

The Effect of Top-down and Bottom-up Collaborative Strategy as Receptive Skill in Listening

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Abstract

This study investigates the effect of top-down and bottom-up collaborative strategy on students' listening skill viewed as receptive language skills. Conducted at SMA Islam Sinar Cendekia BSD City, the research employs a quasi-experimental design involving two groups: an experimental group, which received instruction through the top-down and bottom-up collaborative strategy, and a control group, which followed a conventional listening instruction approach. Data were collected through pre-tests and post-tests to measure students' listening proficiency. The findings revealed a significant improvement in the listening skills of students in the experimental group compared to those in the control group. This suggests that the integration of top-down and bottom-up collaborative strategy in listening instruction can effectively enhance students' comprehension abilities. The study's results offer valuable insights for educators and language practitioners in developing more effective listening teaching methodologies

Keywords: Bottom-up strategy, Collaborative learning, Listening skills, Top-down strategy, Quasi-experimental design.

1 INTRODUCTION

Most Indonesian students lack English listening skills. Nadhira and Warni (2020) stated that the causes of students' lack of English listening skills are less of listening materials that need to be provided by teachers. Teachers focus on grammar learning and reading comprehension and many teachers have not been much concerned about listening teaching in the classroom. Moreover, students have many difficulties in learning English listening, there are many problems that students face in learning English listening, such as unfamiliar words, rate of speech, unfamiliar accent, unclear pronunciation, recording quality and inadequate facilities. The hardest problems they have are students' background knowledge, lack of practices and environment noise. English listening skills had not been sufficiently learned by the students. Abidin and Juan (2018) strengthen that is because English listening skills are very much dependent on sufficient acquisition of grammatical knowledge and many vocabulary skills which students do not possess. This is also compounded by the small and limited English speaking environment for students to speak confidently.

On the other hand, English listening skill is crucial for mastering the English language. Yavuz and Celik (2017) stated that listening is widely acknowledged as a neglected skill due to the insufficient pedagogical development in teaching English. Listening skills have been a great concern for language teaching. If we make assumptions that language is an input and output process, it is called a communication process. Since output highly depends on input, it makes listening skills significant in the output process. In the general sense, it may be assumed that listening is an input process of language, and speaking is an output language process. It puts that listening skill as important as other language skills. Listening

becomes a skill an important language to master language. This is because the listening process occurs most often in class. When the teacher gives instructions, when the teacher explains a concept, when other students tell stories. Listening skills are required in these processes. Especially when the teacher uses the direct method in class, the learner must really understand what is being said by teacher in the target language.

Listening skills are said as a foundation for skills speak another language because of the learner acquiring vocabulary, knowing pronunciation of words, use of sentences in monologues and dialogues of activities listening. At stages higher, the learner is capable inform again understanding through skills speaking or writing. This matter shows that skill listening becomes a receptive skill active where students listen, process information, and respond. The information is in verbal form as well as writing.

Madarani (2017) explained that there are several obstacles for students when listening in class, in including speed, new vocabulary may arise, and the topic is still unfamiliar to students. They do not can control the speaking speed of speaker. Learners feel that message said the speaker had disappeared before the listener understands the contents of the message. Apart from that, there is limited vocabulary too become an obstacle to activities listening. In face-to-face classes directly in class, students have a lot of practice opportunities outside the classroom so there is incoming vocabulary input. How with online classes? What can carry out to help students in listening activities in class? Wrong one way that can be done is teachers apply top-down strategies and bottom-up when listening in class. Both strategies help students to understand the contents of the recording or the video you watched. This article will discuss how to implement it both strategies in activity listen in class.

Some researcher defined that listening is a process of hearing the sound of a speaker and it needs to find the meaning of the listener; while listening, the listener receives the information from speakers' sayings and gets the ideas. Thus, Hamouda (2017) argued that listening skills are very important in understanding input of language, learning does not occur if there is not an input process. Those listening processes are the way the listener constructs a meaning or information when they get from the speaker. Additionally, Osada (2018) pointed out that listening comprehension is a vital language learning process that provides input for the students, without understanding input, students cannot learn anything.

Numerous researchers believed that the process of language input may be influenced by the way students' attitudes towards English language learning, also by the strategies of teaching that given to them in the classroom. The high amount of exposure students get, make it possible for them to get more knowledge and language improving, that way may be in the form of teachers' talk, English speaking environment, radio shows, TV shows, music and movies. Those activities may be implemented in some classrooms. Listening is now viewed as a process of deriving information and processing through negotiation between the speaker and the listener, and finally, the meaning is created through involvement, imagination, and the ability of a person to respond to information. Wherever, Rost (2011) argued that listening comprehension is not merely the process of unidirectional receiving of audible symbols but an interactive process.

Students' listening skill may be influenced by the teachers' strategies in teaching listening in the classroom. Also Moore (2012) surely pointed out that one popular strategy may be implemented as a bottom-up and top-down collaborative strategy to improve students' listening skill while learning in the classroom. Sidabutar (2022) concluded that the study about bottoms up and top-down collaborative strategy to improve listening skill of students concluded that there was a significant effect of using top down and bottom-up collaborative strategy on students' listening skills. This strategy is applied in the classroom to improve listening understanding. Top-Down processing refers to the use of schemata or knowledge of learners to understand the information received, while the Bottom-Up processing refers to the process of understanding the information through the analysis of sound, sense of the word, and grammar.

Several studies have discussed about implementation of top-down and bottom-up strategy to improve and correlate students' listening skill. Part of the studies discussed those processing in listening, another discussed about how far the effect of those strategies. This session elaborates some previous studies about top-down and bottom-up strategies.

Firstly, the study that issued in 2019 by Aiko Furuya; the study aims to examine how listening comprehension processes (top-down and bottom-up) differ by second language proficiency. To investigate such differences, experiments (listening tasks) followed by questionnaires and semi-structured interviews were conducted. Participants included 18 lower intermediate learners, 19 upper intermediate learners, and 23 advanced learners. Participants listened to materials under two conditions: (a) vocabulary knowledge; no background knowledge and (b) no vocabulary knowledge; background knowledge. Results showed that lower intermediate learners comprehend better in (a), whereas upper intermediate learners performed better in (b). No significant difference was observed between (a) and (b) for advanced learners.

Secondly, Anvar (2016) explained in his study that investigating bottom-up strategies only in teaching listening. It provides evidence for the importance of the consistent approach to teaching listening comprehension based on psycholinguistic findings. One of the approaches is the so-called bottom-up approach. The bottom-up approach involves listening to exercises which develop bottom-up processing helping learners to recognize individual words, sentences, and clause divisions, and recognize key linguistic features of the words and sentences. It found out that when learners are given a choice what strategy to use, at lower levels of L2 proficiency they prefer bottom-up strategies to arrive at the meaning of an aural input. The listening comprehension exercises balanced according to the linguistic units and their essential linguistic features allow to form the new perception base of an L2 learner at all linguistic levels.

Thirdly, this study was conducted in 2015 from Michael through quasi-experiment. This quasi-experimental study compared a strategies approach to second language listening instruction with an interactive approach, one combining a roughly equal balance of strategies and bottom-up skills. The participants were lower-intermediate-level Taiwanese university EFL learners, who were taught for 22 hours over one and a half semesters. Their progress through the respective courses was charted via multiple instruments designed to assess growth in their listening proficiency, strategy use, bottom-up skills, and affect-related learner characteristics. Pre-test and post-test one-way ANOVAs showed no significant differences between the two groups on any of the dimensions tested.

However, a repeated-measures ANOVA showed significant gains by the strategies group in listening comprehension, but not by the interactive group. On this longitudinal within-group comparison, the strategies group also demonstrated larger effect sizes than the interactive group for listening instruction, one measure of strategies growth, and the learner characteristics of confidence and motivation, whereas the interactive group showed larger effect sizes than the strategies group for all measures of bottom-up skills involved. The outcome between the groups in terms of listening proficiency suggests that for lower-intermediate-level listeners, it is better to focus more on developing their listening strategies than to provide them with a balanced interactive approach

Based on the previous study above, it can be found that bottom-up strategy more popular implementation to listening teaching. Moreover, there is limited study that collaborate both of strategies in one-time listening teaching. Thus, this study is preferring to collaborate two strategies (top-down and bottom-up up) as a method of teaching and investigate it to know the effect of students' listening skill.

Thus, this study is to investigate the effect of using Top-Down and Bottom-up collaborative strategy in improving students listening skill. The questions appeared; How is the effect of top-down and bottom-up collaborative strategy on students' listening skill? This study aims to find out that strategy effect in the listening class at SMA Islam Sinar Cendekia, BSD.

2 RESEARCH METHODS

The method of research in this study is quantitative research. This research was conducted using an experiment design. Emzir (2008) pointed out as quoted from Gay that experimental research is research methodology which can test hypothesis related causal relationship. In addition, Jogiyanto (2008) stated that experiment is a study which involve researcher manipulates some variables, analyzes them, and observes the effect of the variable. This study used Quasi Experiment Design specifically, because in fact it is difficult to get control group which is homogeneity. Quasi-experimental designs lack randomization but employ other strategies to provide some control over extraneous variables. Quasi experiment is one approach of research which uses two groups: experimental class and control class.

The researcher implemented top-down and bottom up collaborative strategy in the experimental class and the whole class teaching method is delivered in the control class. This study focused on giving the treatment on the experiment class by applying top-down and bottom up in teaching listening, and then the researcher observed the result of teaching learning process by classroom observation test. There are about 38 students as participants divided into 2 classes; control class and experiment class. Those participants are eleventh grade of SMA Islam Sinar Cendekia BSD.

3 RESULT AND DISCUSSION

This session describes general description of the data gained by the research during research. The data collected from the result of pre-test and post-test experiment class and control class scores. The data were depicted into two tables: the table 4.1. showed the students' score achievement of control class and the table 4.2 showed the students' score achievement of experiment class.

3.1 The Data Analysis Result

The data revealed significant differences in the listening performance of students in the control and experimental classes. The control class, consisting of 18 students, did not implement any specific strategies in their listening activities, relying instead on traditional methods. In contrast, the experimental class, comprising 20 students, employed the Top-down and Bottom-up collaborative strategy designed to enhance listening comprehension.

During this research the researcher extended the materials to students about public place dialogues and some conversation through audio listening. The treatment to experiment class implemented top-down and bottom-up collaborative strategy in listening learning. While in the control class, it did not implement top-down and bottom up collaborative strategy. The method implemented only listen the audio and discussion.

The validity and reliability instrument were conducted before the researcher administered the test to both classes. There were 40 questions given to 20 students of SMA Islam Sinar Cendekia. From the validity and reliability test there were 40 from 40 questions which were gained. For further detail of both tests can be seen in the appendix

3.1.1 The Data of Control Class

Table 1. Pre-test and post test score of control class

Students (Y)	Pre-Test	Post-Tes	Gain Score
1	78	90	12
2	76	84	8
3	70	78	8

Students (Y)	Pre-Test	Post-Tes	Gain Score
4	75	80	5
5	69	84	15
6	68	71	3
7	68	76	8
8	70	84	14
9	77	83	6
10	72	86	14
11	75	82	7
12	74	84	10
13	79	87	8
14	81	85	4
15	80	82	2
16	72	83	11
17	70	78	8
18	71	74	3
$\Sigma n=18$	ΣY_0 1325	ΣY_1 1471	ΣY_2 146
SUM	1325	1471	146
AVERAGE	73,6	81,7	8,1
MAX	81	90	
MIN	68	71	

M pre-test $\Sigma Y_0 = 1325 = 73,6$ $n = 18$

M post-test $\Sigma Y_1 = 1471 = 81,7$ $n = 18$

M gain $\Sigma Y_2 = 146 = 8,1$ $n = 18$

Based on the data description on table 4.1. showed us that the lowest and the highest score in the control class. The lowest score is 68 and the highest score is 81 with the average of class is 73,6. After the researcher gave the materials of listening about public place and some conversation through the audio the researcher takes a post test. The data shown on the post test is the lowest score about 71 and the highest score 90, while the average of the post test is 81,7. Thus, it can be counting the gain of the score result is 146 and it average is 8,1.

3.1.2 The Data of Experiment Class

Table 2. Pre test and post test score of experiment class

Students (X)	Pre-Test	Post-Tes	Gain Score
1	68	89	21
2	72	89	17
3	71	84	13
4	75	89	14
5	80	95	15
6	76	86	10
7	76	95	19
8	70	81	11
9	69	78	9
10	69	81	12
11	77	83	6
12	72	87	15
13	75	79	4
14	75	87	12

Students (X)	Pre-Test	Post-Tes	Gain Score
15	81	92	11
16	79	83	4
17	81	83	2
18	70	76	6
19	69	75	6
20	71	94	23
$\Sigma n=20$	ΣX_0	ΣX_1	ΣX_2
	1476	1706	230
SUM	1476	1706	230
AVERAGE	73,8	85,3	11,5
MAX	81	95	
MIN	69	75	

M pre-test $\Sigma X_0 = 1476 = 73,8$ $n = 20$

M post-test $\Sigma X_1 = 1706 = 85,3$ $n = 20$

M gain $\Sigma X_2 = 230 = 11,5$ $n = 20$

Based on the data description on table 4.2. the experiment class score achievement showed us that the lowest and the highest score in the experiment class. The lowest score is 69 and the highest score is 95 with the average of class is 73,8. After the researcher gave the materials of listening about public place and some conversation through the audio which implemented top-down and bottom-up collaborative strategy, the researcher take a post test. The data showed on the post test is the lowest score about 75 and the highest score 95, while the average of the post test is 85,3. Thus, it can be counting the gain of the score result is 227 and it average is 11,5.

Table 3. Result score and statistical resume of pre-test and post-test

Class	Pre-test average	Post-test average	Gain	Std Deviation	Ttable	Tobs.
Control Class	73,6	81,7	8,1	2,57	2,617	28,3
Experiment Class	73,8	85,3	11,5	1,9		

Based on the statistical calculation above, the value of t_0 is 28,30 and the degree of freedom is 36 with 1% degree of significance is used by the researcher. Based on the significance, on degree of freedom of 36, and in 1% degree of significance the value of t_{table} 2.617. By comparing the result of t_{table} and t_0 in the degree of significance of 1%, it can be seen tha $t_0 > t_{table}$ ($28.30 > 2.617$). thus, a conclusion can be drawn that the H_0 was rejected, meanwhile the H_a was accepted.

3.2 Discussion

Research findings above show that the post-test students' scores from experiment class perform better than students from control class. This interpretation is based on comparison

of experiment class and control class students' average score and mean of the post-test. In the experiment class, students' average score of the post-test is 85.3 and the gain of the post-test is 11.5. While, in the control class, students' average score of the post-test is 81.7 and mean of the post-test is 8.1. Afterward, the experiment class and control class students' gain score illustrate that the average gain score for experimental class students is higher (11.5) than the average gain score for control class students (8.1).

Then, from the data testing we can infer that both the pre-test and post-test have normal distribution as shown by the normality test that was done using SPSS calculation because from the table above showed the absolute difference (D) of controlled class data is 0.200. It is less than D_{table} with the closest Kolmogorov-Smirnov critical points of $25 = 0.264$. It is also confirmed that both experiment class and control class are classified as homogeneous group according to the SPSS calculation, because the result of the homogeneity test above showed that the degree of significance is 0.890. It is also bigger than 0.05. So, it can be concluded that both groups are homogeneous.

Based on the result of analysis data, the value of t_{table} in the degree of significance of 1% was 2,617. Then the value of t_o was 23.80. It means that the Null Hypothesis (H_o) was rejected, and the Alternative Hypothesis (H_a) was accepted. Therefore, it can be inferred that Small Group Discussion Technique has effectiveness in learning reading of recount text as shown by 28,30 values of t_o which was higher than 0 (zero). The t -observation ($t_o = 28.30$) which is higher than t_{table} ($t_{table} = 2.617$) shows that the effectiveness of top down and bottom-up collaboration strategies is significant in learning listening compared to the use of other technique that currently used on SMA Islam Sinar Cendekia.

The effects of top-down and bottom-up collaborative strategy in learning listening can be seen from experiment class students' active involvement in the learning process and experiment class students average gain score which was recorded at score 11.5 compared with students' average gain in control class is 8.1. So, that the use of top-down and bottom-up collaboration strategies is effective.

4 CONCLUSION

Based on the result of the analysis of data post-test, there is a significant difference between students' listening skill in experiment class and control class. Experiment class was taught listening by using Top-down and Bottom-up collaborative strategy has the higher gain score (11.5) than control class (8.1). Furthermore, based on the result of t_{test} formula, which figures out the hypothesis testing, it is shown that $t_{observed} (t_o) > t_{table} (t_t) = 28.30 > 2.617$. It means that the result of this study indicated top-down and bottom-up collaborative strategy significantly effect students' listening skills.

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