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Exploration of Learners' Creative Thinking in Applying the Concept of Division in Class VII Junior High School

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Abstract

This study aims to describe the creative thinking ability of seventh grade junior high school students in applying the concept of division and identify the factors that cause creative thinking difficulties in that context. This research is based on the importance of understanding mathematical concepts, where creative thinking becomes the foundation in helping students overcome difficulties in understanding the concept of division. The method used was qualitative with an exploratory approach. Data analysis included reduction, presentation, and conclusion drawing. Information from tests and interviews was summarized to identify patterns in indicators of fluency, flexibility, originality, and elaboration, then presented in tables and narratives. Conclusions were made to answer the problem formulation, with the validity of the findings guaranteed through triangulation of methods using tests, interviews, and observations. Participants were selected using a purposive sampling technique, focusing on learners who were considered to be able to provide in-depth insights into their creative thinking abilities and the difficulties they faced. The results showed that learners were generally able to generate ideas quickly (fluency) and connect concepts with solutions in a relevant manner, although there were some ideas that were less relevant. Most learners also show flexibility by using various methods in solving problems, but there are some who tend to use only one method. In terms of originality, unique and structured ideas were found, although some were less structured or unable to develop ideas completely. In terms of elaboration, some learners were able to detail ideas well, while others showed weaknesses in detailing and developing ideas. Factors that cause creative thinking difficulties include lack of understanding of basic concepts, limitations in connecting prior knowledge, lack of practice and time, low level of confidence, lack of practice in working on open-ended problems, learning methods that do not support creativity, and lack of motivation.

Keywords: Exploration, Creative Thinking, Concept of Division

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1. Introduction

Understanding mathematical concepts, especially division operations, is an important foundation in meaningful mathematics learning (Lu'Luilmaknun & Wutsqa, 2019; Soro et al., 2018). It is the basis for developing more complex thinking skills and effective problem solving (Malatjie & Machaba, 2019; Manda et al., 2021). However, the reality in the field shows that many students have difficulty in understanding the concept of division, which has a negative impact on their ability to solve math problems (Laili & Puspasari, 2018).

This difficulty demands the need to develop creative thinking skills as a strategy to improve learners' understanding. Creative thinking allows learners to explore different methods of solving problems, broaden their perspectives, and produce more innovative solutions (Absorin & Sugiman, 2018; Suherman & Vidákovich, 2022). This exploration of creative thinking is essential in solving complex mathematical problems, where learners are encouraged to link various mathematical concepts and find solutions that are not only correct, but also original (Nugroho et al., 2020; Oktaviyanthi & Agus, 2019).

According to (Losinski et al., 2021) division is an essential skill for math fluency and the achievement of higher-order math skills. This material is a prerequisite that must be mastered by students. This material was chosen based on theoretical considerations and findings of problems in the field as well as a continuation of previous research, namely research (Fauziah et al., 2019; Wu, 2020). The research analyzed the difficulties and misconceptions experienced by students in learning division operations and difficulties in understanding the concept of stacked division taught at school. This is a theoretical consideration to explore learners' creative thinking skills in solving the concept of division.

This research is also based on the results of pre-research in the form of an interview with a mathematics teacher at SMP Negeri 2 Jongkong. Based on the results of the interview, the teacher explained that the teaching methods used today have not fully stimulated students' creative thinking skills. The teacher admitted that the teaching approach applied did not provide enough space for students to explore various ways of creative problem solving. This has an impact on the lack of learners' creative thinking skills, especially in division. The teacher said that there are still many learners who have difficulty in doing division problems, which is often caused by a lack of understanding of basic mathematical concepts such as counting operations, including multiplication.

The results of this interview provide a perspective that is relevant to the research objectives, namely to describe the creative thinking ability of seventh grade junior high school students in applying the concept of division, especially in terms of fluency, flexibility, originality, and elaboration. In addition, this study also aims to identify the factors that cause creative thinking difficulties in students in this context. Thus, this interview provides a strong foundation for research that aims to improve the understanding and application of the concept of division as well as the creative thinking ability of seventh grade junior high school students.

A qualitative approach is used to explore in depth how learners process and apply the concept of division in various situations that demand creativity (Fauziah et al., 2019; Wu, 2020). Thus, this research focuses not only on the end result of concept understanding, but also on the thought

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process of learners in facing mathematical division challenges (Creswell, 2015; Hennink et al., 2020).

The theories that support this research include the concept of creative thinking measured through indicators of fluency, flexibility, originality, and elaboration (Nufus, 2021). These indicators provide a framework to evaluate the extent to which learners are able to think creatively in the context of division and how well they understand the concept. Creative thinking is considered a key element in improving learners' understanding and ability in mathematics, enabling them to develop more innovative approaches in solving problems (Amabile, 2018; Polya, 2014).

Finally, this study is expected to make a significant contribution in the development of more effective and creative teaching methods, particularly in teaching the concept of division. The results of this study can be a practical guide for mathematics teachers in designing learning strategies that can stimulate students' creativity and overcome difficulties (Hendriana & Fadhilah, 2019). Thus, this research not only provides theoretical insights but also practical solutions for teaching mathematics at the junior high school level.

2. Methods

This study used a qualitative approach to understand the creative thinking ability of seventh grade junior high school students in applying the concept of division. The qualitative approach was chosen because it allows in-depth exploration of phenomena that occur naturally, so that the data obtained is more authentic and comprehensive. This research was conducted at SMP Negeri 2 Jongkong in April 2024, with a focus on seventh grade students. The research subjects were selected by purposive sampling based on the results of the creative thinking ability test given previously, with the criteria of students who showed a tendency to think creatively or who faced difficulties in understanding the concept of division (Suriani et al., 2023).

The main instruments used in this study were test questions designed to measure students' creative thinking skills in the concept of division, as well as semi-structured interview guidelines to dig deeper into students' understanding of the difficulties and strategies they use in solving division problems. This research began with data collection through tests, which were then analyzed to determine interview subjects. Interviews were conducted to obtain in-depth information about learners' creative thinking processes and the challenges they faced.

The following is a rubric for assessing creative thinking ability that is adapted to concept understanding ability. However, the focus is on creative thinking skills. This rubric will provide a more comprehensive insight into how learners not only use creative thinking but also understand the concepts underlying their application.

Indicator	Score	Scoring Description
Fluency	0	No Answer
	1	Giving an idea that is irrelevant to the problem solving.
	2	Gives a relevant idea but the answer is not yet focused.

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Indicator	Score	Scoring Description
	3	Provides an idea that is relevant but still contains errors.
	4	Provide an idea that is relevant to the correct understanding of the concept without any errors.
Flexibility	0	No Answer
	1	Gives an answer in only one way but there are still errors.
	2	Gives the answer in one way, the calculation process and the result are correct.
	3	Provided answers in more than one way but the results were wrong because there were errors in the calculation process.
	4	Gives an answer in more than one way, the calculation process and results are correct.
Originality	0	No Answer
	1	Gives creative but incomprehensible answers.
	2	Gives a creative answer and the calculation process is directed but not completed.
	3	Gives a creative answer but there is a mistake in the calculation process so the result is wrong.
	4	Gives a creative answer, the calculation process and result are correct.
Elaboration	0	No Answer
	1	There are errors in the answer and no details.
	2	There are errors in the answer but with less detail.
	3	The answer is correct but not accompanied by a detailed breakdown.
	4	Provide correct and detailed answers.

The data obtained were analyzed using reduction, data presentation, and conclusion drawing techniques. Validity and validity of the data were guaranteed through method triangulation, where

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results from various data sources, such as tests, interviews, and observations, were compared to ensure consistency and credibility of findings.

Data analysis in this study was conducted through three main stages, namely data reduction, data presentation, and conclusion drawing. Data reduction aims to filter and summarize important information collected through tests and interviews, focusing on key elements such as fluency, flexibility, originality and elaboration. This process helps identify patterns and main themes related to students' creative thinking skills in applying the concept of division. Next, the summarized data is presented in tables and narratives. Tables are used to illustrate the distribution of scores on each creative thinking indicator, while narratives provide context and in-depth interpretation of the findings, so that they are easier to understand and provide a complete picture.

Conclusions were drawn based on the data that had been analyzed, with the aim of answering the formulation of the research problem, namely describing students' creative thinking abilities and identifying factors that influence their difficulties in understanding the concept of division. To ensure the validity of the findings, this study applied method triangulation, where data obtained from the test was compared with the results of in-depth interviews. For example, errors in the flexibility indicator identified through the test were further confirmed through interviews to explore the causes. In addition, observations were also used to complement interviews, provide visual evidence of the problem-solving process, and validate learners' understanding.

3. Result and Discussion

This study aims to describe the creative thinking ability of seventh grade students of SMP Negeri 2 Jongkong in applying the concept of division and find out the factors that cause creative thinking difficulties. The following is the discussion:

Description of Creative Thinking Ability of Junior High School Students in Grade VII in Applying the Concept of Division

This study reveals that the creative thinking ability of students in applying the concept of division varies. Analysis based on four indicators of creative thinking namely fluency, flexibility, originality, and elaboration shows that although there is potential in generating creative ideas, this ability has not been optimally developed. The following is a description of the answers and interviews with the selected subjects.

a. Subject Ha:

Fluency: Ha was able to provide relevant ideas with correct concepts without any mistakes. Ha showed a good understanding of the problem and was able to answer fluently. The following is an excerpt from his interview "This question asked me to find several different ways to divide 45 chickens into cages that have the same number of chickens."

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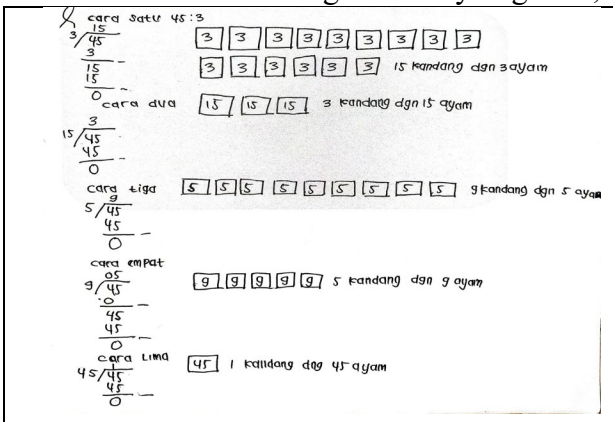
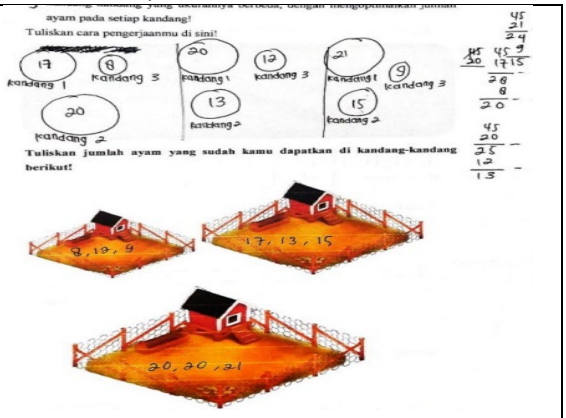
Flexibility: Ha provided more than one way to solve the problem. Although initially confused, Ha managed to remember the relevant multiplication result and showed flexibility in thinking. The following is her interview excerpt "At first I felt a little confused because I had to think of several different ways. However, after I remembered the multiplication result of two numbers totaling 45, I felt more confident in solving the problem, ma'am."

Originality: Ha gave a creative answer and used a unique approach, such as creating a story to explain the solution. This shows good creative thinking skills. The following is an excerpt from his interview "I made a story like this, Mom: Mr. Asep has 5 cages and 45 chickens. So Mr. Asep asked his neighbors to help catch all his chickens that were outside the cage. After catching them, they put the chickens into the cage. Each cage contains 9 chickens."

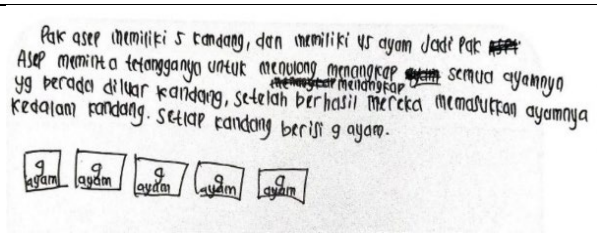
Elaboration: Ha was able to provide correct and detailed answers, with an explanation of the steps taken in solving the problem. The following is an excerpt from his interview "I wrote what is known in the problem, ma'am. After that, I reduced 52 by 7 because he said Mr. Karno gave 7 of his chickens to the neighbors. If you give it, it must be reduced, ma'am."



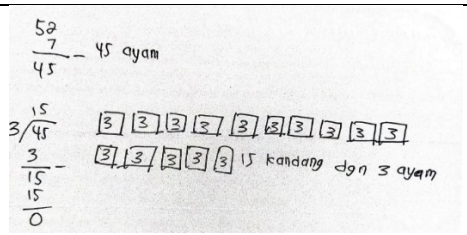
Fluency question answer



Flexibility question answer



Elaboration question answer



Originality question answer

b. Subject Is:

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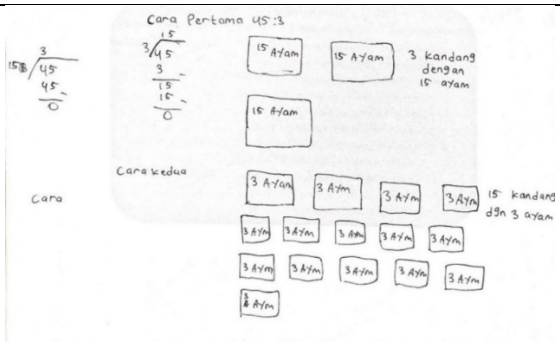
Fluency: Is was able to provide relevant ideas with a correct understanding of the concept, although he had difficulty at first. The following is an excerpt from her interview "At first I was confused, ma'am, but after understanding it again, it turned out that the question was not too difficult, ma'am."

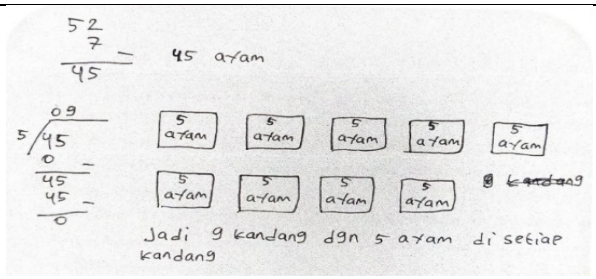
Flexibility: Is used several ways to solve the problem, showing the ability to think flexibly. The following is an excerpt from her interview "I have encountered a similar problem. I would start by finding the division factors of the number of chickens and try to divide them."

Originality: Is gave creative answers, especially by using a simple story to explain the solution. The following is an excerpt from her interview "Because I was told to make a unique way, so I made a story like this ma'am: Mr. Karno is a farmer who is persistent in taking care of his chickens. He has 15 cages with 45 chickens, meaning each cage contains 3 chickens."

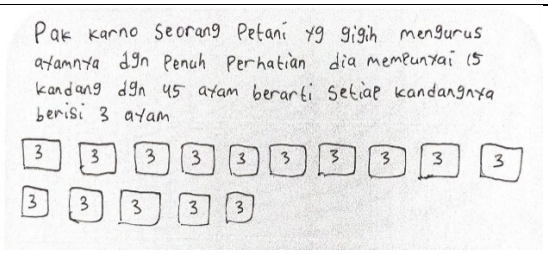
Elaboration: Is gave a correct and quite detailed answer, although it still needs a little improvement in a more in-depth explanation. The following is an excerpt from her interview "" I wrote all the ways in the steps, ma'am. I found the factors 3, 5, and 15, so I tried to divide them. "



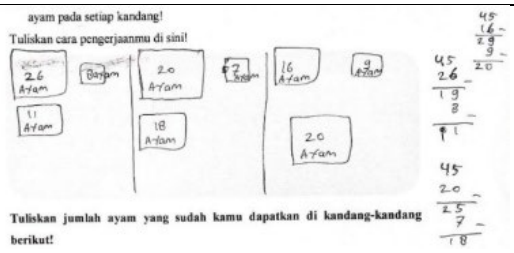
Fluency question answer



Originality question answer



Elaboration question answer



Flexibility question answer

c. Subject Am:

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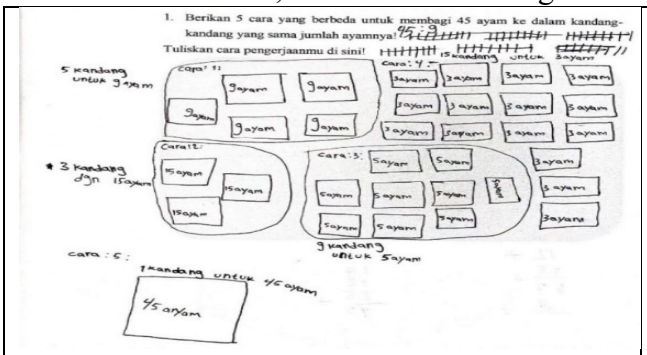
Fluency: Am showed fluency in answering the questions, but sometimes it was based on conjecture rather than strong conceptual understanding. The following is an excerpt from her interview "I added 3 numbers until the total was 45, ma'am."

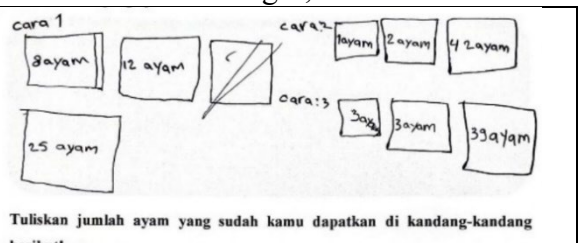
Flexibility: Am was able to find more than one way to solve the problem, although using alternative methods due to her lack of understanding of the concept of division. The following is an excerpt from her interview ' "I chose to use the calculation method because I don't really understand the concept of stacked division well."

Originality: Am showed creativity in creating a story to explain the solution, although it took a long time to arrive at the solution. The following is an excerpt from her interview "I made a story like this, Mom: Mr. Yanto has 45 chickens and built 3 new cages for the chickens."

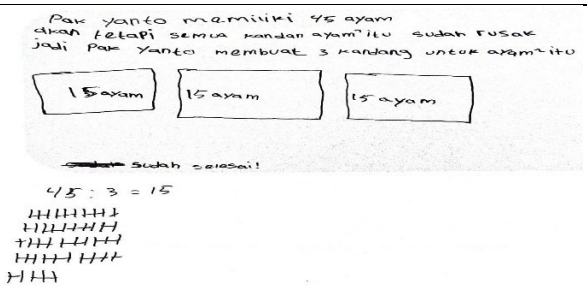
Elaboration: Am gave a correct and detailed answer, but received input to better understand the concept of stacked division. The following is an excerpt from her interview "I made a conclusion at the end, Mom. That each cage has 15 chickens. I made 3 cages, Mom."



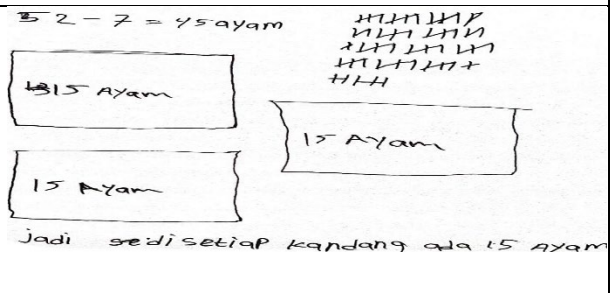
Fluency question answer



Flexibility question answer



Elaboration question answer



Originality question answer

d. Subject Ma:

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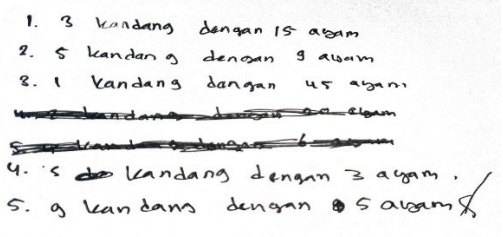
Fluency: Ma had difficulty in providing relevant ideas, especially on problems that required division. Her understanding of the problem was not fully formed. The following is an excerpt from her interview "I don't think I really understand the concept of division, so I have difficulty finding different ways, ma'am."

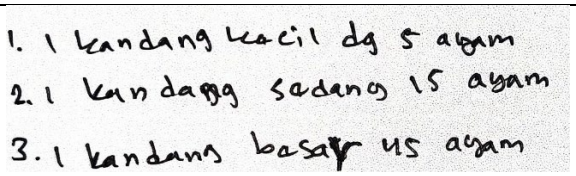
Flexibility: Ma tried to use several ways to solve the problem, but the results were wrong because there were errors in the calculation process. The following is an excerpt from her interview "I tried to find five ways, but I had trouble finding more."

Originality: Ma showed less creativity in answering the questions, especially when she was not sure how to start or solve the problem. The following is an excerpt from her interview "I don't understand ma'am. So I just answered randomly."

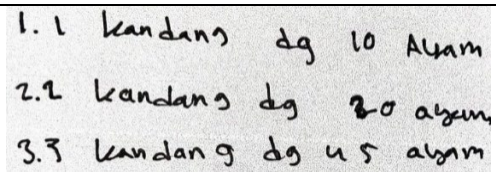
Elaboration: Ma's answer was correct but not accompanied by enough details, indicating the need to be more detailed in explaining the steps of the solution. The following is her interview excerpt "I just wrote each cage has 15 chickens, Mom. I saw it in number 1, ma'am."



Fluency question answer



Flexibility question answer



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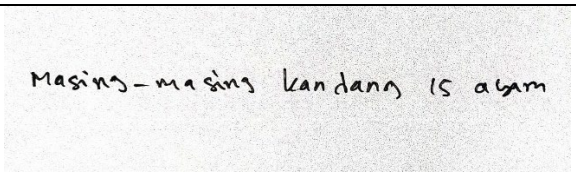

Originality question answer

e. Subject Re:

Fluency: Re provided relevant ideas but his answer was undirected and unfinished. Re had difficulty in starting to solve the problem correctly. The following is an excerpt from his interview "At first I was a bit difficult, ma'am, but after I tried, I got the result ma'am."

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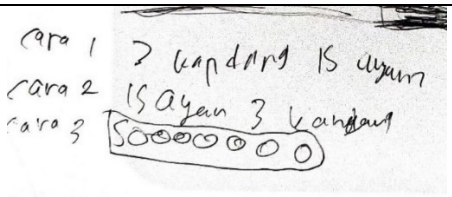
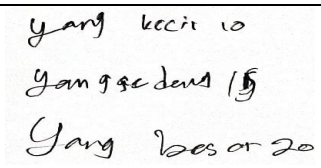
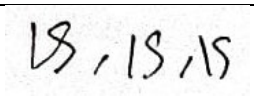
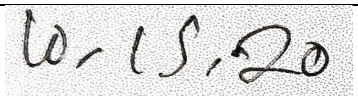
Flexibility: Re was able to provide more than one way to solve the problem, but some of the results were wrong due to errors in the calculation process. The following is an excerpt from her interview "I thought I could try dividing 45 by 3, but I wasn't sure if it was right or not."

Originality: Re lacked creativity in providing answers, often repeating previously given solutions without variation or innovation. The following is an excerpt from her interview "I can't come up with a unique way, ma'am. So I just wrote 15, 15, 15 like my answer number 1, ma'am. "

Elaboration: Re was unable to provide detailed answers, often feeling confused and doubtful about the answers given. The following is her interview quote "Actually I don't know ma'am why I answered that."

 **Fluency question answer**	 **Flexibility question answer**
 **Elaboration question answer**	 **Originality question answer**

f. Subject Ra:

Fluency: Ra was able to provide relevant ideas with correct concept understanding without errors, especially on simpler problems. The following is an excerpt from his interview "If number 2 I can do it ma'am, instead of number 1 I didn't answer at all."

Flexibility: Ra showed difficulty in thinking flexibly, especially on problems that required deeper understanding and strategies. The following is an excerpt from his interview "I don't know how to divide the chickens, ma'am."

Originality: Ra was able to provide creative answers but not always complete, often feeling hesitant about the answers given. The following is an excerpt from his interview "I made up a story ma'am, but I don't know if it's right or not."

Elaboration: Ra's answers were often not detailed and required further guidance to reach a better understanding in answering the questions. The following is an excerpt from his interview " Actually I don't know ma'am how to answer that."

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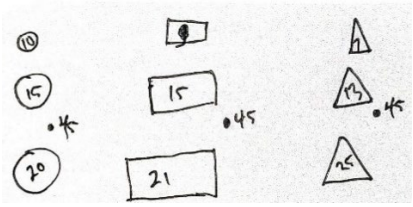
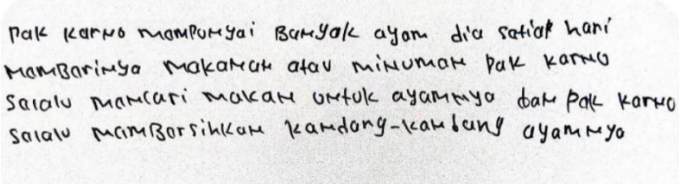
 **Flexibility question answer**	 **Elaboration question answer**
Fluency dan Originality no question answer	

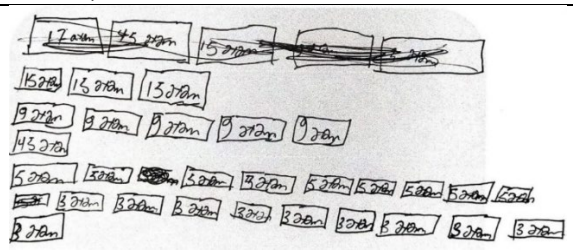
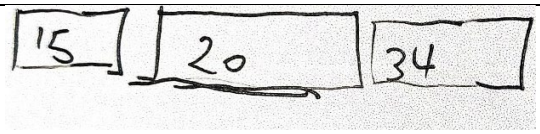
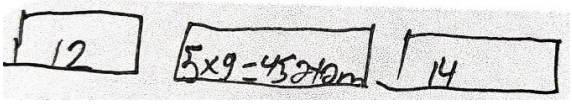
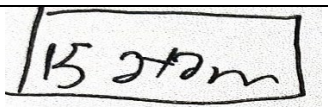
g. Subject Ri:

Fluency: Ri provided relevant ideas but not always accompanied by fluency in solving the problem. The following is her interview excerpt "I remember my answer to number 1, ma'am. So I made a story that has the same result as one of the answers to number 1."

Flexibility: Ri showed flexibility in some answers, but there were also answers that were less creative or less varied. The following is an excerpt from her interview "I made a story like this ma'am (Mr. Asep has 5 cages and has 45 chickens). So Mr. Asep asked his neighbor to help catch all his chickens that were outside the cage."

Originality: Ri faced difficulties in giving truly creative answers, often falling into the same patterns. The following is an excerpt from her interview "I think I haven't really understood the concept of division, so I have trouble finding different ways ma'am."

Elaboration: Ri gave correct answers but often lacked detail or depth in explanation. The following is her interview excerpt "I wrote all the ways in the steps, ma'am. I found the factors 3, 5, and 15, so I tried to divide them."

 **Fluency question answer**	 **Flexibility question answer**
	

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Elaboration question answer	Originality question answer

Factors Causing Low Creative Thinking of Students in Grade VII SMP Negeri 2 Jongkong in Applying the Concept of Division

Based on the results of the interview, the low creative thinking of seventh grade students of SMP Negeri 2 Jongkong in applying the concept of division can be caused by several factors.

a. Lack of understanding of basic concepts

Some learners seem to have difficulty in understanding basic mathematical concepts that are essential for creative thinking. For example, subject Ri showed inadequate understanding of division which led to illogical answers. This lack of understanding hindered their ability to explore more creative alternative solutions.

b. Limitations in connecting prior knowledge

Some learners such as subject Ha, although able to answer problems with creative ideas, often relied solely on prior knowledge without making further modifications. For example, Ha claimed to remember the answer to problem number 1 and just applied the same method to other problems without modifying it. This shows that learners may have good initial ideas but lack flexibility in developing and adapting those ideas to different contexts.

c. Lack of practice and time

The interview with subject Am showed that despite the creative effort, the time taken to solve the problem was longer, which indicates a lack of efficiency and fluency. This factor could be due to the lack of regular practice that hones creative thinking skills efficiently. In addition, subject Re pointed out that the limited time also affected the final answer.

d. Low level of confidence

Some learners showed doubts about their own answers, such as subject Am who felt doubtful about his story. This lack of confidence can be a big barrier in the creative thinking process as learners may refrain from trying new, unconventional ideas for fear of being wrong.

e. Lack of practice working on open-ended problems

Subject Ra did not provide answers to several problems, indicating difficulty in solving problems that may require more creative thinking and various approaches. This may be due to the lack of practice in working on open-ended problems, so that the subject is more accustomed to the methods taught by the teacher in class or relies on limited knowledge from textbooks.

f. Learning methods that do not support creativity

Based on the interviews, it appears that learners like Ri do not show good elaboration skills. This could be due to learning methods that focus more on the correct answer rather than the process of exploration and creativity. Learning that is too structured without providing space for

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experimentation and creative discussion can limit the development of learners' creative thinking skills.

g. Lack of motivation

Subject Ra showed some difficulties, even did not provide answers to some questions. This shows a lack of motivation to actively participate in the learning process.

Based on the explanation above, it is in line with the results of research (Wijaya et al., 2022) which says that the low creative thinking ability of students can be influenced by several factors, namely the lack of motivation of students, lack of self-confidence, and lack of practice working on open problems. However, in this study there are several additional factors, namely lack of understanding of basic concepts, limitations in connecting prior knowledge, lack of practice and time, and learning methods that do not support creativity. By identifying these factors, educators can design more effective strategies to overcome these barriers. Some of the steps that can be taken include increasing the number of practice problems that trigger creative thinking skills, providing sufficient time for exploration, and creating a learning environment that supports and rewards creativity.

4. Conclusion

Based on the results of research that has been conducted on the exploration of students' creative thinking in applying the concept of division in class VII SMP Negeri 2 Jongkong, it can be concluded that:

1. Description of Creative Thinking of Class VII Junior High School Students in Applying the Concept of Division:

a. Fluency: learners are generally able to generate ideas quickly and relevantly, but there are several cases where the ideas generated are less relevant, indicating difficulty in connecting the concept of division with the solution.

b. Flexibility: most learners were able to use various methods in solving the problem, although some learners tended to use only one method without trying other alternatives, indicating limitations in flexibility of thinking.

c. Originality: some learners show creative potential with unique and structured ideas, while others tend to produce less structured or incompletely developed ideas, indicating the need for strengthening in originality.

d. Elaboration: some learners were able to elaborate ideas well, while others were still weak in elaboration, with less detailed answers, indicating a need for improvement in developing ideas in depth.

2. Factors that Cause Creative Thinking Difficulties of Grade VII Junior High School Learners in Applying the Concept of Division:

This study identified several factors that cause creative thinking difficulties in students, namely:

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a. Lack of understanding of basic concepts: Some learners have difficulty in understanding basic mathematical concepts that are essential for creative thinking. This hinders their ability to explore creative solutions.
b. Limitations in connecting prior knowledge: Some learners tend to rely on prior knowledge without making further modifications, reducing flexibility in developing creative ideas.
c. Lack of practice and time: Lack of regular practice and limited time hinder efficiency and fluency in solving problems, affecting creative thinking skills.
d. Low level of confidence: Some learners doubt their own answers, inhibiting the exploration of creative new ideas.
e. Lack of practice working on open-ended problems: Lack of experience in working on open-ended problems reduces the ability to apply creative approaches to problem solving.
f. Learning methods that do not support creativity: Learning that focuses too much on the right answer without allowing room for exploration and creativity limits the development of creative thinking skills.
g. Lack of motivation: Lack of motivation can reduce active participation in the learning process, affecting learners' creative thinking skills.

5. References

Absorin, A., & Sugiman, S. (2018). Eksplorasi kemampuan penalaran dan representasi matematis siswa sekolah menengah pertama. *Pythagoras: Jurnal Pendidikan Matematika*, *13*(2), 189–202. https://doi.org/10.21831/pg.v13i2.21249

Amabile, T. M. (2018). Creativity and the Labor of Love. In *The Nature of Human Creativity* (pp. 1–15). Cambridge University Press. https://doi.org/10.1017/9781108185936.003

Creswell, J. W. (2015). *Reserch Design Pendekatan Kualitatif, Kuantitatif, dan Mixed* (5th ed.). Pustaka Pelajar.

Fauziah, R., Reffiane, F., & Sukamto, S. (2019). Analisis Kesulitan Belajar Materi Operasi Hitung Pembagian Pada Siswa Kelas 3 Sdn Gebangsari 02. *Jurnal Basicedu*, *3*(2), 838–843. https://doi.org/10.31004/basicedu.v3i2.177

Hendriana, H., & Fadhilah, F. M. (2019). the Students' Mathematical Creative Thinking Ability of Junior High School Through Problem-Solving Approach. *Infinity Journal*, *8*(1), 11–20. https://doi.org/10.22460/infinity.v8i1.p11-20

Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative Research Methods* (A. Owens (ed.); 2nd ed.). SAGE Publications, Ltd.

Laili, F. J., & Puspasari, R. (2018). Analisis Kesulitan Belajar Matematika Siswa Ditinjau Dari Kemampuan Koneksi Matematika. *JP2M (Jurnal Pendidikan Dan Pembelajaran Matematika)*, *4*(2), 1–10. https://doi.org/10.29100/jp2m.v4i2.951

Losinski, M., Thiele, J., Ennis, R. P., & Shaw, A. (2021). An Investigation of the Use of Self-Regulated Strategy Development to Teach Long Division to Students with or At-Risk for Emotional Disturbance. *Education and Treatment of Children*, *44*(3), 169–183. https://doi.org/10.1007/s43494-021-00050-6

Lu'Luilmaknun, U., & Wutsqa, D. U. (2019). Does the use of e-learning media with guided

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discovery method affect students' understanding of mathematics concept? *Journal of Physics: Conference Series*, *1320*(1), 1–9. https://doi.org/10.1088/1742-6596/1320/1/012087

Malatjie, F., & Machaba, F. (2019). Exploring mathematics learners' conceptual understanding of coordinates and transformation geometry through concept mapping. *Eurasia Journal of Mathematics, Science and Technology Education*, *15*(12), 1–16. https://doi.org/10.29333/EJMSTE/110784

Manda, T. ., Winanda, R. ., & Ruusyda, N. . (2021). Analysis of Students Mathematical Concept Understanding Ability in Operation Research Course. *Journal of Physics : Conference Series*, 1–5. https://doi.org/10.1088/1742-6596/1742/1/012014

Nufus, Z. (2021). *Analisis Kemampuan Berpikir Kreatif Matematika Siswa MTsN*. Universitan Islam Negeri Ar-Raniry.

Nugroho, A. A., Nizaruddin, N., Dwijayanti, I., & Tristianti, A. (2020). Exploring students' creative thinking in the use of representations in solving mathematical problems based on cognitive style. *JRAMathEdu (Journal of Research and Advances in Mathematics Education)*, *5*(2), 202–217. https://doi.org/10.23917/jramathedu.v5i2.9983

Oktaviyanthi, R., & Agus, R. N. (2019). Eksplorasi Kemampuan Pemecahan Masalah Berdasarkan Kategori Proses Literasi Matematis. *Jurnal Pendidikan Matematika*, *13*(2), 163–184. https://doi.org/10.22342/jpm.13.2.7066.163-184

Polya, G. (2014). *How to Solve It: A New Aspect of Mathematical Method* (2nd ed.). Princeton University Press.

Soro, S., Maarif, S., Kurniawan, Y., & Raditya, A. (2018). Dienes AEM as an alternative mathematics teaching aid to enhance Indonesian students' understanding of algebra concept. *Journal of Physics: Conference Series*, *948*(1), 1–7. https://doi.org/10.1088/1742-6596/948/1/012044

Suherman, S., & Vidákovich, T. (2022). Assessment of mathematical creative thinking: A systematic review. *Thinking Skills and Creativity*, *44*(March 2022), 101019. https://doi.org/10.1016/j.tsc.2022.101019

Suriani, N., Risnita, & Jailani, M. S. (2023). Konsep Populasi dan Sampling Serta Pemilihan Partisipan Ditinjau Dari Penelitian Ilmiah Pendidikan. *Jurnal IHSAN : Jurnal Pendidikan Islam*, *1*(2), 24–36. https://doi.org/10.61104/ihsan.v1i2.55

Wijaya, A. J., Pujiastuti, H., & Hendrayana, A. (2022). Kemampuan Berpikir Kreatif Siswa Dalam Menyelesaikan Soal Open Ended. *JIPM (Jurnal Ilmiah Pendidikan Matematika*, *11*(1), 108–122. https://doi.org/10.30822/asimtot.v3i2.1374

Wu, H. H. (2020). Misconceptions About the Long Division Algorithm in School Mathematics. *Journal of Education Mathematics at Teachers College*, *11*(2), 1–12.

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