



## Profile of Students' Creative Thinking Skills in High School

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### ARTICLE INFO

#### Article history:

Received January 08, 2022

Revised January 11, 2022

Accepted March 30, 2022

Available online April 25, 2022

#### Kata Kunci:

Keterampilan Berpikir Kreatif,  
Siswa, Sekolah Menengah Atas

#### Keywords:

Creative Thinking Skills, Student,  
High School



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### ABSTRAK

Berpikir kreatif merupakan salah satu keterampilan abad 21 yang harus dikuasai oleh setiap individu. Setiap individu memiliki tingkat keterampilan berpikir kreatif yang berbeda. Pengukuran keterampilan berpikir kreatif perlu dilakukan untuk mengetahui gambaran keterampilan berpikir kreatif peserta didik sehingga guru mampu merancang metode, strategi, dan model pembelajaran yang dapat meningkatkan keterampilan berpikir kreatif. Tujuan penelitian ini adalah untuk menganalisis dan mendeskripsikan keterampilan berpikir kreatif peserta didik. Jenis penelitian adalah penelitian deskriptif. Populasi dalam penelitian adalah seluruh peserta didik kelas XI. Sampel penelitian sebanyak 58 peserta didik yang di ditentukan dengan menggunakan teknik simple random sampling. Instrumen yang digunakan berupa angket yang telah divalidasi. Teknik pengumpulan data yaitu penyebaran angket kepada peserta didik. Analisis data berupa analisis deskriptif. Dari hasil penelitian menunjukkan bahwa perolehan presentase keterampilan berpikir kreatif T1 (sangat rendah) sebanyak 44,8% , T2 (rendah) sebanyak yaitu 35,4%, T3 (sedang) sebanyak 10,7%, T4 (tinggi) sebanyak 5,6% dan T5 (sangat tinggi) yaitu 3,4 %. Berdasarkan hasil tersebut dapat disimpulkan bahwa keterampilan berpikir kreatif peserta didik masih tergolong rendah.

### ABSTRACT

Creative thinking is one of the 21st-century skills that every individual must master. Each individual has a different level of creative thinking skills. Measurement of creative thinking skills needs to be done to find out the description of students' creative thinking skills so that teachers can design methods, strategies, and learning models that can improve creative thinking skills. The purpose of this study was to analyze and describe the creative thinking skills of students. This type of research is descriptive research. The population in the study were all students of class XI. The research sample was 58 students determined using a simple random sampling technique. The instrument used is a validated questionnaire. The data collection technique is distributing questionnaires to students—data analysis in the form of descriptive analysis. The results showed that the acquisition of creative thinking skills percentage of T1 (very low) was 44.8%, T2 (low) was 35.4%, T3 (moderate) was 10.7%, T4 (high) was 5.6 %, and T5 (very high) which is 3.4%. Based on these results, it can be concluded that students' creative thinking skills are still relatively low.

### 1. INTRODUCTION

Advances in science mark the 21st century, the development of technology and information, and a change from an industrial society to a knowledge society (Ayu, 2019; Rosnaeni, 2021). The development of science and technology has led to various challenges in life in the 21st century. The challenge of the 21st century lies in the individual's skills in dealing with the changes and developments of the times. The 21st century demands superior and competitive human resources in mastering various forms of skills (Husain & Kaharu, 2020; Rifa Hanifa Mardhiyah et al., 2021; Surya, 2017). Every individual must have 21st-century skills to keep up with the times. Life in the 21st century requires every individual to have life skills. The 21st Century skills that every individual must master are the 4Cs which consist of critical thinking and problem solving, creativity, innovation, collaboration, and communication (Ayu, 2019; Dwijayanti, 2021)(Dwijayanti, 2021). Critical thinking and problem solving, namely the ability to think critically, including reasoning, expressing, analyzing, and solving problems (Angga et al., 2022; Umam & Jiddiyyah, 2021). Communication is the ability to communicate well. Collaboration is the ability to work together and

synergize with various parties: creativity and innovation, namely the ability to produce something new (Rosnaeni, 2021).

In reality, creative thinking skills in learning are still relatively low, and the need for empowerment of students' creative thinking skills (Firdaus et al., 2019; Kurnia et al., 2021; Prasasti et al., 2019). Students' creative thinking skills are included in the less category (Tayuda & Joko, 2020). The mathematical creative thinking ability test results are still below the average minimum completeness criteria (Amelia et al., 2018). Creative thinking is less considered in the learning process at school. In line with (Yulianto, 2021; Widyastuti dkk. 2018), the learning process in the classroom has not developed students' creative thinking skills. In general, creative thinking is not trained by teachers. Most of the time, students only pay attention and take notes on what the teacher says. Teachers still think that creative thinking is not important in the learning process. It can be seen from the frequency of teachers giving tests using routine questions rather than questions that contain problem-solving. Creative thinking is important to improve.

The solution that can be done to overcome these problems is to develop 21st-century skills in students. Creative thinking is one of the 21st-century skills that every individual must master (Hakan Türkmen, 2019; Umam & Jiddiyah, 2021). Creative thinking is the ability to create something new, generate various kinds of ideas or ideas that are different from others, create solutions to solve problems, and make innovative and original plans that are carried out by considering various possible problems that arise (Dwiprabowo, 2021; Manu & Nomleni, 2018; Umam & Jiddiyah, 2021) (Marliani, 2015; Harfiani & Fanreza, 2019). Creative thinking is a high-level thinking process that combines logical and divergent thinking, producing various ideas, ideas, solutions, and answers from various points of view that can overcome various problems (Ayu, 2019; Yasiro et al., 2021). Creative thinking consists of four aspects: fluency, flexibility, originality, and elaboration (Amelia et al., 2018; Himmah, Elok Faiqatul Supriyono & Sentot, 2021). Fluency is the ability to generate many ideas or ideas, problem-solving, flexibility is the ability to generate ideas, answers or varied questions, see problems from different perspectives, and use various approaches to solving problems, originality is the ability to generate original ideas, new and unique, elaboration is the ability to provide ideas in detail (Rolia et al., 2018; Yulianto, 2021).

Previous findings stated that creative thinking is very important in the 21st century to prepare the nation's next generation who is innovative, creative, and has an open-ended mind (Kara & Ertürk, 2015; Pais et al., 2017; Yuslinda Putri Kusumaningrum, 2018). Creative thinking requires initial knowledge or experience to generate ideas (Soeyono, 2014; Wulandari et al., 2019). Maturity of thought patterns and cognitive structures is related to understanding one's concept of something (Trianggono & Yuanita, 2018; Rahayu & Mampouw, 2019). Creative thinking skills can be developed or improved. Improving creative thinking skills can be done through the learning process in the classroom by applying learning models that can train creative thinking skills. In addition to efforts to improve creative thinking skills, it is also important to measure the creative thinking skills possessed by students. It is done to find out the description of students' creative thinking skills. By knowing the creative thinking skills possessed by students, teachers can design methods, strategies, and learning models that can improve creative thinking skills. The purpose of this study was to analyze and describe the creative thinking skills of students.

## 2. METHOD

The research method used in this research is descriptive. This method aims to make a systematic and factual description of a population. This study describes the creative thinking skills of eleventh graders at SMA Adabiah 2 Padang. The population in this study were all students of class XI MIPA at SMA Adabiah 2 Padang in the academic year 2021/2022, which consisted of five classes. The research sample was 58 students who were determined using random sampling. The instrument used is a validated creative thinking skills questionnaire. The questionnaire contains nine creative thinking skills indicators: fluency, flexibility, originality, and elaboration. Fifty-eight students filled out the questionnaire. Data collection techniques were carried out by distributing questionnaires to eleventh-grade students of SMA Adabiah 2 Padang and interviews with teachers. Data analysis using descriptive analysis is done by analyzing data and providing descriptions of research subjects based on variable data obtained from certain subject groups without making conclusions that apply to the public.

## 3. RESULT AND DISCUSSION

### Result

Based on the results of questionnaires that students have filled out, it is known that the creative thinking skills of eleventh-grade students of SMA Adabiah 2 Padang in the 2021/2022 academic year are classified as very low. Details of the results of the questionnaire on students' creative thinking skills can be seen in Table 1.

**Table 1.** The results of the creative thinking skills questionnaire for class XI MIPA SMA Adabiah 2 Padang

Indicator	Sub Indicator	Number of Answer Choices				
		T1	T2	T3	T4	T5
<b>Fluency</b>	Answer with several answers if there are questions	34	8	11	3	2
	Fluent in expressing ideas	24	20	9	4	1
	Can quickly see the faults and weaknesses of an object or situation	28	13	6	4	7
<b>Flexibility</b>	Give various interpretations of an image, story, or problem	27	25	4	2	0
	If you are given a problem, you usually think of different ways to solve it	22	24	8	3	1
	Classify things according to different categories	29	22	3	3	1
<b>Originality</b>	Generating new, unique, relevant ideas or ideas and using their language	29	18	7	3	1
<b>Elaboration</b>	After reading or hearing ideas, work on completing new ones	19	28	6	1	4
	Develop or enrich the ideas of others	22	27	2	6	1
<b>Total</b>		234	185	56	29	18
<b>Percentage</b>		44,8%	35,4%	10,7%	5,6%	3,4%

Based on the data above, the score of level 1 (T1) is 44.8%, the score of level 2 (T2) is 35.4%, the score of level 3 (T3) is 10.7%, the score of level 4 (T4) is 5.6 %, and the score of level 5 (T5) is 3.4%. The answers chosen by students determine the level of creative thinking skills of each student. These data show low students' creative thinking skills in class XI MIPA SMA Adabiah 2 Padang.

## Discussion

Based on the research results, creative thinking skills that are still low can be influenced by various factors, one of which is the learning process in the classroom. The learning process at SMA Adabiah 2 Padang has not actively involved students and trained creative thinking skills. The learning process that is centered on students (student-centered) is not optimal. During the learning process, teachers find it difficult to invite students to be active in the learning process. When the teacher explains and asks students, most students are silent and do not respond. They also rarely express opinions or ideas and answer questions asked by the teacher. Likewise, only a few students actively asked questions during discussions and sparked opinions and ideas. In the ongoing learning process, the teacher has not implemented a learning model that can train students' creative thinking skills. The teacher explains the material without involving the interaction of students. A lecture method is still an option in the learning process, so the learning process is still student-oriented. Such a method impacts students' skills (Ernaeni & Gunawan, 2019; Mandasari, 2016). Students become passive and less trained to master creative thinking skills.

Learning conditions that tend to be passive make students unable to generate creative ideas in solving problems. Students also find it difficult to solve problems from various points of view. Most students still have difficulty coming up with initial ideas for solving problems. It happens because students are unfamiliar with creative thinking skills questions (Amelia et al., 2018; Putra et al., 2016). The learning model must involve all students, be fun and meaningful so that students can actively participate in the learning process, and train students to develop creative thinking skills (Acesta, 2020; Nugraha et al., 2020). Students must be encouraged and trained in creative thinking skills, not just memorizing but being able to analyze and create. So, to improve creative thinking skills, teachers must apply learning models that can train students' creative thinking skills (Rolia et al., 2018; Saefullah Kamali, 2019).

Another factor that affects students' creative thinking skills is that teachers still provide closed questions that focus on one answer, so they do not require creative thinking skills. Teachers still use multiple choice questions, so creative thinking skills cannot be known because the answers to multiple choice questions are closed (Amelia et al., 2018; Heldina & Alberida, 2021). Teachers rarely provide training, both exercises such as problem-solving questions or asking questions that try to explore knowledge, affecting students' creative thinking skills.

To improve creative thinking skills, teachers need to get used to giving students to solve open-ended questions. Giving open questions can train creative thinking skills. Open-ended questions require not only one answer but also for students to solve problems with various solutions or strategies (Gurel et al., 2015; Mitra & Purnawarman, 2019; Soeyono, 2014). Open-ended questions provide opportunities for participants to provide many problems solving with many problem-solving strategies so that with the variety of answers given by students, the teacher can detect students' thinking abilities (Santika, 2019; Widarti et al., 2020). This research implies that open-ended questions allow students to express various ideas based on their knowledge freely, so it is expected to improve students' creative thinking skills. Getting used to working on open-ended questions can help train students' creative thinking skills.

#### 4. CONCLUSION

The creative thinking skills of class XI MIPA participants at SMA Adabiah 2 Padang are still relatively low. Creative thinking skills that are still low are influenced because the learning process has not facilitated students in developing creative thinking skills. In addition, the teacher has not familiarized students with solving open-ended questions that require students to develop creative thinking skills.

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