listening test, was distributed.

To find the relationships between cognitive and metacognitive strategies and the students' performance, the Pearson correlation coefficient was used. The t- test was used to investigate the differences in the use of the strategies by both groups.

## 5.2 Conclusion of the Research Findings

The findings show no significant relationships between cognitive strategies and the performance of the students in both groups ($r_{high}$ = .290; $r_{low}$ = -.114). However, in relation to metacognitive strategies, the significant, negative relationship is found only between the high-listening ability group and their use of metacognitive strategies ($r$ = -.437). The reasons underlying the research findings might be attributed to the level of proficiency of the proficient group, the listening comprehension processing and other factors, concerning factors affecting choice of strategies (Oxford, 1993) and those affecting language performance (Bachman, 1990). In terms of the level of proficiency, as claimed by Vinther (2005), the students who are near the mastery level or who have achieved that level are able to use language automatically. Therefore, it can be the reason why there is no room for the use of cognitive and metacognitive strategies among the high-listening-ability group, who report on the automaticity of their input decoding processes. Also, the results of the study strengthens the framework of sources of variation proposed by Bachman as it shows that linguistic knowledge is the major key

to successful listening comprehension. The negative relationships between the high-ability listeners and their use of metacognitive strategies might not be clear enough to generalize that the metacognitve strategies are not useful. It is due to the focus of the research study on the most important strategies. This concurs with Chesterfield and Chesterfield (1985), in Purpura (1999) who supported that the use of metacognitive strategies usually comes last. From the findings, it is more justifiable to conclude that cognitive strategies are considered as more practical strategies at hand for the proficient students when taking a computer-based listening test, compared to metacognitive strategies.

The second hypothesis investigates how the two groups of students make use of the strategies. The findings reveal more appropriate use of the two strategies by the high-ability listeners, confirming the research in the past such as Abraham and Vann (1987), Chamot, Küpper and Impink-Hernandez (1988), Kaylani (1996), Hoang (1999), and Liu (2004). When each sub-strategy is considered, the high-ability group uses the concluding (t = -4.865), the rule application (t = -2.434), the note taking (t = -6.152), and the planning strategies (t = -2.915) significantly differently from the other group. The concluding strategy is relied on the most by both the experts and the proficient students. It can be related to their ability to comprehend the input automatically and in real time.

The degree of their use of the two strategies was not the only difference. The approach of how they used the strategies, according to the interviews, also shows apparent distinctions. For example, the non-proficient students make use of the recombining strategy as they can listen in chunks, rather than in longer strings of input. Then, they conclude from the words they hear, unlike the proficient group, who conclude from the overall input they hear. Their use of the other strategies such as linking to prior knowledge and note taking is also ineffective. Their lack of linguistic knowledge is the main source of their inappropriate use and insufficient information, leading to their wrong judgment of what the accurate answer is as compared to the advanced listeners. The research results emphasize Bachman's (1990) framework of the factors affecting language learner performance as Bachman claimed language competency accounts for

the biggest part of the performance whereas cognitive abilities take a much less significant role.

With regard to the top-down and the bottom-up approaches, the advanced group illustrates their ability to use both approaches effectively. For example, they choose to rely on the rules when appropriate and link to their prior experience with support by their linguistic knowledge. The non-proficient group depends heavily on the non-linguistic knowledge, leading to their guessing without any valid clues and ending up in selecting the wrong answers.

Concerning the students' views towards the use of the EIL CBT, positive responses are shown. The computer-based listening test which integrates pictures, good interface design and various task types increase their motivation to complete the test. Although they feel that the non-native English accents, to a certain degree, negatively impact their comprehension, they realize that the ability to understand these accents are essential, and assessment should be part of the listening test. Some other advantages of the computer such as promoting more individualism and reducing anxiety are also found in the research study.

## 5.3 Implications of the Findings

This study attempted to fill what had been missing in the research concerning the relationships of cognitive and metacognitive strategies and students' listening performance. Several implications can be drawn from the findings. Firstly, the study adds more insight into the theories concerning cognitive and metacognitive strategies in association with the listening skill that have not been explored much. It also illustrates that the relationship between the use of cognitive and metacognitive strategies and students' listening proficiency is not as outstanding as found in other language skills, such as the reading skill. This can be attributed to characteristics of speech that is, for example, delivered in real time. Unlike other skills, the listening skill involves the simultaneous process of input decoding. If the results are taken into consideration, it is

apparent that the strategy that is found to be used the most among successful listeners is the concluding strategy. The use of this strategy emphasizes the importance of automaticity in language use.

Moreover, although no relationships are found, it does not mean that the strategies are not helpful. In fact, the significance of the strategy use lies in the students' appropriate and effective use of the two strategies together with their automaticity in decoding auditory messages as well as their linguistic ability.

From the first implication concerning the strategy theories and language performance, the second implication for teachers is derived. Teachers who want to train their students to use the strategies with the hope that their listening proficiency will increase or they will do well on a listening exam have to be aware of other important factors that affect their performance. The study implies that the use of the strategies alone does not help increase their listening comprehension. Linguistic knowledge such as the knowledge concerning vocabulary, phonology, structures, etc. must be developed in concert with the use of cognitive and metacognitive strategies. As the study implies, the source of knowledge that contributes to students' performance the most is their linguistic knowledge as can be seen from the proficient listeners who rarely take risks by guessing. Rather, they depend more on what they actually hear and understand than on the pictures they perceive. Therefore, to train their students to be proficient listeners, teachers must have them practice until they possess the ability to automatically decode a listening input. Also, as implied by the findings, advanced listeners are those who are able to use both top-down and bottom-up approaches appropriately.

For non-advanced listeners who lack sufficient bottom-up processing skills because of their limited linguistic knowledge, they should, firstly, be guided to positive attitudes towards listening. Peterson (2001:91) said, "Learners should be encouraged to tolerate ambiguity, to venture informed guesses, to use their real-world knowledge and analytical skills, and to enjoy their success in comprehension." The suggestions for teaching include short selections of listening excerpts, simple and clear language use in

class, gradual introduction to new materials and preparation of listening drills on structures or sounds in contrast, such as tenses, word order, singular or plural. In fact, they should be taught how to use both bottom-up and top-down approaches skillfully.

Thirdly, for test writers and administrators who would like to integrate computer-based tests into their institutions, several thoughts must be considered. First of all, the design process must be based on good interface design principles such as an outline of the screen, the use of colors, the consistency of menus, etc. Also, the quality of the computer and other equipment must be checked to avoid any negative effects on students' performance.

## 5.4 Recommendations

This study serves as one of the research studies that explore the area least interested in by researchers. It also implements a new way to assess students' use of strategies other than the Strategy Inventory for Language Learning (SILL) questionnaire developed by Oxford (1990). More research in related areas that is recommended is as follows.

Firstly, more studies on the listening skill and the use of cognitive and metacognitive strategies are still required, especially in the Thai context. As research in the past showed no consensus on the strategy used and no agreement on the relationships between the strategies and language performance due to their variety in context, more studies on Thai language learners will be of great contribution to the English language teaching in Thailand.

Secondly, replicated studies with different and larger groups of participants and different uses of methodology, such as the verbal protocol, will also lead to new perceptions towards the use of strategies. Experiential research should also be interesting since this study solely relies on the content experts.

Thirdly, regarding the area of computer-based assessment, various factors such as visuals, test takers' variables (e.g. attitudes, anxiety and familiarity) should also be investigated to see if any effects on the students' listening performance exist.

Lastly, complete guidelines on how to develop good computer-based language tests, particularly those for the listening skill, will be of great benefit for teachers who intend to implement a computer-based test in their curriculum.