Effects of Processing Strategies on Listening Comprehension

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Abstract

The present research study aimed to discover processing strategies used by listeners with different levels of listening comprehension ability and gender. In this study, 42 (Female = 33 : Male = 9) third year tourism management students from a university in the south of Thailand were given the IELTS listening test in order to identify their level of English listening ability and categorize them into lower-performance and higher-performance listeners. Each item of the IELTS listening test was categorized into two types of questions: local and global questions associated with bottom-up and top-down processing strategies respectively. The scores for the correct answers were calculated and compared between different ability groups, and between genders using the independent samples t-test. An interview was used to check which strategies they thought they used while listening. The results showed that there was a significant difference between the strategies used by learners with different levels of listening performance at the level of .01. The results also showed that male and female listeners did not differ in their top-down and bottom-up processing strategies use. It suggested that gender is not as important as students’ listening ability in making the choice of strategies.

Key words: bottom-up processing strategy, top-down processing strategy, global question, local question, high-performance listener, low-performance listener

Background

New developments in information technology have helped people separated by great distances to communicate with each other as if they were in the same room. New technology makes possible distance conferencing, training, and talking across countries. Hence,
communication has become mostly face-to-face and consequently making writing letters almost obsolete. At present, “face-to-face communication occurs in a wide range of business activities, including formal meetings, coffee room chitchat, hallway encounters, one-on-one coaching, annual evaluations, job interviews, and more” (Begley, 2007, p. 6). These activities require immediate responses; hence many difficulties can occur during communication. People have to process information heard, and respond to it, so the problems are twofold.

Face-to-face communication is a dynamic interactive process that involves effective transmission of facts, ideas, thoughts, feeling and values. In order to communicate effectively, people are required to process information successfully. As Celce-Muria (2001) says, listening comprehension takes a more important role now and people need to have knowledge of vocabulary, grammatical structure, sounds, and even body language to be able to comprehend successfully. Buck (2001) says listening comprehension is an active process of constructing meaning, and it is done by applying knowledge to process the incoming sound. Also, it can be affected by a wide range of variables: accent, speech, vocabulary, phonological modification, characteristics of the speaker, the situation, the listener, and contents etc. Therefore, people need to have a lot of listening ability to be effective in communication.

Factors which may obstruct listening comprehension are of many, and accent is potentially a very important one. According to Brown and Yule (1983), when people speak, listeners have to realize the normal habits of simplification in speech which vary somewhat from individual to individual, and vary considerably between different accents. Stress and intonation is also considered very important in comprehension, as much of the communicative effect of utterances is expressed by the stress and intonation. Listeners need to be able to understand that in order to construct a reasonable interpretation. Learners need to practice listening to English with different kinds of input from various sources in order to experience the sounds, accents, and feelings from intonation in utterances. Another prominent factor may be phonological modification. “The degree of phonological modification varies depending on the situation. For example, in formal situations speakers will tend to have less modification than in informal situations; similarly, in cases where the information is important, they will tend to pronounce the words with more care than they would with casual, throw-away information” (Buck, 2001, p.33). Occasionally, listeners will encounter words pronounced in a so-called manner such as the word ‘back’ when listening to speakers with unfamiliar accents like Australians, Scottish, Filipino, and Chinese. Besides all of these,
speech rate is another variable which is important in listening comprehension. Fast spoken utterances, of course, are more difficult to catch than those delivered at a slower rate, so that means speech rate can affect the comprehension ability.

In the process of comprehension, Brown and Yule (1983) stated that learners need to know meaning of an utterance which could be referred to as literal meaning of words combined in a particular structure and be able to understand what the speaker intended to convey by uttering those words, that is the speaker’s intended meaning. In order to understand what the speaker intended to communicate, they need to have both knowledge of words and syntax to understand the basic linguistic meaning and have knowledge of the world from daily experience to help understand the contents or to have expectation about what they will hear. These are two types of comprehension processing namely bottom-up and top-down, which may occur simultaneously, or in any convenient order. However, the listeners will use whatever helps them interpret what the speakers are saying to understand spoken language.

As listening skill takes a more important role in language learning and communication, many researchers have focused on investigating listening comprehension ability of learners in order to discover what approaches can help learners succeed in communication. Fullilove and Tsui, M. (1998) conducted a study by using types of questions that reflect processing strategies used. The first type was local questions which required students to locate specific details for information or focus on grammatical forms. Hence, students could pick up specific details such as room numbers or the name of the person in order to be able to get the correct answer. This type of questions represented bottom-up processing. The second type was global questions which required students to comprehend the text as a whole and to draw inferences. Hence, students needed to process all the linguistic cues rapidly and accurately, and they could use the background knowledge to predict the content in order to get the correct answer. The global questions represented top-down processing. They found that more-skilled listeners are more likely to use top-down processing which requires an understanding of the whole text, whereas less-skilled listeners rely on bottom-up processing which involves knowledge of linguistics input in understanding the text. They also stated that question types interacted with processing strategies. For successful listening comprehension, “Listeners use their knowledge of the world, situations, and roles of human interaction to focus on meaning (top-down processing strategies) and then use their
knowledge of words, syntax, and grammar to work on form (bottom-up processing strategies) or vice versa” (Rubin, 1994, p. 210).

In strategy use, gender also affects the strategy choice. Several studies have investigated the existence of gender differences in the use of language learning strategies. Green and Oxford (1995) found that females use strategies more frequently than males. Moreover, they used different types of strategy. However, Shmais (2003) did not report any differences in strategy use among university-level students as a result of gender difference. This could be attributed to the fact that the subjects of this study were university English majors who were typically more aware of the process of learning a foreign language and of the strategies required to obtain proficiency than other groups.

As evident from the results of the research mentioned above, this present study aspires to investigate more on listening strategies used among students with different levels of performance in listening comprehension and with different gender.

**Research questions**

1. Do learners with different levels of performance in listening comprehension employ both top-down and bottom-up strategies? If so, what’s the ratio of use?

2. Are there any differences between male and female listeners in listening strategies used? If so, what strategies do they employ?

**Research Methodology**

Both qualitative and quantitative methods were used to gather data on listening comprehension strategy use from 42 third year tourism students in a university in southern Thailand. The International English Language Testing System (IELTS) listening test was used to identify student’s level of English listening ability. They were divided into 2 groups: higher-performance and lower-performance listeners by using the criteria of 27 percent top and 27 percent bottom. The IELTS listening test consisted of 80 items which were categorized into local and global questions. Answers to local questions reflect the use of bottom-up processing and global questions, top-down processing. After the IELTS listening test, they was then selected for an interview to confirm their listening strategies use. The results of the interviews were analyzed and compared between groups. The data obtained from the IELTS listening test was then analyzed using the SPSS program for mean, standard deviation, percentage, and t-tests.
Findings

1. Strategies used by different ability groups

An analysis of the data showed that learners with different levels of performance in listening comprehension employ both top-down and bottom-up strategies as follows:

Table 1 Strategies used by high and low performance listeners as reflected by question types

<table>
<thead>
<tr>
<th>Question Type (100%)</th>
<th>Low (n=14)</th>
<th>High(n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td>sd</td>
</tr>
<tr>
<td>Local questions (100)</td>
<td>14.78</td>
<td>1.86</td>
</tr>
<tr>
<td>(bottom-up)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global questions (100)</td>
<td>16.96</td>
<td>13.52</td>
</tr>
<tr>
<td>(top-down)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in Table 1, which a table of is the scores of the IELTS listening test, there was a significant difference of listening strategies used between the students with different levels of performance in listening comprehension at .01. Higher-performance listeners used significantly more top-down and bottom-up strategies than the lower-performance ones.

Table 2 Strategies used by low-performance listeners as reflected by question types

<table>
<thead>
<tr>
<th>Question Type (100%)</th>
<th>Low (n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Local questions (100)</td>
<td>14.78</td>
</tr>
<tr>
<td>(bottom-up)</td>
<td></td>
</tr>
<tr>
<td>Global questions (100)</td>
<td>16.96</td>
</tr>
<tr>
<td>(top-down)</td>
<td></td>
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</tbody>
</table>

The results from table 2 indicated that there was no significant difference in the use of both types of strategies in low-performance listeners. It means they used both top-down and bottom-up processing strategies with similar frequency to comprehend the text.
The results from table 3 showed that there was a significant difference in the use of top-down and bottom-up strategies by high-performance listeners. They employed more top-down processing strategies in order to comprehend the text.

Low performance listeners’ use of top-down and bottom-up strategies was not statistically significant whereas high performance listeners employed significantly more top-down processing strategies. With the ratio of 1:1.15 (local: global question) bottom-up and top-down strategies used by low performance listeners and 1:1.9 by high performance listeners. It can be seen that though the listeners from both groups got higher scores from global questions than from local questions, only high performance listeners’ scores of global questions were significantly higher than those of local question. This indicated that top-down processing strategy had helped listeners to comprehend the text more efficiently and more effectively; hence, separating listeners into different groups of ability.

2. Strategies used by subjects of different genders

The results from table 4 showed that there was no significant difference in strategies used by males and females as a whole.
Table 5 The strategies used by female listeners as reflected by question types

<table>
<thead>
<tr>
<th>Question type (100%)</th>
<th>Group</th>
<th>N</th>
<th>x</th>
<th>sd</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local questions (100)</td>
<td>low</td>
<td>11</td>
<td>14.27</td>
<td>1.65</td>
<td>-6.534</td>
<td>.000**</td>
</tr>
<tr>
<td>(bottom-up)</td>
<td>high</td>
<td>9</td>
<td>31.02</td>
<td>7.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global questions (100)</td>
<td>low</td>
<td>11</td>
<td>19.32</td>
<td>12.95</td>
<td>-3.979</td>
<td>.002**</td>
</tr>
<tr>
<td>(top-down)</td>
<td>high</td>
<td>9</td>
<td>52.78</td>
<td>22.34</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results from table 5 showed that there was a significant difference in strategies use by female listeners from the different levels of performance at .01.

Table 6 The strategies used by male listeners as reflected by question types

<table>
<thead>
<tr>
<th>Question type (100%)</th>
<th>Group</th>
<th>N</th>
<th>x</th>
<th>sd</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local questions (100)</td>
<td>low</td>
<td>3</td>
<td>16.67</td>
<td>1.39</td>
<td>-3.204</td>
<td>.018*</td>
</tr>
<tr>
<td>(bottom-up)</td>
<td>high</td>
<td>5</td>
<td>26.67</td>
<td>5.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global questions (100)</td>
<td>low</td>
<td>3</td>
<td>8.33</td>
<td>14.43</td>
<td>-5.407</td>
<td>0.01**</td>
</tr>
<tr>
<td>(top-down)</td>
<td>high</td>
<td>5</td>
<td>60.00</td>
<td>10.46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results from table 6 showed that there was a significant difference in strategies used in male listeners from the different levels of performance in bottom-up strategy used at .05, whereas than in top-down strategy used was at .01.

As a whole, male and female listeners use both top-down and bottom-up strategies similarly with no significant difference. However, when dividing the female group into higher and lower performance groups, the results showed that they used significantly different strategies. This also happened when the same analysis was done to the male group. This helps support the previous finding that groups of different abilities employed different types of strategies.

Discussions

The results of the study showed that learners with different levels of performance employ different strategies. Low-performance listeners employed both strategies non-significantly differently. High-performance listeners employed both top-down and bottom-up strategies more but used a lot more top-down strategy. This is consistent with Vandergrift
(2003) who found that more-skilled listeners tended to approach both top-down and bottom-up processing interactively, and less-skilled listeners were incompetent in keeping up with the coming input, unable to recognize relevant information, and rapidly forgot previously comprehended knowledge.

From the interview to confirm processing strategies use, it was found that high-performance listeners read the questions before listening which helped them gain some ideas about what they were going to hear. While listening, they couldn’t catch up with the text because the speaker spoke too fast, and they also had problems with unfamiliar vocabulary. However, they listened to the text until the end of the tape and didn’t feel worried about not understanding every word on the text. When they listened to the text, they listened for words and tried to understand the whole text. In some texts, they could conceptualize the speaker’s attitude towards the listener as well. However, they found that the texts with multiple choice questions were more difficult to understand than the texts that required filling in the blanks. This meant that they needed to focus on specific information – to decode particular parts of the text when they did multiple choice questions. It implied that high-performance listeners were more used to top-down processing strategy in comprehension.

Low-performance listeners read the questions before listening to the text and started to realize that the text they were going to listen to might be very difficult. However, reading the questions before taking the test didn’t help them to get any clues to what they would hear in the text. They tried to listen and translate individual words, but they couldn’t understand all the words. Therefore, they couldn’t either catch up with, or understand the speaker’s attitude towards the listener. That caused them to stop listening to the text. But sometimes hearing some of the words they understood helped them guess what the speaker’s intention was. According to them, the texts with multiple choice questions were very difficult to understand, but it was easy to guess the answers. The texts with cloze tests were also difficult for them to understand and difficult to guess the answer. It implied that low-performance listeners used bottom-up and top-down processing strategies but still not enough to help them understand the contents.

Both groups had difficulties in answering local questions, due to their lack or insufficiency of grammar knowledge, but the better group was not deterred by that obstruction and used other strategies to help instead. They finally arrived at global comprehension though they might have missed some of the details. This was in contrast with
the lower group which got stuck with the words and could not get over them to comprehend the text.

Regarding the roles that gender plays in strategy use, the results of this study indicated that male and female listeners did not differ in their listening strategies use. This result contrasted with Hashemi (2011) which revealed that male and female learners differ in the language learning strategies. Green and Oxford (1995) also found that females used strategies more frequently than males, and they used different types of learning strategies.

One the whole, this present study concluded that gender is not as important as students’ listening ability in making the choice of strategies.

**Recommendations**

The results showed that gender was not as important as level of listening comprehension ability. This could be beneficial for both students and English teachers. It could provide guidance for students, who lack listening processing strategies; either those concerning the knowledge of lexical and grammatical forms, or the background knowledge to improve themselves by practicing listening in various situations inside and outside the classroom. Besides, it can provide teachers with ideas to design a suitable syllabus which could include the specific teaching of listening strategies, and to develop their teaching methodology to provide opportunities for students to listen to the text from various situations, so that the students can cope with problems while listening and know what listening strategies they need to use in order to comprehend the texts successfully. When students know how to deal with the problems of listening and use listening strategies properly, their communication will therefore be more effective.

For further studies, conducting the study about ‘listening strategies used by learners with different abilities of English’ using the same type of questions (multiple choices) to check their processing strategies would be suggested.

**References**


