THE EFFECT OF COGNITIVE STRATEGIES ON THE STUDENTS' LISTENING COMPREHENSION AT STMIK PRABUMULIH

By

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Abstract

This study is an experimental design that aims to find out if there is any significant difference in the students' listening comprehension taught by using cognitive strategies. The study was conducted at STMIK Prabumulih. The population taken was the fourth semester students. The samples were taken by random sampling technique. Pre-test and post-test were carried out with participant students from the two classes, experimental and control class. The experiment class showed an average of 40 in the pre-listening test. On the other hand, the control class showed an average of 35 when doing the pre-listening test. After being treated with cognitive strategies, then the post-listening test was carried out. The experiment class showed an average of 70, whereas the control class got 50.83. The mean gain for control class was 16.50, and for the experimental class were 27.50. Both classes differ in gains in which the mean gain for experiment class was higher than the other one. It was found that t-observed was greater than the value of t-table (4.63 > 1.671) and thus null hypothesis was successfully rejected. It could be interpreted that cognitive strategies affected the students' listening comprehension. The result of cohen's *d* is 1.19, and categorized as large. With the Cohen's *d* of 1.19, 97.1 % of the treatment classes were above the mean of the control one. The finding of the study is expected to be reference or source of information in designing teaching listening syllabus.

Keywords: *Effect, Cognitive Strategies, Bottom-up, Top-down*

Introduction

Like reading, listening is classified into receptive skill. Listening involves responding rather than producing it. British Council (2014) states that the receptive skills are listening and reading because learners do not need to produce language to do these, they receive and understand it. These skills are sometimes known as passive skills. Even though listening is supposed to be a passive activity, there is an active process because the listeners must recognize the differences among sounds, understand vocabularies and the grammatical structures, get the meaning of language input and other prosodic proof from the text, and they must save the information

gathered long enough in their mind to interpret the context in which the communication takes place. Shortly, listening is a complicated activity and difficult to understand that requires extremely a lot mental exertion (Holden, 2004).

There are some factors that make listening difficult. Cotter (2014) explains some keys that make listening difficult: (a) colloquialism, (b) accent, intonation, inflection, and stress; (c) reduced forms, (d) fillers, correction, and repetition, (e) word or phrase clusters, and (f) content. Colloquialism said to be the most easily identifiable characteristic. It is an informal word or expression which is more suitable for use in speech than in writing. Accent, intonation, inflection, and stress are readily identifiable trouble spots. Unfamiliar accents can hinder comprehension. Reduced forms cause problems as well. Native speakers often string several words together. "Can't you" becomes "canchya" and "what are you" becomes "whachya." Speakers also often use fillers like "uh," "ummm," and "well." These serve as pauses and hesitations as the person thinks about what to next say. Word or phrase clusters are yet one more aspect that makes listening difficult. Native speakers and adept second-language learners select and digest manageable clusters, or chunks, of words. These chunks are often broken up with conjunctions, prepositions, and the like, which then serve as markers. The last key is content that plays a very significant role in listening comprehension. Without sufficient background knowledge on the topic, which may very well include specialized vocabulary, the listener won't be able to follow the conversation.

Regarding the difficulties in comprehending a spoken discourse, it is necessary to learn and apply listening strategies that help to comprehend a spoken discourse. Teaching listening strategies to the students is very helpful (Goh, 2000). The use of listening strategies contributes to learners in developing their listening comprehension skill. Listening strategies are classified into three main types: cognitive, metacognitive, and socio-affective strategies.

Some previous studies revealed that cognitive strategies contributed to the students' listening comprehension. The experimental study conducted by Yulita (2011) revealed that there was a significant positive improvement of using the bottom-up technique to improve students' listening comprehension on. Similarly, the Classroom Action Research (CAR) study conducted by Wachid (2014) also revealed that applying top-down strategy could improve students' listening comprehension. The results of the study showed an improvement of students listening comprehension by using top-down strategy. It could be seen from the mean score of pre-test and post-test. In cycle 1, post-test was higher than pre-test: 70.68> 40.37, and in cycle 2, post-test was also

higher than pre-test: 77.87> 58.56. Syekel and Aki (2013), who conducted the study on "Empirical and Attitudinal Effects of Bottom-up Listening Activities in the L2 Classroom", found out that bottom-up listening activities had value in the second language classroom for the development of learners' phoneme processing and sentence parsing abilities. Roberto et al (2014) claimed that implementing the bottom-up listening strategy and top-down listening strategy instruction in English advanced course enhanced students' performance on listening activities.

Preliminary data gained from pre-observation at STMIK Prabumulih showed that the fourth semester students found themselves hard to acquire information from spoken discourse or oral language, hence it is necessary to make an effort to develop their listening skill. Applying cognitive strategies in teaching listening skill is expected to be helpful in developing their listening comprehension.

As this study is aimed at finding out if there is any significant effect on the students' listening comprehension taught by using cognitive strategies, the hypotheses are formulated:

H_a: There is any significant difference in the students' listening comprehension taught by using cognitive strategies.

H_0: There is no any significant difference in the students' listening comprehension taught by using cognitive strategies.

Review of Literature

The term cognitive strategies distinguished from metacognitive and social strategies are viewed as mental strategies that used by the students to the create the sense of learning in solving problem learning in order to learn more successfully. Buck (2001) cited in Richards (2008) views cognitive strategies as mental activities related to comprehending and storing input in working memory or long-term memory for later retrieval. He also states that processes of comprehension are associated with the processing of linguistic and nonlinguistic input. British Council (2001) explains that cognitive strategies include repetition, organizing new language, summarizing meaning, guessing meaning from context, using imagery for memorization.

According to Freeman (2004) cognitive strategies are classified depending on how the learners process the input. Cognitive strategies are classified into two types: Bottom-up and top-down strategies.

a. Bottom-up Strategy

According to Nunan (2005) bottom-up processing assumes that listening is a process of decoding the sounds that one hears in a linear fashion, from the smallest

meaningful units (phonemes) to complete text. Further, Richards (2008) states that bottom-up processing refers to using the incoming input as the basis for understanding the message. Comprehension begins with the received data that is analyzed as successive levels of organization – sounds, words, clauses, sentences, texts – until meaning is derived. Comprehension is viewed as a process of decoding. In other words it can be stated that in forming meaningful texts, the process is linear one, in which meaning itself is derived by firstly decoding phonemic units and linking together to form words, then words are linked together to form phrases, phrases are linked together to form utterances, then meaning is derived by linking utterances together.

In teaching listening skill using top-down processing, it is necessary to develop the learner's ability to do: (a) retain input while it is being processed; (b) recognize word and clause divisions; (c) recognize key words; (d) recognize key transitions in a discourse; (e) recognize grammatical relationships between key elements in sentences, and (f) use stress and intonation to identify word and sentence functions (Richards, 2008).

To process texts bottom-up, a learner needs a large vocabulary and knowledge of sentence structure. Listening to positive and negative statements and choosing an appropriate form of agreement is one example of listening tasks given by Richards (2008) to develop bottom-up processing:

Students hear	*Students choose the Correct response*	
That's a nice camera.	Yes	No
That's note a very good one.	Yes	No
This coffee isn't hot	Yes	No
This meal is really tasty.	Yes	No

b. Top-down Strategy

According to Wilson (2010), the top-down model emphasizes the use of background knowledge to predict content. Similarly, Rost (2011) argues top-down processing listeners tap into background knowledge of the topic, the situation or context, the type of text, and the language. Both opinions emphasize the importance of background knowledge builds comprehension as well as what Richards (2008) states that top-down processing, refers to the use of background knowledge in understanding the meaning of a message. Top-down processing goes meaning to language. This strategy includes listening for the main idea, predicting, drawing inferences, and summarizing.

Peterson (2001) in Murcia (2002:93) notes that the goals for top-down processing based on the learners' level; beginning, intermediate or advanced level. For a beginner, the goals of the listening activities are: (a) to get the gist or main idea of the passage; (b) to discriminate between emotional reactions; and (c) to recognize the topic. For intermediate students are: (a) to discriminate between registers of speech and tones of voices; (b) to identify the speaker or a topic; (c) to find main ideas and supporting details; and (d) to make inferences. For advanced students are: (a) to use the knowledge of the topic to predict the content of the text; (b) to use the introduction to the lecture to predict its focus and direction; (c) to find the main idea of a lecture segments; and (d) to recognize point of view.

To develop top-down listening skills, Richards (2008) lists the activities: (a) students generate a set of questions they expect to hear about atopic, then listen to see if they are answered; (b) students generate a list of things they already know about a topic and things they would like to learn more about, then listen and compare; (c) students read one speaker's part in a conversation, predict the other speaker's part, then listen and compare; (d) students read a list of key points to be covered in a talk, then listen to see which ones are mentioned; (e) students listen to part of a story, complete the story ending, then listen and compare ending; (f) students read news headlines, guess what happened, then listen to the full news items and compare.

In teaching listening skill using top-down processing, it is necessary to develop the learner's ability to do: (a) use key words to construct the schema of a discourse; (b) infer the setting for a text; (c) infer the role of the participants and their goals; (d) infer causes or effects; (e) infer unstated details of a situation; and (f) anticipate questions related to the topic or situation (Richards:2008).

Method

The study was experimental and the research design was quantitative designed. The design of the study was presented in the following table:

Table 1: Research Design

NO	GROUP	PRE-TEST	TREATMENT	POST-TEST
1	Control Class	√	X	√
2	Experimental Class	√	Y	√

Participants of the study were the fourth semester students of STMIK Prabumulih 2015/2016 academic year. The sample was 60 students taken from the

population by random sampling technique. The participants were divided into control and experiment class. The instrument of the study was multiple choice test consisted of 20 items. The pre-test was administrated to both control and experiment class. Then the treatment was carried out to experiment class. Hypotheses were tested by using t-test formula.

Data Analysis and Discussion

Pre test and post test were carried out with participant students from the two classes, experimental and control class. The experimental class showed an average of 40 in the pre-listening test. On the other hand, the control class showed an average of 35 when doing the pre-listening test. After being treated with cognitive strategies, then the post-listening test was carried out. The experimental class showed an average of 70, whereas the control class got 50.83. After analyzing the data, it is found that t-observed was greater than the value of t-table (4.63 > 1.671) and thus null hypothesis was successfully rejected. It could be interpreted that cognitive strategies affected the students' listening comprehension.

Taking into account that in the pre-test phase the samples of the experimental class were already ahead of the control class, and that the control class also showed an improvement comparing their results in the pre-listening test, it is necessary to discuss how they differ at post-test. The following table is the gain scores of each class.

Table 2: Gain Scores

Group	N	Mean	Std. Deviation	Std. Error Mean
Control Class	30	16.5000	9.11138	1.66350
Experiment Class	30	27.5000	9.26153	1.69092

The table reveals that the mean gain for control class is 16.50, and for the experimental class is 27.50. Both classes differ in gains in which the mean gain for experiment class is higher than the other one.

The effect size which is termed for the magnitude of treatment was measured by using cohen's *d*. The result of cohen's d is 1.19. Cohen (1988) in Becker (2000) states effect sizes as "small, *d* = .2," "medium, *d* = .5," and "large, *d* = .8" Based on the statement, the cohen's *d* of 1.19 is categorized as large. Moreover, with the cohen's *d*

of 1.19, 97.1 % of the treatment class were above the mean of the control one.

It also important to find out how these strategies were effective in students at the time they were taking their lessons. Students considered that the use of these strategies was very helpful in understanding the topics and focusing when listening. The finding can also help students by encouraging them to learn more about their own individual cognitive styles. This will be helpful to improve their strengths and deal with their weaknesses.

Since the students had considerable difficulties such as colloquialism, accent, intonation, inflection, and stress, and reduced forms, the use of cognitive strategies facilitates the management of the information while students are in a listening activity.

Conclusion and Suggestion

Concerning the research question which deals with finding out if there is any significant difference in the students' listening comprehension taught by using cognitive strategies, the obtained finding through independent samples t-test reveals that students who treated with cognitive strategies performed significantly better than untreated ones. Implementing the cognitive strategies enhanced the students' comprehension. This is revealed by either the gain score achieved or their listening activities.

No single listening strategy will be effective for all students, but regarding the result of the study, it is suggested applying the cognitive strategies in teaching listening comprehension.

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