Analysis Critical Thinking Skills in Solving Statistical Problems in Terms of Self Concept

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ABSTRACT

This study aims to describe the critical thinking skills of class VIII B students at a private junior high school in Jember Regency. This type of research uses descriptive qualitative. Data collection techniques used questionnaires, written tests, and interviews. The subjects used by the researchers were class VIII B at a private junior high school in Jember Regency. Research subjects were obtained from 3 self-concept classifications: high, moderate, and low. Based on the three self-concept classifications, students' critical thinking skills are analyzed in 4 indicators: interpretation, analysis, evaluation, and inference. The results showed a significant relationship between critical thinking skills and students' self-concept. It was found that students' critical thinking skills in each self-concept have different classifications, namely students with high (positive) self-concept have high (critical) critical thinking skills, students with moderate self-concept have moderate (sufficient) critical thinking skills, while students with low (negative) self-concept have essential skills of thinking low (lack) in problem-solving. So based on this research, it is known that students' self-concept is very influential on students' critical thinking skills. This can make teachers pay more attention to students' self-concept to foster students' critical thinking skills.

Keywords: Critical Thinking Ability, Problem-Solving, Self-Concept

ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan kemampuan berpikir kritis siswa kelas VIII B di salah satu SMP swasta di Kabupaten Jember. Jenis penelitian ini menggunakan deskriptif kualitatif. Teknik pengumpulan data menggunakan angket, tes tulis dan wawancara. Subjek yang digunakan oleh peneliti yaitu pada kelas VIII B di salah satu SMP swasta di Kabupaten Jember. Data subjek penelitian diperoleh dari 3 penggolongan self-concept diantaranya self-concept tinggi, self-concept sedang, dan self-concept rendah. Berdasarkan tiga penggolongan self-concept tersebut kemudian dianalisis kemampuan berpikir kritis siswa yang termuat dalam 4 indikator yaitu interpretasi, analisis, evaluasi, dan inferensi. Hasil penelitian menunjukkan bahwa terdapat hubungan yang signifikan antara kemampuan berpikir kritis dengan self-concept siswa. Ditemukan bahwa kemampuan berpikir kritis siswa pada masing-masing self-concept memiliki penggolongan yang berbeda-beda yaitu siswa dengan self-concept tinggi (positif) memiliki kemampuan berpikir kritis tinggi (kritis), siswa dengan self-concept sedang memiliki kemampuan berpikir kritis sedang (cukup), sedangkan siswa dengan self-concept rendah (negatif) memiliki kemampuan berpikir kritis rendah (kurang) dalam pemecahan masalah. Sehingga berdasarkan penelitian ini diketahui bahwa self-concept siswa sangat berpengaruh terhadap kemampuan berpikir kritis siswa. Hal tersebut dapat menjadikan guru lebih memperhatikan self-concept siswa untuk menumbuhkembangkan kemampuan berpikir kritis siswa.

Kata Kunci: Kemampuan Berpikir Kritis, Pemecahan Masalah, Self-Concept

INTRODUCTION

Thinking is a mental activity experienced by a person when confronted with problems or situations that need to be solved (Heriyanto et al., 2020; Konoras et al., 2022; Kusmanto, 2014). In solving a specific problem, each individual has a different way and point of view according to their thinking ability. The ability to think is an activity done by someone to process information, make decisions, and create ideas or notions.

Critical thinking is an activity that involves the brain, from the preparation of ideas to conclusions (Kusmanto & Marliyana, 2014). Kharisma (2018) states that critical thinking is activities of analyzing, synthesizing, and evaluating concepts involving activities thinking. Therefore, critical thinking is a person's process when doing, judging, and deciding something depending on his beliefs and actions. A person is said to be able to think critically if he has critical thinking ability.

Critical thinking ability is the ability to think reflectively and reason in decision-making that focuses on what to do, including essential clarification, the basis for decision-making, decision-making conclusions, explaining further, estimation and integration, and capabilities addition (Raudhah et al., 2019). So, to determine whether students already have critical thinking skills or cannot be seen, there is an indicator of students' critical thinking skills. Critical thinking ability indicators, according to Facione (2015), Rani et al. (2018), McCuen (2023), Martyanti & Suhartini (2018) that is (1) interpret, namely being able to understand the problems indicated by writing known and asked questions clearly and precisely (2) analyze, namely being able to write down the relationship between the concepts used in solving problems, such as how students associate problems with the strategies to be used (3) evaluate, namely being able to write down problem-solving complete and correct in carrying out calculations and (4) inferences, namely being able to provide conclusions correctly. Forming students who can think critically will make students who have excellent personalities in concluding based on appropriate information proses appropriate information and using relevant strategies according to problem-solving.

Problem-solving is thinking that is shown to be directly directed to find a solution to a particular problem (Mawaddah & Anisah, 2015; Akbar et al., 2018; Ermila, 2018). Problem-solving is closely related to learning mathematics, namely the application of practice questions. According to a mathematics teacher at a private junior high school in Jember Regency, statistics is relatively tricky for students to understand because the statistic is presented with data in bar, line, and circle charts, namely the median, modus, and mean sub-matter. In addition, the application of Statistics is usually through word problems which become a problem for students. In learning mathematics, word problems are questions that are presented in the form of short stories which relates to everyday life. So, Statistics was used in this study because, at the research site, statistics material became a problem experienced by students, namely in the form of word problems.

Based on the results of observations and interviews with a class VIII B Mathematics teacher, one of the private junior high schools in Jember Regency revealed that there were students who were quite capable of solving the given problem, and there were also students who had critical thinking skills. This is supported by a preliminary study conducted by providing a solution to problems through statistical story questions. So, the results of preliminary studies that prove the existence of

students who can think critically make the researchers choose one of the private junior high schools in Jember Regency as the research object. In addition, the relationship between critical thinking and problem solving is interesting to study. Critical thinking is a condition for developing problem-solving abilities (Cahyono, 2016).

Some affective aspects contribute to understanding one's problem-solving success (Hadianingsih, 2019). One of these psychological or affective aspects is self-concept, which is a person's perspective of seeing the shortcomings and weaknesses of his strengths, including planning for his life goals (Hadianingsih, 2019). As for the indicators of students' self-concept towards mathematics used in this study, opinions based on Sumartini (2015), Siregar et al. (2020), and Susilawati et al. (2020), namely: dimensions of knowledge, expectation dimensions, and assessment dimensions. Students who can meet these indicators can be said to a student who already has a positive self-concept.

Self-concept is closely related to students' critical thinking skills (Hadianingsih, 2019). From the definition above, self-concept is a person's perspective on mathematics. So that when students have a positive self-concept, these students will dare to be responsible for what they do, be independent, and believe that success or failure depends on the effort they are making. Unconsciously this can develop their critical thinking skills. Based on the result of research conducted by Antler in Nurhasanah et al. (2021), they revealed that the total value of self-concept is significantly and positively related to the total value of critical thinking. So based on the explanation above, it can be concluded that the importance of students' critical thinking skills is on students' self-concept.

Referring to the statements above, the researcher aims to find out to what extent the linkage of students' critical thinking skills in problem-solving when viewed from the self-concept owned by students. In addition, students' difficulties in solving statistical problems made researchers want to know whether critical thinking skills in problem solving affect students' self-concept. This is because research by Rachman & Hakim (2018) states that self-concept has a positive but insignificant influence on mathematical critical thinking skills. As well as the study conducted by Katarina (2017) says that essential thinking skills have an indirect, significant effect on mathematics learning achievement through self-concept. Therefore, researchers are interested in conducting research by taking the title Analysis of Junior High School Students' Critical Thinking Skills in Solving Statistical Problems in Terms of Self-Concept.

METHOD

This research method uses a qualitative descriptive research type, which aims to describe the critical thinking skills of junior high school students in solving statistical problems in terms of self-concept. The research procedure was first to observe one of the private junior high schools in Jember Regency to determine students' critical thinking skills. Next, conduct research that will be used as research. After that, the researcher conducted a preliminary study to determine students' critical thinking skills and see the characteristics of students' abilities. The number of research subjects, namely 28 students from class VIII B, in Muhammadiyah junior high school 1 Jember. In this class, six research subjects will be taken according to the student's self-concept, with two research subjects

with high self-concept categories, 2 with medium self-concept, and 2 with low self-concept. The data collection techniques used self-concept questionnaires, written tests solving statistical problems, and interviews. Self-concept questionnaire distribution is done by providing a self-concept questionnaire sheet containing 30 statements. After that, the research subject was given a written test to solve statistical problems as many as two problems. Questionnaire instrument self concept and statistical problem solving written tests given to students have been validated by three validators, namely two lecturers in mathematics education at the Muhammadiyah University of Jember and one teacher of mathematics at one of the private junior high schools in Jember Regency with 18 statements according to indicators and critical thinking skills. Data analysis was performed using indicators of critical thinking skills.

Critical thinking ability is the ability to analyze an idea or idea in depth, distinguish and sort, which are then grouped and looked for relatedness according to information or problems obtained so that conclusions can be obtained and state the truth of his opinion. The indicators of critical thinking skills are modified from Facione (Karim & Normaya, 2015), namely:

Table 1. Indicators of Critical Thinking Skills

No.	Indicators	Sub-Skills
1	Interpretation	Able to understand the problem indicated by writing known or asked questions with clear and precise
2	Analysis	Able to write the relationship between concepts used in solving problems, such as how students associate the problem with the strategy that will be used
3	Evaluation	Able to write down problem-solving, complete and correct in doing calculations
4	Inference	Able to draw accurate conclusions

Data collection techniques in this study included self-concept questionnaires used to determine students' self-concept, which would later be classified into three categories high, medium, and low. The problem solving written test was conducted to see students' critical thinking skills and followed by interviews as confirmation of the answers that the research subjects on the answer sheets had presented.

RESULT AND DISCUSSION

The study's results were obtained from students selected as high, medium, and low self-concept research subjects working on problem solving given by the researcher, with two problems in statistics material. After that, the student's answers were analyzed and grouped into four indicators of critical thinking skills: interpretation, analysis, evaluation, and inference. The following explains the fulfillment of high, medium, and low self-concept indicators.

High Self concept

Based on Figure 1, it can be described as an indicator of critical thinking skills. The results of SP1 work on solving statistical problems number 1 the writer analyzes that SP1 has achieved

interpretation indicators. This is because, on the SP1 answer sheet, it is written that the description is known and asked according to the context of the solution problem given entirely and precisely.

Figure 1. High Self Concept Student Answers

Even during the interview, SP1 said confidently that he understood the information provided from problem solving and could mention it when asked again. This is contained in the interview transcript with the narration, "*From the questions I saw, it is known: Number of students in class 8 A or n(A) = 35, Number of students in class 8B or n(B) = 15, Average class 8B = Xb, Average class 8A = 10 + Xb, X combined = 70, Asked: What is the average test score for class VIII B?*". Therefore, it is evident that SP1 on solving statistical problem number 1 has met the indicators of interpretation at the capable stage by writing down what is known and asking about solving statistical problems entirely and accurately.

The researcher also analyzed that SP1 also met the analysis indicators, which was proven by the results of the explanation of the answer that SP1 can write the appropriate mathematical formula problem solving and provide accurate and complete descriptions. SP1 also did not hesitate to state that the formula used to link between what is known and what is asked in solving the given problem in accordance. This is contained in the interview transcript with narration, "*If number 1 what is being asked is the average value, so I use the formula for the amount of data divided by the amount of data sis, which means it*". So, based on the explanation above, it is proven that SP1 is on the split statistical problem number 1 and has met the analysis indicators at the stage of being able to use the formula correctly and provide appropriate explanations.

Then, based on the researcher's analysis of the statistical problem solving answer sheet by SP1, SP1 has met the evaluation indicators, namely, has been able to use the appropriate method in solving problem solving, complete and correct in performing calculations. The calculations performed by SP1 in solving this problem were coherent and correct according to the formula used. As well as with the explanation stated during the interview that SP1 has been confirmed correctly by presenting the results of the answer. It is loaded in the interview transcript with the narration, "*That's the way mean=the amount of data divided by the number of data because that's the formula for finding the average value. Well then put* $\frac{Xa.na+Xb.nb}{na+nb} = 70$, *Xa is the average score for class 8A, na is the number of students in class 8A, Xb is the average grade for class 8B, and nb is there are a lot of students in grade 8B, if 70 is the combined average score for grades 8A and 8B. Continue to enter again sis the value, which is Xa is 10 + Xb multiplied by 35 + Xb multiplied by 15 per 35 + 15 = 70. Then I multiply it and add up sis, and you get 350 + 35 multiplied by Xb + 15 Xb per 50 = 70. So, this is still a problem, right?, then I multiply it crosswise so it's easy to count. It's 350 + 50Xb = 70 × 50, then 50Xb = 3500 − 350, 50Xb = 3150, see you sis Xb = 63".* It is proved that SP1 is on the split statistical problem number 1 and has fulfilled the evaluation indicators using appropriate, complete, and correct methods in the calculations and explanations.

Finally, the researcher analyzed that the inference indicators had also been met by which SP1 could draw conclusions based on a series of solving the problems that have been carried out. However, the decision described by SP1 is still in the stage of making conclusions correctly according to the context, but not complete. This is evidenced by the description on the answer sheet, namely, *"So, the average value class 8B is 63"*, the statement is incomplete because there is no clarity on the average test score for class VIII B mathematics. The same goes for re-confirmation by the researcher to SP1 in the interview that SP1 still said the same thing was appropriate with what is presented in the answer sheet. This is contained in the interview transcript with the narration, "*The conclusion that I got is that the average score on class VIII B math test is 63".* Thus, it can be said that SP1 on problem-free statistic number 1 has fulfilled the inference indicator at the stage of being able to conclude correctly and following problem solving but not complete.

Moderate Self Concept

Based on Figure 2, it can be described as an indicator of critical thinking skills. The researcher analyzed that SP3 met the indicators interpretation of solving statistical problem number 1. This is because the exposure to SP3 answer sheet described is known and asked ultimately and precisely following the information from the given problem solving. Strengthened by activities interviews conducted by researchers with SP3, that in interviews SP3 was able to mention the information he gets from problem solving is related to being known and being asked about complete and correct. This is contained in the interview transcript with narration, "*So he knows Number of students in class VIII A n(A) = 35 students, Number of students in class VIII B n(B) = 15 students, Grade 8B average = Xb, Class 8A average = 10 + Xb, X combined = 70, Asked: Class average VIIIB?".* Therefore, it is proven that SP2 fulfills the interpretation indicators at the capable stage by explaining information known and asked in problem solving statistic number 1.

Figure 2. Moderate Self Concept Student Answers

Then the researcher analyzed the results of solving problem number 1 by SP3, that SP3 got to use the formula that follows what was asked in solving the problem, so in this case, SP3 can be said to have met the analysis indicators and proven by answer results in figure 2 code 002 where SP3 has explained the correct and complete formula, even with the results of interviews with SP3, where SP3 can restate the procedure, use it properly. This is contained in the interview transcript with the narrative, "*The formula is average = amount of data per a lot of data sis*". So, through the explanation above, it is proven that SP3 has met the analysis indicators at the stage of being able to use the formula, which is right according to solving statistical problem number 1.

Then, on solving the statistical problem one by SP3, the researcher analyzed that SP3 met the evaluation indicators. However, the stages that have been fulfilled are still capable of using the right way to solve the problem, but an error occurred in the calculation or explanation. It is stated that the SP3 answer is still experiencing calculation errors, where SP3 has been unable to operate its calculations correctly. Likewise, when researchers confirmed through interviews, SP3 still explained the same thing as what SP3 wrote on the answer sheet. This is contained in the transcript interview with the narrative "*average = amount of data per a lot of data = $\frac{Xa.na + Xb.nb}{na+nb}$ = 70. So, n(A) = 35, Xb is the same, n(B)=15 per 35 + 15 = 70. 10Xb multiplied by 35 + 15 Xb per 70 = 70. =10Xb multiplied by 35 + 15 Xb = 0. 25 Xb times 35 = 0. 25 Xb = 35. Xb = 35 − 25 = 10, Xb = 10*". Based on the explanation above, it is proven that SP3 has correctly fulfilled the evaluation indicators at the stage but made mistakes in the calculations.

Through the researcher's analysis, SP3 can be said to have been unable to achieve inference indicators, whereas SP3 has not been able to conclude solving the problems it is working on. This

follows the researcher's analysis of Figure 2, in which SP3 does not present a conclusion from the results of the answers on the answer sheet. Likewise, with the interview results, SP3 mentioned that they did not know the findings from the problems given, so SP3 did not write them down on the answer sheet and could not say them in the interview process. It is loaded in the interview transcript with the narration, "In conclusion, I don't know sis, confused". It is evident from the explanation above that SP3 in solving statistical problem number 1 does not meet the inference indicators because they cannot write down and explain the conclusions from given problem solving.

Low Self Concept

Based on Figure 3, it can be described as an indicator of critical thinking skills. Researchers analyzed that SP5 has met the interpretation of the indicators for solving statistical problem number 1. However, at the stage of being able to write precisely without writing down asked, some examples still lack appropriate. This is because, on the answer sheet in Figure 3, students only write information obtained without writing down what was invited.
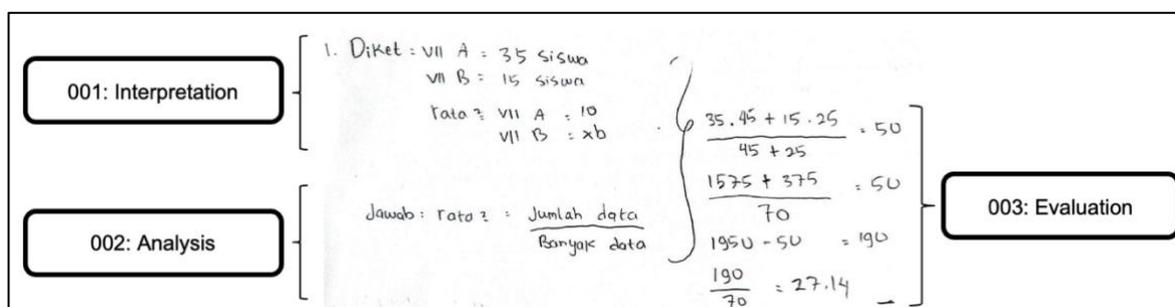

Figure 2. Low Self Concept Student Answers

Likewise, in the interview, SP5 disclosed the information obtained that is known. When it is confirmed again by the researcher related to being asked in problem solving, SP5 was able to answer it but did not explain the description of the answer. This is contained in the interview transcript with snippet narration "*Known:8A = 35, 8B = 15, Average 8B = 10, Average 8A = Xb*" followed by "*The average value of class 8B sis*". Thus, it is proven that SP5 complies with interpretation indicators at the stage of being able to write are known only with imprecise examples and without writing asked of the given statistical problem solving.

Furthermore, the researchers analyzed that SP5 had met the analysis indicators at the stage using the mathematical formula of solving the problem correctly but did not explain. This is because SP5 has been able to write procedures that match the ones asked, but it is still unclear in linking to information known from given problem solving. Even during the interview process, SP5 could mention the formula used. Still, it could not explain how to relate the information obtained by the procedure. This is contained in the attached interview transcript with the narrative fragment "*Average = amount of data divided by the amount of data sis*" followed by "*Because I'm confused sis determining the formula, which you know is difficult. I just enter the numbers that are there, and I don't know how to do it right or not*". Therefore, it is proven that SP5 has met the analysis indicators

at the stage of being able to write down the formula precisely but cannot confirm the explanation well.

Furthermore, the researcher analyzed the results of SP5's answers on the number of statistical problems solving one that SP5 has met the evaluation indicators at the stage of being able to use the suitable method in solving the problem, but not complete. This is because SP5 has used the appropriate formula but not coherently, and the steps taken to substitute the information obtained are incomplete and inappropriate, resulting in incorrect results. This statement is contained in Figure 3. Likewise, in the interview process, SP5 stated the same thing following the results of the description of his answers. So, when it is confirmed again, it is related to substituting the information obtained by the formula used. SP5 is not able to give the right reasons. This is contained in the interview transcript with the narration, *"Confused sis, remember that's all, and it's random, sis, because the questions aren't written down right away like the amount of data is direct"*. It is proven that SP5 has met the evaluation indicators at the stage of being able to write down the formula appropriately but made an error in substituting the information obtained, so it occurred miscalculation.

On inference indicators, researchers analyzed the results of answers to statistical problem solving number 1 by SP5. It is said that SP5 has not been able to reach the inference indicator. That matters because SP5 does not present a conclusion in the description of the answer. The statement is appropriate with Figure 3, where after doing the calculations and getting the final results, SP5 is not present the conclusions of the analyses. Likewise, in the interview process, SP5 confirmed that he did not know about concluding solving the given problem, so SP5 only mentioned the final result. The statement is loaded in the interview transcript with the narration, "*The final result is 27.14 if I conclude I can't do it sis hehe*". The explanation above proves that SP5 does not meet the inference indicators because SP5 does not write conclusions and cannot state the findings from solved problem-solving.

Based on the classification obtained, two students have the high self concept, two students have the self moderate concept, and 2 students have a low self-concept. Each category received research subjects with different critical thinking skills in solving statistical problem solving. Subjects with a high self-concept category obtained data from 2 students, namely SP1 with the initials SAP and SP2 with the initials NSZ. Results of problem solving test analysis and interviews show that SP1 and SP2 fall into the category of thinking ability high critical (critical) with a value obtained by SP1 of 93.74 and a value obtained by SP2 of 90.6. The two subjects of this study fulfill the 4 indicators of critical thinking skills: interpretation, analysis, evaluation, and inference.

Therefore, SP1 and SP2, who have a high self-concept, both have critical thinking skills in problem solving with a critical level seen from the results of good problem solving. Rohmat & Lestari (2019) believes that there is a significant positive influence on self-concept and self-confidence in critical thinking ability critical students. The research of Rusdha et al. (2022) also states a substantial relationship between self-concept and the ability to think critically together. Likewise, the author believes that students' self-concept will influence their critical thinking skills because students with a positive self-concept will know the benefits of mathematics, and it will cause it to be critical in responding to problems, especially in learning mathematics.

However, some research results contradict the results of research conducted by researchers, namely, according to Rachman & Hakim (2018), that self-concept has a positive but insignificant influence on mathematical critical thinking abilities. The difference in the results of this study occurred due to differences in the population characteristics carried out by Rachman & Hakim (2018) and the population characteristics carried out in this study, affecting the research results.

Subjects with moderate self-concept are owned by 2 students, namely categories SP3 with the initials SRS and SP4 with the initials SAB. The analysis of problem solving tests and interviews shows that SP3 and SP4 fall into the category of moderate critical thinking skills with a value of obtained SP3 of 65.6 and the value obtained by SP4 of 65.62. These two subjects can fulfill 3 out of 4 indicators of critical thinking skills, including interpretation, analysis, and evaluation.

Research subjects with moderate self-concept tend to lack confidence when given a problem. Still, he can solve it if appropriately done with earnestness and confidence in his abilities. So, such a self-concept makes the research subject with a self-concept in doubt in dealing with the given problem. The opinion of Febriandi et al. (2022) is that ability students' critical thinking is formed based on the student's self-concept. Likewise, with the idea of researchers, based on the research results, it can be seen that students with moderate self-concept tend to doubt their abilities, but on the other hand, he has good skills, which affects their achievement. If the student experiences doubts about doing something and is not careful, the results will not be maximized.

This is the opinion of Febriandi et al. (2022) that students' critical thinking skills are formed based on student's self-concept as well as the research conducted by Rija & Kusnadi (2021), which states that students with high self-concept categories have high mathematical problem solving abilities. The researcher also argues that based on the study results, students with a moderate self-concept tend to doubt their skills but have good abilities. So that it affects the performance. However, the research result of Rohmat & Lestari (2019) stated that there was a positive influence that was not a significant self-concept on students' mathematical critical thinking abilities. Hence, the result of this study contradicted the consequence of research conducted by researchers. This difference occurs because there are differences in research subjects undertaken by researchers, so the result is not exact.

The research subjects included in the low self-concept category were 2 students, SP5 with the initials (ARN) and SP6 with the SAS analysis results of solving tests. Problems and interviews show that SP5 and SP6 fall into the category of low critical thinking skills, with a value obtained by SP5, which is 37.5, and the value obtained by SP6, 34.37. The two subjects of this study fulfilled the three indicators of critical thinking skills, namely interpretation and analysis and evaluation.

This can also be seen in students' self-concept in dealing with mathematical problems because a low self-concept (negative) will result in low thinking skills, and students will be indoctrinated with negative things before doing something. Mawarni & Purnama (2022) state that there is a significant influence of self-concept on the ability to think mathematically. Research by Barus et al. (2017) also states that there is an essential relationship between students' self-concept and students' critical thinking. Likewise, the opinion of researchers is that students with low self-concept tend to feel unsure in dealing with the problems given, so this will affect their thinking skills because, from the

start, students have been reluctant to understand the given issues and assume that the situations are complicated and cannot be solved by himself.

However, research by Katarina (2017) states that there is an indirect, insignificant effect of critical thinking skills on mathematics learning achievement through self-concept. The results of this study contradict the results of research conducted by researchers, which occur due to differences in the location of the research carried out so that the character of the students studied is also different and will result in different research results.

CONCLUSION

Based on the results of research and discussion, it can be concluded that the ability to think critically in solving statistical problems in terms of self-concept belongs to 3 groups: high, medium, and low. The conclusion in detail is that the ability to think critically in solving statistical problems with a high self-concept category is said to belong to the high level of critical thinking ability, which fulfills four indicators of critical thinking ability: interpretation, analysis, evaluation, and inference. Critical thinking skills in problem-solving statistics with moderate self-concept category have moderate essential skills of thinking, where fulfills 3 out of 4 indicators of critical thinking skills including interpretation, analysis, and evaluation. The ability to think critically in solving statistical problems with the self-concept category low has low critical thinking skills, which fulfills three indicators out of 4 indicators essential skills of thinking: interpretation, analysis, and evaluation. Still, of course, there are also differences. The difference lies in the incompleteness of the data and errors in the data. Write examples, write formulas correctly but can't connect accordingly with the information obtained, and calculation errors result in a different final result wrong.

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