

The Effect Of Top Down And Bottom Up Strategies To Improve Listening Skill At Tenth Grade Students Of Sma Dwijendra Bualu

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Abstract

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This study aims to determine the effect of Top Down and Bottom Up strategies on improving listening skills at tenth grade students of SMA Dwijendra Bualu High. The sample in this study consisted of 26 tenth grade students selected through purposive sampling and this study employed a pre-experimental design with a single-group pre-test and post-test method to collect data, using a quantitative approach. The measurement tools used were a listening comprehension test in the form of fill-in-the-blank questions and a questionnaire as supporting data to determine students perceptions. The data collected were examined using descriptive and inferential statistical analyses using SPSS version 25. The results of the study showed a significant improvement in students listening skills after the implementation of the Top Down and Bottom Up strategies. The students total scores increased from 1546 (pre-test) to 2071 (post-test). The difference in average scores was -20.192, with a Sig. value of 0.000, indicating that the difference was statistically significant ($p < 0.05$). Additionally, the questionnaire results showed that students had a positive perception of the use of both strategies. The average perception scores ranged from 4.00 to 4.35, falling into the 'Agree' to 'Strongly Agree' category on the 1-5 Likert scale. This indicates that the Top-Down and Bottom-Up strategies were well-received by students and considered effective to highly effective. Therefore, it can be concluded that the Top Down and Bottom Up strategies are effective in improving listening skills.

Keywords: *Listening skills, Top Down and Bottom Up strategies*

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INTRODUCTION

English is an essential subject in Indonesia's education system, from primary school to university, as it serves as a global language for business, academics, and daily interactions. Mastery of English, particularly listening skills, is crucial because it provides the foundation for acquiring vocabulary, understanding pronunciation, and applying sentences in context (Prihatin, 2017; Aswadi, 2017). Listening is not merely a receptive skill but an active process of receiving, processing, and responding to information (Iskandarwassid & Sunendar, 2011). However, students often face challenges in understanding native speakers and responding to audio-based questions (Mandarani, 2016). As Underwood (1990) notes, difficulties include the inability to control speech speed, limited vocabulary, lack of opportunity to ask for repetition, failure to interpret cues, and problems maintaining focus. These challenges are compounded by the fact that English is not the first language in Indonesia.

To address these issues, this study applies Top Down and Bottom Up strategies. Top down techniques encourage students to interpret communications using their past knowledge and context; conversely, bottom up approaches stress on comprehending particular sounds, words, and grammatical patterns. Therefore this research analyze how well these two methods improve the listening skills at tenth grade of SMA Dwijendra Bualu. Top down techniques encourage students to interpret communications using their past knowledge and context; conversely, bottom up approaches stress on comprehending particular sounds, words, and grammatical patterns. Therefore this research analyze how well these two methods improve the listening skills at tenth grade of SMA Dwijendra Bualu.

RESEARCH METHOD

This research uses a pre-experimental method with a One-Group Pretest-posttest Design research . (Sugiyono 2017) "Pre-test and post-test one group design" is a type of research that involves only one experimental class, with no comparison or control class. Researchers use a quantitative approach. The quantitative approach is research that is widely required to use numbers, starting from data collection, interpretation of these data, and the appearance of the results (Arikunto 2013). Before conducting the treatment, researchers given a pretest to the experimental class, then researchers provide treatment for the experimental class. At the end of the treatment, the researcher given a posttest to see the effect of the Top Down and Bottom Up strategy.

1. Research Participants

This research was conducted at SMA Dwijendra Bualu, located at Jl. Taman Siswa, Bena, Kec. Kuta Selatan, Kabupaten Badung, Bali 80361. The research was conducted in the 2025 academic year. A sample in a research study is a portion of the population that is selected, and can be used to represent the population as a whole. According to (Arikunto 2013) a sample is defined as "a segment or representative of the population being examined". Similarly, (Arifin, Purwanto, and Sudrajat 2012) describe the sample as "a part of the population subject to study, or it can be referred to as a smaller version of the population" (miniature population). Of the several classes in SMA Dwijendra Bualu, researcher only took class tenth as a research sample with approximately 26 students.

2. Instrument of Data Collection.

The instruments of this research to collect data were listening test (fill-in-the-blank) and Questionnaire using Likert scale (to assess student perception).

a. Listening Test

According to (Wangid, Kurniawati, and Listiara 2014), a test is a measurement tool in which respondents are asked to answer a number of questions, statements, or complete certain tasks. Based on this definition, tests are used to measure a person's abilities through questions or tasks that must be completed. In this study, the researcher used a listening test with fill-in-the-blank questions to determine the difference in students' listening skills before and after the intervention, which involved the application of top down and bottom up strategies. There were a total of 50 questions for the pre-test and post-test. This test was administered to 10th-grade students as the main respondents and was conducted in two stages:

- Pre-test, conducted before the intervention to determine students' initial abilities.
- Post-test, conducted after the intervention to determine improvements in students' abilities.

The questions used for the pre-test were also used for the post-test after the treatment.

b. Questionnaires

In addition to using listening tests as the primary method, this research also made use of questionnaires as complementary data to gain insights into students' opinions about how top down and bottom up strategies were applied in the context of learning listening. The questionnaire aimed to gain a broader understanding of students' motivation, and perceived effectiveness of the strategies used during learning. Each question was assessed using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). This allowed the researcher to identify general trends in students' views on the strategies applied in listening lessons.

3. Technique of Data Collection

Data was collected from tenth grade students of Dwijendra Bualu High School. The process was as follows:

1) Pre-test

The pre-test was conducted to determine the students' initial level of comprehension in listening before the treatment. At this stage, the researcher asked the students to answer a listening test in the form of fill in the blanks. The students listened to the conversation and answered questions based on what they heard using audio and speakers. After the test was completed, the researcher collected the students' answers as initial data.

2) Treatment

After conducting the pre-test, the students were given treatment using top down and bottom up strategies. Bottom up strategies relied on the combination of sounds, words, and grammar to create meaning, or involved the use of specific details to understand the broader context. Meanwhile, top down strategies involved using the broader context to understand specific details and focused on the role of the listener. In the top down approach, the listener was guided to utilize their background knowledge of the topic, situation, context, text type, and language. The treatment was given in several meetings. In each meeting, the researcher used a different topic for the students. In every session, the researcher followed the same procedure.

3) Post-test

After the treatment was completed, the researcher conducted a post-test. Similar to the pre-test, the post-test was used to determine the effect of the treatment by comparing the pre-test and post-test results to assess any improvement in students' listening comprehension. The students were asked to listen to a dialogue and complete a listening comprehension test using the fill in the blank format. They answered questions based on what they heard through the audio and speakers. After the test was completed, the researcher collected the students' answer sheets in order to analyze whether there was an improvement in their listening comprehension skills.

To assess students' listening achievements on the pre-test and post-test, a scoring rubric was applied. The listening test uses a fill-in-the-blank format consisting of

several missing words or phrases that students must fill in based on the audio recording. Each correct answer is awarded 1 point if the word or phrase matches the original audio recording exactly. If the answer contains minor errors such as spelling mistakes or slightly incorrect word forms but the meaning is still acceptable, it is scored 0.5 points. Incorrect or blank answers are scored 0 points.

The final score for students is calculated using the following formula:

$$\text{Score} = (\text{Total Points Earned} / \text{Total Number of Items}) \times 100 \dots \dots \dots (2)$$

4) Questionnaire

After the pre-test, treatment, and post-test were implemented, the researcher distributed questionnaires to students as supporting data to determine their perceptions of the top down and bottom up strategies provided.

4. Data Analysis

The data collected were examined using descriptive and inferential statistical analyses using SPSS version 25. Descriptive statistical analysis aimed to provide a general description or condition of the research data, including the mean, maximum and minimum values, and standard deviation of the pre-test and post-test scores. The parametric test assumptions were verified with a normality test (Shapiro-Wilk). Based on Shapiro-Wilk the Decision criteria: If Significance (probability value) > 0.05 → the data is normally distributed and if Significance (probability value) ≤ 0.05 → the data is not normally distributed. To find out students perceptions related to the strategies used, the researcher distributed questionnaires after all tests were conducted, 20 questions were given. Each question was assessed using a likert scale ranging from strongly agree (5), agree(4), neutral(3), disagree(2), and strongly disagree(1). This allowed the researcher to identify general trends in students views on the strategies applied in listening lessons. According to (Likert 1932), this approach aims to gauge an individual's feelings about a certain subject by offering statements that can be rated on a defined scale.

Hypotheses were tested by comparing pre-test and post-test results using Paired Sample T-Test. The basis for decision-making in Paired Sample T-Test is:

If the significance value (Sig. 2-tailed) is less than 0.05 ($p < 0.05$), then the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. If the significance value (Sig. 2-tailed) is greater than 0.05, then the null hypothesis (H_0) is accepted and the alternative hypothesis (H_1) is rejected.

RESEARCH RESULTS AND DISCUSSION

Descriptive statistical analysis aims to provide an overview or general description of the data collected from the pre-test and post-test. This test was conducted to determine the mean, maximum, minimum, and standard deviation.

Table 1. Descriptive Statistical of Pre-test and Post-test Scores

Statistics	
Pretest	

			Statistics			
N	Valid	26	Postest	N	Valid	26
	Missing	0			Missing	0
Mean		59.46	Mean		79.65	
Std. Deviation		11.406	Std. Deviation		9.042	
Minimum		37	Minimum		64	
Maximum		78	Maximum		96	

Image above shows the difference between the pre-test and post-test. In the pre-test table, the average score of the 26 students who took the test was 59.46. This average score indicates that the students listening skills are still at a relatively low level, which means that when compared to the minimum passing grade set by the school, which is 70, it is still below average. The standard deviation was 11.406, indicating that the scores among students during the pretest varied significantly. The minimum score was 37, which was the lowest score among students during the pretest, while the maximum score was 78, which was the highest score among students during the pretest.

Meanwhile, in the post-test table, the average score of the total 26 students who took the test was 79.65, which means that when compared to the minimum passing grade set by the school, which is 70, it is above average. The standard deviation was 9.042, which means that the students scores were more uniform, and also shows that the learning strategy applied helped students achieve a more even understanding. The minimum score was 64, which was the lowest score among students during the post-test, while the maximum score was 96, which was the highest score during the post-test. From the comparison above, it can be seen that there is a difference in results before and after the test.

**Table 2. Normality Test
Tests of Normality**

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Uji Pretest	.091	26	.200*	.970	26	.614
Uji Posttest	.088	26	.200*	.959	26	.366

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on Shapiro-Wilk, if Significance (probability value) > 0.05 → data is normally distributed. In the table above, the normality test conducted on the pre-test yielded a value of 0.614, which means this value is greater than 0.05, so the pre-test is deemed to be normally distributed. For the post-test, a value of 0.366 was

obtained, which is also greater than 0.05, so it can be concluded that the post-test is also normally distributed.

Table 3. Hypothesis (Paired Sample t-Test)

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
				Paired Differences				
Pair 1 Sebelum diberikan perlakuan Setelah diberikan perlakuan	-20.192	9.217	1.808	-23.915	-16.469	-11.170	25	.000

Based on the image above, the t-test results for pre-test and post-test scores show that the significance value (2-tailed) is 0.000, which is less than 0.05, so the null hypothesis is rejected and the alternative hypothesis (H_1) is accepted. This means that there is a significant difference between pre-test and post-test scores. This indicates that there is a significant difference between the pre-test and post-test scores after the treatment.

Table 4. Descriptive statistics of the questionnaire
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
P1	26	2	5	4.00	.157
P2	26	2	5	4.15	.173
P3	26	2	5	4.12	.150
P4	26	3	5	4.27	.131
P5	26	3	5	4.35	.135
P6	26	2	5	4.04	.162
P7	26	3	5	4.27	.142
P8	26	3	5	4.27	.118
P9	26	1	5	4.00	.200
P10	26	2	5	4.12	.178
P11	26	2	5	4.27	.162
P12	26	3	5	4.19	.124
P13	26	2	5	4.08	.156
P14	26	2	5	4.12	.169
P15	26	2	5	4.15	.164

P16		26	3	5	4.35	.123	.629
P17		26	2	5	4.15	.154	.784
P18		26	2	5	4.19	.147	.749
P19		26	3	5	4.31	.121	.618
P20		26	3	5	4.35	.156	.797
Valid N (listwise)	N	26					

Based on the results of the questionnaire analysis in obtained through SPSS , the average score of students perceptions of the use of questionnaires in listening learning was in the range of 4.00 to 4.35. Referring to the interpretation categories of the 1–5 Likert scale, these values fall within the ‘Agree’ to ‘Strongly Agree’ categories, indicating that students perceptions of both strategies are at an effective to highly effective level.

Discussion

The findings of this study indicate that the use of top down and bottom up strategies significantly improves students listening comprehension. Improvements in experimental results, as evidenced by descriptive and inferential statistics, show that these strategies are useful in helping students understand and improve their listening skills. The study confirms that both top-down and bottom-up strategies significantly improve listening comprehension. The pretest-posttest score gap illustrates measurable improvement, and student feedback supports the effectiveness of these strategies. Top down strategies allowed students to activate prior knowledge and predict context, while bottom up strategies helped them decode specific language features. These findings align with previous studies (Manihuruk & Sidabutar, 2022; Wahyuni, 2022;(Sitaresmi, Dhatu, and Ginting 2022)) that demonstrate the benefits of top-down and bottom-up strategies for improving listening comprehension .

CONCLUSION

This study concludes that top-down and bottom-up strategies significantly improve the listening skills of tenth-grade students at Dwijendra Bualu High School, as seen in the results of descriptive and inferential statistical analyses, and are well received by students, as seen in the questionnaire results. The results shown by the post-test (after the intervention) were higher than those of the pre-test (before the intervention). Students who received the intervention demonstrated a significant improvement in listening comprehension, enabling them to extract meaning or information from the audio material presented. However, the results of the pre-test on students who received conventional instruction showed that there was almost no significant progress, and in some cases, there was even a decline in ability, indicating that conventional methods are less effective in improving listening skills. Based on the research results obtained, teachers are encouraged to use both strategies to increase student engagement and understanding during listening activities.

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