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Analysis of Mathematical Creative Thinking Ability in View of Students' Confidence in Number Pattern Material

Farida Nurhidaytai[1], Agus Maman Abadi[2]

[1,2] Yogyakarta State University, Department of Mathematics Education, Faculty of Mathematics and Natural Sciences, Yogyakarta State University, Indonesia
Jl. Colombo No.1, Karang Malang, Caturtunggal, Depok, Sleman, Daerah Istimewa Yogyakarta, 55281

Abstract:
In the 21st century, learning mathematics requires students to master 4 skills, one of which is creative mathematical thinking. This ability will encourage students to have different points of view in solving a problem. The low ability to think creatively in mathematics is shown by the large number of students who are unable to express creative ideas when studying mathematics. One of the things that underlies creativity is self-confidence because there is a relationship between the two. The aim of this research is to describe mathematical creative thinking abilities in terms of self-confidence in number pattern material. This research is descriptive qualitative research. The subjects in this research were 6 students with high, medium and low self-confidence categories in each class VIII A and VIII B. The data collection techniques used were questionnaires, tests and interviews and analyzed using triangulation of sources and techniques. Apart from that, there are 3 stages of data analysis techniques, namely data reduction, data presentation, and drawing conclusions. The research results show that students with high self-confidence have a level of creative thinking ability (TKBK) 4 (very creative) by mastering the indicators of fluency, flexibility and novelty. Then students with moderate self-confidence have a creative thinking ability level (TKBK) 3 (creative) by mastering fluency and flexibility indicators. Finally, students with low self-confidence have a creative thinking ability level (TKBK) 3 (creative) by mastering indicators of fluency and flexibility.

Keywords: Confidence, Creativity, Number Patterns.

1. Introduction

In the 21st century, learning mathematics requires students to master four (4) mathematical skills or what are called the 4Cs, namely critical thinking (critical thinking skills), creativity (creative thinking skills), collaboration (collaboration skills), and communication (communication skills) (Kusumawati et al., 2019). Where one of the four (4) skills is creative thinking skills or in mathematics it is called mathematical creative thinking skills. Apart from that, learning mathematics in the educational curriculum has a very important role in developing skills, one of which is creative thinking skills. This shows how important it is for every student to have the ability to think creatively.

Creative thinking is now recognized as a very important ability in facing contemporary social challenges, therefore creative thinking is made a core goal at all levels of education (Glaveanu, 2020). Creative thinking in mathematics is considered a disposition or orientation regarding mathematical processes, including problem solving and discovery tasks. Tall (1991) said that the ability to think creatively in mathematics is the ability to solve a problem and develop thinking in several structures by paying attention to the rules in deductive reasoning, as well as the relationships between the resulting concepts in order to improve important things in mathematics. This means that through the ability to think creatively, mathematics will encourage students to look at problems from a different point of view and develop their knowledge. According to Silver (1997) mathematical activities in problem solving and problem facing are closely related to fluency, learning, and novelty. The indicators proposed by Silver (1997) are the indicators used in this research. An explanation of each indicator can be seen based on Table 1 below:

Table 1: Indicators of Mathematical Creative Thinking

Indicators of Mathematical Creative Thinking Ability	Indicators of Student Understanding
Fluency	Students' ability to solve problems with several alternative and correct answers.
Flexibility	Students' ability to solve problems using different methods.
Novelty	Students' ability to solve problems using new methods that have never been used by other students.

Someone who has the ability to think creatively will tend to use the acquired mathematical knowledge to solve problems using new and unusual strategies in solving mathematical problems (Adharini & Herman, 2021). However, in reality in the field there are still many students who consider mathematics to be a difficult subject to learn. Where a lack of self-confidence in students can influence the achievement of expected learning goals (García Vidal et al., 2019). Apart from that, someone who does not have great self-confidence will not achieve high creativity, because there is a positive relationship between creativity and self-confidence, that is, if someone does not have self-confidence, it means that person doubts his own abilities, which is the seed of tension. (Yulianto & Nashori, 2019). Confidence can be developed through good understanding of concepts, previous experience, and mathematical communication. Therefore, it is important for everyone to have high self-confidence.

The fact that the ability of students in Indonesia in learning mathematics is still low can be demonstrated based on the results of international research by PISA (Program for International Student Assessment) in the fields of literacy, mathematics and science (OECD, 2018). Based on the results of international research, PISA in 2018 stated that Indonesia was ranked 62nd out of 70 countries with an average score of 396. Of course, this score is still far from the international score, namely 500 (Zahid, 2020). This shows that in Indonesia the implementation of mathematics learning is still not optimal (Astuti, 2018:264). Apart from that, the PISA results also show that self-confidence in high-level thinking abilities, especially creative thinking abilities in mathematics learning, is still low (Zahid, 2020). This is because to achieve high creative mathematical thinking skills requires high self-confidence in order to maximize existing abilities. Furthermore, researchers chose number pattern material because number pattern material gives rise to many creative ideas in finding solutions to problems where there are several alternative answers or ways of solving to get the correct answer (Safitri et al., 2021).

Based on research conducted by Wahyu Septina Anggraini (2021) regarding the analysis of mathematical creative thinking abilities in terms of high school (SMA) students' self-confidence in sequence and sequence material, the researcher wants to analyze more deeply the mathematical creative thinking abilities in terms of Junior High School (SMP) students' self-confidence in number pattern material. The importance of this research is to determine the extent of creative mathematical thinking abilities in terms of high, medium and low self-confidence of class VIII students in number pattern material which is useful for improving the quality of existing education. So based on this background, the researcher wants to conduct in-depth research on "Analysis of Mathematical Creative Thinking Abilities in View of Students' Self-Confidence in Number Pattern Material". The aim is to determine the level of students' mathematical creative thinking abilities as seen through high, medium and low self-confidence in number pattern material.

2. Research Methods

This research uses descriptive qualitative research methods. This research was conducted at one of the junior high schools in Yogyakarta with school A accreditation and implementing an independent curriculum. Determination of research subjects was carried out using purposive sampling techniques. Purposive sampling in this case is a technique for sampling data sources through certain careful considerations by selecting research objects that are selective and have more specific characteristics, where the person is considered to know best what is expected, for example a mathematics subject teacher. The subjects in this research were 6 students from classes VIII A and VIII B or with details of 1 class, 3 students were taken from each class who were identified as having self-confidence in the high, medium and low categories in order to analyze their mathematical creative thinking abilities.

The data collection techniques used in this research were administering a student self-confidence questionnaire consisting of 30 statements, a test of mathematical creative thinking ability on number patterns material consisting of 2 description questions, and interviews. The data collection instruments used in this research are divided into 2, namely, main instruments and supporting instruments. The main instrument in this research is the researcher himself and the supporting instruments consist of a self-confidence questionnaire, mathematical creative thinking ability test questions, and interview guidelines. Regarding the grid and leveling of the mathematical creative thinking ability test, it can be seen based on table 2 and table 3 below:

Table 2: Mathematical Creative Thinking Ability Test Grid

No	Indicators of Mathematical Creative Thinking Ability	Question Indicator	Question Form	Question Number
1	Fluency Flexibility Novelty	Apply the concept of number pattern arrangement if the initial terms are known	Description	1
2	Fluency Flexibility Novelty	Apply the concept of number pattern arrangement if the initial terms are known	Description	2

Table 3: Level of Mathematical Creative Thinking Ability

Level	Criteria	Indikator yang Dikuasai
Level 4	Very Creative	Fluency, Flexibility, and Novelty
Level 3	Creative	Fluency & Novelty or Fluency and Flexibility
Level 2	Quite Creative	Flexibility
Level 1	Less Creative	Fluency
Level 0	Not Creative	Not Mastering all Indicators

3. Result and Discussion

Result

Based on the results of the questionnaire that the students had filled out, the researcher then processed the results of the questionnaire and categorized them based on high, medium and low self-confidence. The results of the questionnaire show that the majority of students in classes VIII A and VIII B have moderate self-confidence with 35 students at a percentage of 62.5%, while students with low self-confidence are 10 students at a percentage of 17.86%, and the remaining students are in the high category. with a total of 11 students at a percentage of 19.64%. Based on the results of a questionnaire from 56 students in classes VIII A and VIII B, the next step was to take 6 research subjects who were identified as having high (KDT), medium (KDS), and low (KDR) self-confidence in each class. The selection of research subjects used a purposive sampling technique, where the researcher asked for considerations and recommendations from mathematics subject teachers. Selected subjects take a mathematical creative thinking ability test and the test results will be analyzed. Regarding the 6 research subjects successfully selected by the researcher, it can be seen based on Table 4:

Table 4: Selection of Research Subjects

Class	Confidence Category	Code
VIII A	Tall	KDT1
VIII A	Currently	KDS1
VIII A	Low	KDR1
VIII B	Tall	KDT2
VIII B	Currently	KDS2
VIII B	Low	KDR2

The following are the results of the analysis of answers to the mathematical creative thinking ability test on number pattern material for the 6 selected research subjects:

1) Mathematical Creative Thinking Ability Judging from Subject 1 with High Confidence

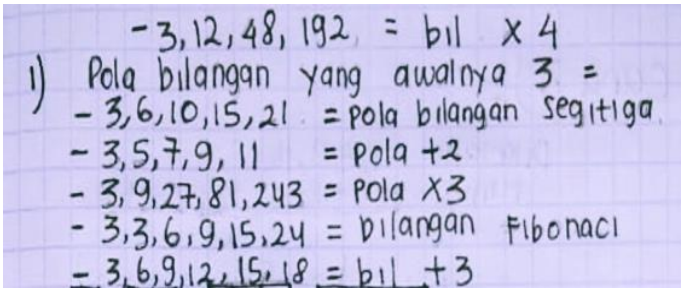

Figure 1: KDT1 Test Results on Question Number 1

Based on the results of the interview with subject KDT1 for question number 1, it can be seen that KDT1 was able to answer the questions asked by the researcher very well, apart from that he was also able to explain clearly the process of completing the answers he wrote. KDT1 uses regular number pattern arrangement rules where the first term starts from number 3 for the second, third, fifth and sixth answers. However, for the first answer KDT1 uses a triangular number pattern with the formula Un = n/2 (n+1) where n is the number of terms you want to find. Next, for the fourth answer KDT1 uses the Fibonacci number pattern.

Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDT1 subjects, the researchers concluded that KDT1 subjects were able to fulfill all indicators of mathematical creative thinking, namely fluency, flexibility and novelty very well. In this case, the fluency indicator was successfully met because KDT1 was able to solve the test questions using 6 different answers and was able to explain fluently the method used to solve the questions. Furthermore, the flexibility indicator was successfully fulfilled by KDT1 because it was able to answer questions asked by researchers correctly and fluently and was able to solve problems using different methods such as triangular number patterns and Fibonacci number patterns. Finally, the novelty indicator was successfully met by KDT1 because he was able to solve questions using several different methods from other students.

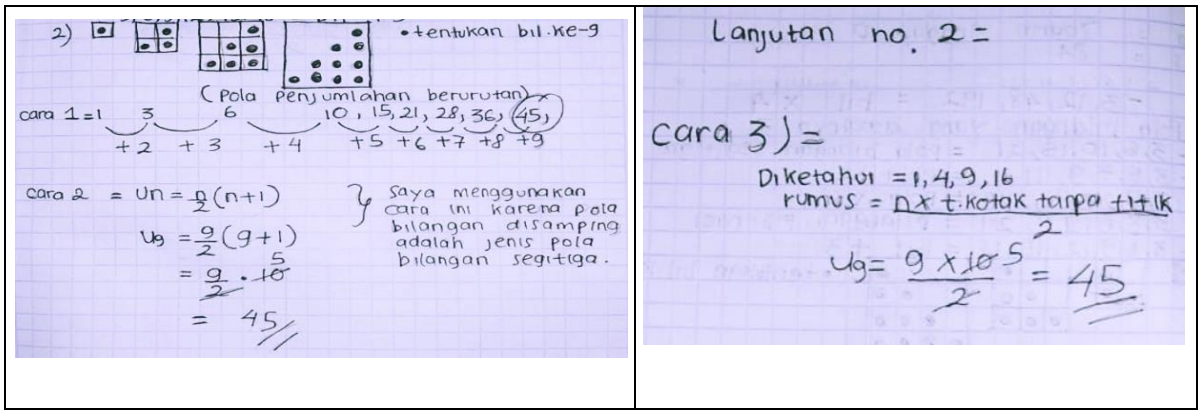

Figure 2: KDT1 Test Results on Question Number 2

Based on the results of the interview with subject KDT1 for question number 2, it can be seen that KDT1 was able to answer the questions asked by the researcher very well and smoothly, and he was even able to explain the steps in the process of solving the question clearly. Where in question number 2 KDT1 was able to work on the question using 3 different methods. For the first method, KDT1 uses ordinary number pattern rules, namely consecutive addition or each term plus 2, 3, 4, 5, 6, 7, 8, and 9. Based on the number pattern calculations, the 9th pattern is 45. Then, for The second method, KDT1, uses the triangular number pattern formula because the pattern image forms a triangle. The formula for the triangular number pattern is Un = n/2 (n+1), because the value of n is 9, the next step is to substitute the value of n into the formula so that the result of the 9th pattern is 45. Next, for the third method, KDT1 uses The reasoning formula is (n × squares

without dots)/2, because the value of n is 9 and the number of squares without dots is 10, then after filling it in, the result of the 9th pattern is 45.

Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDT1 subjects, the researchers concluded that KDT1 subjects were able to fulfill all indicators of mathematical creative thinking, namely fluency, flexibility and novelty very well. The fluency indicator was successfully met because KDT1 was able to solve the test questions using 3 solving methods and was able to explain fluently the methods used to solve the questions. Furthermore, the flexibility indicator was successfully met by KDT1 because it was able to answer questions asked by researchers correctly and fluently and was able to solve questions using different methods. Finally, the novelty indicator was successfully met by KDT1 because he was able to solve questions using several new methods that were different from other students.

2) Mathematical Creative Thinking Ability Judging from Subject 2 with High Self-Confidence

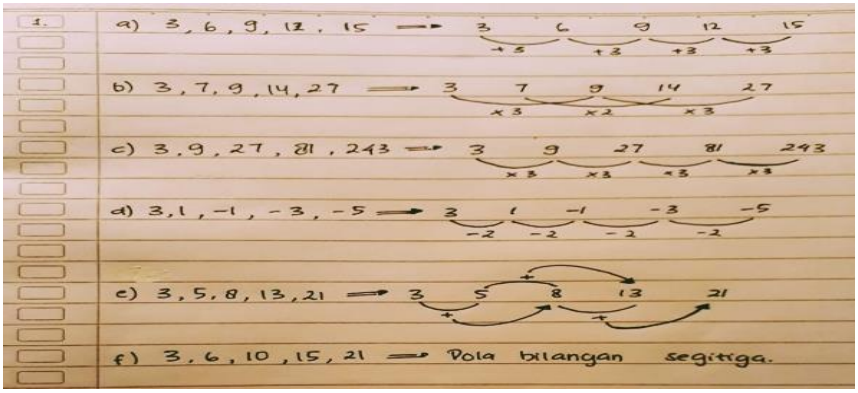

Figure 3: KDT2 Test Results on Question Number 1

Based on the results of the interview with subject KDT2 for question number 1, it can be seen that KDT2 was able to answer the questions asked by the researcher very well and was able to explain clearly the process of completing the answers he wrote. KDT2 uses the rules for arranging regular number patterns whose initial term is 3 [for the first, second, third and fourth answers, but for the fifth answer KDT2 experiences a misunderstanding where he wants to create a Fibonacci number pattern, but instead he adds 3 to 2, even though it is a number before 3 it doesn't exist. This is why the fifth answer is wrong and does not form a pattern. For the sixth answer from KDT2, use the triangular number pattern with the formula Un = n/2 (n+1), then substitute the value n = 9 into this formula.

Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDT2 subjects, the researcher concluded that the KDT2 subjects were able to fulfill all indicators of mathematical creative thinking, namely fluency, flexibility and novelty very well. The fluency indicator was successfully met because KDT2 was able to solve the test questions using 6 different answers and was able to explain fluently the method used to solve the questions. Furthermore, the flexibility indicator was successfully fulfilled by KDT2 because it was able to answer questions asked by researchers correctly and fluently and was able to solve questions using different methods. Finally, the novelty indicator was successfully met by KDT2 because he was able to solve questions using several different methods from other students.

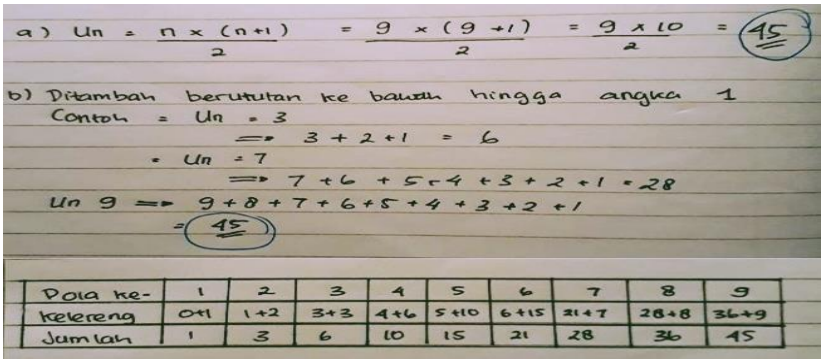

Figure 4: KDT2 Test Results on Question Number 2

Based on the results of the interview with subject KDT2 for question number 2, it can be seen that KDT2 was able to answer the questions asked by the researcher very well and smoothly, and he was even able to explain the steps in the process of solving the question clearly. Where in question number 2 KDT2 was able to do the question using 3 different ways. For the first method, because the pattern is in the shape of a triangle, KDT2 uses the triangular number pattern formula, namely Un = n/2(n+1), because what is being sought is the 9th pattern, the n value is 9, the next step is to substitute the n value into the formula so that the result of the 9th pattern is 45. For the second method, KDT2 uses the method of adding the numbers 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 = 45 because what is sought is the 9th pattern, for The third method, KDT2, uses a table containing columns for the pattern to be searched, marbles, and the number of marbles, where the marble column contains the sum of the pattern to be searched + the number of marbles in the previous pattern. For example, if you want to look for the 4th pattern and it is known that the 3rd pattern has 6 marbles, then 4 (the pattern to be looked for) + 6 (the previous number of marbles) = 10 marbles. This is done until the 9th pattern.

Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDT2 subjects, the researchers concluded that KDT2 subjects were able to fulfill all indicators of mathematical creative thinking, namely fluency, flexibility and novelty very well. In this case, the fluency indicator was successfully met because KDT2 was able to solve the test questions using 3 solving methods and was able to explain fluently the methods used to solve the questions. Furthermore, the flexibility indicator was successfully fulfilled by KDT2 because it was able to answer questions asked by researchers correctly and fluently and was able to solve questions using different methods. Finally, the novelty indicator was successfully met by KDT2 because he was able to solve questions using several new methods that were different from other students.

3) Mathematical Creative Thinking Ability Judging from Subject 3 with Medium Confidence

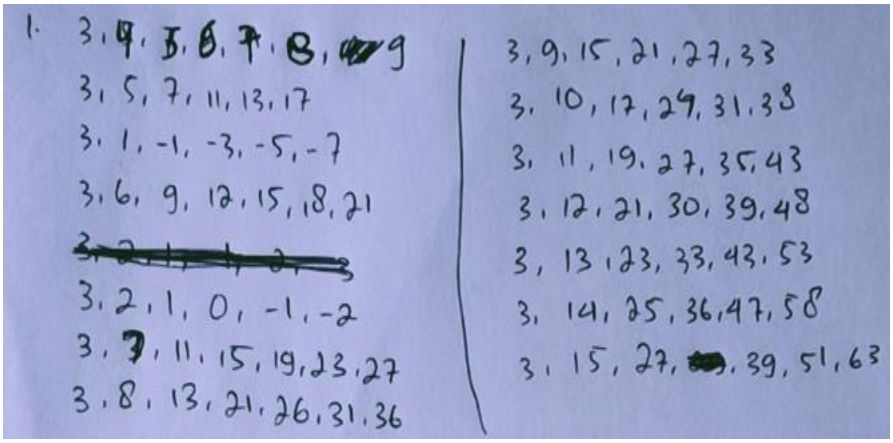

Figure 5: KDS1 Test Results on Question Number 1

Based on the results of the interview with subject KDS1 for question number 1, it can be seen that KDS1 was able to answer the questions asked by the researcher well and was able to explain the process of completing the answers he wrote. KDS1 uses regular number pattern arrangement rules where the first term starts from number 3 for all answers. Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDS1 subjects, the researchers concluded that KDS1 subjects were able to meet the indicators of mathematical creative thinking, namely very good fluency and flexibility. The fluency indicator was successfully met because KDS1 was able to solve the test questions using 14 different answers and was able to explain fluently the method used to solve the questions. Furthermore, the flexibility indicator was successfully fulfilled by KDS1 because it was able to answer questions asked by researchers correctly and smoothly and was able to solve questions using different methods. In this case, the KDS1 subject has not been able to meet the novelty indicators because he has not been able to create other methods that are new and different from other students.

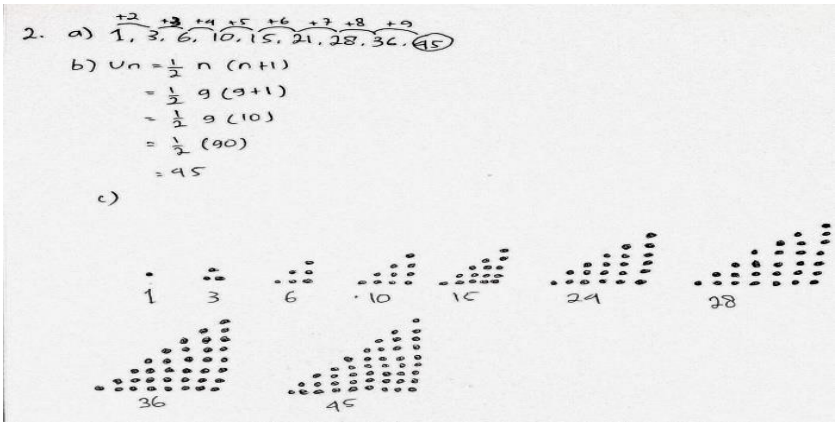

Figure 6: KDS1 Test Results on Question Number 2

Based on the results of the interview with subject KDS1 for question number 2, it can be seen that KDS1 was able to answer the questions asked by the researcher well and fluently, and was able to explain the steps in the process of solving the questions clearly. Where in question number 2 KDS1 was able to do the question using 3 different ways. For the first method, KDS1 uses ordinary number pattern rules, namely consecutive addition or each term plus 2, 3, 4, 5, 6, 7, 8, and 9. Based on the number pattern calculations, the 9th pattern is 45. Then, for the method Both KDS1 use the triangular number pattern formula because the pattern images form a triangle. The formula for the triangular number pattern is Un = n/2(n+1), because the value of n is 9, the next step is to substitute the value of n into the formula so that the result of the 9th pattern is 45. Then, for the third method, KDS1 uses The method is not much different from the first method, only using images. Where 2, 3, 4, 5, 6, 7, 8, and 9 are added to each image until the number of marble images in the 9th pattern is 45 marbles.

Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDS1 subjects, the researchers concluded that KDS1 subjects were able to meet the indicators of mathematical creative thinking, namely very good fluency and flexibility. In this case, the fluency indicator was successfully met because KDS1 was able to solve the test questions using 3 solving methods and was able to explain fluently the methods used to solve the questions. Furthermore, the flexibility indicator was successfully fulfilled by KDS1 because it was able to answer questions asked by researchers correctly and fluently and was able to solve questions using different methods. However, the novelty indicator has not been successfully fulfilled by KDS1 because it has not been able to use new methods that are different from other students.

4) Mathematical Creative Thinking Ability Judging from Subject 4 with Medium Confidence

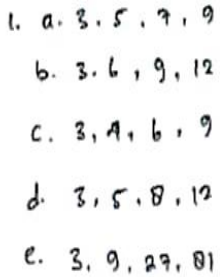

Figure 7: KDS2 Test Results on Question Number 1

Based on the results of the interview with the KDS2 subject for question number 1, it can be seen that KDS2 was able to answer the questions asked by the researcher well and explain the process of completing the answers he wrote. KDS2 uses regular number pattern arrangement rules where the initial term starts from number 3 for the first to fifth answers. Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDS2 subjects, the researchers concluded that KDS2 subjects were able to meet the indicators of mathematical creative thinking, namely fluency (fluency) and behavior (flexibility) which was very good. The fluency indicator was successfully met because KDS2 was able to solve the test questions using 5 different answers and was able to explain fluently the method used to solve the questions. Furthermore, the mixed indicator (flexibility) was successfully fulfilled by KDS2 because it was able to answer questions asked by researchers correctly and fluently and was able to solve

questions using different methods. However, KDS2 has not been able to meet the novelty indicators because KDS2 has not been able to use new methods that are different from other students.

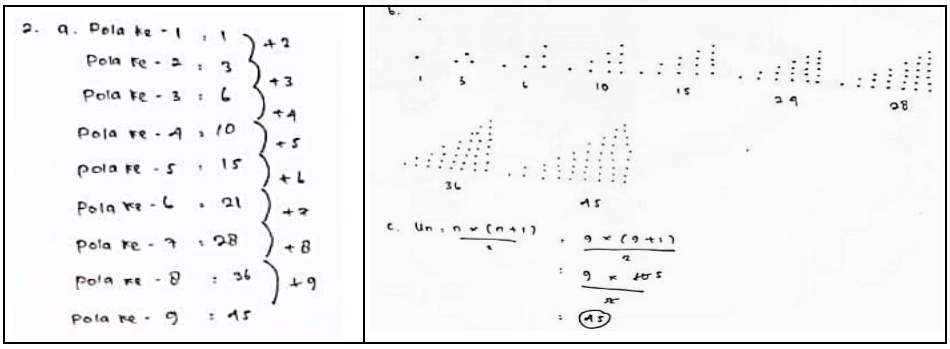

Figure 8: KDS2 Test Results on Question Number 2

Based on the results of the interview with the KDS2 subject for question number 2, it can be seen that KDS2 was able to answer the questions asked by the researcher well and smoothly, KDS2 was also able to explain the steps in the problem solving process clearly. Where in question number 2 KDS2 is able to work on the question using 3 different ways. For the first method, KDS2 uses ordinary number pattern rules, namely consecutive addition or each term plus 2, 3, 4, 5, 6, 7, 8, and 9. Based on this calculation, the 9th pattern is 45. Then, for the second method KDS2 uses a method that is not much different from the first method, only in the form of pictures, until the image of the marbles in the 9th pattern is 45. For the third method, KDS2 uses the triangle number pattern formula, namely Un = n/2(n+1), because The value of n is 9, so the result of the 9th pattern is 45.

Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDS2 subjects, the researchers concluded that KDS2 subjects were able to meet very good indicators of fluency and flexibility. The fluency indicator was successfully met because KDS2 was able to solve the test questions using 3 solving methods and was able to explain fluently the methods used to solve the questions. Furthermore, the flexibility indicator was successfully met by KDS2 because it was able to answer questions asked by researchers correctly and smoothly and was able to solve questions using different methods. However, the novelty indicator has not been successfully fulfilled by KDS2 because it has not been able to use new methods that are different from other students.

5) Mathematical Creative Thinking Ability Judging from Subject 5 with Low Self-Confidence

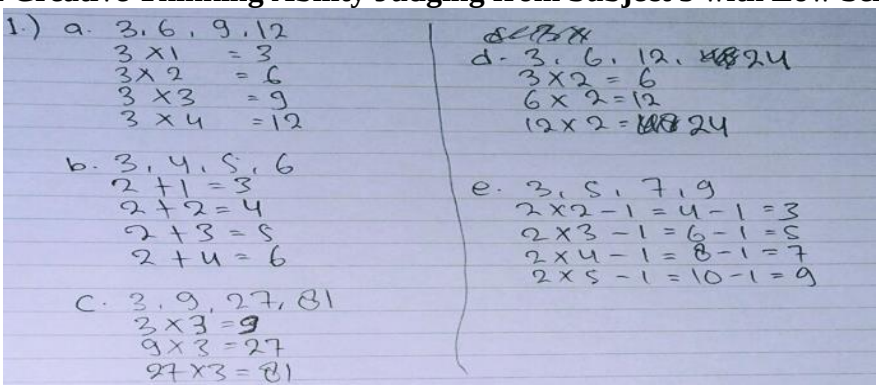

Figure 9: KDR1 Test Results on Question Number 1

Based on the results of the interview with subject KDR1 for question number 1, it can be seen that KDR1 was able to answer the questions asked by the researcher well, apart from that KDR1 was also able to explain the process of completing the answers he wrote. KDR1 uses regular number pattern arrangement rules where the initial term starts from number 3 for the first answer to the fifth answer. Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDR1 subjects, the researchers concluded that KDR1 subjects were able to meet the indicators of mathematical creative thinking, namely good fluency and flexibility. The fluency indicator was successfully met because KDR1 was able to solve the test questions using 5 different answers and was able to explain fluently how to solve the questions. Furthermore, the flexibility indicator was successfully fulfilled by KDR1 because it was able to answer questions asked by researchers correctly and was able to solve questions using different

methods. However, KDR1 has not been able to meet the novelty indicators because KDR1 has not been able to use new methods that are different from other students.

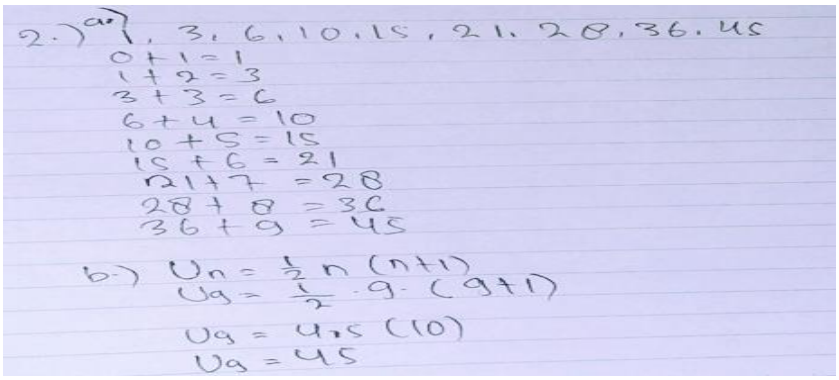

Figure 10: KDR1 Test Results on Question Number 2

Based on the results of the interview with subject KDR1 for question number 2, it can be seen that KDR1 was able to answer the questions asked by the researcher well and smoothly, KDR1 was also able to explain the steps in the question solving process clearly. Where in question number 2 KDR1 was able to do the question using 2 different methods. For the first method, KDR1 uses ordinary number pattern rules, namely consecutive addition or each term plus 2, 3, 4, 5, 6, 7, 8, and 9. Based on this calculation, the 9th pattern is 45. Then, for the second method KDR1 uses a triangular number pattern formula, namely Un = n/2(n+1), because the value of n is 9, then substitute the value 9 into the formula and the result of the 9th pattern is 45. Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDR1 subjects, the researchers concluded that KDR1 subjects were able to meet the indicators of mathematical creative thinking, namely good fluency and flexibility. The fluency indicator was successfully met because KDR1 was able to solve the test questions using 2 solving methods and was able to explain fluently how to solve the questions. Furthermore, the flexibility indicator was successfully fulfilled by KDR1 because it was able to answer questions asked by researchers correctly and smoothly and was able to solve questions using 2 different methods. However, the novelty indicator has not been successfully fulfilled by KDR1 because it has not been able to use new methods that are different from other students.

6) Mathematical Creative Thinking Ability Judging from Subject 6 with Low Self-Confidence

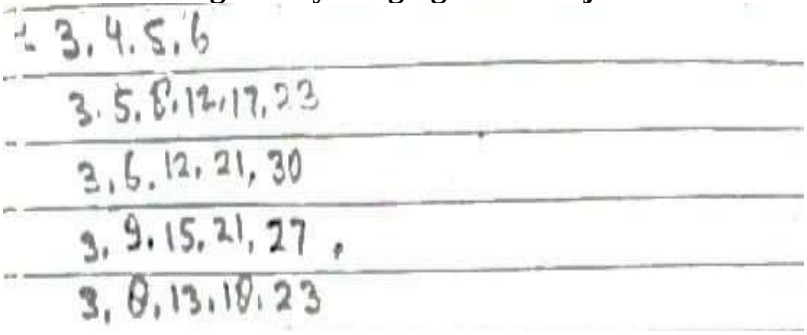

Figure 11. KDR2 Test Results on Question Number 1

Based on the results of the interview with subject KDR2 for question number 1, it can be seen that KDR2 was able to answer the questions asked by the researcher well, apart from that KDR2 was also able to explain the process of completing the answers he wrote. KDR2 uses regular number pattern arrangement rules where the first term starts from number 3 for the first, second, third, fourth and fifth answers. Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDR2 subjects, the researchers concluded that KDR2 subjects were able to meet good indicators of fluency and flexibility. The fluency indicator was successfully met because KDR2 was able to solve the test questions using 5 different answers and was able to explain fluently how to solve the questions. Furthermore, the flexibility indicator was successfully fulfilled by KDR2 because it was able to answer questions asked by researchers correctly and was able to solve questions using different methods. However, KDR2 has not been able to meet the novelty indicators because it has not been able to use new, different methods.

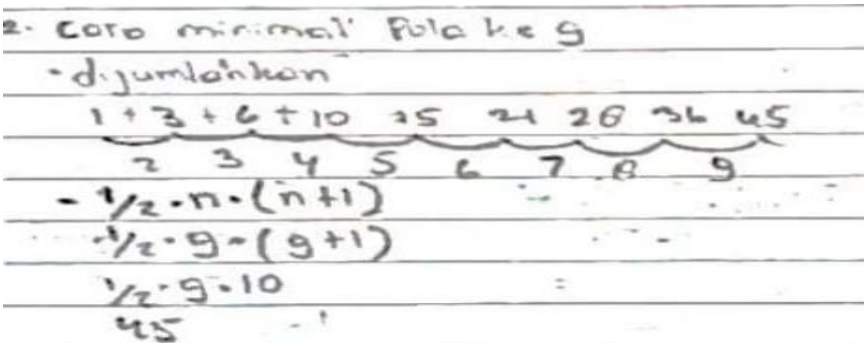

Figure 14. KDR2 Test Results on Question Number 2

Based on the results of the interview with subject KDR2 for question number 2, it can be seen that KDR2 was able to answer the questions asked by the researcher well and smoothly, KDR2 was also able to explain the steps in the question solving process clearly. Where KDR2 is able to work on questions using 2 different methods. For the first method, KDS2 uses ordinary number pattern rules, namely consecutive addition or each term plus 2, 3, 4, 5, 6, 7, 8, and 9. Based on this calculation, the 9th pattern is 45. Then the second method, KDR2, uses the formula The triangular number pattern is Un = n/2(n+1), the next step is to substitute n= 9 into the formula so that the result of the 9th pattern is 45.

Based on the results of the mathematical creative thinking ability test on number pattern material and interviews with KDR2 subjects, the researchers concluded that KDR2 subjects were able to meet the indicators of mathematical creative thinking, namely good fluency and flexibility. The fluency indicator was successfully met because KDR2 was able to solve the test questions using 2 solving methods and was able to explain fluently how to solve the questions. Furthermore, the flexibility indicator was successfully met by KDR2 because it was able to answer questions asked by researchers correctly and smoothly and was able to solve questions using 2 different methods. However, the novelty indicator has not been successfully fulfilled by KDR2 because it has not been able to use new methods that are different from other students.

Discussion

Based on the research conducted, it was found that subjects with high self-confidence did not write down the information they knew and were asked about in the questions, but the subjects were able to explain it during the interview. Based on the results of tests and interviews, subjects with high self-confidence were able to understand the question instructions well. Based on research conducted by Rusmanto (2019), it is stated that subjects with high self-confidence are able to gather important information in creating a complex and high-level idea and do not experience difficulties in working on questions. This was also found by researchers in subjects with high self-confidence who were able to solve questions using many different answers and solutions from other students.

Subjects with moderate self-confidence do not write down the information they know and are asked about in the question. However, during the interview process the subject was able to explain what he knew and asked questions number 1 and 2 correctly. Based on the results of tests and interviews, the subject's self-confidence is moderate in being able to understand the question instructions well. This is in contrast to research by Yuniasih Suratmi (2018) which states that the indicators of fluency, flexibility and novelty can be mastered by subjects with moderate self-confidence. However, in this study, researchers actually found that subjects with moderate self-confidence were only able to master fluency and flexibility indicators.

Subjects with low self-confidence did not write down the information they knew and were asked about in questions 1 and 2, but during the interview the subject was able to explain it correctly. Based on the results of tests and interviews, subjects with low self-confidence were able to understand question instructions well. This is a contradiction to research conducted by Rusmanto (2019) which states that subjects with low self-confidence are less productive in gathering information in forming ideas, besides that subjects with low self-confidence are unable to fulfill all indicators of mathematical creative thinking, namely fluency, flexibility (flexibility) and novelty. However, in this study, researchers found that subjects with low self-confidence were quite productive in gathering information to form ideas, apart from that the subjects succeeded in fulfilling 2 indicators of mathematical creative thinking, namely fluency and flexibility.

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Author Profile

Farida Nurhidayati is a Masters Student in Mathematics Education, Faculty of Mathematics and Natural Sciences, Yogyakarta State University, Indonesia. Under the supervision of Prof. Dr. Agus Maman Abadi, M.Si.

Prof. Dr. Agus Maman Abadi, M.Si. is a Lecturer with Mathematics Expertise, he teaches in various Study Programs such as Mathematics Education and Pure Mathematics. Apart from that, he also serves as Coordinator of the Mathematics Education Masters Study Program, Faculty of Mathematics and Natural Sciences, Yogyakarta State University.