ESL college students’ self-reported use of strategies to comprehend academic lecture

and the roles of gender, major, L1, motivation, and learner belief

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SLS613- Second Language Listening & Speaking

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December 12, 2005
INTRODUCTION

With the large number of international students studying at U.S. universities, concerns often arise about how they handle their academic study with their limited English proficiency. Academic lecture is a major component of college students’ academic study. Being able to comprehend academic lecture and to maximally learn from the lecture are closely related to students’ academic success. Studies on listening comprehension strategies have identified a number of strategies that learners use for the listening process, which are often categorized into metacognitive, cognitive, and social and affective strategies. Interesting along this investigation is how ESL college students use strategies to comprehend and learn from academic lecture, given that they usually experience more difficulty with the task. Of particular interest, hardly any previous studies have examined listening comprehension strategies with this real-world listening task. The study used a Likert-scale questionnaire to investigate the frequencies of strategy use by ESL college students to comprehend academic lecture. The strategy items are based on the literature on learning strategies in a second language, listening comprehension strategies and lecture comprehension, and the items are categorized into metacognitive, cognitive and compensatory strategies. The roles of major, gender, L1,
motivation and learner belief in the reported frequency of strategy use are also
examined in this study.

LITERATURE REVIEW

Definitions and classifications of learning strategy in the L2 literature

How learning strategy (LS) is defined and classified in the L2 literature has always been
the fundamental concern about the field, since it affects how it should be
operationalized and can be measured in actual studies. O’Malley and Chamot (1990),
based on Anderson’s (1983) cognitive theory, defined LS as “special thoughts or
behaviors that individuals use to help them comprehend, learn, or retain new
8) as “operations employed by the learner to aid the acquisition, storage, retrieval and
use of information…; specific actions taken by the learner to make learning easier,
faster, more enjoyable, more self-directed, more effective, and more transferable to new
situations”. What all definitions of LS seem to imply is the learner’s “conscious
movement toward a language goal” (Ehrman, Leaver & Oxford, 2003). However, as
Chaudron (2003) identified, the definitions depict strategy as a construct of different
types and levels, which make it inherently difficult to distinguish and to compare with
one and another (Stevick, 1990, as cited in Chaudron, 2003). Specifically, how to draw a clear line among thoughts, behaviors, steps, techniques, etc. and to compare them remains an unresolved challenge to the field. In actual LS studies, strategies at all the different levels are all mixed-up, thus leaving strategy as a rather unclear and ill-defined construct to measure and describe.

In the attempt to establish a complete and systematic repertoire of LS, researchers have come up with classification schemes to group LS into different strategy types. Two commonly referred to and used taxonomies come from Oxford (1990) and O’Malley and Chamot (1990). Oxford (1990) identified six major groups of L2 learning strategies, i.e. Cognitive, Metacognitive, Memory-related, Compensatory, Affective and Social Strategies. O’Malley and Chamot (1990) distinguished three categories for LS, i.e. Metacognitive, Cognitive and Social/affective strategies. A closer look at the two taxonomies shows that they have overlapping core components, and Oxford’s (1990) taxonomy was questioned for separating memory-related strategies from cognitive strategies and for putting compensatory (actually communication) strategies into the LS classifications (c.f. Dornyei & Skehan, 2003).
In the studies on listening comprehension strategies, O’Malley and Chamot’s (1990) system is the one that has been consistently used. Vandergrift (1996) commented that this system “proved to be a useful guide for coding the listening comprehension strategies reported by the participants” (p. 207). The current study thus also adopts this system for categorizing strategies. In this taxonomy, metacognitive strategies are defined as strategies that “involve thinking about the learning process, planning for learning, monitoring the learning task, and evaluating how well one has learned” (p. 137), which could include previewing before listening, maintaining attention while listening, checking comprehension, evaluating strategy use after listening and etc. Cognitive strategies are defined as the ones that “involve interacting with the material to be learned, manipulating the material mentally or physically, or applying a specific technique to a learning task” (p. 138), which could include predicting, inferencing, elaborating, summarizing, visualizing and etc. Social and affective strategies refer to those that “involve interacting with another person to assist learning or using affective control to assist a learning task” (p. 139), which could include asking for clarifications, seeking help from teachers or peers, lowering anxiety when listening, and etc.

*Research methodologies for learning strategies in the L2 literature*
The research on learning strategies in the L2 field has used data collection methods like “interviews and written questionnaires, observation, verbal report, diaries and dialog journals, recollective studies, and computer tracking” (Cohen, 1998, p. 24). Cohen (1998) made a detailed analysis of the six approaches, listing their respective use for data collection, and their disadvantages and advantages. Among these methods, questionnaires and verbal report including thinking-aloud have gained considerable popularity among researchers. Initially, through verbal report, diaries and etc., specific strategies are identified, recorded and later classified into different strategy types. Based on the strategies and strategy types, questionnaires are made, which can be used to gather large amounts of data for describing patterns on the frequency of strategy use and its relationship with personal variables like language proficiency, gender, L1 and motivation.

The most widely used questionnaire in the field was Oxford’s (1990) Strategy Inventory for Language Learning (SILL), which is based on her six-category classification system. However, this questionnaire combines strategy use for different language learning aspects, e.g. vocabulary, listening, reading and speaking, which is against the skill-specific and task-specific nature of strategy use. At the same time, asking learners to
rate their frequency of using the strategies without a certain learning situation may not get the accurate reporting of frequencies. Therefore, designing more skill-specific and task-specific questionnaires and administering the questionnaires in combination with certain learning situations can help to improve the validity of the instrument.

In listening comprehension strategy studies, think-aloud protocol is the most commonly used (e.g. Murphy, 1985; Chamot & Kupper, 1989; O’Malley et al., 1989; Bacon, 1992; Vandergrift, 1997; Goh, 1998; Goh, 2002). Researchers also used diary (e.g. Flowerdew & Miller, 1992; Goh, 1997; Goh, 1998; Goh, 2002), interview (e.g. O’Malley et al., 1985; Mason, 1994; Vandergrift, 1996), questionnaire (e.g. Vogely, 1995; Vandergrift, 2005), and class observation (e.g. O’Malley et al., 1985). In the two studies that used questionnaire, both of which intended to measure learners’ metacognitive awareness with listening strategy, learners were asked to complete a strategy questionnaire after listening to authentic texts. The strategy items have become very specific to one language skill, i.e. listening, thus showing a whole new spectrum of strategies related to listening. However, in Vogely’s (1995) study, the strategies were loosely grouped into repair strategies and effective strategies, and the choice of the strategy items was not systematic or well-grounded in theory. Especially in the effective strategies section, the
items were mostly about whether learners would focus on vocabulary, syntax, main ideas, details and text features while listening, but not about what mental processes and techniques learners use to interact with the listening material. Vandergrift’s (2005) questionnaire has showed considerable improvements in terms of its groundedness in theory and previous work. The 18 items he used contains metacognitive, cognitive and affective strategies. However, there was a clear imbalance among the number of items for each strategy category, with 15 metacognitive, 3 cognitive, and 1 affective strategy, and a couple of items were labeled inconsistently with previous literature, e.g. “As I listen, I relate what I am hearing with what I understood earlier.” (p. 80) as metacognitive strategy, and “I often correctly figure out the meaning of words I do not understand.” (p. 80) as metacognitive strategy. Thus so far, there has not been a listening comprehension strategy questionnaire that systematically and comprehensively measures learners’ use of the three different types of strategies, i.e. metacognitive, cognitive and social/affective strategies.

*Previous studies on listening comprehension strategy (LCS) in the L2 literature*

Previous studies on LCS have been mostly descriptive, and have recorded a quite comprehensive array of strategies learners use to comprehend listening texts, in
different L2 like English, French, Spanish and Russian, and with learners of different proficiency levels. Although the research base is rather small, researchers like Vandergrift and Goh have been giving the field consistent attention and contributions. As mentioned earlier, researchers generally agree on O’Malley and Chamot’s (1990) taxonomy to group the strategies. However, in actual practice, there are inconsistencies and problems in grouping the specific strategies into the different categories. Foremost, O’Malley and Chamot’s (1990) term of “selective attention”, grouped as metacognitive strategy, seems to have caused a lot of confusions. In their book itself, the term was used rather elusively. In one of their reported studies, selective attention is defined as “deciding in advance to attend to specific aspects of language input or situational details that assist in performance of a task; attending to specific aspects of language input during task execution” (p. 137), which means that the term refers to both planning to attend to something before listening and actually attending to the something during listening. Nevertheless, at other places of the book, the term was used to refer to either of the above processes. Most likely due to the problematic definition of selective attention, in LCS studies, the term was also used inconsistently. Vandergrift (1996; 1997) grouped paying attention to speakers’ tone of voice and non-verbal behavior and paying attention to visual aids like writing board as cognitive strategies. Thompson and
Rubin (1996) categorized listening to familiar or partially familiar words and phrases, listening for redundancies and listening to tone of voice and intonation as cognitive strategies. On the contrary, Goh (2000) listed paying attention to tones and pauses, to body language and visuals, and to discourse markers as metacognitive tactics. In addition to the list, Goh (2002) put listening to words in groups, listening for familiar words, and paying attention to repetitions as metacognitive tactics. And O’Malley et al. (1985) labeled listening for macro discourse markers as metacognitive strategy. The current study takes the actual executions of paying attention to specific features during the listening as cognitive strategies, since they are the mental manipulations of the listening text and listening situation. Inconsistency also exists for categorizing predicting, as Vandergrift (2004; 2005) grouped it as metacognitive strategy, while Goh (1998; 2000; 2002) and Thompson and Rubin (1996) labeled it cognitive. The current study takes it as cognitive strategy since it is the actual mental interaction with the text. Taking notes during listening is another arguable strategy in terms of its proper categorization. Although most of the studies group note-taking as a cognitive strategy, in the current study, it is categorized as metacognitive strategy. It is to the researcher’s understanding that taking notes during a lecture is an external act that helps to record and monitor the listening comprehension. In all, it remains challenging to categorize
certain strategies as metacognitive or cognitive strategy, since at times there is a lack of clear-cut distinction between the two. A stronger and sounder theoretical framework and grounding need to be built up to clear out the gap in the field.

In addition to identifying and recording the specific strategies learners use for L2 listening tasks, researchers also investigated the differences in strategy use among learners of different proficiency levels, and compared the number of the three different types of strategies used. In general, it was found out that learners of higher proficiency levels used more strategies than learners of lower levels, and effective and ineffective learners used strategies differently. Vandergrift (1996), working with FSL (French as a second language) high school students in Canada, used structured interview and found that the students’ use of metacognitive and social/affective strategies increased across the four course levels. Vandergrift (1997), working with the same group of French learners, used think-aloud protocol and found the same pattern with the previous study in this regard. Goh (1998), in her study with 16 Chinese ESL learners in an intensive program at a university in Singapore, through think-aloud procedure, found that higher-ability learners used more metacognitive and cognitive strategies and tactics than lower-ability ones. O’Malley et al. (1989) identified self-monitoring, elaboration and
inferencing as the three strategies that significantly differentiated the eight effective and three ineffective Hispanic ESL listeners studying at high school, and also found that effective listeners used both top-down and bottom-up processing strategies appropriately while ineffective listeners relied largely on bottom-up processing strategies. In Goh’s (2002) study, she compared one effective and one ineffective Chinese ESL listener for their verbally reported use of strategies when listening to a text, and found that the effective listener was able to use a wider range of strategies and tactics more flexibly. In terms of the number of the three different types of strategies used, the several studies investigating this confirmed that learners reported more use of cognitive strategies than metacognitive strategies (Chamot & Kupper, 1989; Vandergrift, 1996; Goh, 1998). Vandergrift’s (1996) study also reported the least use of socio-affective strategies. The different reported number of strategies might be due to the nature of the three different types of strategies with its application in listening tasks.

There have been very few LCS studies that examined the roles of other personal variables like gender, L1 and motivation in learners’ strategy use. Firstly, gender was the factor that received more attention. Of the four course levels in Vandergrift’s (1996) study, females reported more overall strategy use, including all the three types of
strategies, than males except for the first level. Separated by the strategy types, for each of the three higher course levels, females also reported more use of metacognitive and cognitive strategies than males. Bacon (1992), in her study of college students taking Spanish as a foreign language, also concluded that females used significantly higher proportion of metacognitive strategies than males. However, in Vandergrift’s (1997) study, almost no difference was found in the number of metacognitive and cognitive strategies due to gender, with variability with specific strategies only. Secondly, so far, almost no LCS studies have compared the strategy use of learners of different L1s, since most studies used homogenous nationals. Thirdly, when motivation is taken as an important personal variable, Vandergrift (2005) probably is the only study that investigates this. The 57 high school learners of French in his study completed two questionnaires, one to measure their motivational orientations (amotivation, extrinsic, and intrinsic), and one to measure their LCS metacognitive awareness. Responses on the two measures were correlated and results showed the general pattern that learners reported using more metacognitive strategies also reported higher motivational intensity. In the field of language learning strategies in general, more studies investigated the roles of those personal variables and others in strategy use. Although there seemed to be directional effect of some variables like gender and motivation, more studies at
comparable levels are largely needed to contest the findings. Currently, with its loose theoretical base and research designs, the findings are inconclusive and yet to be validated.

Most of the LCS studies in the L2 literature tried to identify learners’ use of strategies to comprehend taped listening texts or English language lessons, hardly any studies tracked L2 listeners’ strategy use in real-world listening situations, like in academic lecture. Two studies touched on this line, however, they were not based on the literature in LCS and focused basically on compensatory/coping strategies. Flowerdew and Miller’s (1992) study, through various means, examined how 30 first year college students in Hong Kong taking an English medium lecture class perceived the lecture learning experience, what problems they encountered with lecture comprehension and what strategies they used to overcome the problems. The strategies the students reported using were doing the reading before and after the lecture, seeking help from classmates, asking for help from instructor or tutor, trying hard to concentrate during the lecture and making marks on the book and taking notes. Mason (1994), using interviews, examined the perceptions of lecture comprehension strategies by first-year foreign graduate students studying in English-medium lecture classes and those of their lecturers. For
lectures of talk-and-chalk mode, the students reported using strategies like relying on their previous subject knowledge, spending large amounts of time studying the course materials, interacting with American peers, talking to professor or advisor, getting outside help for the coursework in their own language and etc. Unfortunately, both studies were not able to shed much light on the metacognitive and cognitive strategies L2 learners used for the lecture comprehension task.

The current study, therefore, takes the goal of examining listening comprehension strategies ESL college students reported using for comprehending their real-world academic lecture. Based on the existing literature in learning strategies in a second language, listening comprehension strategies in L2, and lecture comprehension, the current study uses a questionnaire, and intends to address the following research questions:

1. How reliable is the questionnaire instrument in measuring metacognitive, cognitive and compensatory strategies?

2. How frequently do ESL college students use the specific metacognitive, cognitive, and compensatory strategies to understand academic lectures, according to their self-perceived frequency ratings?
3. Which strategy type, metacognitive, cognitive or compensatory, will learners report higher frequency of use?

4. Do gender, major, L1, motivation and learner belief in lecture learning make a difference in the reported overall frequency of strategy use?

5. Do gender, major, L1, motivation and learner belief in lecture learning make a difference in the reported frequency in the use of metacognitive, cognitive and compensatory strategies?

METHOD

Participants

37 international students at the University of Hawaii at Manoa participated in this survey. The participants were all enrolled in English Language Institute (ELI) whose primary purpose is to provide English instruction for international and immigrant students who have been admitted to the university and who do not speak English as a native language, in order to facilitate their academic studies. Participation was voluntary in all cases and each participant received a small gift as compensation for their time.

The mother tongue of participants is as follows:

<table>
<thead>
<tr>
<th>Japanese</th>
<th>Korean</th>
<th>Chinese</th>
<th>Vietnamese</th>
<th>Tetum</th>
<th>Spanish</th>
<th>Malay</th>
<th>Thai</th>
<th>Ponapean</th>
</tr>
</thead>
</table>

Administration

In order to meet the aim of current study, investigating listening comprehension strategy, participants were restricted to those who attended listening and speaking classes of ELI. Survey questionnaire was distributed by researchers in the seven ELI listening and speaking classes. This was administered at the end of classes with the approval of each instructor who taught the class. It took about ten minutes to explain the survey intention and direction. To make the result of the current study accurate, participants were asked to choose one specific class for which they had difficulty in comprehending the lecture and were highly recommended to answer the survey after taking that specific lecture course. Thus the survey was not administered immediately. The data were collected a week later by researchers’ revisiting of the seven classes. Originally 75 survey questionnaire was distributed to the students who were interested in the project; however, a total of 37 participants completed it.

Instrument

The instrument used consisted of a questionnaire requesting the following information:
- Demographic information, including major, nationality, native language, age, gender, and years of living in the U.S.

- Specific information about the lecture course which participants have difficulty in comprehending, including the name and number of the course, the level of the course, and two other items concerning motivation and learner belief. In the motivation part, six statements were presented and participants were asked to choose the statement that applied to their situation in the course. The motivation was categorized as follows: (1) intrinsic motivation; (2) instrumental motivation; (3) low motivation; (4) amotivation. Learner belief was rated by a 4-point Likert scale according to “to what extent you agree that being able to comprehend the lecture well is essential for succeeding in this course”: 1=disagree, 2=somewhat agree, 3=mostly agree, 4=strongly agree.

- Responses to a series of 38 statements concerning lecture comprehension strategy divided by three sections: (1) before the lecture; (2) during the lecture; (3) after the lecture. The 38 statements consisted of three specific listening strategies, Metacognitive strategies, Cognitive strategies, and Compensatory strategies, which were mixed together in the questionnaire. Participants were asked to rate each statement on a Likert scale according to the frequency of the
use: Never, Seldom, Sometimes, Often, and Always. Most of the statements were come up with on the basis of literature and a few from previous studies on learning strategies were applied for the current study purpose. The items in the actual questionnaire were represented as follows:

Table 1. Metacognitive, cognitive and compensatory strategy items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Total #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metacognitive S.</td>
<td>1, 2, 3, 5, 6, 7, 8, 14, 15, 21, 27, 31, 32</td>
</tr>
<tr>
<td>Cognitive S.</td>
<td>4, 9, 10, 11, 12, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 28, 29, 30</td>
</tr>
<tr>
<td>Compensatory S.</td>
<td>13, 33, 34, 35, 36, 37, 38</td>
</tr>
</tbody>
</table>

A copy of the survey instrument appears in Appendix 3.

Note that for scoring of the frequency of each strategy item, a 1 to 5 scale, which was not labeled in the actual survey, was employed corresponding to the Likert scale listed above. That is, 1 is equated to Never, 2 to Seldom, 3 to Sometimes, 4 to Often, and 5 to Always.

Analysis

The current study is an exploratory pilot study. The dependent variable of the study is the frequency of strategy use. It is measured by learners’ self-perceived frequency rating on a 5-point scale. Descriptive statistics will be used to describe the reported mean frequency on each strategy item, with its SD and percentage on each scale. Comparisons
among items can be made, and problematic items can be identified. Gender, major, L1, motivation, and learner belief are the independent variables. Whether those independent variables predict any differences in learners’ overall frequency of strategy use will be examined by independent sample t-test or ANOVA with SPSS software, depending on how many levels the independent variables have. The alpha level for all statistical decisions was set at 0.5 (non-directional).

By categorizing the strategies into the three types, the study has three dependent variables, metacognitive strategies, cognitive strategies and compensatory strategies. The study intends to measure the mean frequency of strategy use for each strategy type, again according to learners’ self-perceived frequency rating on a 5-point scale. Cronbach’s coefficient alpha on each of the three subsections will be first calculated to test the reliability of the instrument in this regard. To compare the mean frequency of strategy use for the three different types of strategies, repeated measures will be used. In order to see whether gender, major, L1, motivation, and learner belief predict any difference in the three different types of strategies, repeated measures MANOVA will be used. The alpha level for all statistical decisions was set at 0.5 (non-directional).

SPSS software will be used for the statistical analyses.
RESULTS

Reliability

Reliability coefficients are used here to indicate the internal consistency of the items grouped into the different types of strategies. Cronbach’s coefficient alpha was the index used. Through SPSS software, an alpha value of .80 was found for the metacognitive strategies ($k = 13$), .84 was found for the cognitive strategies ($k = 18$), and .62 for compensatory strategies ($k = 7$). For both the metacognitive and cognitive strategies, the reliability estimates are acceptably high. For the compensatory strategies, the lower alpha value might be due to the small number of items. At the same time, a closer look at the output of the analysis reveals that, one item, item Num. 37, has a negative correlation with the whole sub-section at -.18, another item, item Num. 38 has a very low correlation with the whole sub-section at .16, and all the other 5 items maintain correlation with the whole sub-section at over .40. Thus for later inferential statistical analysis, the two items were deleted and the adjusted alpha reached .77, a moderately high estimate. Another benefit for deleting the two items is that the five remaining items are all social strategies, which could help to validate later inferential statistical analysis.
Frequency of strategy use for the each strategy item

Appendix 1 shows the mean frequency of reported strategy use for each item, with its SD and percentage on each scale. The descriptive data show that the means range from the lowest 1.78 to the highest 4.08. Most of the responses on the items appear to be normally distributed. One of items, item Num. 37 is severely positively skewed, with a skew value of 1.85, largely deviating from 0 value. Several other items are also somewhat negatively skewed, including Num. 2 (skew = -1.19), Num. 7 (skew = -.98), Num. 14 (skew = -1.09), and Num. 25 (skew = -.94).

Under the metacognitive strategies section, the items that have the highest average frequencies are item Num. 7 (I concentrate my attention while listening to the lecture. M = 4.08) and item Num. 14 (I take notes of important points. M = 4.05). The items that have the lowest average frequencies are item Num. 3 (I look for related extra information about the reading materials. M = 2.47), and item Num. 32 (I review the lecture notes and reading materials soon after the class. M = 2.92). The items for basic planning, i.e. items Num. 1 (I do all the required readings.) and Num. 2 (I make sure that I understand the new key terms that appear in the reading.) also have higher average
frequency, with a mean of 3.34 and 3.89 respectively. The item on checking comprehension, i.e. item Num. 27 (While I listen, I periodically check how much I’ve understood the lecture.) has a lower mean of 2.95. The item on evaluating strategy use, i.e. item Num. 31 (I try out ways to comprehend the lecture better and evaluate whether they work well for me.) has a higher mean of 3.57.

Under the cognitive strategies section, the items that have the highest average frequencies are item Num. 20 (I attend to words and phrases that are familiar to me to understand what is being said. M = 4.08) and item Num. 24 (I listen for stressed words to identify what is most important. M = 3.95). The items that have the lowest average frequencies are item Num. 10 (I predict what the lecturer is going to say next. M = 2.86), and item Num. 4 (I predict what the lecture content will be. M = 2.97). For the items on paying attention to specific features of the text or situation, e.g. item Num. 23 (I pay attention to the lecturer’s body language as a clue to his or her messages.) and item Num. 25 (I pay attention to the lecturer’s use of repetition and redundancy.), the average frequency is generally high. Learners reported fewer use of inferencing, as shown in item Num. 11 (I figure out missing or unclear information by making inferences. M =
3.06), and fewer use of summarizing, as shown in item Num. 16 (From time to time, I mentally summarize what the lecturer has said. M = 3.00).

With the compensatory strategies, the average frequencies on each item are generally low. All the items have a mean lower than 3.00, except item Num. 33 (I ask my classmates or friends about the things I do not get or understand about the lecture. M = 3.30).

*Mean differences of the frequency for the three different types of strategies*

Repeated measures were used to calculate the mean differences of the frequency for metacognitive, cognitive and compensatory strategies. Table 2 shows the descriptive statistics of the means and their effect sizes. Cognitive strategies (M = 3.52) has the highest mean frequency of use, metacognitive strategies (M = 3.39) has a mean frequency pretty close to that of cognitive strategies, and compensatory strategies (M = 2.60) has the lowest mean frequency. Statistically significant differences were found for the overall mean comparison (p = .000). Pairwise comparisons show that there was a statistically significant mean difference between the frequency of metacognitive and compensatory strategies (p = .000) and between the frequency of cognitive and
compensatory strategies \( (p = .000) \), but there was no statistical mean difference between the frequency of metacognitive and cognitive strategies \( (p = .101) \).

Table 2: Mean of the frequency for metacognitive, cognitive and compensatory strategies

<table>
<thead>
<tr>
<th>STRAT</th>
<th>Mean</th>
<th>SD</th>
<th>95% Confidence Interval</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>META</td>
<td>3.39</td>
<td>.54</td>
<td>3.21 - 3.57</td>
<td>37</td>
</tr>
<tr>
<td>COGN</td>
<td>3.52</td>
<td>.52</td>
<td>3.35 - 3.69</td>
<td>37</td>
</tr>
<tr>
<td>COMP</td>
<td>2.60</td>
<td>.84</td>
<td>2.31 - 2.88</td>
<td>37</td>
</tr>
</tbody>
</table>

Gender, major, L1, motivation and learner belief in lecture learning as predictor of the overall frequency of strategy use

Independent sample t-test or ANOVA was used to find out whether gender, major, L1, motivation and learner belief would predict any difference in the overall frequency of strategy use. No statistically significant differences were found for all the independent variables (for gender, \( p = .65 \); for major, \( p = .15 \); for L1, \( p = .11 \); for motivation, \( p = .29 \); for learner belief, \( p = .63 \)). The descriptive statistics displayed in Table 3, 4, 5, 6 and 7 show the means on the different levels of the independent variables, their SDs, effect sizes and sample sizes. From Table 3, it can be seen that there is almost no difference in
the means of frequency reported by females and males, with females reporting slightly higher frequency of overall strategy use. From Table 4, it appears that students from Arts and Humanities reported higher frequency than students from science or other major. Table 5 shows that among Chinese, Japanese and Korean students, Chinese students reported higher frequency of overall strategy use, and Korean students reported much lower frequency. Table 6 indicates that learners of stronger motivational intensity in general reported higher frequency of strategy use. From Table 7, it seems that there is almost no difference in the frequency reported by students who strongly believe in the importance of lecture learning and those who mostly agree on the importance.

Table 3: Gender and frequency of strategy use

<table>
<thead>
<tr>
<th>GENDER</th>
<th>Mean</th>
<th>SD</th>
<th>95% Confidence Interval</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>3.36</td>
<td>.51</td>
<td>3.17 - 3.55</td>
<td>28</td>
</tr>
<tr>
<td>M</td>
<td>3.28</td>
<td>.43</td>
<td>2.94 - 3.61</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 4: Major and frequency of strategy use

<table>
<thead>
<tr>
<th>MAJOR</th>
<th>Mean</th>
<th>SD</th>
<th>95% Confidence Interval</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts/Humanity</td>
<td>3.51</td>
<td>.54</td>
<td>3.27 - 3.75</td>
<td>16</td>
</tr>
<tr>
<td>Science</td>
<td>3.12</td>
<td>.33</td>
<td>2.78 - 3.46</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>3.27</td>
<td>.47</td>
<td>3.01 - 3.54</td>
<td>13</td>
</tr>
</tbody>
</table>
Table 5: L1 and frequency of strategy use

<table>
<thead>
<tr>
<th>L1</th>
<th>Mean</th>
<th>SD</th>
<th>95% Confidence Interval</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>3.61</td>
<td>.46</td>
<td>3.15</td>
<td>4</td>
</tr>
<tr>
<td>Japanese</td>
<td>3.37</td>
<td>.42</td>
<td>3.15</td>
<td>18</td>
</tr>
<tr>
<td>Korean</td>
<td>3.18</td>
<td>.49</td>
<td>2.87</td>
<td>9</td>
</tr>
<tr>
<td>Malay</td>
<td>2.19</td>
<td>.</td>
<td>1.28</td>
<td>1</td>
</tr>
<tr>
<td>Ponapean</td>
<td>3.14</td>
<td>.</td>
<td>2.22</td>
<td>1</td>
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<tr>
<td>Spanish</td>
<td>3.83</td>
<td>.</td>
<td>2.91</td>
<td>1</td>
</tr>
<tr>
<td>Tetum</td>
<td>4.25</td>
<td>.</td>
<td>3.33</td>
<td>1</td>
</tr>
<tr>
<td>Thai</td>
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<td>.</td>
<td>2.30</td>
<td>1</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>3.42</td>
<td>.</td>
<td>2.50</td>
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</tr>
</tbody>
</table>

Table 6: Motivation and frequency of strategy use

<table>
<thead>
<tr>
<th>MOTIV.</th>
<th>Mean</th>
<th>SD</th>
<th>95% Confidence Interval</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amotivation</td>
<td>2.81</td>
<td>.86</td>
<td>2.11</td>
<td>2</td>
</tr>
<tr>
<td>Intrin.+ Instrum.</td>
<td>3.35</td>
<td>.38</td>
<td>2.86</td>
<td>4</td>
</tr>
<tr>
<td>Instrumental</td>
<td>3.31</td>
<td>.43</td>
<td>3.10</td>
<td>22</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>3.53</td>
<td>.57</td>
<td>3.20</td>
<td>9</td>
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</tbody>
</table>

Table 7: Learner belief and frequency of strategy use

<table>
<thead>
<tr>
<th>BELIEF</th>
<th>Mean</th>
<th>SD</th>
<th>95% Confidence Interval</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mostly agree</td>
<td>3.27</td>
<td>.48</td>
<td>3.02</td>
<td>16</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3.38</td>
<td>.48</td>
<td>3.14</td>
<td>19</td>
</tr>
</tbody>
</table>

Gender, major, L1, motivation and learner belief in lecture learning as predictor of the reported frequency in the use of the three different types of strategies
Repeated measures MANOVA was used to find out whether gender, major, L1, motivation and learner belief would predict any difference in the frequency of the three different types of strategies, i.e. metacognitive, cognitive and compensatory strategies.

No statistically significant differences were found for all the independent variables (for gender, \( p = .53 \); for major, \( p = .08 \); for L1, \( p = .30 \); for motivation, \( p = .21 \); for learner belief, \( p = .94 \)). Figures 1, 2, 3, 4, and 5 depict the graphic mean differences on the three different types of strategies by the different levels of each of the independent variables. Their numeric means are displayed in Appendix 2. Figure 1 shows that females reported slightly higher frequency of strategy use on all the three different types of strategies than males, especially with the social strategies. Figure 2 displays that, compared with science students, students with arts and humanities major reported slightly higher frequency in using all the three types of strategies, with science major students reporting a particular low frequency in using social strategies. From Figure 3, Chinese students reported higher frequency for using all the three types of strategies than Japanese and Korean students, with Japanese students reporting a quite lower use of social strategies. Figure 4 indicates that students with stronger motivational intensity use both metacognitive and cognitive strategies more frequently, with learners of amotivation using the strategies much less frequently. However, this may not be the
case with social strategies. Students with amotivation reported using those strategies almost as frequently as students with intrinsic motivation. Figure 5 shows that learners having stronger belief in the importance of lecture learning reported slightly higher frequency in using both metacognitive and cognitive strategies. Nevertheless, this may not apply social strategies.
DISCUSSION

As the instrument’s reliability estimate, the Cronbach’s coefficient alphas for the sub-tests of metacognitive strategies and cognitive strategies are reasonably high ($\alpha = .80$ and $\alpha = .84$ respectively). By deleting two items that correlated extremely low with the sub-test of compensatory strategies, the alpha value of .77 was obtained for this sub-test. Thus the instrument can be trusted to be reliable for the tests on the three different types of strategies, and measures on the three sub-tests can be used for inferential statistics.

For answering the second research question, descriptive statistics for the responses on each item were used. It was found out that for metacognitive strategies, the most frequently used strategies were maintaining attention and taking notes, and the least frequently used ones were doing extra relevant reading before class and reviewing the lessons after class. It may show that learners are very aware of the importance of
keeping concentrated in listening and taking notes of important points during the lecture. But learners hardly bother to do extra relevant reading and even do not regularly review the lessons. At the same time, from the relatively higher averages on the items on basic planning, learners do try to prepare themselves by doing the required the reading and learning new terms. Learners seem to be in general active in trying out strategies to comprehend lecture and evaluating their effectiveness. But they do not seem to be often monitoring their listening process by checking comprehension. For the cognitive strategies, the most frequently used strategies are attending to familiar words and listening for stressed words. Several other strategies about paying attention to specific features of the text and situation also had higher reported average frequency. This might show that learners often use selective attention during the listening process, and often pay attention to special features to get at the messages and main points. The least frequently used cognitive strategies are predicting the lecture content before the lecture and predicting incoming messages during the lecture. The strategies of summarizing and inferencing also had lower reported average frequency. Given these may be more cognitively demanding strategies, it might be because the students could not spare their attention to using the strategies, since they still have difficulty in comprehending the lecture content. As for the compensatory strategies, students in general reported lower
frequency to use them. Most of the students do not often take instructor or TA as resources to compensate for lack of comprehension during the lecture or after the lecture. However, they would rather seek help from classmates or friends on more occasions.

To answer research question 3, the descriptive statistics show that the ESL college students reported higher frequency in their use of cognitive strategies than metacognitive and compensatory strategies. But the mean differences between the frequency of cognitive and metacognitive strategies were found to be not statistically significant. Both the mean frequencies of cognitive and metacognitive strategies were found to be significantly higher than the mean frequency of compensatory strategies. This finding might confirm with previous findings that learners reported more use of cognitive strategies than metacognitive strategies (Chamot & Kupper, 1989; Vandergrift, 1996; Goh, 1998), and also the least use of social-affective strategies (Vandergrift, 1996).

In regards to research question 4 and 5, although inferential statistics were used to see whether gender, major, L1, motivation and learner belief predict any difference in the
overall strategy use and in the three different types of strategies, no statistically significant differences were found. This may be largely due to the extremely small sample sizes for each level of the independent variables. Nevertheless, an examination of the descriptive statistics offered some initial findings and patterns in answering the questions. Firstly, females reported higher frequency of strategy use than males, either by all the strategies or by the three types of strategies. This finding confirms with what most of the researchers found out in LLS and LCS studies. Secondly, students with arts and humanities major reported higher frequency of strategy use than science students, with all the strategies and with all the three types of strategies. Further studies need to confirm about this possible pattern. It is also interesting to note that science students reported a particularly lower use of social strategies. Thirdly, Chinese students reported higher frequency in using all the strategies and in using the three types of strategies than Japanese and Korean students. Japanese students reported a much lower use of social strategies. Fourthly, learners’ motivational intensity seems to be able to predict learners’ strategy use. From this study, learners with higher motivational intensity reported higher frequency in using both metacognitive and cognitive strategies. This finding confirms with Vandergrift’s (2005) conclusions, and studies on LLS also had similar findings. However, social strategies may not be predicted by motivational intensity. Learners
with lower motivation may possibly make use of more social strategies to compensate for what they missed in class. Lastly, learner belief in the importance of lecture learning may also affect learners’ strategy use. From this study, it seems that learners with stronger belief in the importance of lecture learning may use more metacognitive and cognitive strategies. Again, social strategies may not be related to learner belief. One more finding that emerged from the analyses is that social strategy seems to be not closely related with metacognitive and cognitive strategy, since the data on it often present different patterns from the other two. Due to the small sample size, the interpretations here are only descriptive. Any patterns that emerged from the data cannot be used for any generalizations further. In addition, the operationalizations of motivation orientation and learner belief were realized by single item as the indicator, and cannot be regarded as a valid measure of the constructs. Multiple-item instruments are needed for more valid investigations in these regards.

CONCLUSION

This exploratory pilot study, using a questionnaire, intended to look into ESL college students’ use of strategies to comprehend academic lecture, and the roles of gender, major, L1, motivation and learner belief in their strategy use. Some of the initial
findings could add to this body of research on LLS and LCS. Findings could also help college ESL teachers to have a better idea of their students’ use of strategies to understand content area classes. For the strategies that were identified as much less frequently used, but may prove to be effective strategies for lecture comprehension, ESL teachers could help to raise the students’ metacognitive awareness, and wherever appropriate, incorporate the use of the strategies into listening tasks and help students to learn to use the strategies.

The study has a number of limitations. Although the questionnaire has acceptable reliability for the items on each strategy type, the instrument needs to be further polished and refined, particularly in terms of its theoretical grounding in strategy and strategy classifications. This will benefit from general advancement in the field in terms of its theoretical foundations, and the current researcher’s further investigations into the relevant fields. Another drawback to the study is its small sample size, especially for a questionnaire study. Due to the small sample size, the findings could only be descriptive and speculative. With a larger sample size, factor analysis can also be done to further test the instrument reliability in grouping the items into strategy types. In addition, more accurate and complex measurements are needed for the motivation and learner belief
constructs. Finally, in order to design a more valid questionnaire for this specific purpose, it will be beneficial to start with collecting relevant data qualitatively, by diary study, interview, class observations and etc.

References


London: B. Blackwell.


Murphy, J. M. (1987). The listening strategies of English as a second language college


Vandergrift, L. (1997). The comprehension strategies of second language (French)


## APPENDIX 1. Frequency of Strategy Use for Each Strategy Item

### Metacognitive Strategies

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item Description</th>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I do all the required readings</td>
<td>0.03</td>
<td>0.27</td>
<td>0.19</td>
<td>0.27</td>
<td>0.19</td>
<td>37</td>
<td>3.34</td>
<td>1.15</td>
</tr>
<tr>
<td>2</td>
<td>I make sure that I understand the new key terms that appear in the reading.</td>
<td>0.03</td>
<td>0.05</td>
<td>0.14</td>
<td>0.54</td>
<td>0.22</td>
<td>37</td>
<td>3.89</td>
<td>0.91</td>
</tr>
<tr>
<td>3</td>
<td>I look for related extra information about the reading materials.</td>
<td>0.19</td>
<td>0.3</td>
<td>0.35</td>
<td>0.11</td>
<td>0.03</td>
<td>37</td>
<td>2.47</td>
<td>1.01</td>
</tr>
<tr>
<td>4</td>
<td>I set goals for what can be achieved by listening to the lecture.</td>
<td>0.08</td>
<td>0.22</td>
<td>0.43</td>
<td>0.19</td>
<td>0.08</td>
<td>37</td>
<td>2.97</td>
<td>1.04</td>
</tr>
<tr>
<td>5</td>
<td>I think over what I already know about the topic.</td>
<td>0.05</td>
<td>0.14</td>
<td>0.41</td>
<td>0.38</td>
<td>0.03</td>
<td>37</td>
<td>3.19</td>
<td>0.91</td>
</tr>
<tr>
<td>6</td>
<td>I concentrate my attention while listening to the lecture.</td>
<td>0</td>
<td>0.11</td>
<td>0.08</td>
<td>0.43</td>
<td>0.38</td>
<td>37</td>
<td>4.08</td>
<td>0.95</td>
</tr>
<tr>
<td>7</td>
<td>I consciously bring myself back to the lecture when I lose my concentration.</td>
<td>0</td>
<td>0.08</td>
<td>0.22</td>
<td>0.43</td>
<td>0.27</td>
<td>37</td>
<td>3.89</td>
<td>0.91</td>
</tr>
<tr>
<td>8</td>
<td>I have a sense of what information is most important.</td>
<td>0.03</td>
<td>0.05</td>
<td>0.16</td>
<td>0.35</td>
<td>0.41</td>
<td>37</td>
<td>4.05</td>
<td>1.03</td>
</tr>
<tr>
<td>9</td>
<td>I take notes of important points.</td>
<td>0.05</td>
<td>0.19</td>
<td>0.30</td>
<td>0.24</td>
<td>0.19</td>
<td>37</td>
<td>3.33</td>
<td>1.15</td>
</tr>
<tr>
<td>10</td>
<td>I review the lecture notes and reading materials soon after the class.</td>
<td>0.03</td>
<td>0.24</td>
<td>0.49</td>
<td>0.24</td>
<td>0</td>
<td>37</td>
<td>2.95</td>
<td>0.78</td>
</tr>
<tr>
<td>11</td>
<td><strong>Note:</strong></td>
<td>0</td>
<td>0.08</td>
<td>0.43</td>
<td>0.32</td>
<td>0.16</td>
<td>37</td>
<td>3.57</td>
<td>0.87</td>
</tr>
<tr>
<td>12</td>
<td>I review the lecture notes and reading materials soon after the class.</td>
<td>0.14</td>
<td>0.30</td>
<td>0.22</td>
<td>0.22</td>
<td>0.14</td>
<td>37</td>
<td>2.92</td>
<td>1.28</td>
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### Cognitive Strategies

<table>
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<th>Item #</th>
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<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>0.08</td>
<td>0.22</td>
<td>0.38</td>
<td>0.24</td>
<td>0.05</td>
<td>37</td>
<td>2.97</td>
<td>1.01</td>
</tr>
<tr>
<td>9.</td>
<td>0.08</td>
<td>0.19</td>
<td>0.32</td>
<td>0.32</td>
<td>0.05</td>
<td>37</td>
<td>3.08</td>
<td>1.04</td>
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<tr>
<td>10.</td>
<td>0.08</td>
<td>0.32</td>
<td>0.35</td>
<td>0.14</td>
<td>0.11</td>
<td>37</td>
<td>2.86</td>
<td>1.11</td>
</tr>
<tr>
<td>11.</td>
<td>0</td>
<td>0.27</td>
<td>0.46</td>
<td>0.16</td>
<td>0.08</td>
<td>37</td>
<td>3.06</td>
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<td>16.</td>
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<td>0.30</td>
<td>0.35</td>
<td>0.30</td>
<td>0.03</td>
<td>37</td>
<td>3.00</td>
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<td>17.</td>
<td>0</td>
<td>0.16</td>
<td>0.43</td>
<td>0.27</td>
<td>0.14</td>
<td>37</td>
<td>3.38</td>
<td>0.92</td>
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<td>18.</td>
<td>0.03</td>
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<td>0.19</td>
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<td>3.53</td>
<td>1.01</td>
</tr>
<tr>
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<td>0.08</td>
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<td>37</td>
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<td>37</td>
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<td>1.01</td>
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<td>3.78</td>
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<tr>
<td>23.</td>
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<td>0.05</td>
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<td>24.</td>
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<td>0.27</td>
<td>37</td>
<td>3.95</td>
<td>0.94</td>
</tr>
<tr>
<td><strong>Most important</strong></td>
<td>0.03</td>
<td>0.03</td>
<td>0.22</td>
<td>0.43</td>
<td>0.30</td>
<td>37</td>
<td>3.86</td>
<td>1.18</td>
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</table>
Lecture Comprehension Strategies

- **Compensatory Strategies**

<table>
<thead>
<tr>
<th>Item #</th>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. I ask for clarification or repetition if I miss or don’t understand a point.</td>
<td>0.35</td>
<td>0.16</td>
<td>0.22</td>
<td>0.14</td>
<td>0.14</td>
</tr>
<tr>
<td>33. I ask my classmates or friends about the things I do not get or understand about the lecture.</td>
<td>0.05</td>
<td>0.14</td>
<td>0.41</td>
<td>0.27</td>
<td>0.14</td>
</tr>
<tr>
<td>34. I ask the instructor of TA about the things I do not get or understand about the lecture.</td>
<td>0.19</td>
<td>0.27</td>
<td>0.24</td>
<td>0.16</td>
<td>0.14</td>
</tr>
<tr>
<td>35. I study the course materials together with my classmates or friends.</td>
<td>0.27</td>
<td>0.22</td>
<td>0.46</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>36. I compare my notes with my classmates’.</td>
<td>0.32</td>
<td>0.41</td>
<td>0.14</td>
<td>0.11</td>
<td>0</td>
</tr>
<tr>
<td>37. If I find the lecture difficult to understand, I tape it and listen to it again later.</td>
<td>0.54</td>
<td>0.30</td>
<td>0.03</td>
<td>0.03</td>
<td>0.08</td>
</tr>
<tr>
<td>38. I read more related materials if I found my comprehension incomplete and inaccurate.</td>
<td>0.19</td>
<td>0.24</td>
<td>0.35</td>
<td>0.14</td>
<td>0.08</td>
</tr>
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</table>
APPENDIX 2.

Frequency of Strategy Use for the Three Types of Strategies by Predictors

<table>
<thead>
<tr>
<th></th>
<th>META</th>
<th>COGN</th>
<th>COMP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td><strong>GENDER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>3.40</td>
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<td>3.53</td>
</tr>
<tr>
<td>Male</td>
<td>3.35</td>
<td>0.57</td>
<td>3.48</td>
</tr>
<tr>
<td><strong>MAJOR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts/Humanity</td>
<td>3.51</td>
<td>0.59</td>
<td>3.71</td>
</tr>
<tr>
<td>Science</td>
<td>3.16</td>
<td>0.40</td>
<td>3.43</td>
</tr>
<tr>
<td>Others</td>
<td>3.38</td>
<td>0.53</td>
<td>3.34</td>
</tr>
<tr>
<td><strong>L1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>3.73</td>
<td>0.24</td>
<td>3.67</td>
</tr>
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<td>Japanese</td>
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</tr>
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<td>Korean</td>
<td>3.28</td>
<td>0.16</td>
<td>3.27</td>
</tr>
<tr>
<td><strong>MOTIVATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amotivation</td>
<td>2.65</td>
<td>0.37</td>
<td>2.89</td>
</tr>
<tr>
<td>Ins+Int M</td>
<td>3.60</td>
<td>0.26</td>
<td>3.44</td>
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<tr>
<td>Instrumental M</td>
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<td>3.52</td>
</tr>
<tr>
<td>Intrinsic M</td>
<td>3.56</td>
<td>0.17</td>
<td>3.66</td>
</tr>
<tr>
<td><strong>LEARNER BELIEF</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mostly Agree</td>
<td>3.30</td>
<td>0.14</td>
<td>3.41</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>3.45</td>
<td>0.13</td>
<td>3.55</td>
</tr>
</tbody>
</table>
APPENDIX 3. Lecture Comprehension Strategy Survey

This survey is intended to investigate undergraduate ESL students’ use of strategies to comprehend academic lectures. Please pick one lecture course for which you have difficulty in comprehending the lecture. Answer this survey by thinking about the strategies you use for that specific lecture course.

A. Demographic Information
■ Major: ____________________________
■ Home country: ____________________ ■ Native language(s): ______________________
■ Age: _______________ ■ Gender: ( ) Female ( ) Male
■ How long have you been in the U.S.? __________ year(s) ___________ month(s)

B. Specific Information about your Lecture Course
■ Name/ number of the course: ______________________________
■ This course is (check one): ( ) a general education course
   ( ) a lower-division major or minor course
   ( ) an upper-division major or minor course
   ( ) a graduate course
■ Please choose statements that apply to your situation in this course:
   ( ) I have strong interest in this course subject, and I study hard for it.
   ( ) It is an important course, so I study hard for it.
   ( ) In order to get a good grade, I have to study hard for it.
   ( ) I don’t like this course, and I am not putting much effort into it.
   ( ) It is not an important course, so I am not putting much effort into it.
   ( ) I don’t like this course at all, and I feel I am forced to take it.

■ To what extent do you agree with the following statement? (please circle one)
Being able to comprehend the lecture well is essential for succeeding in this course.
Disagree Somewhat agree Mostly agree Strongly agree
1 2 3 4
C. Lecture Comprehension Strategy Survey

Directions: Please answer the survey items in accordance with the strategies you use for the lecture course you described above. It is recommended that you answer the survey shortly after you finish attending one of the regular meetings of that lecture class.

Check the box that describes the frequency of your use of each listed strategy. The categories are: Never, Seldom, Sometimes, Often, and Always.

Before the lecture

1. I do all the required readings.
2. I make sure that I understand any new key terms that appear in the readings.
3. I look for related extra information about the reading materials.
4. I predict what the lecture content will be.
5. I set goals for what can be achieved by listening to the lecture.
6. I think over what I already know about the topic.

During the lecture

7. I concentrate my attention while listening to the lecture.
8. I consciously bring myself back to the lecture when I lose my concentration.
9. I judge the lecturer’s purpose in what he or she says.
10. I predict what the lecturer is going to say next.
11. I figure out missing or unclear information by making inferences.
12. I connect what I hear to my existing knowledge.
13. I ask for clarification or repetition if I miss or don’t understand a point.
14. I take notes of important points.
15. I take notes in different ways.
Lecture Comprehension Strategies

16. From time to time, I mentally summarize what the lecturer has said.
17. I know what points I missed in the lecture.
18. I listen to whole phrases instead of single words.
19. I form mental visualizations and images of what I hear.
20. I attend to words and phrases that are familiar to me to understand what is being said.
21. I have a sense of what information is most important.
22. I continue listening even though I hear unknown or unfamiliar words.
23. I pay attention to the lecturer’s body language (e.g. gestures and facial expressions) as a clue to his or her messages.
24. I listen for stressed words to identify what is most important.
25. I pay attention to the lecturer’s use of repetition and redundancy.
26. I make use of visual aids (e.g. writing board, slide or transparency) to follow the lecture.
27. While I listen, I periodically check how much I’ve understood the lecture.
28. I am aware of the usual way the lecturer organizes his or her lecture.
29. I pay special attention to the introduction and summary of the lecture.
30. I pay attention to signaling words like “In the last part, I talked about…” and “Finally, as a conclusion to what we looked at today…”.
31. I try out ways to comprehend the lecture better and evaluate whether they work well for me.

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After the lecture

32. I review the lecture notes and reading materials soon after the class.

33. I ask my classmates or friends about the things I do not get or understand about the lecture.

34. I ask the instructor or TA about the things I do not get or understand from the lecture.

35. I study the course materials together with my classmates or friends.

36. I compare my notes with my classmates’.

37. If I find the lecture difficult to understand, I tape it and listen to it again later.

38. I read more related materials if I find my comprehension incomplete.
Lecture Comprehension Strategies