

## **CHAPTER IV**

### **RESEARCH FINDING AND DISCUSSION**

In accordance with the statement of research problem, this chapter presents the findings and data analysis and its results elicited through the procedures described in the previous chapter. The findings deal with research schedule, data presentation and the implementation of Cuisenaire rods in teaching speaking. Meanwhile, the data analysis will be followed by hypothesis testing and discussion. The discussion is based on related theories to clarify the findings.

#### **A. Research Schedule**

This research was accomplished about two weeks. It was undertaken through the following schedules on the table:

Table 4.1

Research Schedule

<b>No</b>	<b>Task</b>	<b>Description</b>	<b>Completion Date</b>
1.	Pre-test	Testing students speaking skill to know student's speaking ability	June 14, 2013
2.	First	Teaching the sample by Cuisenaire rods by	June 17, 2013

<b>No</b>	<b>Task</b>	<b>Description</b>	<b>Completion Date</b>
	Treatment	“Cinderella” story	
3.	Second Treatment	Teaching the sample by Cuisenaire rods by “Snow white” story	June 19, 2013
4.	Third Treatment	Teaching the sample by Cuisenaire rods by “Pinnochio” story	June 21, 2013
5.	Post-test	Testing students speaking skill after learning by Cuisenaire rods to measure student’s achievement after learning by Cuisenaire rods.	June 24, 2013

## **B. Findings and Data Description**

The writer conducted an experimental research concerning to the implementation of Cuisenaire rods in teaching speaking. The writer held this research by teaching learning process that was done at eleventh class. The data was gained from pre-test and post-test. The pre-test was given before the treatment began and the post-test was given after the treatment finished.

## 1. The description of Pre-Test Score

The result of pre-test was not satisfied. Most of the students made mistake in retelling “Cinderella” story (See Appendix 5). In term of their pronunciation, it were bad, most of them did not know how to pronounce word correctly. They tend to make mispronunciation in word “conceited, live and tamper”. They also made many error in grammar such as “he beautiful”. Their vocabulary was limited because they tended to memorize the story word by word or uttered Indonesian word at first and translate it into English. Their structure was also bad since they used only verb one in any sentence condition so often. Then, for the students’ fluency, most of them were silent after saying one or two words; they took long time to think what they wanted to say later. In addition, the idea and the structure of the sentences were not recognized well, they missed “to be” and sentence structure. However, the students tried their best to perform their monologue. The students speaking transcript of pre-test can be seen on Appendix 1.

The description of pre-test score can be described as on the table 4.2 below:

Table 4.2

The Description of Pre-Test Score

No	Code	Components					Total	Score
		Pronunciation	Fluency	Comprehension	Grammar	Vocabulary		
1.	R – 01	3	3	4	4	4	18	72
2.	R – 02	3	3	4	3	4	17	68
3.	R – 03	3	3	4	4	4	18	72
4.	R – 04	3	3	3	3	3	15	60
5.	R – 05	3	3	3	3	3	15	60
6.	R – 06	3	3	4	3	3	16	64
7.	R – 07	3	3	3	3	3	15	60
8.	R – 08	4	3	4	4	4	19	76
9.	R – 09	3	3	3	3	3	15	60
10.	R – 10	3	3	4	3	3	16	64
11.	R – 11	4	4	4	3	4	19	76
12.	R – 12	3	3	4	3	3	16	64
13.	R – 13	3	3	4	3	4	17	68
14.	R – 14	3	3	4	3	4	17	68
<b>Total (<math>\Sigma</math>)</b>		<b>44</b>	<b>43</b>	<b>52</b>	<b>45</b>	<b>49</b>	<b>233</b>	<b>932</b>
<b>Mean (<math>\bar{}</math>)</b>		<b>3,14</b>	<b>3,07</b>	<b>3,71</b>	<b>3,21</b>	<b>3,5</b>	<b>16,64</b>	<b>66,6</b>

From the table above, it can be seen that the mean of pre-test was 66.6. The students who got score more than KKM score namely 75 were just 14.29%. The rest 85.71% was the percentage of the students who did not pass KKM Score. It can be suggested that students seemed to have problems in speaking English.

## 2. The Description of Post-Test Score

The result of this test was fairly satisfied with the same material used in pre-test. It was 72 which were higher than pre test which was 66.6. Many students got higher score than pre-test. The lowest score was 56. However, it was decreased 4 point from the pre-test (60). The highest was 88 so it was increased 12 point from the pre-test (76).

Most of students' ability in speaking improved on the post-test. Their pronunciation and their grammar got better after they knew how to pronounce the word correctly during the activities in the classroom. Their grammar also improved especially in past tense, they knew how to change verb 1 into verb 2 and the use of was and were before noun. The error in constructing their sentences was decrease. Their fluency of speech got better, they didn't make long pause as they did before. In addition, the content of the monologue was organized well; it covered all information from the story. However, few students' score did not increase, or even a student score was decrease. It was

probably caused by the student's seriousness in teaching-learning process. The students speaking transcript of post-test can be seen on Appendix 1.

The description of post test was on the table 4.3

Table 4.3

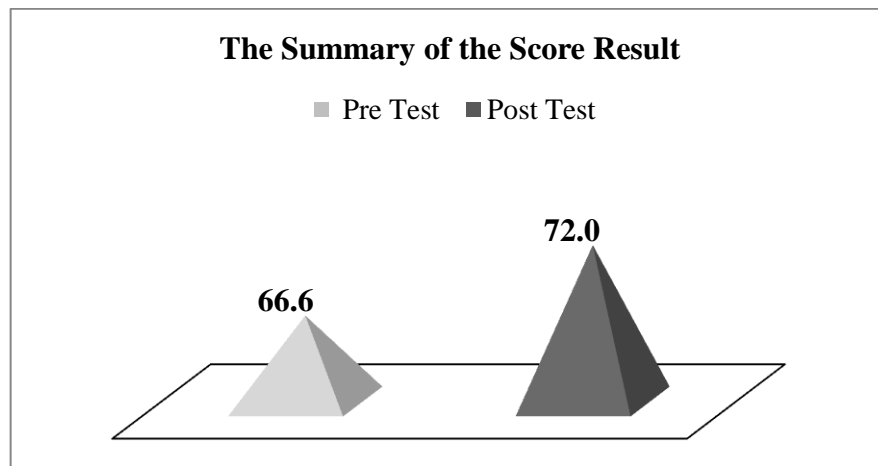
The Description of Post-Test Score

No	Code	Components					Total	Score
		Pronunciation	Fluency	Comprehension	Grammar	Vocabulary		
1.	R – 01	3	4	4	4	4	19	76
2.	R – 02	3	3	4	4	4	18	72
3.	R – 03	4	4	4	3	4	19	76
4.	R – 04	3	3	3	4	4	17	68
5.	R – 05	3	3	2	3	3	14	56
6.	R – 06	4	4	4	3	3	18	72
7.	R – 07	3	3	3	3	3	15	60
8.	R – 08	4	4	4	4	5	21	84
9.	R – 09	3	3	4	3	3	16	64
10.	R – 10	3	4	4	3	4	18	72

No	Code	Components					Total	Score
		Pronunciation	Fluency	Comprehension	Grammar	Vocabulary		
11.	R – 11	4	5	5	4	4	22	88
12.	R – 12	4	4	4	3	3	18	72
13.	R – 13	3	4	4	3	4	18	72
14.	R – 14	4	4	4	4	3	19	76
<b>Total (<math>\Sigma</math>)</b>		48	52	53	48	51	252	1008
<b>Mean (<math>\bar{}</math>)</b>		3,43	3,71	3,79	3,43	3,64	18	72

Based on the table above, it can be known that the mean of pre-test was 72. The students who got score more that KKM score namely 75 were 35.71 %. This percentage was increased from the pre-test that was 14.29%. The percentage of the students who did not pass KKM Score of post test was 64.29%. This amount was decreased about 21.42% from pre-test that was 85.71%. It can be suggested that there is the difference of their speaking skill after being taught by Cuisenaire rods.

The two previous tables, it can be figure out that the summary of the score result is as figure 3.

**Figure 3**

From the illustration of figure 3, it can be concluded that the mean of students' speaking score on pre test was 66.6 and on post test was 72. It means that the difference between students' speaking score was 5.4.

### **C. Treatment (The Implementation of Cuisenaire Rods in Teaching Speaking)**

In the treatment by implementing Cuisenaire rods in teaching retelling story, there were three topics in different meetings. Lesson plan of the treatments can be seen on appendix 2. The description of each treatment was as follows:

#### **1. First Treatment (Cinderella)**

In the first treatment, the researcher gave the students the same topic as the pre test "Cinderella story". It was carried for 45 minutes. The procedures of treatment were:



- Students were divided into four groups in which each of them consist of three to four members. The group was chosen randomly by numbering them one into four. The first group consisted of Rizma, Nanik, Budi and Mida. The second group were Anita, Okta and Imam. The third group consisted of Rosa, Erwin and Diki. And the last group were Arifin, Hafadz, Ilham and Fitri.
- Each group was being responsible of a paragraph of the text except orientation.
- Then, group started to divide everyone of the group being a particular role: one constructed rods that represent the situation and object of the story, one told the story, one pointed to the rods and one moved the rods around depending on what was happening.
- They started reading and discussing with each other how to work on telling their paragraphs and manipulating with the rods.
- Finally, each group presented their paragraph and used Cuisenaire rods to tell the class the paragraph of they were responsible on.

Here was the text material entitled “Cinderella” used by researcher:

Cinderella
Once upon a time, there was a young girl named Cinderella. She lived with her step mother and the two step sisters. The step

mother and sisters were conceited and bad tempered. They treated Cinderella very badly.

One day, the two step sisters received an invitation to the ball that the king's son was going to held at the palace. At last, the day of the ball came, and the sisters went away to it. Cinderella cried after they had left. "Why are you crying, Cinderella?" her fairy godmother asked. "I want so much to go to the ball" Cinderella said. "Well," you've been such a cheerful, hardworking, uncomplaining girl, so that I am going to see you in the ball". The fairy godmother said.

Magically, the fairy godmother changed a pumpkin into a beautiful coach and mice into a coachman and two horses. She tapped Cinderella ragged dress became a beautiful ball gown and gave her a pair of pretty glass slippers. "Now, Cinderella, you must leave before midnight" She said. She then drove in her beautiful coach. Cinderella was having a wonderfully good time. She danced again and again with the king's son. Suddenly the clock began to strike twelve, she ran toward the door as quickly as she could. In her hurry, one of her glass slipper was left behind.

A few days later, the king's son proclaimed that he would marry the girl whose feet fitted the glass slipper. Her step sisters tried

on the slipper but it was too small for them, no matter how hard they squeezed their foot into it.

In the end, the king's page boy let Cinderella try on the slipper. She stuck out her foot and her foot slipped the glass slipper on. It fitted perfectly. Finally, she was driven to the palace. The king's son was overjoyed to see her again. They were married and live happily ever after.

## 2. Second Treatment (Snow White)

The same as the first treatment, this section was also carried for 45 minutes. The researcher used "Snow White" story on the second treatment, the procedures were the same but the group members were different. The group was chosen randomly by a little game of favourite fruits. They were grouped on orange, avocado, grape and durian. The orange group consisted of Arifin, Diki, Ilham and Nanik. The avocado group were Anita, Mida and Rosa. The grape group consisted of Imam, Erwin and Hafadz. And the durian group were Budi, Rizma, Okta, Fitri.

The text of "Snow White" used by the researcher was as follows:

### Snow White

Once upon a time there lived a lovely princess. She was so fair that she was named Snow White. Her mother died when Snow White was a baby and her father married again.

This queen was very pretty but she was also very cruel. The wicked stepmother wanted to be the most beautiful lady in the kingdom and she would often ask her magic mirror, "Mirror! Mirror on the wall! Who is the fairest of them all?" And the magic mirror would say, "You are, Your Majesty!" But one day, the mirror replied, "Snow White is the fairest of them all!" The wicked queen was very angry and jealous of Snow White. She ordered her huntsman to take Snow White to the forest and kill her. The Huntsman had a kind heart and couldn't kill her and told her to run away.

She ran away into the woods where seven little dwarfs lived. Their house was small and strange. Snow White entered the little house and finding it very untidy, started to clean up. Upstairs she found seven little beds. She was very tired and lied on one of the beds and soon was asleep. When the Dwarfs came home they were surprised to find Snow White and after some argument, they decided to let her stay. She promised to cook and look after them.

The Queen discovered where Snow White was living and disguising herself as a witch, she took a poisoned apple and set out for the Dwarfs cottage. She gave Snow White the poisoned apple to eat and as soon as she bit the apple, she sank into unconsciousness. Thinking she was dead, the Dwarfs built a glass coffin and put her in it then took it in the forest in her glass coffin.

One day, the Prince was riding through the forest looking for Snow White and found her. He leaned over and kissed her. She opened her eyes and sat up with a smile. Everyone was happy. The Prince took Snow White to his palace where they were married and lived happily ever after.

### 3. Third Treatment (Pinocchio)

The researcher used “Pinocchio” story on the third treatment which was also carried for 45 minutes. The procedures were the same but the group members were different. The group was chosen randomly based on the gender by grouping them through their goals. The first group were consisted of female group who want to be a doctor that were: Rosa, Okta, Fitri and Mida. The second group were consisted of second female group who want to be a teacher were: Nanik, Rizma, and Anita. The third group consisted of

first male students who want to be a police that were: Arifin Erwin and Hafadz. And the last group who want to be a sailor that were: Budi, Imam, Diki and Ilham as the second male group.

“Pinocchio” text material that is used in the third treatment was:

Pinocchio
<p>Long ago, an old carpenter named Gappetto curve a puppet in the shape of a boy and named him Pinocchio.</p> <p>He wished for the boy to be a real one. A fairy heard his words and fulfilled his wish. She added a life to the puppet. But she warned Pinocchio that if he wanted to be a real boy, he must always be a good boy. Gappetto loved him dearly.</p> <p>Pinocchio was quite naughty in seldom spoke the truth. As soon as he lied, his woody nose would grow long. He promised to be a good boy from the nest time. Bet he seemed forgot his word and he left school with his friend to join circus, but he began to miss Gappetto.</p> <p>One day, he heard that his father had been swallowed up by a huge whale. He immediately set off to find out the whale. The whale slotted him as well. Inside the whale belly, Pinocchio and Gappetto were so happy to see each other. They made a plan to get out and began</p>

tickling the whale stomach. As soon as the whale opened his mouth and sneezed, Pinocchio and Gappetto shot out.

They reached home safely. The fairy was pleased with Pinocchio's bravery that she turned him into real flesh and bloody boy. From the day, He was a very good boy and never missed school. Gappetto and his son Pinocchio lived happily ever after.

#### **D. Data Analysis**

Data analysis of the study dealt with the students' score before and after being taught by Cuisenaire rods in retelling story. In this case, the analysis used was "Statistical Analysis".

Statistical Analysis was used to find out whether there is significance different between the improvement of students speaking of eleventh grade of SMA Bina Bangsa Surabaya before and after being taught retelling story by using Cuisenaire Rods, the writer used statistical calculation of t-test in analyzing data from paired test. The data at first calculated in the table of t test as described below:

Table 4.4

## T-Test Calculation

No	Respondent Code	Score		Different (D)	$(D - \bar{D})$	$(D - \bar{D})^2$
		Pre test	Post test			
1.	R – 01	72	76	4	-1,4	2,04
2.	R – 02	68	72	4	-1,4	2,04
3.	R – 03	72	76	4	-1,4	2,04
4.	R – 04	60	68	8	2,6	6,61
5.	R – 05	60	56	-4	-9,4	88,90
6.	R – 06	64	72	8	2,6	6,61
7.	R – 07	60	60	0	-5,4	29,47
8.	R – 08	76	84	8	2,6	6,61
9.	R – 09	60	64	4	-1,4	2,04
10.	R – 10	64	72	8	2,6	6,61
11.	R – 11	76	88	12	6,6	43,18



No	Respondent Code	Score		Different (D)	$(D - \bar{D})$	$(D - \bar{D})^2$
		Pre test	Post test			
12.	R – 12	64	72	8	2,6	6,61
13.	R – 13	68	72	4	-1,4	2,04
14.	R – 14	68	76	8	2,6	6,61
	<b>Sum (<math>\Sigma</math>)</b>	<b>932</b>	<b>1008</b>	<b>76</b>	<b>0</b>	<b>211,43</b>
	<b>Mean (<math>\bar{\phantom{x}}</math>)</b>	<b>66,6</b>	<b>72,00</b>	<b>5,4</b>		<b>15,1</b>

From the table, it was found where:

- $\bar{D} = 5,4$
- $\Sigma(D - \bar{D})^2 = 211,43$
- $N = 14$

Therefore, standard deviation can be calculated by:

$$s\bar{D} = \sqrt{\frac{\Sigma(D - \bar{D})^2}{N - 1}}$$

$$s\bar{D} = \sqrt{\frac{211,43}{14 - 1}}$$

$$s\bar{D} = \sqrt{\frac{211,43}{13}}$$

$$s\overline{D} = \sqrt{16,26}$$

$$s\overline{D} = 4,03$$

After standard deviation was found, next step was calculating t-value by t test formula. The t-test formula used was the t test with paired double sample as calculated below:

$$t = \frac{\overline{D} - 0}{\frac{s\overline{D}}{\sqrt{N}}}$$

$$t = \frac{5,4 - 0}{4,03 / \sqrt{14}}$$

$$t = \frac{5,4}{4,03 / 3,74}$$

$$t = \frac{5,4}{1,08}$$

$$t = 5,03$$

From the calculation above, the t-value was 5.03. While the t-table was checked based on df value (N-1) which was gained 13 from 14-1 with the level of significance ( $\alpha$ ) 0.05. The t-table on  $\alpha = 5\%$  or 0.05 two-tails with df = 13 (0.05, 13) was 2.160.

### E. Hypothesis Testing

To get the answer of question, the hypotheses should be tested. The hypotheses of the study were:

$H_0$  = There is no significant difference between the improvements of students speaking ability of eleventh grade of SMA Bina Bangsa Surabaya before and after retelling story by using Cuisenaire Rods.

$H_a$  = There is a significant difference between the improvement of students speaking of eleventh grade of SMA Bina Bangsa Surabaya before and after retelling story by using Cuisenaire Rods

The criteria of hypothesis presentation stated that “If t-value is bigger than t-table,  $H_a$  is accepted; and If t-value is lower than t-table,  $H_0$  (There is no significance difference) is accepted”.

From the result of the statistic calculation indicated that t-value was 5,03 and the t-table with value of degree of freedom (df) 13 for 0.05 degree of significance is 2,16. Then, the writer compared it with each values of the degree of significance.

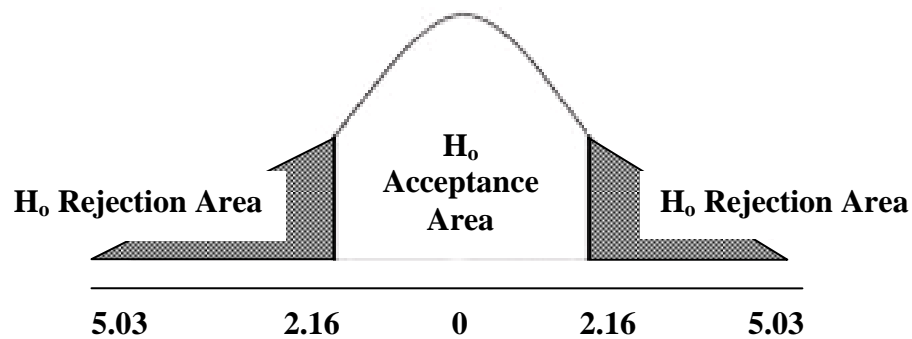
The result of t-value which was compared to t-table showed that t-value was bigger than t-table where  $5.03 > 2.16$ . It meant that alternative hypothesis ( $H_a$ ) of research was accepted and the null hypothesis ( $H_0$ ) was

rejected. In another words, it meant that there was a significant difference between the improvements of students' speaking of eleventh grade of SMA Bina Bangsa Surabaya after being taught retelling story by using Cuisenaire Rods.

## **F. Discussion**

This sub-chapter tried to discuss and answer the research questions formulated in the first chapter. It is based on the analysis of paired test. The discussion was begun by answering the only research question of this study that was about the improvement of students' speaking ability. This research question formulation was based on the purpose of this experimental study that was aimed to find out whether Cuisenaire Rods can improve students' speaking ability in retelling story or not.

Based on the results of data analysis, in which if  $t$ -value is bigger than  $t$ -table, the alternative hypothesis is accepted. To know and make easy about the position of both  $t$ -value and  $t$ -table, it was needed to use an illustration of a curve to know the acceptance and rejection area of  $H_0$  and  $H_a$ . Here was figure 4 in which illustrated the area of  $H_0$  and  $H_a$  acceptance and rejection.

**Figure 4****The Curve of Hypothesis Acceptance and Rejection Area**

On figure 4 above, it shown that t-value (5.03) was on the  $H_0$  Rejection area. It meant that null Hypothesis ( $H_0$ ) was rejected and alternative hypothesis ( $H_a$ ) was accepted. Therefore alternative hypothesis which was stated that “there is a significant improvement of students’ speaking skill after using Cuisenaire rods in learning retelling story” was accepted. So, the  $H_0$  (null hypothesis) which was stated that “there is no significant improvement of students’ speaking skill after using Cuisenaire rods in learning retelling story” was rejected.

According to the explanation about the analysis of the result on the table 4.4 and figure 4 above, writer concluded that there is a significant difference between the improvements of student’s speaking skill after retelling story by using Cuisenaire Rods. Thus, Cuisenaire rods were media which can improve student’s speaking skill. The table 4.6 which was presented pre-test and post-test

score showed that most of the students were gotten higher score in speaking in post test after being taught by Cuisenaire rods media.

The use of media has positive impact in students' achievement. Many research has proven that media was a good aid to improve students achievement if it was used creatively and appropriately. According to Brown in "*Teaching by Principles: An Interactive Approach to Language Pedagogy*" book stated that using various media creatively can enhance students to be more learnt, keep better, and improve their ability in any expected skills they want to extend. Based on the result of this research that Cuisenaire rod as one of learning media can improve students' speaking skill, that finding was supported Brown theory that the use of media can improve students' achievement in any expected skill they wished to develop. In this case, speaking ability which was the research's focus can be improved through the use of one of a visual media namely Cuisenaire rods.

Another theory about Cuisenaire rods purposed by Scivener that Cuisenaire rods were very useful, an excellent and very versatile language teaching tool.<sup>1</sup> This theory was leaded the researcher to use Cuisenaire rods in language teaching and prove through applying it in SMA Bina Bangsa students. The result of the research was also proved that Cuisenaire rods were media which was valuable to use in language classroom in which this research focused on

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<sup>1</sup> Jim Scrivener, *Learning Teaching*. A....., 312

improving students' speaking English skill. Therefore, the result of this research was also supported Scrivener's theory about the use of Cuisenaire rods in language teaching.

However, the teacher's skill in using media determined the students' success in learning. Cuisenaire rods had unique shape, different colour and length which can get students attention and interest so that their motivation is also increased. This can be seen when students played the rods in the three treatments given by the researcher. With the combination of retelling story activity which was considered the most bored activity in English lesson, students were surprisingly gave their attention more, and they seemed interested in this kind of activity with Cuisenaire rods media. Based on the observation, few of them said that the media was like a child toys, but they done the activity pretty well. Three times of the activity carried on the class with different story, they seemed enjoy the media and did not complain about the similar activity. Shockingly, one of the students requested the next story to retell on the following day. In group work, few of them which had role as the constructor tend to be silent, they did not involve in speaking activity. This leaded two of them to get the worse or unchanged score in post test. However, most of their score in post-test was increased compared to their pre-test score.

After having research for about two weeks, researcher finally found that using Cuisenaire rods could help students learn speaking better specially in

retelling story. It was shown from the statistical calculation of pre-test and post-test above. The majority of the students can get better score in the post-test, although few of them have no improvement or even have decreased score in post-test. That is showed that students in eleventh class of SMA Bina Bangsa Surabaya have many differences of their ability in speaking. However, the writer could not deny that the different score between pre and post tests is not much, but the students' speaking improvement after learning by Cuisenaire rods has proven that Cuisenaire rods can be a good media in developing speaking ability.