

# Profile of Students' Creative Thinking Ability Islamic Boarding Elementary School Ash Shiddiqi: In Perspective of Natural and Social Science

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**Abstract**— Thinking creatively is one of the 21st-century skills a person must have in finding and developing self-generated ideas. This research aims to describe the creative thinking abilities of class IV students in science and science lessons at SDIT Ash Shiddiqi, Jambi City, based on originality, fluency, flexibility and elaboration indicators. The approach used in this research is quantitative, with the sampling technique being total sampling. The research results show that, on average, students' creative thinking abilities are quite good. The analysis results for each aspect stated that the average student's thinking ability in the original aspect obtained a score of 55.3% and was classified as quite good. The fluency aspect has an average overall score of 60.4% in the good category. The flexibility aspect has a value of 55.9% in the quite good category. The elaboration aspect has a value of 54.3% and is in the quite good category. This research shows that systematic steps are still needed to optimize students' creative thinking abilities in every aspect.

**Keywords**— Creative thinking ability, Natural and Social Science, Ash Shiddiqi.

## I. INTRODUCTION

The educational aspect, even the most important, is very important in building quality human resources and progressing in life. Karimah U (2018) explains that education can make a country progress and decline. If quality education supports a country, it will grow rapidly and progress in all areas of life. Education is also the most fundamental aspect in shaping the character of a nation. Hartiwisidi et al. (2022) state that education exists as a teaching and learning process that instils character values both through teaching and learning process activities and other activities, such as activities related to the local culture of an area. Thus, the educational process can determine the quality of human resources and the nation's future.

Law Number 20 of 2003 article 1 paragraph (1) states that education is a conscious and planned effort to create an atmosphere of learning and learning so that students actively develop their potential and have spiritual religious strength, self-control, personality, and intelligence. Noble morals and skills are needed for himself, society, and the nation and state. Expanding the quality of education is increasingly directed at expanding learning innovation in both formal and non-formal education to create an efficient, enjoyable and intelligent process according to the age, maturity and level of development of students. The Indonesian government has made and continues to strive to improve the quality of education. The

government has done many things to improve quality education, from implementing a new curriculum and learning methods to carrying out comprehensive educational evaluations, one related to national education goals. National education aims to be oriented towards 21st-century competence, namely that every student can compete globally by following existing technological developments.

21st-century education is an educational method aimed at equipping the 21st century generation. This educational method aims to ensure that the 21st-century generation can excel in the quality of human resources and keep up with existing technological developments. 21st-century education requires preparation and innovation so that students can develop in a world that continues to change rapidly. In the modern world, which is marked by technological advances, globalization, and complex social challenges, 21st-century education emphasizes the importance of critical, creative, collaborative, communicative thinking, digital literacy, and being able to solve problems. One of the skills needed in this era of globalization is the ability to think creatively. Prihatmojo et al. (2019) explained that 21st-century learning, with the presence of technology in the world of education, requires students to be creative, innovative, think critically and metacognitively and thus make students able to communicate and work collaboratively.

Creative thinking skills are very important in the 21st century in preparing and equipping Indonesian people with individuals who are faithful, productive, innovative and contribute to the life of society, nation and state. Apart from that, creative thinking skills in the 21st century are needed because they can help students create solutions to the problems they face. Haerunisa et al. (2021) explain that creative thinking generates ideas that can be applied to world problems. Alam (2019) also states that creative thinking is a way that students need to be able to build ideas that can be applied in life, especially during the learning process. Therefore, the ability to think creatively is closely related to the ability to create new things, innovate, and contribute to providing solutions to conditions that occur around us.

Creative thinking can be defined as the ability to develop and find one's ideas. The ability to think creatively can also be called the creativity students possess (Rachmatica, 2022). It is in line with what Asmara et al. (2015) conveyed: the ability to think creatively is a way to develop a problem, be open to new ideas, and see problems from a different perspective than

others. In other words, it is the ability to think divergently, oriented towards right or wrong answers. The ability to think creatively certainly cannot appear suddenly or by itself, but it is an ability that must be developed through training and the right stimulus. Therefore, educators need assistance to train students' creativity through various methods (Meika & Sujana, 2017).

During the learning process, the role of educators in increasing students' creativity is very important because the learning process plays a very important role. But in practice, students' creativity could be more appreciated and paid attention to. This lack of creative thinking ability makes students less active during the learning process. It is in line with research from Suwarno (2015) that during the learning process, students tend to be passive and focused on educators, resulting in less training in students' creative thinking abilities.

In the context of learning Natural and Social Sciences (NSS) in elementary schools, creative thinking skills are very necessary. Theoretically, Natural Social Sciences is related to the systematic way of finding out about nature, so IPA is not only the mastery of a collection of knowledge in the form of facts, concepts or principles but also a process of discovery (Arisanti et al., 2017). Apart from that, Kumala (2016) wrote that science is a series of concepts and conceptual schemes that are related to each other, which grow as a result of experimentation and observation and are useful for further observation and experimentation. Considering that science is a process of discovery and connection with each other, creative thinking skills are needed to learn, master and apply these concepts in everyday life. Therefore, it is important to develop creative thinking skills, especially in the context of science learning at school from the elementary education level.

Considering the importance of students' creative thinking abilities, while the profile of students' creative thinking abilities has yet to be discovered, strengthening and developing these abilities cannot be carried out appropriately. The process of strengthening and developing creative thinking abilities can be carried out precisely and systematically if the profile or general description of students' abilities in these variables is known. Knowledge of students' creative thinking abilities at least includes indicators of originality, flexibility, fluency and elaboration. Arisanti et al. (2017) mention that four indicators of creative thinking are measured through this test: originality, flexibility, fluency, and elaboration. Accurate information regarding the profile of students' creative thinking abilities on these four indicators can be used as a basis for teachers to plan, implement and assess these variables. Unfortunately, there is no information regarding the profile of creative thinking abilities in schools, especially at the As-Siddiiqi integrated Islamic elementary school. Hence, it needs to be done systematically and in an integrated manner. Thus, this research describes students' skills at the As-Siddiiqi integrated Islamic elementary school, especially in class IV B in the context of learning Natural and Social Sciences (NSS).

**II. RESEARCH METHODS**

This research uses a quantitative approach with the data collection method using test techniques. Winarni (2011) stated that the quantitative approach refers to the instruments used in

data collection and analysis, which are quantified in nature or the form of numbers and end with a generalization process. The sampling technique used in this research is purposive sampling. According to Lenaini (2021), purposive sampling is a non-random sampling method where researchers ensure the citation of illustrations by determining special identities that match the research objectives. Therefore, the orientation of the purposive sampling technique is the research objective. In line with this explanation, the sample in this study was class IV students at SDIT Ash Shiddiiqi, Jambi City, totalling 26 students, so the entire population became the research sample.

The instrument used for data collection in this research was a creative thinking ability test. Researchers used an instrument developed by Goran et al. (2020) from Flores University to measure students' creative thinking abilities in grade IV science lessons. This test instrument measures creative thinking skills with the four indicators mentioned by Arisanti et al. (2017): originality, flexibility, fluency and elaboration. Apart from that, the use of the instrument is based on considerations of the quality of the instrument itself. The instrument for measuring creative thinking abilities developed by Goran et al. (2020) from the University of Flores has generally been validated theoretically and empirically, so it is suitable for use. Another consideration is the suitability between this research and the research conducted.

Data analysis in this research was carried out in several stages: scoring, analysis and descriptive data presentation. Scoring of creative thinking abilities is carried out using the formula:

$$Scores = \frac{Correct\ answer}{total\ of\ questions} \times 100\%$$

Furthermore, based on the scores obtained, students' creative thinking abilities are grouped into five categories, namely: 1) very creative, 2) creative, 3) quite creative, 4) less creative, and 5) not creative. Decision-making on the categorization of creative thinking abilities can be seen in the following table:

TABLE 1. Categories of Creative Thinking Ability

Creative thinking ability category	
Percentage of Achievement	Category Creative Thinking Level
80%-100%	Excellent
61%-81%	Good
41%-60%	Enough
21%-40%	Less
0-20%	Very less

**III. RESEARCH RESULTS AND DISCUSSION**

Creative thinking is an important ability that every student must have. In this research, creative thinking ability can be measured through four indicators: originality, fluency, flexibility, and elaboration. This study used an observation questionnaire on creative thinking abilities in science lessons to describe the ability of class IV students at SDIT Ash Shiddiiqi to think creatively in science lessons. The results of the analysis carried out to determine the creative thinking abilities of class IV students at SDIT Ash Shiddiiqi for the 2023/2024 academic year can be seen in Table 2.

TABLE 2. Students' creative thinking abilities

Range of Scores	Category	Frequency	Percentage
81-100	Very creative	1	4%
61-80	Creative	6	23%
41-60	Quite creative	11	42%
21-40	Less creative	8	31%
>21	Very uncreative	0	0%
Total		26	100%

Table 2 shows that one student's ability to think creatively is in the "very creative" category and has a percentage of 4%. A total of 6 people, or around 23% of the total students, were in the "creative" category, as many as 11 people or around 42% were in the "quite creative" category, as many as eight people or around 31% were in the "less creative" category. The "very uncreative" category is 0, meaning no students have that score.

Students' achievement in the "very creative" category shows that all indicators of creative thinking ability, namely originality, fluency, flexibility, originality and elaboration, have been achieved. The "creative" category means that one of the indicators is not achieved; in the "Less creative" category, there are two indicators that are not met, and the "not creative" category only meets one element of the indicator. Students without indicators of creative thinking ability are in the "very uncreative" group. It is based on the opinion of Lisliana et al. (2016) that the creative thinking ability index level 4 (very creative) includes four indicators: fluency, flexibility, originality and elaboration. Level 3 creative thinking includes three indicators: fluency, flexibility, and originality. Level 2 creative thinking (quite creative) includes two indicators, namely fluency and flexibility. Level 1 creative thinking (less creative) includes one indicator: fluency. Creative thinking level 0 (not creative) means failing to meet the four indicators of creative thinking.

Suppose a student only meets the flexibility creative thinking indicators. In that case, the student is not included in the creative thinking category because flexibility (providing various solutions) should be followed by another creative thinking indicator, namely fluency or giving more than one answer. Moreover, be flexible in giving answers using your language or originality. Among the four indicators of creative thinking, elaboration is the highest indicator of other creative thinking indicators because students are asked to be able to expand the ideas or answers given (Anggraini et al., 2020). Meanwhile, students included in the creative and inventive category show that they can convey answers in detail and then formulate several answers that are conveyed and convey them clearly, both orally and in writing (Lisliana et al., 2020).

According to Munandar (2012), creative thinking indicators include four indicators: fluency, flexibility, originality and elaboration. Based on observation data through questionnaires conducted on class IV students at SDIT Ash Shiddiqi, data on the achievement of each indicator was obtained and presented in Table 3 below.

Based on Table 3, information shows that the average ability of students to think creatively is highest in the fluency aspect, namely 60.4% and is included in the quite creative category. Furthermore, the original and flexibility aspects have almost the same average, namely 55.3% and 55.9%.

Meanwhile, elaboration has the lowest average compared to other aspects of creative thinking, namely 54.3%.

TABLE 3. Distribution of Values for Creative Thinking Aspects Based on Indicators

Aspects of Creative Thinking Ability	Percentage of Number of Students
<i>Original</i>	55,3%
<i>Fluency</i>	60,4%
<i>Flexibility</i>	55,9%
<i>Elaboration</i>	54,3%

The fluency aspect has the highest average, indicating that students can solve problems by providing various answers. Fluency or fluency can be interpreted as students' fluency in solving problems and providing diverse and varied ideas. An indicator of ability in the fluency aspect is providing many and varied ideas in solving problems. This is in line with the opinion of Febrianti et al. (2016), which states that students with fluency indicators show that these students can ask questions, are proficient in conveying ideas, and can think faster than students in general. The cause of this low fluency aspect is that students tend only to give one answer to solve a problem and do not provide other ways to solve the problem.

The flexible thinking indicator (flexibility) has a percentage of 55.9%. It shows that students can provide various or varied answers. This was also put forward by Fahrian Asiskawati (2015), who stated that the flexibility indicator in creative thinking relates to the variety of ideas generated by students and the varied answers given. In line with what was conveyed by (Firdaus et al., 2018), the cause of low flexibility shows that students' ability to see and provide solutions to problems from various points of view still needs to improve. The flexibility aspect and fluency are similar; if, in the flexibility aspect, students are asked to explain the reasons for the answers given, then in the fluency aspect, students are only asked to provide many answers to solve problems.

The original thinking indicator in Table 3 shows a figure of 55.3%. Original thinking also means the aspect of novelty or originality, which means students can give answers correctly in their language. This original aspect can be seen from the answers given by students to solve the problems found in the creative thinking test. The ability to think original is the ability of students to come up with unique ideas, or the ideas given are different from those contained in books (Ayu & Tri, 2019). This is also in line with what Samura (2019) said, which describes students' ability to solve problems in unconventional ways or other ways that others have yet to think of. When students are faced with a problem, they are required to be able to solve the problem given. This original aspect, which is classified as good, shows that students cannot only provide correct answers or solutions to problems but can also solve problems by providing innovative and new solutions.

Elaboration is the ability to think elaboratively, namely the ability to explain the answers given to solve problems in detail. Elaboration means the ability to explain ideas in detail. According to (2017), the elaboration indicator is developing ideas from other people and compiling detailed and complete steps for completion. The elaboration aspect shows how

detailed or detailed students are in providing answers to solve the problems posed. The elaboration indicator table shows a result of 54.3% in the quite good category. The fairly good category in the elaboration aspect shows that, on average, students are quite good at providing detailed answers, and students can explain an idea or idea in detail and expand on that idea. This aligns with research conducted by Hafiza (2022), which stated that students' elaboration abilities showed a result of 57.9% in the quite good category. Another research result that is in line is research (Firdaus et al., 2018), which states that the elaboration aspect of students shows a figure of 59.5% in the quite good category because, on average, students can provide answers but are still not complete in detailing the answers given.

Based on the research results above, teachers have tried to develop students' creative thinking abilities. However, as seen from the existing creative thinking indicators, most students need to be more optimal in developing creative thinking abilities. One of the factors causing the low ability of students to understand science concepts is that the model teachers apply needs to involve the active role of students. Therefore, it is necessary to innovate models to increase students' motivation and creativity in learning. Learning models are very important to pay attention to in the learning process because they describe systematic procedures in organizing learning experiences to achieve learning goals.

The results of this research show that, in general, the creative thinking abilities of class IV students at SDIT Ash Shiddiqi in the context of science and science learning still need to be improved. Therefore, concrete steps must be taken to develop their creative thinking abilities. According to experts, there are several ways to improve students' creative thinking abilities, including: 1) through the application of the inquiry learning model, according to Putra et al. (2016) the application of the inquiry learning model can increase students' creative thinking abilities by up to 40.3%, 2) through the application of the learning model through the Application of Guided Inquiry, according to Amtiningsih et al. (2016) implementing the learning model through the application of Guided Inquiry combined with Brainstorming can improve creative thinking abilities from the less creative category to the quite creative category, 3) implementing the group investigative learning model, according to Kusmawan et al. (2018) there is a difference in increasing creative thinking abilities between students who use group investigation model learning and students who use regular learning, 4) applying the Problem Base Learning (PBL) learning model, according to research by Elfiani (2017) Problem Solving learning can improve creative thinking abilities students namely 1) think fluently, 2) think flexibly, 3) think original, 4) elaboration skills. Therefore, applying several learning models increases the potential for students' creative thinking abilities, especially in class IV SDIT Ash Shiddiqi.

Although this research has provided accurate information regarding the profile of creative thinking abilities of class IV students at SDIT Ash Shiddiqi, several things must be considered in more depth. In this research, the creative thinking abilities of class IV students at SDIT Ash Shiddiqi used the

science and science education context. Therefore, there is the possibility of data differences when viewed from other learning contexts. Thus, this is an opportunity for other researchers to see the profile of students' creative thinking abilities from the context of other subjects. This needs to be done to test whether there are differences in students' creative thinking abilities when viewed from the context of different subjects.

This research has implications for the importance of innovation in the learning process. Teachers must pay attention to experts' suggestions regarding learning models that can improve students' creative thinking abilities. Apart from that, leaders of educational institutions need to provide opportunities for teachers to increase their scientific capacity and develop teacher competencies to create inspiring learning to improve students' thinking abilities. Various teaching materials and learning media must also be prepared as real support for improving students' creative thinking abilities.

At the end of this research, several important things need to be suggested, including 1) it is necessary to carry out more in-depth and extensive research regarding the profile of students' creative thinking abilities so that the data collected is more comprehensive for the benefit of developing these abilities more broadly, 2) to increase potential developing students' creative thinking abilities, teachers need to apply various learning models, especially learning models that experts have recommended, 3) teachers need to modify the learning process not only in terms of implementing models recommended by experts - but also need to consider teaching materials and media used.

#### IV. CONCLUSION

The research results on students' ability to think creatively showed that the ability of class IV SDIT Ash Shiddiqi students to think creatively was in the quite good category. The analysis results for each aspect indicate that the average student's thinking ability in the original aspect obtained a score of 55.3% and was classified as quite good. Furthermore, the fluency aspect has an average overall score of 60.4% in the good category. Meanwhile, the third aspect, namely the flexibility aspect, has a value of 55.9% in the quite good category. The last aspect is the elaboration aspect, with a score of 54.3%, and the category is quite good.

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