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Profile of divergent thinking ability of elementary school student in thematic learning

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Abstract: The purpose of this study was to analyze the profile of the divergent thinking ability of elementary school students in thematic learning. This research was descriptive quantitative research. The sample of this study was fifth grade students with 48 students in two public elementary schools in Laweyan, Surakarta. Data collection techniques used was test. The instrument used was divergent thinking ability tests. The data validity technique used was construct and content validity. The data analysis used was statistic descriptive. The results found that the fluency indicator reaches a maximum value (76%), flexibility (74%), originality (68%), and elaboration is the lowest indicator (65.80%). Thus, it can be concluded that the divergent thinking skills of fifth grade elementary school students have different indicators and are divided into three categories. The introduction of training programs with open problems is quite an informative and promising way to complement integrated thematic learning in primary school.

Keywords: Divergent thinking ability, elementary school, thematic learning

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INTRODUCTION

As the global learning combined with all of fields in the world, creativity becomes important aspect in education in all parts of the world. Craft (Unal & Demir, 2009) stated that creativity has become part of the education curriculum, especially in some schools in the UK. The NACCCE (National Advisory Committee for Creative and Cultural Education) in the UK has also compiled and approved a report on the national curriculum and guidelines in promoting creativity education at all levels of the school (Pizzingrilli et al., 2015). The curriculum encourages teachers to develop the creative potential of students, especially the level of students' confidence and curiosity while learning in the classroom.

The results of the HMIE (Inspectorate of Noble Education) report that teachers were agents who have the opportunity to encourage student creativity and become national priorities in Scotland (Unal & Demir, 2009). Activities promoting creativity became positive activities and encourage student behavior especially to face challenges in the future. News from the United Nations Development Program (UNDP) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2013 have designed creative economic reporting that aims to encourage the creativity of human resources through equitable and sustainable development. This was the first step to develop overall creativity in various countries. Creativity is also increasingly needed to master by children to think and act according to existing conditions.

Creativity is the ability of individuals to generate new ideas, unusual ideas, deviate from traditional thought schemes, and quickly and precisely resolve problematic situations (Chen, Chang, & Kuo, 2016; Medvedev, 2014). Creativity is the ability to connect concepts, ideas, and knowledge structures that seem unrelated and inappropriate to be useful and have deep meaning (Çelik, Storme, & Forthmann, 2016). Creativity cannot be separated from education.

Creativity has been integrated with learning and educational goals in every country, such as Indonesia. This is evident that Indonesia is indeed intensifying the creativity of the nation's children through several regulations and educational policies. This is contained in the Minister of Education and Culture Regulation Number 20 of 2016 concerning the competency standards of primary and secondary education graduates. The regulation states that three dimensions must be mastered by students, namely the dimensions of knowledge, attitudes, and skills. The intended skill is creative. This became a bridge to welcome the Indonesian Golden Generation in 2024 and strengthen Indonesia's contribution to the development of world civilization. Students are facilitated to develop creativity through this curriculum and elevate their creativity.

Runco (Acar & Runco, 2014) said that divergent thinking became an important part of creativity. Divergent thinking is the expertise to provide various ideas. Students need a single, correct solution for completing convergent thinking assignments, but it is different if students complete divergent thinking assignments (Wronska, Bujacz, Gocłowska, Rietzschel, & Nijstad, 2018). They must produce as many diverse responses as possible. Divergent thinking is identified as novelty, variability in answers, and the ability to modify information into other forms (according to imagination) (Simon & Bock, 2016). Divergent thinking was approved as a part of creativity with many contradicted ideas generated by open assignments (Antink-Meyer & Lederman, 2015). Divergent thinking can lead to produce various responses such as problem-solving. Students with divergent thinking ability have the following indicators: (1) able to generate and develop ideas (fluency), (2) able to use these ideas in any condition (flexibility), (3) able to create the novelty of an idea (originality), and (4) able to develop ideas in more detail (elaboration) (Acar & Runco, 2014; Addis et al.,2016).

Divergent thinking ability is influenced by many things, such as learning materials, teaching media, teaching materials, class conditions, and students' backgrounds. Students who have deeper and wider knowledge will easily develop divergent thinking skills (Kassim, 2013). He gained this knowledge through classroom learning and independent learning. The teacher becomes an important agent to practice these abilities. Teaching students to think means teaching critical thinking and creative thinking skills to improve teaching and learning activities in the classroom (Kadel, 2014). Teaching materials and learning models that are used should bridge the students to be more creative. Textbooks play an important role in the implementation of the 2013 curriculum. Through textbooks, teachers can manage teaching materials and use them in activities in the classroom and outside the classroom (Setyono & Widodo, 2019). The learning model also cannot be limited to learning that is commonly applied by teachers in the classroom. The teacher must have a breakthrough to choose the right model. Several studies have shown that students experience an increase in motivation to learn by using the pictorial story media in PowerPoint (Alduraby & Liu, 2014). The teacher must have a breakthrough to choose the right model. Not only that, but the selection of models must also be adjusted to the teaching material (depth of material) that students learn. Many teachers found it difficult to develop student creativity because teaching materials are limited. Besides, students' backgrounds also have significant effects on the development of divergent thinking. Students who have a good academic history will have better divergent thinking ability than other students. Their divergent thinking ability will get better over time. İt was caused by age and experience (Alfonso-benlliure & Romo, 2016).

Divergent thinking ability of students was obtained through pilot study. It was found that Empirical facts from the field at the Mangkuyudan Public Elementary School, Surakarta, Indonesia on July 22, 2019 showed that the study of students' divergent thinking competencies was still not fully good. This could be seen by the divergent thinking ability test data. There were 8 (28.57%) students who were categorized as high category divergent thinkers, 15 (53.57%) students who were categorized as medium divergent thinkers, and 5 (17.86%) who were categorized as low divergent thinkers. Of the 28 students who took the test, the highest score was 100, while the lowest score was 47. The results of interviews and observations showed students memorized the material more often without understanding it, learning was still student-oriented, and learning resources were still limited to printed books.

Thus, it is not surprising that the results of the 2015 PISA (OECD, 2016) in Indonesia still needs to be evaluated, especially thinking competency. Indonesia has experienced a decline in its ability to titrate. This decline incompetence is not only experienced in Indonesia but several other countries such as Turkey and Tunisia. This proves that students' thinking abilities have not yet reached the expected score. The misfortune of achievement is caused by many things such as the role of the school, school interests, and economic background. The results of this study explained that Indonesia experienced lower mastery of subjects (33%) compared to other OECD countries, followed by Thailand as much as 17%. The subjects in question include basic subjects, such as mathematics, science, social, and language. Basic learning is the main way for students to be able to think divergent properly.

In addition to the PISA survey results, several studies also reveal the low competency of students' thinking. There are some complaints about the lack of divergent thinking skills possessed by graduates of primary education to tertiary institutions because thought development has not been handled well (Sitorus & Masrayati, 2016). The results research about creative education programs in Taiwan has not met expectations because many schools were still carried away by the climate and previous curriculum (Wu & Albanese, 2013). Besides, the results of Sharma and Dingra's research provide data that teachers have not emphasized the importance of divergent thinking for children in the Jammu area, India (Sharma & Dhingra, 2018). This was due to class administration factors and teacher perceptions. The teacher considers that elementary school-age children could not yet think divergent. In his research, he equated that these factors also became a practical obstacle for education in Indonesia, such as the constraints of syllabus completion, a fast-changing curriculum, and low human resources. Other research also found a lack of divergent thinking in the development of gifted students in grades 5 to 7 (Guignard & Lubart, 2016). They hypothesized that the low development of divergent thinking was caused by students 'intellectual abilities, the low awareness of education practitioners to stimulate students to become divergent thinkers, and academic activities which became students' habits. Another factor causing low divergent thinking is age. Previous research has shown that adults are more able to have good divergent thinking skills than young people (Adnan et al., 2019). Activities undertaken by students at a young age do not support cognitive performance, especially in school work.

Such problems require preventive action immediately. Many things might happen if the government in a country let that problem. The low ability to think will have an impact on student psychology. They would assume that they have no potential, are not eager to learn, have difficulty adjusting, or choose to quit school (Marriel et al., 2006; Valente & Berry, 2016). Therefore, criminal actions will arise. One previous research study solved that they lacked the balance of divergent and convergent thinking power. They are better at converging thinking power so they experience the problem (Razumnikova & Yashanina, 2014). Low student self-esteem would also have an impact on student behavior, social problems, and academic performance (Prihadi & Chua, 2012).

That impact can be dealt with if the teacher knows the students' thinking abilities and their characteristics. To achieve that, the Minister of Education and Culture has established a 2013 curriculum to be applied at all levels of the school, including elementary schools. Initially, this curriculum was a curriculum formed by the government to replace the 2006 curriculum. Learning at the elementary school level in the 2013 curriculum was presented using a thematic-integrative approach. This learning is based on Minister of Education and Culture Regulation Number 65 of 2013 concerning Basic and Secondary Education Process Standards which state that "In accordance with Graduates' Competency Standards and Content Standards, the learning principles are used from partial learning towards integrated learning". Implementation of the 2013 Curriculum in elementary school conducted from Class I to Class VI. This learning maps several integrated subjects. According to Istiningsih (2017), thematic learning is theme-based learning that presents various themes and sub-themes so that it becomes a whole. Thematic learning emphasized themes to unite a variety of lesson content with environmental themes of student life (Winarni, Lusa, & Dadi, 2018). According to Min & Friends, thematic learning aims to balance all aspects needed in learning, such as cognitive, affective, psychomotor, and creative

thinking through themes (Wuryani, Roemintoyo, & Yamtinah, 2018b). He explained again that through thematic learning, the teacher had the opportunity to create a pleasant learning atmosphere and improve students' thinking skills. Thematic learning could develop thinking skills. In their research, they explained that thematic learning supports students to think critically, creatively, and innovatively (Pursitasari, Nuryanti, & Rede, 2015). This development was not limited to the ability of thinking, but also the psychomotor, affective, and cognitive skills of students in comprehensive way of learning.

Several studies review thematic learning about divergent thinking skills. First, the study was adopted from Walid, et al. He reviewed the development of media on the ability to think in thematic learning. The results of his research prove that the application of thematic learning can develop divergent thinking (Walid et al., 2019). Other studies also provide results that integrated learning directs students to be active, creative, widespread thinking (divergent), and provide satisfying learning outcomes (Elisa, Hadiyanto, & Fitria., 2019).

Second, research conducted by Cayirdag & Acar (2010). This study reviewed the concepts of humor and divergent thinking. This research was conducted quantitatively in grades 6, 7 and 8 students in Turkey. This study used questionnaires and divergent thinking tests from the Guilford Test style. The indicators used are humor, originality, fluency, and creativity. The results showed that the high humor style did not affect students' divergent thinking skills, and vice versa. Meanwhile, this research will investigate four indicators of divergent thinking ability, such as fluency, flexibility, originality, and elaboration. Flexibility and elaboration are important because students who are fluent in expressing ideas should also be able to apply them to any situation. For example, the idea is applied to different learning subjects. If he applies the ideas well, then the results will not be much different from the previous subject.

Third, Piaw's research (2014) shows that gender and thinking style was a significant factor in the ability to think creatively even though no interaction effect is found on these two variables as a whole package. This research will investigate the real condition of overall divergent thinking ability through tests. There is an application of the model that is commonly done by schools before the test, so researchers will know the results of the test as a whole and not to be compared with independent variables.

Fourth, Sanchez-ruiz, et al. (2015) examined the role of stress states and divergent thinking. The sample of this study were students in engineering, science, social, and arts. The practical implications of this study help other researchers that creativity in artists is better than none artists and has positive emotional strength in completing tasks. Of course, the assignments given are following each student's field. The research to be conducted is also not limited by subject areas because it is thematic. Thematic means the content of lessons is many and different but remains intact. Thematic selection is the hallmark of this study because the results will also be comprehensive in all fields and not limited to one area.

Different from before, Walker & Jackson (2014) examined the five-factor models as a sensitivity theory to predict divergent thinking skills with a sample of students in management. A different aspect of this study is the sample chosen. This research was conducted in elementary school students especially fifth-grade with the age of 10-12 years. This research does not discuss the theory of sensitivity or other theories to determine students' divergent thinking ability. Many studies have examined divergent thinking as an effect of modeling human behavior. The results of the study prove that there is a significant effect of a learning model on divergent thinking and creativity (Yi, Plucker, & Guo, 2015). However, the results show that the influence of divergent thinking is limited to verbal assignments and is given to secondary students in China. In contrast to this study, the results of this study can only be generalized to elementary school students.

Based on several previous studies, researchers are interested in examining divergent thinking skills. The researchers will analyze the actual state of divergent thinking skills of fifth-grade elementary school students. This research differs from previous research in terms of several things such as place, research sample, research object, moderator variables used, and specifications of each indicator of divergent thinking ability. This study has limits that only describe actual conditions based on indicators of divergent thinking ability adopted from

Torrance. This research includes quantitative data in the form of divergent thinking ability test results and qualitative data in the form of a description of test results and factors that affect divergent thinking ability. The research question in this study is how is the divergent thinking profile of elementary school students in thematic learning? This study aims to analyze the profile of the divergent thinking ability of elementary school students in thematic learning.

METHOD

Research Design

This research was descriptive quantitative research. Descriptive research with a quantitative approach was research to gather broad information about the events of a real variable (Cohen, Manion, & Morrison, 2018). This research approach was chosen because the researcher had to analyze the learning outcomes of quantitative divergent thinking skills, both the test calculations and the presentation of graphs, tables, and images. The results of the analysis are described in narrative form. This study aims to analyze the profile of divergent thinking skills of elementary school students in thematic learning. The question in this study is: How is the divergent thinking profiles of elementary school students in thematic learning?

Research Variables

Research variables are important to understand because they relate to the data analysis technique used. The dependent variable in this study is divergent thinking ability. Dependent variable (dependent) is a response variable or criteria that is assumed to get the influence of other variables (Gower & Shanks, 2014). While the moderator variable is thematic learning. Moderator variables are variables that affect the relationship between independent and dependent variables (Creswell, 2009).

Participants

The study was conducted at a public school in Laweyan Subdistrict, Surakarta City, Indonesia. The sample of this research is State Elementary School No. 55 Kabangan and State Elementary School I Begalon. The time of the study was conducted in the odd semester of the 2019/2020 school year. The number of students was 48 students. The number of students consist of 24 male students and 24 female students. The determination of the sample was done by stratified cluster random sampling. The stratified cluster random sampling technique is the process of taking a sample by dividing populations into strata, selecting simple random samples from each strata, and combining them into a sample to estimate population parameters (Gower & Shanks, 2014). The technique is done based on strata (high, medium, and low) from the results of the 2019 elementary school National Examination. The data was obtained from the Surakarta City Education Office. The whole school is divided into three categories, namely high, middle and low. Strata assessment is based on the average results of the National Based School Examination (USBN) for each school. Furthermore, these results are ranked from the highest to most beautiful. The number of samples taken according to each section and determined again by the formula n = (class population/total population) x number of samples determined.

Data Collection

Data collected through test techniques. The steps used to prepare the test instruments in this study are explained as follows:

1. Review divergent thinking theories and themes to be taken.

The ability to think divergent is someone's possessions with open and widespread thinking in the expression of ideas or the discovery of new and diverse solutions to a problem based on the experience it has so as to bring up brilliant and different ideas in general with several creativity indicators which are fluency, flexibility, originality, and elaboration (Acar & Runco, 2014; Jones & Estes, 2015).

In accordance with the Republic of Indonesia's Minister of Education and Culture Regulation No. 57 of 2014 concerning the 2013 Elementary School / Madrasah Ibtidaiyah Curriculum, the fifth grade level of elementary schools has eight themes for one school year. The chosen theme is the second theme. Theme two is about "clean air for breathing". This theme was chosen because the material contained in this theme has a broad and complete scope. Thus, researchers will more easily make test questions about divergent thinking skills.
The materials used on the second theme are science, social, civic education, Indonesian, and cultural arts. Indonesian material represents indicator flexibility. The Natural Sciences (IPA) material represents indicators of fluency and originality. Material Social Sciences (IPS) represents indicators of fluency and elaboration. Citizenship Education Material (PKn) represents the indicator of originality. Cultural Arts and Crafts (SBdP) material represents indicators of flexibility and elaboration. Thus, if added together, there are eight questions that have represented the five subjects and indicators of divergent thinking skills.

2. Determine divergent thinking ability indicators.

The development of test instruments was adopted from the Torance indicator, namely fluency, flexibility, originality, and elaboration (Acar & Runco, 2014; Addis, Pan, Musicaro, & Schacter, 2016; Jones & Estes, 2015). The four indicators can be explained as follows. First, fluency has characteristics, such as students can generate and develop ideas, trigger a variety of solutions, and are responsive when seeing an object error. Second, flexibility has characteristics, such as students can use various ideas in any situation, look at problems from various perspectives, find alternative solutions, and change new perspectives. Third, originality has characteristics, such as students can create new ideas and develop ideas that have been there before. Fourth, elaboration has characteristics, such as students can develop and detail objects with logical reasons.

3. Arrange the grid and items of the divergent thinking ability test.

4. Generate answer keys and assessment guidelines.

5. Conduct testing with expert assessors.

The validity of the test instrument is done through content and construct validation (Cohen, Manion, & Morrison, 2018). The experts assess the suitability or representativeness of the items and the substance of the material with the lattice that has been made, and show that the items can really be measured. Researchers use five experts to assess or validate the instruments that have been made.

6. Do a trial run in certain samples determined.

7. Conduct analysis of trial run results.

The calculation uses the product moment correlation formula from Karl Pearson. The formula of product moment is as follows (Cohen, Manion, & Morrison, 2018):

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2}}$$

After r count is obtained, then it is compared with r table. Instrument items can be said to be valid if r arithmetic ≥ r tables. The validity test results indicate that all test items are valid. Reliability is used to measure the level of reliability of divergent thinking skills. The formula used is Alpha Cronbach because it can be used for measurement test descriptions (Cohen, Manion, & Morrison, 2018). The instrument can be used if the results of the reliability index $r_{11} \geq 0.70$. The formula used is as follows:

$$r_{11} = \left(\frac{n}{n-1}\right)\left(1 - \frac{\sum s_i^2}{s_t^2}\right)$$

The reliability of test results based on analysis of trial run showed that the data had a reliability coefficient of 0.97 (high reliability).

Data Validity

The data validity technique used content and constructs validity. Validity is done to determine the meaning and usefulness of the instrument (Gower & Shanks, 2014). The first validity is done by testing the instrument with expert judgment which assesses how far the accuracy of the dimensions is as a description of the construct. Expert assessors are determined by researchers. There are five appointed expert assessments namely 2 expert lecturers in counseling guidance, 1 expert in the field of learning evaluation, and 2 fields in the language field. The second validity is done by empirically testing all test items that have been declared valid by expert assessors. The second validity is taken from wider test takers as samples.

Data Analysis

The data analysis technique was done with descriptive statistics. Quantitative data in the form of numbers were then grouped and calculated according to the form of the instrument used. The shape of the instrument uses a Likert scale. The use of the Likert scale is done by giving a score of 0, 1, 2, 3, and 4 (Cohen, Manion, & Morrison, 2018). Each sample answer score was sought overall and on average for each indicator.

Research Procedure

The research procedure was carried out in three stages, namely the preparation phase, the implementation phase, and the completion stage (Gower & Shanks, 2014). The description of each stage implemented in this study are as follows:

1. First, the preparatory phase is carried out by conducting a preliminary study, conducting a literature study, determining the research subject, making a research instrument, and calculating the validity of the instrument.
    a. The preliminary study was carried out through observation and interview activities in Elementary School of Mangkuyudan, Laweyan, Surakarta, Indonesia. Some interview questions are about problems that exist in elementary schools. Meanwhile, observations were made by observing learning activities in grades four and five. After observing, the researcher found that learning is unidirectional, not yet fully integrative thematic, and less emphasis on the development of thinking (especially creative and divergent thinking). Observation and interview activities are carried out as a preliminary guide for researchers that teachers are still experiencing problems regarding the development of students' thinking abilities so that researchers feel moved to conduct research on problems that have been found at school.
    b. Next, the next preparation stage is the study of literature. A literature study is carried out by gathering several research sources both from journals and e-books about divergent thinking skills.
    c. After researchers find divergent thinking literature, researchers weigh the research subjects to be selected. In the end, the researchers chose fifth grade. This is reasonable because they have been able to discuss, think actually, like to have opinions, and begin to be able to manage themselves emotionally (Damon, Lerner, & Eisenberg, 2006). As is the case with grade 4 students, grade 4 students are students who have experienced a transition where they have just passed the transition period from low grade (grade 3) to high grade (grade 4). Grade 4 students still have the traits they brought from class 3, such as being unable to solve problems because they consider them unimportant, despising others, and wanting good grades without measuring their own abilities.
    d. After the research found the research subject, the researcher made the research instrument in the form of a written test. Test instrument validity is calculated through content and construct validation. Validation of constructs is carried out by experts according to the field of psychology of elementary school children, while content validation is done through calculations using the product-moment correlation formula.
2. Second, the implementation phase is done by testing the test instruments and giving test instruments to students as samples.

3. Third, the completion stage is done by processing research data, presenting test data in the form of tables, graphs, and images, presenting quantitative results in a description, and making research conclusions.

RESULTS

Profile of Divergent Thinking Ability in Thematic Learning

After the test instruments have been carried out, the test items were analyzed in terms of their validity and reliability. Then, the scores obtained by students are grouped to determine the overall divergent thinking ability profile. Based on the data obtained, the profile of divergent thinking fifth-grade elementary school students in the two schools was arranged into three categories, namely high, medium, and low. The most frequent category of students' divergent thinking skills in thematic learning was the medium category. A comparison of categories obtained by students can be visualized in Figure 1 below.

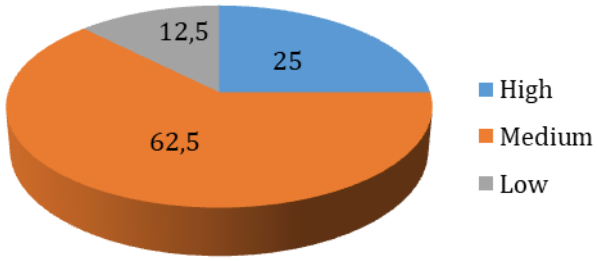

FIGURE 1. *Comparison of divergent thinking ability categories for fifth-grade elementary school students*

The data above could be recapitulated the percentage of students in each category of divergent thinking ability. The recapitulation can be observed in Table 1 below.

Table 1. *Summary of the percentage of students in each divergent thinking ability category*

Provisions	Category	Total of Students	Percentage
> 80,89	High	12	25%
50,20 – 80,89	Medium	30	62,50%
<50,20	Low	6	12,50%

Based on the data processing above, it can be observed that students' divergent thinking skills on thematic learning have differences. The average value obtained by students is 70.75. The highest score obtained by students is 98, while the lowest score is 43. The results on Table 1 showed that the majority of students are in the medium category (in their divergent thinking ability) because there are 30 students who scored between 50.20 to 80.89 out of 48 in total students. To find out the depth of each indicator will be discussed in the next subject.

Profile of Divergent Thinking Ability for Each İndicator

Indicator of divergent thinking ability consists of four namely fluency, flexibility, originality, and elaboration. After knowing the percentage of students' divergent thinking skills, each indicator was analyzed more deeply. The indicator of divergent thinking which is the most dominant or high was the fluency indicator (76%), while the lowest indicator was elaboration (65.80%). The average percentage gain on the flexibility indicator is 74% and the originality indicator is 68%. The data can be seen in Table 2 below.

Table 2. *Average percentage of each ındicator of divergent thinking ability*

Indicator Divergent Thinking Ability	Average (%)
Fluency	76
Flexibility	74
Originality	68
Elaboration	65,8

The comparison of each indicator of students' divergent thinking ability in thematic learning can be visualized and can be seen in Figure 2 below.

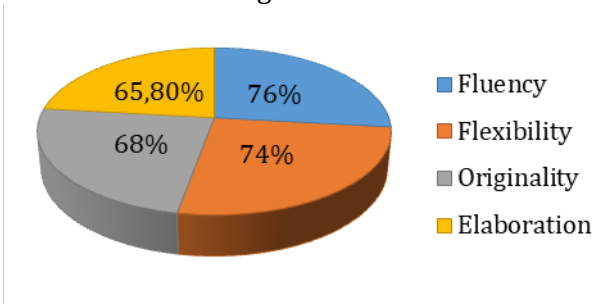

Figure 2. *Comparison of each indicator of divergent students' elementary thinking ability*

Based on table 2 and figure 2, it can be observed that each indicator has a different score. İndicator of fluency reached a maximum value (76%), flexibility got a score of 74%, originality with 68%, and elaboration as the lowest indicator of the other four indicators with 65.80%. The analysis of divergent thinking ability on each indicator is as follows.

Fluency

Questions that capture the ability to think smoothly consist of two questions that represent the ability to think smoothly. The question is about the content of science and social studies. First, the content of science lessons about the health material of human respiratory organs. Previously, the question was presented with pictures of human respiratory organs. Students are asked to find out part A (showing part of the lungs) and mention how to maintain the health of human respiratory organs. From the results of tests that have been done by students, it can be seen that most students could answer well. Students answer questions in full according to the topic of the problem. Students have answered the questions correctly because students have mastered the material well, especially the material included in the medium category. However, there was one student who cannot answer that question.

The second question was the social studies subjects. Beginning, a short text was presented on economic activity. Students were asked to mention economic activities that are following the reading text. From the results of the analysis of student tests, there was 1 student who did not answer the question. One of the students who did not answer might be due to students lacking in mastering the material well. Besides, the reading text presented in the question was long enough that students are lazy to read it. Also, eight students answered the question incorrectly. This might be caused by students not understanding the request of the question. Students should read the discourse before answering the question because answers will be obtained after reading the discourse. However, most students could answer the questions well. Student answers were also following existing problems.

The differences in answers pattern of students certainly represent the knowledge of each student. The description of each student's answers from basic to complex is the key to determining students' divergent thinking abilities. Each series of words that are linked into a sentence will reflect the potential of students. Potential in question such as the ability to write, the ability to interpret problems, the ability to explain again, and other abilities. Of course this is a part of creativity that is not far from divergent thinking. The various descriptions will be more indicated by the resulting score. The final score will show how broad the students' thinking is in mastering a problem. Thus, the fluency indicator will be easier to understand and the teacher

can anticipate various things that might still be a weakness of students in developing this indicator. Fluency represents the first indicator of creativity.

Flexibility

The questions presented to represent flexible thinking indicators consist of two test items. The question told about giving a minimum of three ways to prevent disease based on reading texts and explaining three differences from the major and minor diatonic scales.

Refers to the analysis of student answers, it can be decided that many students have been able to provide ways to prevent the human respiratory disease from the discourse presented. Students could analyze the discourse so that the answers are written correctly. Open problems in the discourse could lead students to overcome problems from diverse points of view.

However, there was one student who did not answer the question about the differences in the characteristics of the major and minor diatonic scales. Meanwhile, 12 students get low scores or students could already answer questions, but the answers were wrong. This might be caused by students not well mastered the material and students are less able to manage time well. This leads to the fact that flexible thinking is a part of creativity.

Originality

Questions that reveal original thinking ability consist of two test items. Questions provided include science and citizenship education materials. In science material, the question was in the form of a chart of the human respiratory system. The results of the analysis of student answers found that the average score obtained was only 2.7. That is, the score was in the category which is quite low. Two students didn't answer the question at all. Also, 22 students answered questions with incorrect answers. The rest of, students could answer well. It was possible that some students did not master the material and they found it difficult if asked to make a chart.

The second question was about civic education. The questions presented in the form of compiling a name with an understanding following the name. In this question, a table has been presented on the fundamental values in decision making. In this question, most students have answered correctly because the average score on this question reaches 4 or good. However, there was one student who did not answer the question and there were eight students who had dared to answer even though the answer was wrong.

Elaboration

The questions posed consist of two questions. The details were the subjects of civic education (rights and responsibilities) and arts and culture and crafts (story pictures). The order that was put forward on the subject of citizenship education was to explain the reasons for the importance of rights and responsibilities in the family and school environment. The average score was 2.9 or good enough. Three students gave no answers at all and 21 students answered questions with the wrong answers. The rest have given their answers correctly. Meanwhile, the next question has reached 3.5 or a good category in the content of arts and crafts lessons. There was 1 student who did not answer and there were ten students who gave the wrong answer.

From the data above, it can be seen that the ability of students in detailing is still lacking. This was caused by not all students feel able to explain the solution to the problem in detail. After being corrected again, students found it difficult to explain the reasons for the importance of rights and obligations because they felt confused expressing it. Besides, students could be rarely trained to retell pictures presented in written form.

Based on the description above about each indicator of divergent thinking ability, it can be concluded that each indicator of this ability has an average value of each different indicator. The smoothness indicator became the most dominant among the four others, while the elaboration indicator was ranked last. This also corresponds to the difficulty level of each indicator.

DISCUSSIONS and CONCLUSIONS

Profile of Divergent Thinking Ability in Thematic Learning

The profile of students' divergent thinking abilities in thematic learning was in the low to high category. The most divergent thinking skills were in the medium category. Furthermore, the high and low categories. This was influenced by many things, such as the environment, motivation, academic history, and learning design created by the teacher. As expressed by Sternberg and Lubart, personality, thinking style, environment, motivation, and intelligence were factors that influence creativity. However, of these five things, teachers had to pay attention to age and gender factors (Costa, Páez, Sánchez, Garaigordobil, & Gondim, 2015). Some studies also reveal this. Subjects who were feminism or women have better creativity than men (Baer & Kaufman, 2008). However, some studies contradicted those studies. The creativity of boys was superior to girls (Hoseinifar, Mohammad, & Rasoul, 2011; Stoltzfus, Nibbelink, Vredenburg, & Thyrum, 2011). This study not only compares the creativity of men or women, but this study complements the factors that influence creativity. If some previous studies only reveal that gender is a factor of creativity, it is certainly not true. The results of this study obtained wider data because the profile of students with good divergent thinking skills was influenced by many things other than gender.

Besides, internal factors such as intelligence and thinking style have become two inseparable things. Some researchers suggest that intelligence is closely related to creativity, as well as thinking and motivation styles. Some researchers recommended that intelligence became the main point of the principle of creativity, and so is thinking style. Furthermore, motivation was also an important factor in creativity. Acar & Runco (2014) claim that there was a positive relationship between creativity and motivation or self-confidence. The motivation was related to the interests, self-satisfaction, and challenges of students in learning so that it will provide its pleasure while having more achievements. Meanwhile, self-confidence was related to one's belief in achieving the goals of the results of his hard work, both in solving problems or providing new and innovative ideas. This research is a complement to the research that has been reviewed previously. In addition to motivation, learning styles and self-confidence are indeed strong factors in students' divergent thinking abilities.

Thus, research results can be accepted if the ability to think divergent was different in each category. Although the dominance of this ability lies in the medium category, it did not rule out the possibility that the results were indeed influenced by the factors described above. For example, from gender factors, female students dominate more than male students, although the difference is not too much. Then in terms of motivation, when the test took place it appeared that women had better learning motivation. The female students were very enthusiastic about working on and almost solved the whole question. This was very different from the male students who left questions with some blank or unfulfilled answers.

Profile of Divergent Thinking Ability for Each İndicator

Divergent thinking ability has four indicators. The first indicator is fluency indicator. The ability to think smoothly can be interpreted as the expertise to express ideas that are relevant to the problems faced smoothly. The average percentage value for the fluency indicator reaches 76%. Overall, the results obtained are quite good. Fluency was the first level of divergent thinking indicators. Its nature only mentions an idea smoothly but still varies. Then, the form of questions made included in the realm of memory (C1). Thus, students found it easier to answer questions even if they have multiple answers. Previous research has reviewed the fluency indicator as part of the ability to think creatively. Fluency can be done by mentioning five or more diverse ideas (Zubaidah, Fuad, Mahanal, & Suarsini, 2017). The results revealed that fluency became a basic indicator of creative thinking. This statement is supported by previous research which gives the result that fluency is one indicator with the highest average score of initial ability test in the experimental class and the indicator that has the largest average increase in the control class (Arvyati, Ibrahim, & Irawan, 2015). Meaning, the results of this study are not much different

from previous studies because fluency is an indicator with the highest achievement when an initial ability test is conducted.

The problem factor revealed after conducting in-depth analysis is the low mastery of the material. This could happen because learning was in the form of textbooks, teacher-centered learning, and material complexity. In some studies, the lack of knowledge of concepts and learning resources would limit the space for students to explore the source. Even worse, if students memorized the material more often in textbooks (Wijaya, 2017). Textbooks should be arranged interestingly. In thematic learning, the use of teaching materials should be oriented to the effectiveness of learning. The student gave a positive response from students through an interesting textbook product and this has an impact on student activities in the classroom (Wuryani, Roemintoyo, & Yamtinah, 2018a).

The second indicator is flexibility. The flexibility indicator occupied the second position because the flexibility indicator has a difficulty level that was easier than originality. Flexibility was related to the explanation of a different idea and its application in different subjects or different material content. That is, students had to apply their ideas at different times and concepts as a part of creativity in learning.

Previous research has revealed the description of the flexibility indicator as follows: (1) giving a variety of ideas, (2) attempting to see problems from various points of view, and (3) finding many alternative solutions to problem-solving (Istiqomah, Perbowo, & Puwanto, 2018). The concept of this research is already relevant to previous research because the measured content leads to the explanation of diverse ideas in terms of various subjects. This subject is a perspective that can be represented by subjects in school. Each subject must have a different concept and practice. Therefore, this difference becomes a benchmark of the extent to which students can visualize and verbalize problems from various views.

From previous research, the flexibility indicator gets the highest score, both from the initial test and the final test. These results are different from this study. This means that there is a gap or difference between previous research and what researchers have done. After tracing, previous studies have different results because the learning concepts chosen are different. Previous studies discuss mathematics in secondary schools, while this study discusses integrative thematic learning. Therefore, the results are different. The extent of mathematical material with a thematic different. Mathematics only reveals formulas and calculations without deep concepts or meaning. Thematic learning has extensive material and concepts. In addition, the subject of middle school students has a different intelligence from elementary school students. In terms of age, it is different. Thus, the results of this study are superior to fluency than flexibility is not surprising.

The lack of flexible indicator results was also influenced by many things. As noted in the results section, one factor was poor time management. According to Shazia, student time management was considered as one of the components that give positive results to their academics. In his research, students who could not manage time properly hurt routine tasks, stress levels of students, and academic results of students (Nasrullah & Khan, 2015). In addition to time management, the psychological condition or anxiety of students also seems to have influenced students' thinking abilities. From the results of preliminary studies, there are previous studies that reveal that students who have mild or severe anxiety are still able to provide diverse answers (Apriliani, Suyitno, & Rochmad, 2016). That is, students can solve problems (related to flexibility) well despite unfavorable conditions. The results of this research, in fact, have similarities with previous studies. Therefore, it can be said that students' flexibility abilities are common if the results are not much different from the fluency indicator.

The third is the originality. Originality was the ability to express ideas that are unique, different, and rarely given by most people (An, Song, & Carr, 2016). The results obtained are only 68%. Originality was related to the renewal of ideas. After students could smoothly state ideas, explain, and apply them to different subjects, students had to create new ideas that are very different and unusual than usual. Although the idea will be laughed at by other students, it was a distinct characteristic and another value. Therefore, originality was at a high level of thinking (C6) and students and teachers still difficult to apply it. If analyzed in-depth certainly

very much different between flexibility and originality. The carrying capacity of thinking is harder on originality than flexibility for some of the reasons that have been explained.

From previous research, the results have explained that there are gaps in each indicator of divergent thinking ability. The fluency and flexibility indicator has reached the required capacity. However, the indicators of originality and elaboration are still below average. From the results of the analysis of previous studies (Research by Puspitasari in 2019), it has been revealed that in each test item given to students does not bring up the renewal of ideas (Puspitasari, In'am, & Syaifuddin, 2019). Of the six students who took the test, student results were still low on the originality indicator. Thus, this research result is supported by the results of previous research that also experiences the same problem, especially the low understanding of students in the novelty indicator.

The basic thing that needs to be emphasized on the ability to create is broad insight. Insight or knowledge must be driven by the high curiosity of students. Many researchers believe that curiosity, imagination, and intelligence are the characteristics of creative students (Gage & Berliner, 1994). From that curiosity, students will not be satisfied if he only gets what he sees. They will continue to explore and connect until he arrives at the process of generating new ideas. Some scientific literature in Lithuania and other countries noted that creativity is an important key to life. Previous research considers creativity to be something that is carried from birth and they develop it. These developments will greatly influence the habits, behavior, and implementation of the knowledge and skills they possess (Samašonok & Leškienė, 2015). This development also became the center of attention of researchers in educational practice, especially in scientific studies.

The fourth was elaboration. Elaboration was the ability to develop ideas in full and could expand these ideas. Elaboration became an indicator with the lowest value because it is more rigid or complex. This indicator was not just mentioning and explaining new ideas, but students must also elaborate or unite some of their new ideas into one complete and detailed whole. This indicator certainly required a high level of reasoning and thinking because this not only created something but combines several new ideas into one new idea again.

These results were different from the results of a 2014 study conducted by Piaw on elaboration indicators on the ability to think creatively. In his research, he explained that the elaboration indicator has a higher level of significance than the aspects of fluency and originality (Piaw, 2014). This was due to the teaching methods, curriculum and school assessments that are oriented towards empowering the left brain only. The learning was still focused on logical thinking, analysis (converging), such as the process of memorizing and following the teacher's instructions so that the results were less than optimal.

However, this research cannot be completely denied or blamed. Previous studies have produced data that is not much different from the results of this study. The average value obtained in the elaboration indicator is included in the standard category and tends not to experience development at each stage of learning (Dhayanti, Johar, & Zubainur, 2018). The indicator of fluency and flexibility has gotten good results from the first to fourth learning, while elaboration has had sufficient results from the four stages of learning. The difference between originality and elaboration is that originality always increases at each stage.

If the four indicators are sorted, you will see fluency, flexibility, originality, and elaboration still in the same order according to their level. This condition can not be denied the influence of the quality of learning in the classroom. According to Hidayatulloh, the quality of learning had several indicators, namely fun, challenges, exploration activities, real experiences, and the development of thinking skills (Wuryani et al., 2018a). The quality of learning was also supported by mature learning concepts. Aisyah said that the concept of student-centered learning was needed in every school, especially to develop student potential (Daniati, Subiyantoro, & Fadhilah, 2019).

Thematic learning is an alternative that has been approved by the government to be applied in schools. Thematic components are arranged holistically without grouping. This concept reflects no difference in quantity and quality in each subject. During this time, many parties have categorized several learning concepts into different categories, such as science and

mathematics, including difficult, while language is easy. However, the existence of a thematic approach is to break the gap that has been created for a long time according to the perception of elementary school teachers.

From the description of the results and discussion above, it can be observed that the divergent thinking abilities of fifth-grade elementary school students consist of three categories of high, medium, and low. This result was caused by several factors, such as the environment, learning motivation, learning style, academic history, learning design, personality, intelligence, gender, and self-confidence. In the results of the analysis of each indicator of divergent thinking, ability found that the acquisition of the average value of each indicator is different. The average of each indicator was obtained sequentially according to its level, namely fluency, flexibility, originality, to elaboration. The highest indicator was fluency, while the lowest indicator was elaboration. The finding was caused by several things, such as (1) fluency indicator had the lowest level of thinking, (2) indicator flexibility aims to explain ideas after students smoothly mention diverse ideas, (3) originality race on the ability of students to create unique and unusual ideas so that this indicator has a higher level of thinking than before, and (4) The elaboration indicator had a deeper discussion complexity because it not only mentions and explains unique ideas but also elaborates the whole idea.

This research has a limitation that is only describing the actual conditions based on indicators of divergent thinking ability without associating with other variables to compare. Besides, conventional learning is the thematic learning that is commonly applied in schools. Quantitative calculations are not very deep so the data is not too detailed. By considering these limitations, then other researchers can examine more deeply about divergent thinking skills that are applied to innovative learning models or approaches. Teachers are also expected to plan effective learning to deepen students 'divergent thinking skills and support students' potential so that educational goals in Indonesia are achieved and as expected. Regarding the practice of educational practitioners, the introduction of training programs based on open problems or in accordance with indicators of divergent thinking is quite an informative and promising way to complement integrated thematic learning. Every indicator of divergent thinking ability seems difficult to be integrated in the domain of learning in the classroom. Especially seeing the condition of children who have many hours of study at school. However, teachers as educators must try to slip a few indicators of the ability to diverge on each subject matter and tests compiled as the lesson plan designed. This will be an educator's path so that students are accustomed to open and creative forms of problems.

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