

## THE COGNITIVE STRATEGY TRAINING : BLOCKED BUTTOM-UP TOP-DOWN APPROACH IN LISTENING CLASS

By

**Eka Pra Setiyawati<sup>(1)</sup>, Muhammad Sukirlan<sup>(2)</sup>, Mahpul<sup>(3)</sup>**

This research was conducted to find out whether cognitive strategy training based on blocked buttom-up top-down approach affect the students' listening comprehension in term of four listening's aspects. The design of this research was quantitative with one-group pretest-posttest design. The instrument was 9 items of listening test. The validity of the research was measured using pearson product moment and the reliability of the research was measured with correlation product moment and spearman brown. The subject who were chosen by cluster random sampling, were 21 second year of senior high school students. The result of the data analysis showed that the aspects of listening comprehension were improved mainly in finding detail (36%) and lowly in finding main idea (13%). Finally, it could be concluded that cognitive strategy training based on blocked buttom-up top-down approach could affect the students' listening comprehension.

**Keywords:** *Buttom-up top-down approach, cognitive strategy training, listening.*

Penelitian ini dilakukan untuk mengetahui apakah pelatihan strategi kognitif berdasarkan pendekatan blok buttom-up top-down mempengaruhi kemampuan mendengar siswa terutama pada empat aspek mendengar. Desain penelitian ini adalah kuantitatif dengan satu kelompok pre-test post –test. Instrumen pada penelitian ini berupa tes mendengar dengan 9 butir soal. Validitas instrumen diukur menggunakan pearson product moment dan reliabilitas instrumen diukur menggunakan correlation product moment dan spearman brown. Subjek penelitian diambil dengan random klaster, yaitu 21 siswa SMA kelas XI. Hasil analisis data menunjukkan bahwa aspek dalam kemampuan mendengar siswa meningkat, tertinggi pada aspek menentukan detail (36%) dan terendah pada aspek menentukan ide pokok (13%). Akhirnya, dapat disimpulkan bahwa pelatihan strategi kognitif berdasarkan pendekatan blok buttom-up top-down dapat mempengaruhi kemampuan mendengar siswa.

**Kata kunci:** pendekatan buttom-up top-down, kemampuan mendengar, pelatihan strategi kognitif.

## INTRODUCTION

It is common knowledge that listening in English is an active skill requiring listeners to deal with a variety of complicated tasks, such as discriminating between sounds and interpreting stress and intonation. Hunsaker (1990:4), point out that more than 40% of our daily communication time is spent on listening, 35% on speaking, 16% on reading, and only 9% on writing. It clearly showed us how important this listening skill was in overall language used. Listening is one way for the students to absorb the meanings of words and sentences by the brain. Listening means following and understanding the sound. Through listening the student can improve their ability in receiving and interpreting the message. This means students should be able to produce sentence from what they have listened. Helgesen and Brown (2007:9) say, "Listening is an active, purposeful processing of making sense of what he heard". It means listeners should actively pay attention and make an effort while listening and trying to interpreting the message from the sentence they have heard. Listening skill is one of four language skill that is very important. It is very important for every person as communicative competence and to understand what people say clearly especially from English user. By having good listening skill we could prevent misunderstanding problem, and also could accept what people say accurately, especially to understand a foreigner who speak English.

However, the majority of Indonesian learners particularly in secondary

school, have low capability in listening comprehension. A survey conducted by English First Standard English Test (2015:7) shows that Indonesian students are on average at the B1 level (independent user) in English listening skill among 16 countries. It shows that listening in Indonesia is not yet proficient.

A cognitive approaches in cognitive strategy training stress that learning is an active, constructive, cumulative, and self-directed process that is dependent on the mental activities of the learner (Shuell 1986:415). The orientation of cognitive strategy training that focuses on the mental activities of the learners is regardingly the same as the focus of listening comprehension. Wipf (1984:345) defined that listening is an invisible mental process, making it difficult to describe. It shows that cognitive strategy training has positive relationship with listening comprehension.

Bacon (1992:322) points out that there are two significant processes of cognitive strategies in listening : bottom-up processing and top-down processing. In the early 1980s, only top-down processing was believed to improve L2 listening comprehension (Hildyard and Olson, 1982:12). More recently, both top-down and bottom-up listening strategies have been accepted as being able to greatly enhance listening comprehension (Nunan, 2010:3). Numerous studies have recently been undertaken with respect to top-down and bottom-up approach in listening comprehension, Henderson (2017:1), Renandya and Li (2012:79), Atallah and Khadim

(2010:15) focused on comparing between top-down and bottom up in listening. Meanwhile, Mandarani (2016:189) focused on applying both top-down and bottom up in listening. While, Oh and Min (2014:149) focused on identifying linguistic on top-down and bottom up.

However, as far as it is concerned, very few studies do not cover the comprehensive application of teaching listening through both top-down and bottom up approach. Although it has been found on Mandarani's study, that she immersed top-down and bottom up into her teaching procedure and started the teaching procedure with top-down. Whereas,

If we require (our) students to use native speaker processing skills without first giving (them) a firm grounding in decoding the stream of sounds they hear, we run the risk of causing (them) more frustration and confusion than they can handle. In order to simulate the knowledge that native speakers bring to listening, learners are often provided with vocabulary lists prior to the task and told who the speakers are, what the situation is, and what the topic is about (Norris, 1995:1).

It indicates that the students better start their listening from the smallest thing (Bottom up) to bigger thing (Top-down). Therefore, the study with developed procedure of training from bottom up to top-down in listening needs to be done. Therefore, the present study attempted to address the following

research question:

Does cognitive strategy training based on blocked bottom-up top-down approach statistically significant affect on students' listening comprehension in term of four listening's aspects?

## RESEARCH METHODS

The design of this research was quantitative with one-group pretest-posttest design. The instrument was 9 items of listening test. The sample was chosen by cluster random sampling. They were 21 second year of senior high school students at MA Ma'arif 06 Pasir Sakti from the total population was 97 students. The instrument of the research was listening test with multiple choice. The reliability of the instrument was measured with correlation product moment in which the reliability of the instrument is very high and reliable if the final result shows score 0.80 – 1.00. The reliability coefficient of the listening test was 0.832. It can be stated that the listening test had a high reliability. While, the validity of the instrument was measured with Pearson product moment in which the item is valid if it is more than  $r$  table (0.3882). From the total of 40 items, it was found that there were 9 items were valid. In order to analyze the improvement of students' listening comprehension, the data was analyzed by these following procedures : 1). Scoring the pre-test and post-test. 2). Tabulating the result of the test and calculating the mean of pre-test and post -test. 3). Analyzing the items of pre-test and post-test respected to each aspect in

listening comprehension. 4). Drawing a conclusion from tabulated results of pre-test and post-test, then was analyzed by using paired t-test / ANOVA of SPSS 16 version for windows.

## RESULTS AND DISCUSSION

Having been mentioned in research question, this research attempted to

investigate whether cognitive strategy training statistically significant affects on students' listening comprehension, especially on four aspects of listening. To know the effect of cognitive strategy training on students' listening comprehension, the results of pre test and post test were compared. The result can be seen on the table 1 and 2 :

**Table 1. Students' Listening Comprehension**

Interval Score	Description	Frequency	
		Pre test	Post test
5-6	Good	4	12
3-4	Fair	11	9
1-2	Low	6	0
<b>Mean</b>		3.38	4.67
<b>Highest score</b>		6	6
<b>Lowest score</b>		1	3

**Table 2. Statistical Computation of Students' Listening Comprehension**

	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PRETEST - POSTTEST	-.145	.130	.028	-.204	-.086	-5.139	20	.000

Table 1 showed that the result of post test was slightly higher than the result of pre test with different mean score 1.29%. The increase of mean of pre test and post test indicated that the students' listening comprehension significantly improved after being trained with blocked bottom-up top-down approach. Then, the second table reported the results of paired samples test which sig 2-tailed = 0.00 < 0.05 statistically represented that there was significant difference between pre test and post test group on students' listening comprehension.

The results showed that around 29 % of students got low score, some 52% got fair score, and other 19% got good score in pre test. After being trained with the strategy training, 100% students with low score shifted to fair score which attained 43% and the rest was improved to good score which reached 57%. It indicated that the strategy training can increase the students' listening comprehension one level higher than their initial score.

It could be concluded that cognitive strategy training based on blocked

bottom-up and top-down approach could enhance students' listening comprehension better. Overall, this finding supported some previous studies, such as Henderson, 2017; Renandya and Li, 2012; Atallah and Khadim, 2010; that found bottom-up and top-down strategy training could improve students' listening comprehension.

Hence, the students with low proficiency could improve their achievement after being trained with the strategy training. This finding was in line with Herron and Seay (1991:489) who found that the learning results of the students who have got the training of strategies are much better than the students who do not. It is also found that the strategy training may greatly improve students' listening ability. It could be inferred that the students with low proficiency could improve their ability if they had training during learning process.

Then, Thompson and Rubin (1996:331) confirmed the effect of

strategy instruction on the listening comprehension performance of university students learning Russian. The performance of an experimental group was compared to a control group which received no strategy instruction. The result of the pre and post test showed that students who received strategy instruction improved significantly over those who did not receive such instruction. It was demonstrated that the use of strategy training helped students to manage their approach to listening.

As said by Vandergrift (1999:172) that strategy development is important for listening training because strategies are conscious means by which learners can guide and evaluate their own comprehension and responses. That's why the use of strategy training in this research could increase the students' listening comprehension.

Further, to see the detail improvement of four listening aspects in pre test and post test, the following table was attached below:

**Table 3. Effect of Cognitive Strategy Training based on Blocked Bottom-up Top-down Approach on Listening Comprehension in Term of Four Aspects**

Aspects of Listening	Mean of Pre test	Mean of Post test	Difference of Mean
Restatement	0.36	0.63	0.27
Detail	0.40	0.81	0.40
Inference	0.37	0.66	0.30
Main idea	0.29	0.52	0.14
<b>Total</b>	<b>1.51</b>	<b>2.62</b>	<b>1.11</b>

**Table 4. Statistical Computation of The Effect of Cognitive Strategy Training based on Blocked Bottom-up Top-down Approach on Listening Comprehension in Term of Four Aspects**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Restatement	-.048	.350	.076	-.207	.112	-.623	20	.000
Detail	-.310	.370	.081	-.478	-.141	-3.833	20	.001
Inference	-.100	.257	.056	-.217	.017	-1.784	20	.000
Main idea	-.238	.436	.095	-.437	-.039	-2.500	20	.001

In table 4.3 above, showed that each aspect of listening between pre test and post test increased significantly. While, the second table reported the results of paired samples test of each aspects which sig 2-tailed. The aspect of restatement was  $0.00 < 0.05$ , the aspect of detail was  $0.001 < 0.05$ , the aspect of inference  $0.000 < 0.05$ , then the aspect of main idea  $0.001 < 0.05$ , they were statistically represented that there was significant difference between pre test and post test group on students' listening comprehension in term of four aspects of listening.

On the other hand, from detail analysis of four aspects of listening, it could be seen that the aspect of detail was improved highest around 36%, and followed with the aspect inference which attained 27%, then the aspect of restatement got 24%, while the aspect of main idea had the lowest improvement which reached 13%. Although each aspect had different percentage, however it could be seen that there was an improvement on each aspect of listening after being trained with the strategy training. It implied that the

strategy training could enhance the students' listening aspects during the learning process.

Further, the highest improvement of aspect of detail and the lowest improvement of aspect of finding main idea were in line with Ristanti, Eliwarti, and Maria, (2013:1) who found that the students' ability on listening comprehension of descriptive text was in poor level for finding main idea. She found that the result of the students' ability on listening comprehension of descriptive text was in poor level for finding main idea (44.81), identifying restatement (40.37), while finding detail was in good level (60.37), and for identifying inference was in average level (50.00).

The reason why finding main idea is the most difficult for students was elaborated by Dwiarti (2005:42) who found that there are four problems that the students facing in finding main idea, they are: 1) lack of interest toward listening; 2) lack of background knowledge; 3) lack of vocabulary; 4) unaware on the parts



of listening. In conclusion, based on the result showed, cognitive strategy training based on blocked bottom-up top-down approach could improve each aspect of listening.

## **CONCLUSION AND SUGGESTION**

The training had raised the students' comprehension in finding the gist of listening although they did not know the overall content of listening. Further, the training enhanced the students' particular comprehension in term of four aspects in listening. In aspect of detail, the students acknowledged to easily find the specific pieces of information that are stated in listening by identifying key words / vocabularies that elaborated in activity three in the training. It was proved with the result of detail that got the highest percentage among other aspects in listening. Then, the next high percentage was found in aspect of inference and restatement / conclusion. Although the training had covered all aspects in listening, some of students seemed not too hard to identify the inference and restatement / conclusion. Then, the lowest percentage was found in aspect of main idea. It was found that the main reason of difficulty in finding main idea was lack of vocabulary. However, the activities in the training were designed to help the students in finding the gist of listening although they have limited vocabulary.

The limited study of this research such as the use of small sample size

and the one group pretest and posttest design lead the researcher to propose further research related to cognitive strategy training to promote listening comprehension. Further study should investigate bigger sample size. At the end, the researcher strongly expects that this study can be a great contribution as a reference for further studies related on bottom-up and top-down approach especially in listening. Therefore, the importance of cognitive strategy training based on blocked bottom-up top-down approach will be more concerned by researchers, educators, and teachers.

## **REFERENCES**

- Al-Qaraghooly, D. A; Al-Bermani, H. K. K. (2010). The effect of top-down and bottom up processing on developing efl students' listening comprehension. *AL-Fatih Journal*, 4(5), 15-40.
- Bacon, S. M. (1992). Phases of listening to authentic input in Spanish: A descriptive study. *Foreign Language Annals*, 25(3), 317-334.
- Dwiarti, E. (2005). An analysis of students' problems in finding the main idea of the text at second year of smu kosgoro sekampung, east lampung. Script. Unpublished Script. Bandar Lampung: University of Lampung.
- EF EPI-s. (2017). *EF English Proficiency Index for School. The EF Standard Test.* ([www.ef-set.org](http://www.ef-set.org), accessed on January 13, 2018).

- Helgesen, M.; Steven, B. (2007). *Practical english language teaching: listening*. New York: McGraw-Hill.
- Henderson, X. (2017). An investigation of metacognitive, bottom-up and top-down strategies in 12 listening. Thesis. Unpublished Thesis. Monterey Bay: California State University.
- Herron, C. A; Seay I. (1991). The effect of authentic oral texts on student listening comprehension in the foreign language classroom. *Foreign Language Annals*, 24(5), 487-495.
- Hildyard, A; Olson, D. R. (1982). *On the comprehension and memory of oral vs. written discourse. in tannen, deborah (ed.), spoken and written language: exploring orality and literacy (pp. 19–33)*. Norwood, NJ: Ablex Publishing Corp.
- Hunsaker, R. A. (1990). *Understanding and developing the skills of oral communication: speaking and listening (2nd ed.)*. Englewood, CO: J. Morton Press.
- Mandarani, V. (2016). Peningkatan kemampuan listening comprehension melalui strategi top-down dan bottom-up. *Jurnal Pedagogia*, 5( 2), 189-196.
- Norris, R. W. (1995). Teaching reduced forms: putting the horse before the cart. *English Teaching Forum*, 33(3), 47-50.
- Nunan, D. (2010). *Teaching english for young learners*. USA: Anaheim University Press.
- Oh, E; Lee, C. M. (2014). The role of linguistic knowledge and listening strategies in bottom-up and top-down processing of 12 listening. *English Teaching*, 69(2), 149-173.
- Renandya, W. A; Li, W. (2012). Effective approaches to teaching listening: chinese efl teachers' perspectives. *The Journal of Asia TEFL*, 9(4), 79-111.
- Ristanti, S; Eliwarti; Maria, D. (2013). Astudy on the ability in listening comprehension on descriptive text by the 2nd semester students of english study program fkip-ur. Script. Unpublished Script. Pekanbaru: Riau University Press.
- Shuell, T. (1986). Cognitive conceptions of learning. *Review of Educational Research*, 56(4), 411-436.
- Thompson, I; Rubin, J. (1996). Can strategy instruction improve listening comprehension?. *Foreign Language Annals*, 29(3), 331-342.
- Vandergrift, L. (1999). Facilitating second language listening comprehension: acquiring successful strategies. *ELT Journal*, Volume 53: 168-176.
- Wipf, J. A. (1984). Strategies for teaching second language listening comprehension. *Foreign Language Annals*, 17(4), 345-348.



