

RESEARCH ARTICLE

THE ENHANCEMENT OF STUDENTS' SPEAKING SKILLS THROUGH
HEURISTIC STRATEGY

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Abstrak

Kata Kunci:

Strategi Heuristik,
Keterampilan Berbicara,
Metode Pengajaran.

Penelitian ini bertujuan untuk mengetahui apakah strategi Heuristik mampu meningkatkan keterampilan berbicara siswa. Penelitian kuantitatif dengan desain penelitian eksperimen ini diikuti oleh sejumlah 27 siswa kelas 8. Siswa-siswa ini terdaftar di SMP Global Insani School, Bogor dan dipilih melalui cluster random sampling. Dalam mengumpulkan data, para peneliti menggunakan tes berbicara sebelum dan sesudah yang divalidasi sebagai instrumen. Data dianalisis secara statistik melalui uji sampel berpasangan untuk mengetahui hasil penelitian. Analisis menunjukkan bahwa terdapat perbedaan signifikan yang dicapai siswa dalam hal prestasi berbicara baik pada pre-test maupun post-test. Hasil tersebut dibuktikan dengan hasil nilai signifikansi (2-tailed) $p = 0,000, < 0,005$ sehingga hipotesis nol (H_0) ditolak dan hipotesis alternatif (H_a) diterima. Dengan demikian, penelitian ini menyimpulkan bahwa Strategi heuristik meningkatkan keterampilan berbicara siswa kelas 8 SMP Global Insani School, Bogor.

Abstract

Key Word:

Heuristic Strategy, Speaking
Skill, Teaching Method.

This study aims to find out whether or not the Heuristic strategy able to enhance students' speaking skills. There were a number of 27 students in grade 8 participating in this quantitative study with experimental research design. These students were registered at SMP Global Insani School, Bogor and were selected through cluster random sampling. In collecting the data, the researchers used validated pre- and post-tests of speaking as the instruments. The data were analyzed statistically through paired sample test to find out the results of the research. The analysis revealed that there was significant difference achieved by the students in terms of speaking achievement both in the pre-test and post-test. This result was proven by the result of significance value (2-tailed) $p = 0.000, < 0.005$, hence, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_a) was accepted. Thus, this research study concluded that Heuristic strategy enhanced speaking skills of grade 8 students of SMP Global Insani School, Bogor.

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INTRODUCTION

It is undebatable that in this current globalization era, English becomes a language that has to be mastered especially by school students as future generation of a nation. The abilities of using English in communication will obviously give wider opportunity for a country to take part in the global world almost in all aspects. Therefore, preparing the students since early stage with the skills of using this language has been becoming major consideration for Indonesian government to put English into curriculum and assign it as one of compulsory subjects taught in all levels of education. However, in the process of mastering this subject, Indonesian students still counter numerous various issues, particularly in terms of oral skill. Suhaimi (2021) found that more than 50% of junior high school students experienced problems of speaking skills. This finding was supported by the data of Normawati, et.al. (2023) who examined EFL learners' constraints in speaking skills. They found that 48% of the students had difficulties in grammar, 27% in pronunciation, 12% in vocabulary mastery, and less than 10% in other aspects.

Referring to bunch of prior studies discussing EFL learners' handicap in English oral abilities,

Pawlak (2018) assumed that skillful use of strategies will assist the learners cope with their speaking challenges and at the same time their speaking skills will also be improved. In responding to this, Furkatovna (2021) proposed a strategy that can foster students critical and creative thinking during their speaking skills' learning process, called heuristic. This strategy is able to encourage the students to understand their speaking problems and find solutions to escape from challenging circumstances. Sun, Sun, & Liu (2013) explained that in heuristic teaching, the learners will have the experience to think by themselves in a creative way. "Heuristic teaching established the students' dominant position and the teachers' leading role" (Sun, Sun, & Liu, 2013, p. 862). Heuristic explains how to deal with problems, take decisions and find solutions to overcome those problems (Novotna, et.al., 2014).

In the context of speaking, Ming & Tzu (2019) said that in spite of speaking challenges, prior studies proved that successful EFL learners in improving their speaking abilities were the ones who had their own strategies. Thus, this research was aimed to investigate further the effectiveness of heuristic strategy to enhance students' speaking skills. This idea was also based on the fact that plethora of research works used heuristic mostly in mathematical and science fields (Rosyada & Retnawati, 2021; Robledo, et.al., 2021; Rudd, 2010). At this point, this study was conducted to fill this gap in which the used of heuristic in English teaching and learning, particularly in terms of speaking skills was still limited. This research was guided by the question: "Does heuristic strategy enhance students' speaking skills?". Based on this research question, the main objective of this study was to prove whether or not heuristic strategy enhance students' speaking skills. The researcher believed that this research would contribute to widen the discussion of TEFL, especially in terms of teaching and learning strategy and students' speaking ability.

In order to support the discussion of this research, supporting literatures under the variables of speaking skills and heuristic strategy were discussed below.

Speaking Skills in TEFL

As said by Zaitun and Salsabila (2022) that "people learn a language in order to be able to use that language orally as well as in English learning..." (p.23). "However, it seems that language learners are not able to communicate fluently and accurately because they do not have knowledge in this field" (Leong & Ahmadi, 2017, p. 34). In the context of learning English as a foreign language, the accuracy of using this language is affected by several factors including the mastery of vocabulary, the knowledge of grammar, the appropriateness on using certain sentences based on the context, and the ability the learners express their ideas and or thoughts in a spontaneous way. As Leong and Ahmadi (2017) further argued that "speaking is an interactive activity and occurs under the real time constraints" (p. 36). According to Tuan and Mai (2015), there are several factors affected speaking performance of the learners, namely: listening skill, performance conditions, affective factors and feedback they get when performing speaking tasks. In accordance to this, teaching speaking skills to the students should firstly analyze what factor/s inhibiting them to use their oral language, hence, appropriate and effective strategy can be employed.

Speaking Strategy in Speaking

Razi, et.al. (2021) said that the strategies used in speaking skill is a crucial element to solve students' difficulties in speaking. In line with this, Lestari (2016) explained that the success of learners in maximizing the achievement of their speaking objectives is greatly influenced by teaching strategies used by the teachers who are able to select which strategies suitable with students' needs and goals. A descriptive study conducted by Anjaniputra (2013) that involved an English teacher and 22 students of secondary school revealed that the students showed positive attitude towards the strategies applied by their teacher in speaking course. Based on the observation while collecting the data, this researcher identified role-play, drilling, cooperative activities, and creative tasks used by the teacher. The students responded to the questionnaire that the strategies assisted them to focus on their oral ability and made them speak.

Guo (2022) cited what explained by Oxford dictionary described that teaching strategies were classified into two major scopes; direct and indirect ones. Further, he explained that 'direct strategy' is applied when new materials of the language are discussed and directly related to that language under specific conditions and tasks, including compensation strategy, cognitive strategy and memory strategy. Whereas indirect strategies are related to bigger learning management including social

strategy, affective strategy, and metacognitive strategy. From these classifications, he concluded six (6) speaking strategies in his research, namely: speaking cognitive strategy, speaking metacognitive strategy, speaking memory strategy, speaking compensation strategy, speaking social strategy, and speaking affective strategy. His research found that junior college English majors used the strategy of metacognitive and affective more on their speaking practices. These strategies were said as medium-level speaking strategies.

Heuristic Strategy in EFL Speaking Classroom

Among those various speaking strategies, one cognitive-based approach is ‘heuristic’ strategy (Yuh, et.al, 2022). This strategy mostly applied in science and mathematics teaching and learning since it requires students’ thinking on questions or problems posed to them. Pathak (2023) said that heuristic refers to a teaching approach that utilize discovery-based learning and problem-solving as well as experience-based learning to serve the student. In this approach, he further added, the teacher plays his/her roles more than just an instructor. Teacher addresses questions, encourages students to engage and guides them to get the answers.

In the context of TEFL, the strategy of heuristic was still rarely applied in prior studies. However, Furkatovna (2021) affirmed that in applying this approach in teaching language gives several advantages including: (a) building comfortable learning atmosphere; (b) giving the students opportunity to express themselves; (c) strengthening the subject learned; (d) creating outcomes that can be used in peer teaching; (e) exploring models of the teachers for the students; (f) developing creative thinking; (g) developing the independence and flexibility of students’ minds. In this technological era, Wang, et.al. (2011) argued that heuristic teaching is one of the important methods to use which has been proved great success also in the area of foreign language teaching.

Since the basis of heuristic strategy is questions posed by teacher, in this research, the researcher tried to investigate further the implementation of this strategy in enhancing students’ speaking skills. The activities of oral language were built from questions given by the researcher to the students and invited them to participate in inventing the answers or solutions of the problems. “Questioning is one of the important ways for teachers and students to exchange ideas in the process of teaching, and mobilize students’ enthusiasm and initiative in learning” (Dou, 2019, p. 763). Thus, in speaking practice, answering teachers’ questions would become one of effective ways to encourage the students to talk. More than that, students are given time to freely give their opinions and express their thoughts. Their responses are well accommodated and guided by the teacher.

RESEARCH METHODS

This experimental research was conducted on even semester of 2022/2023 academic year by applying quantitative method. Creswell & Creswell (2018:207) explained that “experimental design systematically manipulates one or more variables in order to evaluate how this manipulation impacts an outcome (or outcomes) of interest.” In this study, the researchers measured how the use of heuristic strategy affected students’ skills of speaking.

Research Design

The design applied in this quantitative study was one group pre-test and post-test design, State the research design used in the study. Since one group of students was involved as the participants, an approach of one group pre-test and post-test was applied as proposed by Creswell & Creswell (2018:232) below:

GROUP	O_1	X	O_2
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(Creswell & Creswell, 2018: 232)

Here, Group A refers to the class selected as the sample, O_1 is pre-test, X refers to the treatment of teaching speaking skills by employing heuristic strategy, and O_2 is referred to post-test. Speaking pre-test was given before the treatment, while the post-test one was administered after the experiment. These two tests were firstly validated.

Participants

One class of grade 8 students of SMP Global Insani Bogor, Indonesia, participated as sample in which this class was selected from totally 5 classes through cluster sampling technique. As Sedgwick (2014) described, cluster sampling is a technique of sampling which selects a random sample of clusters from the population. These clusters referred to all the classes of grade 8 in the school

mentioned above. There were 28 students in this chosen class.

Instruments

In collecting the data, the tools used were both pre-test and post-test of speaking performance. The pre-test was administered before the treatment while the post-test was given after the experiment accomplished. In the pre-test, the students were asked to tell their “weekend plan” one by one in front of the class. Whereas in the post-test, the students were required to share their “vacation plan”. Each of the student was given around 90 seconds to talk.

Data Analysis

In analyzing the data, the researchers referred to speaking rubric of Hughes (2003) to assess students’ speaking performance. This rubric comprised five aspects of speaking, namely: pronunciation, grammar, vocabulary, fluency, and comprehension. When the students performed their speaking pre-test, namely *‘telling weekend plans’*, one by one in around 90 seconds in front of the class, the researchers took note of any mistakes each student made during their speech. After the pre-test was accomplished, the researchers shared their notes to the students while also stimulating them on how to find solutions to overcome their difficulties. Along 6 meetings of the treatment, the researchers assisted the students to understand their speaking drawbacks, asked them to critically think of the ways to solve the problems and gave feedback until the students were able to actively and creatively overcome the problems and made speaking improvement.

The same treatment was also done to the students in the post-test. When the students were performing their speech pf telling “vacation plan”, the researchers jotted down the mistakes the students still made to be shared to the students after the post-test session finished. The purpose of sharing what challenges the students still encountered was to let them think and get better and further solutions in solving these problems.

After all tests’ results of the students were gathered, a statistical analysis was used. A formula of paired-sample test was applied in order to examine the influence of heuristic strategy to the enhancement of students’ speaking skills, as follows:

$$t = \frac{\bar{D}}{\frac{SD}{\sqrt{n}}}$$

As the pre-requisite of using this formula, normality test was firstly taken to confirm whether or not the analyzed data normally distributed in order to proceed to the next step of data computation.

FINDINGS

From total number of 28 students, 1 student did not participate fully in the treatment. Therefore, the researchers only analyzed the tests results of 27 students. As it was explained earlier, students’ speaking performance was assessed based on speaking scoring rubric of Hughes (2003). The following Table 1 presents speaking achievement of the students in those two tests together with each of their qualification. The students’ names were only written in numbers. It can be seen clearly that in the average the students made good improvement in their speaking achievement, in which in the pre-test, the mean score was 51.29 while in the post-test was 65.37. The qualification of students’ speaking achievement above was referred to Table 2 below:

Table 2. Speaking Criterion based on the Obtained Speaking Score

No	Score Interval	Category
1	90 – 100	Excellent
2	70 – 85	Good
3	50 – 65	Enough
4	30 – 45	Almost
5	< 25	Less

Table 1. Students’ Speaking Achievement in Pre- and Post-test and Their Qualification

Student	Pre-test Score	Qualification	Post-test Score	Qualification
1	75	Good	90	Excellent
2	60	Enough	70	Good
3	55	Enough	55	Enough

4	45	Almost	65	Enough
5	60	Enough	75	Good
6	65	Enough	80	Good
7	65	Enough	65	Enough
8	40	Almost	40	Almost
9	30	Almost	50	Enough
10	65	Enough	85	Good
11	70	Good	75	Good
12	50	Enough	90	Excellent
13	50	Enough	75	Good
14	40	Almost	60	Enough
15	85	Good	95	Excellent
16	60	Enough	85	Good
17	85	Good	95	Excellent
18	35	Almost	40	Almost
19	40	Almost	65	Enough
20	35	Almost	70	Good
21	45	Almost	45	Almost
22	30	Almost	45	Almost
23	30	Almost	60	Enough
24	40	Almost	40	Almost
25	40	Almost	45	Almost
26	50	Enough	55	Enough
27	40	Almost	50	Enough
Total	1385		1765	
Mean	51.29		65.37	

In order to get the initial data in comparing students' speaking achievement in those two tests, number of the students fell into each of the qualification was counted and said as 'frequency'. The following Table 3 presents the data:

Table 3. Students' Speaking Qualifications based on the Category

Pre-test		Post-test	
Frequency	Qualification	Frequency	Qualification
0	Excellent	4	Excellent
4	Good	8	Good
10	Enough	9	Enough
13	Almost	6	Almost
0	Less	0	Less

Data on Table 3 above revealed that students' speaking achievement improved after the treatment. In the pre-test, there were no student who reached 'Excellent' category however, in the post-test 4 students managed to be in this category, which means that 4 of them managed to make progress. For 'Good' category in the pre-test, only 4 students reached this criterion while in the post-test, 8 students fell into this level, which indicated that 4 students progressed from before. In 'Enough' category, there were 10 students placed this level in the pre-test, while in the post-test, 9 students came to this stage, hence these 9 students were said making progress. In the pre-test, there were 13 students stayed in 'Almost' category, while in the post-test. The number decreased to 6 students indicating that 7 students progressed their speaking skills after the treatment was carried out.

Before putting the data above into statistical calculation of paired-sample test, normality test was taken. Table 4 below pictures the findings of this test:

Table 4 Normality Test of the Data

Normality Test						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.166	27	.054	.930	27	.070
Post-test	.103	27	.200*	.942	27	.133

Based on the results of normality test above, the significance values of the pre-test and posttest were 0.070 and 0.133 or higher than 0.05 (> 0.05). These findings confirmed that the data used in this research were normally distributed, thus, t-test could be proceeded to examine the effect of variable X (heuristic strategy) on variable Y (speaking skills) through paired sample-test, and the results can be

seen in the following Table 5:

Table 5 The Results of Paired-sample Test

Test	N	Descriptive Statistics	Paired t-test		
		M (Std. D)	<i>t</i>	<i>Df</i>	Sig. (2-tailed)
Pre-test	27	51.29 (16.08)	-6.539	26	0.000*
Post-test	27	65.37 (17.75)			

* $p < 0.005$: significance value

The results of paired sample test above showed a significant difference between the pre-test and post-test values with a significance value (2-tailed) of $p = 0.000$, <0.005 . This result confirmed that heuristic strategy contributed to the enhancement of students' speaking skills in the significance level of 5% (0.0050). Thus, this finding confirmed that null hypothesis (H_0) was rejected and the alternative hypothesis (H_a) was accepted because there were differences value gained by the students in the two tests.

DISCUSSION

The findings of this research were based on several calculations. First, the difference achievement gained by the students in the pre-test and post-test. On average, the students hit 51.29 for their speaking pre-test achievement, while in the post-test they made improvement up to 14.8 in which on average they reached 65.37 for their speaking achievement. Second, each student speaking achievement in those two tests were also classified into achievement classification. In the pre-test, no student was said as 'excellent', 4 students were 'good', 10 students in the level of 'enough', 13 students in 'almost' level, and none of them in 'less' category. Meanwhile, in the post-test, there were 4 students were classified as 'excellent', 8 students were 'good', 9 students were fell in 'enough' category, 6 students were in 'almost' level, and none of them in 'less' level either. These achievements also showed that the students made progress in the post-test in which 4 of them reached 'excellent' criteria. Besides, from only 4 students in 'good' level in the pre-test, increased to 8 students in the post-test. Additionally, the students who were in the categories of 'enough' and 'almost' in the pre-test, decreased in the post-test.

The third computation was using paired sample test to ensure that the improvement of the students after the treatment was affected by the employment of 'heuristic' strategy. The lower value of p than 0.05 ($p = 0.000 < 0.005$) indicated that this strategy contributed to different achievement gained by the students in the two tests. Therefore, referring to the several calculations above, this research work confirmed that H_0 was rejected and H_a was accepted.

CONCLUSION

This research proved the effectiveness of heuristic strategy in enhancing students' speaking skills. This conclusion was drawn from the quantitative analysis in which the students hit higher speaking achievement in the post-test (mean score = 65.37) than in the pre-test (mean score = 51.29). The influence of using heuristic strategy on the enhancement of students' speaking skills was proven by statistical computation of paired-sample test. There was significant difference achieved by the students in the pre and post-tests with the significant value (2-tailed) of $p = 0.000$, <0.005 . Thus, null hypothesis was rejected while alternative hypothesis was accepted. In line with these findings, this research concluded that the used of heuristic strategy was effective to enhance students' speaking skills.

Due to several limitations including small number of the students involved as sample, short time of conducting the treatment, and having only one independent variable and one dependent variable, the researchers further recommend future researchers who interested in this topic to explore this research wider. This research can be expanded by involving more samples with various background of educational levels. Further studies may also add more variables to be investigated, such as students' gender, students' English proficiency level, and or students' learning styles. It is also suggested that to utilize several other instruments in collecting the data, such as interview, observation, and or questionnaire, hence, the results gained will be more and varied.

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