

## **Analysis of the Student's Creative Thinking Skill in Science Learning in Primary Schools of Rappocini Makassar City**

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### **Article Info**

Article History:

Received January 2018

Accepted March 2018

Published August 2018

Keywords:

Creative Thinking Skills,  
Science Learning.

### **Abstract**

The ability of students in solving problems in science learning is influenced by the thinking skills that determine how people solve problems, make decisions, and understand something. This study aimed to describe the creative thinking skills of students in science learning. The study was conducted in SDN Gunung Sari 1, SDN Gunung Sari 2, SD Inpres BTN IKIP I , and SD Inpres BTN IKIP II Makassar BTN 2017/2018 school year. The study was conducted on 12 students from four schools. The data collection technique using observation, testing and interview. The study was conducted in three stages, starting with the observation during the learning takes place, then give the creative thinking skills test item and continue to do the interview. The results showed that most of the students have a high creative thinking skills. It can be concluded students with the attitude of creative thinking skills high skill fluency, flexibility, Originality, and elaboration and students with the process of creative thinking skills high skill imaginative, feel challenged, dare to take risks, and appreciate nature.

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p-ISSN 2252-6412

e-ISSN 2502-4523

## INTRODUCTION

Subjects of Natural Science (IPA) is one of the subjects that have an important role in teaching students about the wild life of the surroundings. Republic of Indonesia Law No. 20 of 2003 on National Education System Article 37 paragraph 1 explains "Natural Science is one of the required subjects in primary and secondary education". Through science education students can recognize, respond and appreciate science and technology, and cultivate the habit of thinking and behaving that critical scientific, creative and independent (BSNP, 2006).

Science learning provide supplies to students on thinking skills. Thinking skills are skills that are needed to solve problems encountered in daily life of students. According to Peter (2012) To be competitive the world of work and personal life is very important that the student should have the ability to think critically, creatively and ability to solve problems. One of the skills students need to solve problems in science teaching is creative thinking skills.

Creative thinking is part of the life skills that need to be developed in the era of the 21 century. Exercise creative thinking skills believed to improve students' ability to think creatively because of the mindset that developed in thinking requires critical skills, systematic, logical, creative and high level so that students are able to quickly draw conclusions from the facts Herayani et al. (2015), Development of creative activity that involves imagination, intuition and invention to be able to develop thoughts are divergent, original, curiosity, make predictions and try (Nurmasari et al., 2014), A similar opinion was expressed by (Ali & Asrori, 2009) that the characteristics of a person who creates something completely new or a work that combines previously through environmental interactions obtained by thinking diverges.

Creative thinking skills are closely linked to student achievement that can be proven through research Anwar et al. (2012), which indicates that there is a relationship between two different aspects among which academic

achievement and creative thinking. The higher a student's creative thinking skills that demonstrate high academic achievement as well. Further research Wang (2011), which indicates that there is a positive relationship between creative thinking and student achievement. The importance of creative thinking skills in learning is also presented by Tabrizi et al. (2011) show that creative thinking skills can help reduce student anxiety.

Based on the results of a survey conducted by the Organization for Economic Cooperation and Development (OECD, science skills of students in Indonesia seemed on the study of the International Program for International Student Assessment (PISA) is still relatively low. Indonesian achievement in the study of PISA in aspects of scientific literacy are in the down position on the last study in 2015 (Kemendikbud, 2016).

One cause of low scores science skills of students in Indonesia is the process of learning science in school. The transfer of knowledge from teacher to students mostly delivered by listening or lecture on a concept that is abstract so it does not provide the opportunity for students to develop the skills they have. Learning evaluation instruments are made in daily tests, semester and prioritize national exam measures how many students master the material (Juliyanto et al., 2011). As well as study of Sunarsih et al. (2015) explains that the tendency of science teaching in primary schools at the present time only learn science as products coupled with state of the learning is oriented on a test / exam to rule out a learning process that has been going on. Suroso (2012) also concluded that the study was not associated with a real-life context, learning rarely starts from current affairs, science teaching in primary schools tend to depart from the subject matter is not of the ultimate goal of science teaching and the needs of learners and follow their science lessons tend just anticipating the exam.

Based on the observations that have been made by researchers at the primary school in Makassar on learning science, learning in science teaching methods are still oriented to

teachers (teacher centered). Furthermore, students in completing or answer questions about the IPA is still centered on the guidebook owned, student activities in the classroom just listen and record an explanation from the teacher, so that makes skills Creative students are not running. Teachers science subjects negligent to teach thinking skills as teachers prefer students to be proficient in mastery of the material (declarative knowledge) (Noviani et al., 2017; Wiyanto et al., 2018).

For this review, should the holding of an analysis of the creative thinking skills of students in elementary school. Haryadi (2015) Creative Thinking Skills one very important skill that should be taught to students in learning science. The importance of creative skills should be instilled from an early stage in education, especially in primary school education. This study aimed to describe the creative thinking skills of students in science learning.

## METHODS

The study was conducted in class V SDN Gunung Sari 1, SDN Gunung Sari 2, SD BTN Inpres IKIP 1, and SD Inpres btn IKIP II Makassar BTN 2017/2018 school year, consisting of 12 students from both schools. The focus of this study was to observe the creative thinking skills of students in science learning. This type of research is descriptive research with a qualitative approach in order to describe in detail the qualitative information. (Sugiyono, 2015) revealed that qualitative research method is a method used for the study of the condition of natural objects. This study tried to describe the creative thinking skills of students in science learning. The sampling technique used purposeful sampling technique (Gall et al., 2003) to see a student's academic ability or semester report cards. Creswell (2015) In a purposeful sampling, the researchers deliberately chose an individual and to understand the phenomenon of the standards used in selecting includes a lot of information. The study was conducted in several stages beginning with the observation during the learning takes place, then give the

creative thinking skills test item and continue to do the interview. Observations made on the students to know the attitude of creative thinking skills of students during the learning process, tests were conducted on students to see students' creative thinking skills to solve problems. Observation instruments used in accordance with the attitude indicator creative thinking skills while test instrument used in accordance with the indicators of creative thinking skills, by (Munandar, 1992) characterizes the creativity that gave rise to creative behavior is twofold aptitude characteristics (cognition or thought processes) and nonaptitude characteristics (attitude or feeling). Interviewing techniques as part of efforts to strengthen the results obtained from tests of creative thinking skills. The results of the interview used as data analysis. The process of data analysis is done by steps 1) to process data observation, testing and interview, 2) reducing the data, 3) categorization and coding patterns of thinking, 4) make the conclusion. The results of the interview used as data analysis. The process of data analysis is done by steps 1) to process data observation, testing and interview, 2) reducing the data, 3) categorization and coding patterns of thinking, 4) make the conclusion. The results of the interview used as data analysis. The process of data analysis is done by steps 1) to process data observation, testing and interview, 2) reducing the data, 3) categorization and coding patterns of thinking, 4) make the conclusion.

## RESULTS AND DISCUSSION

The study was conducted four elementary schools, SDN Gunung Sari 1, SDN Gunung Sari 2, SD BTN Inpres IKIP 1, and SD BTN Inpres IKIP II Makassar. The data obtained in the study include the observation of creative thinking skills during the process of learning science in progress, the results of the written test and interview creative to the subject of an intensive search.

Referring to the proposed indicators (Munandar, 1992) the attitude of students' critical thinking skills are assessed through

indicators 1) imaginative, 2) feel challenged, 3) were used that creative thinking skills are very willing to take risks, and 4) the nature of respect. high, high, medium, low and very low. The results of observations obtained then Observations creative thinking skills in science categorized into several categories. Categories teaching can be shown in Table 1 and Table 2.

**Table 1.** Percentage of students based on observations creative thinking skills

No.	Category	Range of values	The number of	
			students	Percentage (%)
1.	Very high	80-100	1	8:33
2.	High	66-79	5	41.66
3.	Medium	56-65	2	16.66
4.	Low	40-45	4	33.33
5.	Very low	0-39	-	-
	Amount		12	100

The results of data analysis in Table 1 if it refers to the completeness criteria that achieved by students who are at very high category there is one student with 8:33 percentage%, at the high category there are 5 students with a percentage of 41.66%, the medium category there are two students with a percentage of 16.66% and low are categorized 4 students with a percentage of 33.33%. While the research results of each indicator can be seen in Table 2.

**Table 2.** Observations Creative Thinking Skills Students

Research subject	Indicator				Number of indicators achieved	Total score	Category
	1	2	3	4			
SP1	2	3	3	3	11	92	Very high
SP2	1	3	2	3	9	75	High
SP3	1	2	2	3	8	67	High
SP4	1	3	2	3	9	75	High
SP5	0	3	2	3	8	67	High
SP6	1	2	2	3	8	67	High
SP7	0	1	2	3	6	50	Medium
SP8	0	2	2	3	7	58	Medium
SP9	0	1	1	3	5	42	Low
SP10	0	1	1	3	5	42	Low
SP11	0	1	1	3	5	42	Low
SP12	0	1	1	3	5	42	Low

The results of the study at each indicator in creative thinking skills as shown in Table 2. The obtained the highest score of 92, and the lowest value of 42. The highest value obtained by 1 student with very high category, while the lowest value was obtained by 4 students with very low category.

Based on the analysis of creative thinking skills of students can be skills attitudes of students in science learning process takes place. The result is as follows. 1) Students are very high category, in a) imaginative, b) feel challenged, c) willing to take risks, and d) the nature appreciate the students were able to perform well. 2) students who are high category, in a) imaginative, some students do well, b) feel challenged, almost all students perform well, c) risk-taking, all students can afford, and d) the nature of respect, all students perform good. 3) students who are in the category a) imaginative, all students are not able to do, b) feel challenged, all students are able to do, c) risk-taking, all students are able to do, and d) the nature of respect, all students perform well. 4) Students who are low category, in a) imaginative, the

students have not be imaginative, b) feel challenged, all students still have trouble doing, c) risk-taking, all of the students are still difficulties, d) the nature of respect, all students perform good.

Based on the indicators put forth Alvino (Sumarmo, 2010), Evans (Jazuli, 2009) and Munandar (1992), the creative thinking processes of students assessed through indicators 1) fluency, 2) flexibility, 3) Originality, and 4) elaboration. The results of the analysis of students' creative thinking skills test has been obtained categorized by ability is very high, high, medium, low and very low which is viewed by the results of the test scores. The test results of creative thinking skills in science teaching can be shown in Table 3.

**Table 3.** Results of tests and interviews Creative Thinking Skills Students

Research subject	Indicator				Total score achieved	Final score	Category
	1	2	3	4			
	(4)	(4)	(4)	(4)			
SP1	4	2	4	3	13	81	Very high
SP2	3	2	3	2	10	62	High
SP3	3	2	3	3	11	68	High
SP4	4	2	3	4	13	81	Very high
SP5	4	2	3	3	12	75	High
SP6	3	2	4	3	12	75	High
SP7	3	2	2	3	10	62	High
SP8	3	3	1	2	9	56	Medium
SP9	3	2	2	2	9	56	Medium
SP10	2	3	0	2	7	50	Medium
SP11	3	2	2	2	9	56	Medium
SP12	2	1	1	2	6	37	Low

The test results for each indicator research on creative thinking skills obtained the highest score of 81, and the lowest value of 37. The higher category obtained by two students that include SP1 and SP4, high category gained five students including SP2, SP3, SP5, SP6, and SP7, the moderate category 4 students obtained them

SP8, SP9, SP10, SP11, and the very low category 1 student obtained them SP12. Based on the analysis of the creative thinking skills of students who made the written test and the interview can be seen how the student's skills in solving science. The result is as follows. 1) students who are categorized very high, a)

fluency, the students give a good explanation. b) flexibility, the students were able to provide a good solution, c) Originality, the students were able to give a creative idea is based on the prescribed criteria, and d) elaboration almost all the students are able to provide creative solutions based on the specified criteria. 2) students who are high category a) fluency, all students were able to give an explanation, b) flexibility, the students were able to provide a good solution, c) Originality, almost all of the students were able to give provide a creative idea is based on the prescribed criteria, and d) elaboration, all students provide creative solutions based on specified criteria. 3) students who are categorized as being, a) fluency, the students were able to give an explanation, b) flexibility, the students were able to perform well, c) Originality, all students provide creative ideas based on criteria determined, d) elaboration, all students provide creative solutions based on specified criteria. 4) students who are low category, a) fluency, students' difficulties provide an explanation, b) Flexibility, students' difficulties analyzing arguments, c) Originality, students' difficulty providing creative ideas, and d) elaboration, the student's provide solutions based on the appointed criteria.

## CONCLUSION

Students with an attitude of very high creative thinking skills have the creative thinking skills are very high. Students with creative thinking skills attitudes tend to have a high creative thinking skills process. Students with an attitude of thinking skills were likely to have a process of creative thinking skills were and students who have an attitude of creative thinking skills low tend to have high creative thinking skills process. Based on the results obtained, the advice that can be given is that more students hone again and develop the creative skills of students, we suggest teachers should provide learning that can enhance students' generic skills one with a learning model that corresponds to science teaching materials.

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