

The Effect of Cognitive Strategy Instruction (CSI) and Psychomotor Functioning Toward Students' Listening Skill

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Abstract

The aim was aimed to know the Effect of Cognitive Strategy Instruction (CSI) and Psychomotor Functioning toward Students' Listening Skill. The study was carried out with 52 students (32 females, 20 males). The students had problem to practice listening comprehension. The method used in this study is quantitative method with true experiment research. Result showed that there were the effect of Cognitive Strategy Instruction and psychomotor functioning toward students' listening skill. The researcher used test to collect the data. The results of this study were: (1) there was the effect of teaching strategy toward students' listening skill who teach by Cognitive Strategy Instruction than who teach by direct instruction strategy (conventional strategy). It can be seen that $\text{sig } 0.000 < 0.05$ and $F \text{ Observed } (36,846) > F \text{ table } (4,09)$. (2) There was the effect of psychomotor functioning toward students' listening skill. It can be seen that $\text{sig } 0.000 < 0.05$ and $F \text{ Observed } (39,736) > F \text{ table } (4,09)$. (3) There was the effect who teach Cognitive Strategy Instruction and psychomotor functioning was more effective. It can be seen that $\text{sig } 0.003 < 0.05$ and $F \text{ Observed } (4,042) > F \text{ table } (4,09)$.

Keywords: *Cognitive Strategy Instruction (CSI), psychomotor functioning, listening skill.*

Introduction

The students have to understand, to express information of ideas, feeling and develop their knowledge, technology, and culture through English. The four English language skills integrate to support them to have oral and written communication skill, such as listening, speaking, reading and writing. When the researcher has taught in the classroom, surprisingly she finds that the students have difficulties to understand some instruction

when they have listening exercise. Although they can understand what they hear, sometimes they fail to write the purpose of what they hear. Because the students are lacking vocabulary. Thus, many students fail to meet the minimum standard score. In this situation, a teacher has a great responsibility to promote the students' skill in listening. The effectiveness of learning in the classroom depends on the teacher's skill to seek teaching strategy to be used in the classroom to encounter students' learning problems. The teacher is a facilitator of interesting and meaningful learning to make students able to listen and write well about the text.

From the explanation above, the researcher finds the strategy for teaching in the classroom. According to (Montague, 2012) Cognitive Strategy Instruction (CSI) is an explicit instructional approach to teach students specific and general cognitive strategies to improve learning and performance by facilitating information processing. Cognitive Strategy Instruction (CSI) embeds metacognitive or self-regulation strategies in structured cognitive routines that help students monitor and evaluate their comprehension. The researcher uses Cognitive Strategy Instruction to investigate the effect of it for students' listening skill. Not only, the effect of Cognitive Strategy Instruction (CSI) but also the effect of psychomotor functioning for listening skill. Because Cognitive Strategy Instruction (CSI) is the one strategy to make it be better. While psychomotor functioning has an effect about the process for getting information and comprehension from the auditory.

The researcher wants to give the solve about it especially for listening skill. The researcher concludes there is the effect of Cognitive Strategy Instruction and psychomotor functioning on students' listening skill. The researcher is using the Cognitive Strategy Instruction and psychomotor functioning especially for listening skill on descriptive text. In this research, the researcher chooses 7th grade in the SMP Unggulan Uswatun Hasanah Cilegon.

Method

The kind of research used the quantitative method with true experiment research. In this research the researcher will be take the populations, which are student first grade of SMP Unggulan Uswatun Hasanah Cilegon. They are about 104 students. The researcher will use random sampling (lottery) to take 52 students as the experimental and control class.

In this method, the researcher give certain treatment to the experimental class to find whether there are significant changes on the effect Cognitive Strategy Instruction and psychomotor functioning toward students' listening skill (Arikunto, 2002). The design used true experiment. It consists of two independent variables and one dependent variable. The first independent variable is teaching strategy and the second variable is psychomotor functioning, while dependent variable is students' listening skill.

Table 1.1
True Experiment Research Design

Psychomotor(B)	Direct instruction strategy (A0)	Cognitive Strategy Instruction (A)	
		Visualization (A1)	Comprehension (A2)
Direct instruction strategy (B0)	A0B0	A1B0	A2B0
Action (B1)	A0B1	A1B1	A2B1
Production (B2)	A0B2	A1B2	A2B2

Note :

- Dependent Y : Students' Listening Ability
 IndependentA : Strategy
 A0 : Conventional Strategy (Control)
 A1 : Visualization (Experimental)
 A2 : Comprehension (Experimental)
 IndependentB : Psychomotor
 B0 : Conventional Strategy (Control)
 B1 : Action (Experimental)
 B2 : Production (Experimental)

Data Collecting

Experimental design uses in this study is true experiment research design. There are one dependent variable and two independent variables in this study. The dependent variable is listening ability and independent variables are Cognitive Strategy Instruction and psychomotor functioning. The technique of collecting data uses test. Test uses to obtain result of students' listening ability. The test give to both of experimental and control class. Further, there are three variables in this research as follows:

- a) Dependent (Y) : Students' Listening Ability
- b) Independent(X1) : Cognitive Strategy Instruction (CSI) and Psychomotor Functioning
- c) Independent (X2): Listening Ability

Data Analysis

After getting the data, the researcher analyzes the result of the test. The data presented for statistics such as the average (mean), the (median), the highest frequency (mode), standard deviation (standard deviation). Data analysis conduct using a method of quantitative or statistical methods. Data analysis techniques uses ANOVA 2 (two) ways or two-dimensional analysis of variance. Two ways ANOVA uses where there are two independent variables to compare in which both variables have two or more levels. Before the ANOVA carry out, the first test with the data requirements of normality and homogeneity. After that, the researcher get the statistical hypothesis.

1. Hypothesis 1

$H_0 : \mu A_0 = \mu A_1 = \mu A_2$ There is not the effectiveness of teaching strategy toward students' listening skill between those who teach by Cognitive Strategy Instruction and those who teach by conventional strategy at the seventh grade of SMP Unggulan Uswatun Hasanah Cilegon.

H₁ : There is the effectiveness of teaching strategy toward students' listening skill who teach by Cognitive Strategy Instruction than who teach by direct instruction strategy (conventional strategy) at the seventh grade of SMP Unggulan Uswatun Hasanah Cilegon.

2. Hypothesis 2

H₀ : $\mu B_0 = \mu B_1 = \mu B_2$ There is not the effectiveness of psychomotor functioning toward students' listening skill at the seventh grade of SMP Unggulan Uswatun Hasanah Cilegon.

H₁ : There is the effectiveness of psychomotor functioning toward students' listening skill at the seventh grade of SMP Unggulan Uswatun Hasanah Cilegon.

3. Hypothesis 3

H₀ : $\mu A_0 B_0 = \mu A_0 B_1 = \mu A_0 B_2 = \dots = \mu A_2 B_2$ There is not the effectiveness who teach by Cognitive Strategy Instruction and psychomotor functioning than those who teach by direct instruction strategy (conventional strategy).

H₁ : There is the effectiveness who teach by Cognitive Strategy Instruction and psychomotor functioning is higher than those who teach by direct instruction strategy (conventional strategy).

Findings

Analysis Testing Requirement

1. Normality Test

Normality test used to find out whether the spreading data distributed normally or not. In this study, the normality test used Lilliefors Significance Correction or Shapiro-Wilk method in which the significance level $\alpha = 0,05$ as the rule to accept or reject the normal test. The normality test done to

both experimental and control groups by using statistical hypotheses formula stated as follows:

H0 = Sample data is not distributed normally

H1 = Sample is distributed normally

Table 1.2
Recapitulation of Normality Test
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Residual for Listening_Skill	,055	234	,083	,993	234	,305

a. Lilliefors Significance Correction

According to Table 4.1 above, it shown that sig 0,083 > 0,05. It means that H1 is accepted and H0 is automatically rejected. In other words, it may be concluded that all data from the sample of this research have been distributed normally.

2. Homogeneity Test

The purpose of this test is to find out whether the designed groups are homogenous or not. In other words, we have to find out the homogeneity of the groups we designed.

The homogeneity test for the data of listening skill performed by using Levene's test in the significant level of 5%. The result of homogeneity computation can see on the table below:

Table 1.3
The Computation of Homogeneity Test of Listening Skill
Levene's Test of Equality of Error Variances^a
Dependent Variable: Listening_Skill

F	df1	df2	Sig.
1,272	8	225	,259

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Cognitive_Strategy_Instruction + Psychomotor_Functioning + Cognitive_Strategy_Instruction * Psychomotor_Functioning

The hypotheses for homogeneity test were set as follow:

H0 : Data comes from non-homogeneous population

H1 : Data comes from homogeneous population

The criteria were set as follows:

If the Sig value (Levene's test) > 0,05 means that H1 is accepted and H0 is automatically rejected. On the contrary, the Sig value (Levene's test) < 0,05 means that H1 is accepted and H0 is automatically rejected. Refer to table 4.2 above, it can see that the Sig (p value) for listening skill was 0,259. It means that p value is higher than 0,05. It means that H1 is accepted and H0 is automatically rejected which implies that data comes from homogeneous population.

Hypothesis Testing

Hypothesis testing was intended to determine the proposed null hypotheses (H0) tested at a certain significance level. Two ways ANOVA analysis was performed and, because in this study to be obtained was how much influence that occurs between the two independent variables and the dependent variable. The computation of data analysis by using ANOVA test can see on the Table 4.3 below:

Table 1.4
ANOVA Test (3 X 3)

Tests of Between-Subjects Effects

Dependent Variable: Listening_Skill

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2629,701 ^a	8	328,713	21,166	,000
Intercept	1390776,06	1	1390776,0	89554,6	,000
	8		68	51	

Cognitive_Strategy_Instruction	1144,444	2	572,222	36,846	,000
Psychomotor_Functioning	1234,188	2	617,094	39,736	,000
Cognitive_Strategy_Instruction *	251,068	4	62,767	4,042	,003
Psychomotor_Functioning					
Error	3494,231	225	15,530		
Total	1396900,000	234			
Corrected Total	6123,932	233			

a. R Squared = ,429 (Adjusted R Squared = ,409)

1. Testing the first hypothesis

There was the different score of teaching strategy toward listening ability between those who taught by Cognitive Strategy Instruction

$H_0 : \mu_{A0} = \mu_{A1} = \mu_{A2}$

H_1 : There is the different score toward listening ability those who teach by Cognitive Strategy Instruction.

Based on analysis result in Table 4.12 above, it obtained if the value of Sig > 0.05, it means that H_0 is accepted and H_1 is rejected automatically. On the other hand, if the value of Sig < 0.05 it means that H_0 is rejected and H_1 is accepted automatically.

The computation performed by using SPSS version 24 for windows found that the value of Sig for teaching strategy was $0.000 < 0.05$ and Fobserved (36,846) > Ftable (4,09). It can concluded that there was the difference of listening skill between students who were taught by Cognitive Strategy Instruction and those who were taught by Conventional Strategy (Direct instruction strategy). In other words, the students' listening skill influenced by using Cognitive Strategy Instruction.

2. Testing the second hypotheses

There was the effect of psychomotor functioning toward students' listening skill.

$H_0 : \mu_{B0} = \mu_{B1} = \mu_{B2}$

H_1 : There was the effect of psychomotor functioning toward students' listening skill.

Based on analysis result in Table 4.12 above, it obtained if the value of Sig > 0.05, it means that H_0 is accepted and H_1 is rejected automatically. On the other hand, if the value of Sig < 0.05 it means that H_0 is rejected and H_1 is accepted automatically.

The computation performed by using SPSS version 24 for windows found that the value of Sig for teaching strategy was $0.000 < 0.05$ and $F_{observed} (39,736) > F_{table} (4,09)$. It can concluded that there was the effect of psychomotor toward students' listening skill.

3. Testing the third hypotheses

There was the effect who teach Cognitive Strategy Instruction and psychomotor functioning was more effective than Conventional strategy (Direct instruction strategy) toward listening skill.

$H_0 : \mu_{A0B0} = \mu_{A0B1} = \mu_{A0B2} = \dots = \mu_{A2B2}$

H_1 : There was the effect who teach Cognitive Strategy Instruction and psychomotor functioning was more effective.

Based on analysis result in Table 4.12 above, it obtained if the value of Sig > 0.05, it means that H_0 is accepted and H_1 is rejected automatically. On the other hand, if the value of Sig < 0.05 it means that H_0 is rejected and H_1 is accepted automatically.

The computation performed by using SPSS version 24 for windows found that the value of Sig for teaching strategy was $0.000 < 0.05$ and $F_{observed} (4,042) > F_{table} (4,09)$. It can concluded that there was There was the effect who teach Cognitive Strategy Instruction and

psychomotor functioning was more effective than Conventional strategy (Direct instruction strategy) toward listening skill.

Discussion

From the first hypothesis, there was the effect of Cognitive Strategy Instruction toward students' listening skill. The result of the research, the researcher got the effect of Cognitive Strategy Instruction toward students' listening skill.

In teaching listening, actually, there were many kinds of strategy that can be used by teacher to comprehend the text, one of them was Cognitive Strategy Instruction and psychomotor functioning. Cognitive Strategy Instruction and psychomotor functioning designed to improve comprehension for middle school student who could decode but had difficulty comprehending the text. Cognitive Strategy Instruction and psychomotor functioning as develop comprehension, help the students for problem solving deficiencies, to improve performance, strategies knowledge and affective responses of students.

The second hypothesis, there was the effect of psychomotor functioning for listening skill. The result of research, the researcher got the value of the effect of it. From the result, the psychomotor functioning is the important part of child development. The researcher know how to make their psychomotor functioning has the effect for their practice to make it better. The researcher chose action and production for knowing the effect of psychomotor functioning in the classroom.

The third hypothesis, besides the experimental class taught by Cognitive Strategy Instruction and psychomotor functioning, the other class (control) taught by direct instruction strategy (conventional strategy). Based on the data obtained, the result shows that the score of students' listening skill taught by Cognitive Strategy Instruction and psychomotor functioning (experimental class) was higher than the score of students' listening skill in direct instruction strategy (conventional strategy).

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