The Influence of Reciprocal Teaching Towards the Critical Thinking Skill Improvement of Blind Students

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Abstract Critical thinking skill is a very fundamental ability in 21st century, but the implementation of education for visually impaired student has not focused to develop this ability. On the other hand, reciprocal teaching is a learning model that give the students opportunity to read and understand the material actively and independently. It can encourage visually impaired students to develop their critical thinking skills. Therefore, this study aims to determine the influence of reciprocal teaching application in improving the critical thinking skill of visually impaired student in SLB-A YKAB Surakarta on the academic of year 2019/2020. This study is classified as pre-experimental research with the form of one group pretest-posttest design. The Subjects in this study were seven students from 5th-9th grades in SLB-A YKAB Surakarta. The seven students became the research subjects after being selected using purposive sampling technique. Some subject criteria set in this study include: visually impaired student who have reached formal operational stage according to Piaget’s theory, were able to read, write, listen, and speak fluently, and have problems in developing critical thinking skills. Data collection in this study was done through observation and oral test. The instrument used in this study was validated by measurement expert, psychologist, and linguist and was tested to visually impaired students in SMP MIS Surakarta. The results of expert validation and instrument trials indicate that this instrument was valid with a validity coefficient of 0.92-1 and reliable with a reliability coefficient of 0.975. Then the instrument was used to measure the critical thinking skill of research subject before and after being given treatment through the application of reciprocal teaching. The pretest and posttest data were analyzed using non-parametric statistic with Wilcoxon Sign Rank Test type at the significance level of 0.05. According to the data analysis using SPSS 25, the Asymp. Sig (2-tailed) value was obtained of 0.017. That value was smaller than 0.05, so that H0 was rejected and Ha was accepted. Thus, the application of reciprocal teaching has a significant effect towards the critical thinking.

Keywords: Critical thinking skill, reciprocal teaching, visually impaired student.

1. Research Background

Education is a basic need for everybody. According to article 1 paragraph (1) of Law Number 20 of 2003, education is a conscious and planned effort to create a learning atmosphere and process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, morals noble, as well as the skills that needed by themselves, society, nation, and state. The implementation of education is intended to develop students’ potential integrally, both in terms of spiritual, social, knowledge, and skills. Education in Indonesia basically has sought justice in its implementation. This is indicated by the opportunity given for person with disability to participate in accessing education widely.

The term disability in Indonesia began to be widely used after enactment of Law number 8 of 2016 concerning person with disability. According to article 1 paragraph (1) of this law, person with disability is every person who have physical, intelectual, mental, and/or sensory limitation in the long term that in interacting...
Numerous people with visual impairment encounter obstacles and difficulties to participate fully and effectively with other citizens based on equal rights. Article 10 of the law explains that person with disability have the right to get quality education in education unit at all types, lines, and levels in an inclusive or special school. However, the implementation of education for person with disability have obstacles. This is because person with disabilities need a varied of facilities in their learning activity, including the visually impaired people (Korir, 2015: 28).

People with visual impairment are person who have significant limitation in terms of visual acuity and visual field. This is as the statement of Hallahan, Kauffman, & Pullen (2012: 380) that visual impairment people are individuals who have very limited visual acuity, i.e. less than 20/200 feet (totally blind) and between 20/200 until 20/70 feet (low vision) in the eyes that has been corrected using visual aids. In contrast, the field of vision less than 20 degrees. This means that people with visual impairment is not only include people who can’t see at all, but also people who have a very limited vision. Visual impairment is one type of disability that has high prevalence in Indonesia, reaching 5,820 peoples (Okezone, 2015). The limitation of visual acuity and visual field possessed by visual impairment people causes them to need special techniques, special methods, and certain aids to be able to follow the learning process properly. This also means that the visual limitation gives a negative impact to their educational performance (Maindi, 2018: 39).

One of the problems faced by visual impairment people in educational performance is related to the critical thinking skills development. In fact, this ability is very essential in twenty-first century (Aizikovitsh-Udi & Cheng, 2015: 456; Huda, Susilo, & Sa’dijah, 2017: 1). This was similar to the statement of Indonesian Cultural and Educational Minister of year 2015-2019, Muhajir Effendy who stated that critical thinking skill is 1 of 5 fundamental learning competencies in the era of industrial revolution 4.0 (Liputan 6, 2018). This skill is demonstrated by the ability to think actively, reflectively, and organized which is very important to solve problems effectively. The ability to solve problems effectively is very important, both to be able to compete and to solve problems in daily life. In addition, according to As’ari (2014: 2), students who are able to think critically also have better readiness to continue their education to the next level and integrate to the community. This is because the critical thinkers are accustomed to evaluate every thought and opinion, whether given by others or arising from themselves.

Critical thinking skill is an ability that needs to be developed by every individual, including the visually impaired people (Johnson, 2010: 188). Critical thinking skills can be developed by a simple activity, for example reading. According to Mardliyah (2019: 172), reading can help person to understand concept in depth, while the concept understanding is a basic ability for developing critical thinking skills. However, the result of Triwiaty & Assjari’s research (2017: 53) show that the reading skill of visually impaired students are still lack. They made many mistakes in reading punctuation, only reach an average speed of 17 words per minute, and have difficulties to understand and retell the contents of the text.

The limitation of visually impaired students in reading causes their critical thinking skills couldn’t be developed optimally. They have difficulties in understanding, analyzing, integrating, and connecting information and experience (Sunanto, 2005: 51). These problems are inseparable from the fact that teachers usually applied direct teaching in the implementation of learning for students with visual impairment (Afidah & Andajani, 2015: 3). The Visually impaired students are rarely given the opportunity to actively read, find out, and construct their own understanding so that their critical thinking skills are not well developed. This is in line with the researchers’ own preliminary study at one of the special schools in Surakarta, namely SLB-A YKAB Surakarta. This school is a special school that focuses on providing the education for visually impaired students. The program held in this school is intended to develop the potential of visually impaired students and to minimize the limitation they have. Learning for students with visual impairment in this school commonly use lecture methods which is including teacher-
centered learning method. Students are more directed to develop memorization skills which is including to low level thinking skills. In fact, visually impaired students basically have potential to think critically because their intelligence is generally classified as normal range (Friend & Bursuck, 2015: 384). However, they need stimulation and encouragement so that the potential possessed in critical thinking can be developed properly. Therefore, efforts are needed to help them in developing their critical thinking skills optimally. One of learning model that can be applied to improve critical thinking skills is reciprocal teaching.

Reciprocal teaching is a learning model that give the opportunity for the students to read and understand the material actively and independently, then explain their understanding to the other students in the class. According to Fajarwati (2010: 17), teacher in the application of reciprocal teaching only act as facilitator who conduct scaffolding. Scaffolding is a guidance that conducted by people who know better to people who don’t know. Scaffolding is given by the teacher when students have difficulties in solving problem about the material, both independently or through discussion with their friends. Scaffolding is conducted to help students in reaching their potential development possessed from the current level of actual development.

Reciprocal teaching has been proven to improve the learning independent of students in SMPN 5 Karanganyar in biology (Yunita, Santosa, & Ariyanto, 2011) and also has been proven to improve mathematical communication of students’ class VII-B in SMPN 2 Boneguru (Sardin, 2019: 41). But reciprocal teaching is never be applied as an effort to improve the critical thinking skills of visually impaired students. In fact, the syntax of this learning model basically has no problems to be applied to them.

Based on the finding had been described, the researchers seek to conduct a research about the application of reciprocal teaching to improve the critical thinking skills of visually impaired students. The way to know the critical thinking skills improvement in this research was by using the instrument of oral test and observation to measure the critical thinking skills before and after the application of reciprocal teaching. The similarity of this research with the previous research lies in the use of reciprocal teaching as an independent variable. While the difference lies in the selection of dependent variable and subject research. Previous researchs are conducted to improve the learning independent and mathematical communication of students in regular schools. While this research is intended to improve the critical thinking skill of the students with visual impairment in SLB-A YKAB Surakarta. So that, the title of this study is “The Influence of Reciprocal Teaching towards the Critical Thinking Skills Improvement of Visually Impaired Students in SLB-A YKAB Surakarta on the Academic of Year 2019/2020”.

2. Research Methodology

This research was conducted in SLB-A YKAB Surakarta. This school was chosen as the research place due to several considerations. First, visually impaired students in SLB-A YKAB Surakarta fulfill the criteria to become the research subject. Second, reciprocal teaching has not been implemented there as an effort to improve the critical thinking skills of the visually impaired students. The research phase starts from pre-field activities, field activities, and post-field activities. The entire series of the activities was carried out from November 2019 to March 2020.

This study classified as quantitative research. According to Sugiyono (2012: 8), quantitative research is research that uses the positivism philosophy that emphasizes the use of statistic to process numerical data. The design of this study is pre-experimental with the type of one group pretest-posttest design. Research design basically is a plan drawn up by the researcher regarding the data collection and analysis to achieve the research objective (Hasnunidah, 2017: 50). The one group pretest-posttest design was chosen because the students who met the criteria to be the research subjects were only seven students. All the visually impaired students are able to learn classically, so that the one group pretest-posttest design can be used in this research. The one group pretest-posttest design in this study was carried out by
carrying out the pretest (before the intervention was given), providing the treatment (through the application of reciprocal teaching), and ending with posttest (the test after intervention). The magnitude of the treatment effect can be seen from the results of the pretest and posttest comparison (Yuliardi & Nuraeni, 2017: 29).

One of the things that very important in experimental research is the research subjects. They will be given the intervention to be analyzed the effect. There are two terms that are closely related to research subjects, namely Population and sample. Overall, of the subjects that have the similarities even in small percentage called as the population (Arikunto, 2013: 173). The population in this study were all visually impaired students in SLB-A YKAB Surakarta. Based on the results of preliminary study have been done, it is known that not all the students in SLB-A YKAB Surakarta are visually impaired students. Some students there are mentally retarded students who ideally study in SLB-C. The mentally retarded students are not included as the population in this study. This is because this study was carried out specifically to determine the effect of reciprocal teaching to improve the critical thinking skills of visually impaired students.

The population has been determined is then pursed into research sample. According to Arikunto (2006: 131), research sample is the part of the population that investigated in the research process. The sample in this study was selected using non-probability sampling technique. This technique gives certain criteria so that not all of the elements have the opportunity to become the research subject (Sugiyono, 2012: 84). More specifically, the non-probability sampling technique used in this study is purposive sampling technique. Purposive sampling technique provides certain considerations for choosing the research sample so that the data obtained is more representative (Sugiyono, 2012: 85). The researchers set three considerations for selecting the research subjects. First, the visually impaired students in SLB-A YKAB Surakarta who have reached the formal operational stage according to the Piagets theory. This stage is reached by individuals aged 11 years and over (Meranti, 2015: 22). These criteria is set to make sure that the research subjects have the same stage of the cognitive development even though they come from different grade levels. Second, the visually impaired students who are able to read, write, listen, and speak fluently. This consideration set because the application of reciprocal teaching requires students to actively read, write, listen, and speak. The last consideration is the visually impaired students who have problems in developing critical thinking skills. Based on these considerations, the researchers assigned seven students in SLB-A YKAB Surakarta to be the research subjects. The seven students are SM (14 years old, 5th grade), UM (12 years old, 6th grade), DWD (12 years old, 7th grade), MPP (13 years old, 7th grade), SSS (16 years old, 8th grade), ARP (14 years old, 9th grade), and BAS (16 years old, 9th grade).

To the research subjects, researchers conduct the research by paying attention to two variables, namely independent variable and dependent variable. The research variable basically is anything that has variety and determined to find information and conclusion in the research process (Sugiyono, 2012: 38). The independent variable used in this study is reciprocal teaching, while the dependent variable is critical thinking skills.

The data about critical thinking skills of the subjects in this research was collected using observation and test. Observation is a process of observing an object directly or indirectly by utilizing all the senses to get the data needed in research (Agustinova, 2015: 36). While test is a tool or procedure used to measure certain attributes by means and rules that have been set (Arikunto, 2012: 67). The form of the test used in this study is oral test that conducted by giving 15 questions in individual setting. Students responses in answering these questions are then observed and matched to the assessment rubric to be scaled on the scale of 1-5. The instrument used in this study refers to the critical thinking skills aspects proposed by Facione (2020: 5-6) which include aspects of interpretation, analysis, evaluation, inference, explanation, and self-regulation.

Before the instrument of critical thinking skills used to collect data from the research subjects, researchers conducted a validity and reliability test. The validity test used in this
study was collected using content validity. Content validity is a validity technique that is estimated through a properness and relevance testing of the items content carried out in rational analysis by the competent experts or expert judgment (Azwar, 2017: 42). Validity test in this study involved three experts, namely measurement expert, psychologist (assessing the substance of critical thinking skills), and linguist. Based on the validity test that has been done, its known that the 15 items developed in this study are valid with a content validity coefficient (Aikens V) ranging from 0.92 to 1. While the reliability test in this study was carried out using internal consistency approach. Reliability estimation with this approach is based on the data from an instrument application to a group of subject or commonly called a single test (Yuliardi & Nuraeni, 2017: 103). The instrument trial in this study was carried out in SMP MIS Surakarta which is one of inclusive schools in Surakarta that has eight visually impaired students. The eight students there have the homogeneous characteristics with the research subjects. Then, the results of the instrument trial were processed using the Alpha formula with the splitting technique. The reliability test using these formulas give a reliability coefficient of 0.975. According to Rukajat (2018: 150), the reliability coefficient above 0.80 is classified as good reliability.

The pretest and posttest data in this study were then processed with the analysis data. Data analysis is an activity to simplify a research data so that it is easier to read and interpret. The data analysis technique used in this study is Wilcoxon Sign Rank Test. This technique is a substitute for the Paired Sample T Test as specially for data that do not meet the assumptions in a parametric statistical test (Sampurnajaya & Ambarita, 2016:96). While the procedures used in this study include structured and systematic stages, including: the pre-field stage (proposing a research title, preparing the proposal, validating the instrument, and proposing the research permission), data collection stage (testing the instrument or instrument trial, implementing the pretest, providing the treatment, and implementing the posttest), and post-field stage (interpreting and analyzing the data, drawing the conclusion, and preparing the research report).

3. Results & Discussion

The series of this research activities included the implementation of pretest, the provision of treatment, and the implementation of posttest. Pretest is carried out before the treatment is given in order to know the initial ability of the research subjects in thinking critically. The pretest results is used as a consideration for giving the treatment to be more effective and efficient. Treatment in this study is given in eight sessions, each session carried out in one lesson hour. The material provided in each treatment session relates to social and environmental themes accordance with the text provided in the research instrument, namely Pros and Cons of Social Media and Flood. After the treatment is finished, the research activity is continued with the posttest implementation. The posttest is intended to determine the effect of the treatment that has been given to the critical thinking skills of the research subjects. The data obtained in this study are presented in the following description.

3.1. Pretest Data

The pretest data in this study were analyzed using SPSS 25 to determine the frequency distribution. The following table is the output of frequency distribution test of the pretest data that was collected in this study.

| Pretest | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|---------|---------------|--------------------|
| Valid   | 45.00     | 3       | 42.9          | 42.9               |
|         | 48.00     | 2       | 28.6          | 71.6               |
|         | 49.00     | 1       | 14.3          | 85.7               |
|         | 53.00     | 1       | 14.3          | 100.0              |
| Total   | 7         | 100.0   | 100.0         |                    |

Figure 1. Frequency Distribution of the Pretest Data

The figure shows that there were seven subjects in this study. Three subjects in the implementation of pretest got value of 45, two students got value of 48, one student got value of 49, and one student got value of 53. These values (45-53) belong to category of D grades (less capable to think critically). To simplify the

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interpretation process, researchers conducted descriptive statistical test using SPSS 25. The following table is the results of descriptive statistical test of the pretest data.

| Descriptives |
|-------------|
| N | Range | Minimum | Maximum | Sum | Mean | Std. Deviation |
| Pretest | 7 | 45.00 | 53.00 | 333.00 | 47.57 | 2.94 |
| Valid N (Excluded) | 7 |

Figure 2. Descriptive Statistic of pretest data

The figure shows that the highest value achieved by the research subjects in the pretest implementation was 53. While the lowest value was 45, so the range of the pretest data was 8.00. Total value of all subjects in the pretest implementation was 333. With the N value of 7 subjects, so that the average of all values (mean) was 47.57. The standard deviation of the pretest data was 2.934582 or rounded to 2.94.

3.2. Posttest Data

Posttest was done after the treatments given. Posttest was held to measure the magnitude of the effect of reciprocal teaching to improve the critical thinking skills of the subjects. Following is the frequency distribution of the posttest data that were collected in this study.

| Posttest |
|---------|
| N | Valid | 7 |
| Missing | 0 |

Figure 3. Frequency Distribution of Posttest Data

The figure shows that 69 has the highest frequency. The value was achieved by two subjects. While the values of 67, 72, 83, 81, and 84 were achieved by one subject. These values belong to category of C grades (quite capable to think critically) to A grades (very capable to think critically). Following is the descriptive statistic table of the posttest data.

| Descriptive Statistics |
|------------------------|
| N | Range | Minimum | Maximum | Sum | Mean | Std. Deviation |
| Pretest | 7 | 57.00 | 67.00 | 84.00 | 515.00 | 73.57 | 6.47 |
| Valid N (Excluded) | 7 |

Figure 4. Descriptive Statistic of Posttest Data

The figure shows that the posttest values were ranged from 67 to 84, so that the range was 17.00. This means that the lowest value of the posttest data was 67 (belong to category of C grades), while the highest value was 84 (belong to category of A grades). Total values of the entire subjects was 515. The average (mean) of the posttest data was 73.57, while the standard deviation was 6.47.

3.3. Comparison of Pretest and Posttest Data

The magnitude of the treatments effect could be seen by comparing the pretest and posttest data. Histogram below illustrates the improvement values for each subjects.

Figure 5. The Improvement Value of Each Subject

3.4. Normality Test

Normality test is a procedure that can be done with a view for knowing the data obtained in the research are normally distributed or not (Werang, 2015: 141). If the results of this test indicate that the data are normally distributed, so the Parametric analysis technique can be used in the hypothesis test. However, if the results show that the data are abnormally
distributed, then the non-parametric analysis techniques are more appropriate to use. Even so, the non-parametric statistic technique can still be used in the normally distributed data if the other assumptions in parametric statistic techniques are not met (Triyono, 2003: 1). The normality test in this study was carried out using the Shapiro Wilk test. According to Park (2008: 9), the Shapiro Wilk test provide a valid result on a sample of 7-2000. Below is the results table of normality test that was done in this study.

| Tests of Normality | Kolmogorov-Smirnov* | Shapiro-Wilk |
|--------------------|----------------------|--------------|
|                    | Statistic | df | Sig | Statistic | df | Sig |
| pretest            | .336      | 7  | .260 | .848      | 7  | .117 |
| posttest           | .249      | 7  | .260 | .869      | 7  | .184 |

* This is a lower bound of the true significance.

Figure 6. The Results of Normality Test

The figure shows the results of Kolmogorov Smirnov test and Shapiro Wilk test. However, the data used in this study is the results of Shapiro Wilk test. The Shapiro Wilk in the table indicate the statistical value of 0.848 with a significance of 0.117 (11.7 percent) for the pretest data. Meanwhile, the posttest data obtained a statistical value of 0.869 with a significance of 0.184 (18.4 percent). Both significance values are greater than 0.05 (5 percent). Below is the hypothesis proposed in this study.

3.5. Hypothesis Test

Hypothesis test in this study was done using Wilcoxon Sign Rank Test. The Wilcoxon Sign Rank Test is used to determine whether there are significant differences of the data from a paired group (Sampurnajaya & Ambarita, 2016: 96). Below is the results table of hypothesis testing that was done in this study.

| Test Statistics\(^a\) | \(Z\) | Asymp. Sig. (2-tailed) |
|-----------------------|------|-----------------------|
| posttest-pretest      | -2.384\(^b\) | .017 |

\(^a\) Wilcoxon Signed Ranks Test
\(^b\) Based on negative ranks.

Figure 7. The Result of Hypothesis Test

The decision making of \(H_0\) and \(H_a\) in this study was done by comparing the Asymp. Sig. (2-tailed) value with the predetermined significance value, which is equal to 0.05 or 5 percent. Below is the hypothesis proposed in this study.

3.5.1 \(H_0\): The reciprocal teaching application has no influence towards the critical thinking skills improvement of the visually impaired students in SLB-A YKAB Surakarta on the Academic of Year 2019/2020.

3.5.2 \(H_a\): The application of reciprocal teaching has an influence towards the critical thinking skills improvement of the visually impaired students in SLB-A YKAB Surakarta on the Academic of Year 2019/2020.

If the Asymp. Sig. (2-tailed) value is less than 0.05, so the \(H_0\) is rejected and \(H_a\) is accepted. However, if the Asymp. Sig. (2-tailed) value is greater than 0.05, so the \(H_a\) is rejected and \(H_0\) is accepted. The figure above shows the Asymp. Sig. (2-tailed) value of 0.17 or 1.7 percent. This value is smaller than 0.05 so that the \(H_0\) is rejected and \(H_a\) is accepted. Thus, the application of reciprocal teaching give a positive effect towards the critical thinking skills improvement of the visually impaired students, as specially in SLB-A YKAB Surakarta on the academic of year 2019/2020.

3.6. Discussion

Based on the results that was obtained in this study, its known that the application of reciprocal teaching give a positive and significant effect towards the critical thinking skills improvement of the visually impaired students in SLB-A YKAB Surakarta on the academic of year 2019/2020. The improvement of the critical thinking skills of the subjects in this research basically began to be observed in...
the third session of the treatment. If in the first and second session the subjects did not dare to argue on their own initiative, in the 3rd session all of the subjects became more active and independent in learning. Every subjects in the third session of the treatment always wanted to argue and give response. If they were curious about something related to the topic, they asked directly without having to be appointed. Then, if the other subjects knew the answer, they would immediately respond. This is in line with the results of the research conducted by Uziadah (2015) about the effect of reciprocal teaching on the junior high school student’ learning activeness. The research resulted a conclusion that reciprocal teaching had a positive and significant effect towards the student’ learning activeness. The magnitude of the reciprocal teaching contribution in improving student’ learning activeness is 81.54, while the rest is effected by the other factors not included in this study (Uziadah, 2015: 84). In addition, Yunita, Santosa, & Ariyanto (2011) have also examined the effect of reciprocal teaching towards the learning independence of junior high school students. The results of the study indicated that reciprocal teaching can improve students learning independence. The improvement of the student’s activeness and independence in learning because in the application of the reciprocal teaching, students were always actively listen and read the material, write summaries and questions, and convey verbally their own understanding, opinion, and responses on the topics discussed.

The critical thinking skills improvement that shown by the subject in the treatment process also lies in communication skills. Communication skills were directly related to several aspects of critical thinking skills proposed by Facione (2020: 5-6), namely the ability of evaluation, explanation, and self-regulation. Subjects in the first and second treatment sessions generally provided opinions in one or two sentences, in the third sessions could reach four to six sentences. The subjects also expressed the opinions and responses calmer, more structured, comprehensive, and clearly pronounced. This is in line with the results of the research conducted by Sardin (2019) about the application of reciprocal teaching to improve the mathematical communication skills of students in class VII-B SMPN Bonegunu. The results of this study indicated that reciprocal teaching can improve student’ communication skill, especially in mathematics subject by 12.9 percent. The communication skills improvement because in the application of reciprocal teaching, subjects were required to speak actively, both to express opinions or responses (Huda, Susilo, & Sa’dijah, 2017). This can indirectly hone the oral communication skills possessed by the subjects. In addition, in the application of reciprocal teaching, subjects were also required to write summaries and questions actively so that their written communication skills also develop well.

Another thing that supported the successful of the treatment was the learning climates that were cooperative, respectful, and helpful to each other. If subject had difficulties to give opinion or response, the other subjects always gave encouragement and/or assistance. Then, if the subject still encountered difficulties, the researcher gave further guidance. Moreover, the subject’s awareness of the topics importance was beginning to emerge. When someone made a noise while the researcher or one of the subjects spoke, the other subjects immediately reprimand. This is in line with the opinion expressed by Trianto (2010: 173) that reciprocal teaching can help teacher to create a collaborative dialogue in the class. Moreover, Huda, Susilo, & Sa’dijah (2017: 2) also stated that reciprocal teaching can improve student’ awareness of the importance of the topics discussed, foster cooperation between students, and improving respectness to the teacher. The provision of further guidance by the researchers for the students is an embodiment of scaffolding. This is in line with the opinion expressed by Fajarwati (2010: 17) that the role of the teacher in reciprocal teaching application is primarily to provide scaffolding. Scaffolding is a guidance given by people who know better to people who don’t know. Scaffolding was given to the subject who had difficulties to solve problems independently or with her/his friends. The provision of scaffolding was intended to accelerate the subject’s potential in critical thinking skills.

Based on the description of the results study reinforced with previous studies, it can be
stated that reciprocal teaching can improve the critical thinking skills of visually impaired students in SLB-A YKAB Surakarta on the academic of year 2019/2020 significantly. This is indicated by the Asymp. Sig. (2-tailed) value on the hypothesis test which gave a yield of 0.017 or 1.7 percent. This value is smaller than the significance level set in this study, which is 0.05 or 5 percent. Its can be stated that the improvement of critical thinking skills of visually impaired students in SLB-A YKAB Surakarta can be trusted with the confidence level of 95 percent. Thus, it can be concluded that reciprocal teaching could be used as an alternative learning model to improve the critical thinking skills of visually impaired students in special school.

Based on the research results that has been described, researchers provide recommendation for several parties. Below is the researcher’s recommendations related to the results of this study.

1. The Cultural and Educational Office should be disseminating the importance of critical thinking skills in the 21st century in depth to special school that handle education for visually impaired students. This is intended to make sure that the learning process for visually impaired students was not only focused for developing the ability to memorize, but also the ability of interpretation, analysis, evaluation, inference, explanation, and self-regulation.

2. The Head of special school that handles education for visually impaired students can make policies to encourage the use of varied, active, and independent learning models. This is intended to make sure that teachers were more varied in choosing learning models, such as reciprocal teaching that has been proven to be able to improve the critical thinking skills of visually impaired students.

3. Teachers who teach visually impaired students should not only focus in using the direct learning model. This is because the direct learning model develops more ability to memorize, while the ability that is more needed in this century is critical thinking skills. Therefore, the reciprocal teaching can be an alternative learning model because it has been proven to be able to improve the critical thinking skills of visually impaired students.

4. Conclusion

Based on the results and discussion had been described, it can be concluded that reciprocal teaching application has a positive and significant effect on the critical thinking skills improvement of visually impaired students in SLB-A YKAB Surakarta on the academic of year 2019/2020. It can be seen by the scores range achieved by the students before and after the reciprocal teaching application. Before the reciprocal teaching was applied (pretest), the visually impaired students’ critical thinking skills scores were range from 45 to 53. Meanwhile, the score range achieved by the students after the application of reciprocal teaching were from 67 to 84. Other than that, the results of hypothesis testing in this research also shows that the critical thinking skills improvement of visually impaired students was significant on a signification level of 5 percent and can be trusted with a confidence level of 95 percent.

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