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Profile of Creative Thinking Skill of New Normal Era at Junior High School Students

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ABSTRACT

The demands of teachers to train 21st century skills are very challenging, especially in the current pandemic era. This study aims to determine the creative thinking ability of junior high school students in Ponorogo district. Quantitative descriptive is used as a research method. The population used is a junior high school in Ponorogo district. The sample was taken as many as one class in each school. the achievement of creative thinking indicators on average is 33.5% in the less category. Analysis of fluency indicators is 35%, flexibility is 32%, originality is 39%, and elaboration is 28%. The achievement of 4 indicators of creative thinking is in the less category. Students creative thinking ability level of in the creative category of 2.88%, and the non-creative category is 19.42%. Students at the creative level are at SMPN 1 Mlarak by 20% and at SMPN 1 Kauman by 3.33%. Creative thinking skills can be trained through learning including always doing apperception before starting learning, using project-based learning models, or using STEM-based learning approaches.

1. INTRODUCTION

21st century skills are an issue in the world of education today. Ease of access to information without knowing regional boundaries requires us to have adequate skills to be able to compete. 21st century skills generally refer to certain competencies such as collaboration, digital literacy, critical thinking, problem solving, which will help students thrive in a globalized world (“T He E Uropean U Nion ' SE Astern P Artnership :” nd). The demands of teachers to train 21st century skills are very challenging, especially in the current pandemic era. Covid-19 has changed the learning system in schools. Students are required to take part in all learning activities online. Learning is less effective because the material is not conveyed thoroughly. The activity most teachers do is just giving assignments(Handayani and Jumadi 2021). Elementary to high school students' perceptions of PJJ agree that they do not like studying at home(Megawanti et al. 2020). The availability of learning platforms such as Google Classroom, Google Meet and Zoom makes it easier for us to organize learning. One of the online learning innovations is the 4C strategy, namely, critical thinking, creative thinking, collaboration and communication(Haryati, M. Pd and Sukarno 2021). Effective online learning uses a project-based Blended Learning (BL) system(Yustina et al. 2020). Online creative learning using Canva and Instagram media(Hidajat 2021). Learning by utilizing local wisdom can attract students' interest in learning. Apart from being knowledge, local wisdom has the potential to foster a sense of nationalism and pride in one's region(Adinugraha 2016).

As a unit of Natural Science (IPA) or science, it is formed from a reciprocal relationship that influences each other between scientific attitudes and processes, investigations of natural phenomena, and scientific products(Carin 1997). Science is a science that studies natural phenomena and the physical world(Rahayu et al. 2012). Science is related to knowing the universe in systematic steps so that science is also a process of discovery(Listyawati 2012). However, online

science learning in Riau Province saw a decline of 93.3%. Limited facilities and infrastructure amounted to 70%, and lack of student concentration reached 76.7%. Based on research at 7 junior high schools and the equivalent in Ponorogo Regency, the results showed that online learning was limited by 85.7% of students being less interactive, 71.4% of communication with students was limited, 14.3% of learning activities were less interesting, and students were unable to experiment of 42.9%. Even though science is a way of knowing the universe in systematic steps, science is also a process of discovery(Listyawati 2012). So online science learning requires concrete steps to teach science according to its essence. Creative thinking skills are needed by students to study and understand natural objects and phenomena(Anjarsari 2014).

Creative thinking skills are in the affective realm while creative thinking skills are in the cognitive. This view finds a systematic place for creative thinking skill in the realm of intelligence. The construction includes fluency, flexibility, originality, and elaboration(Guilford 1975). Based on the results of the global creativity index, Indonesia is ranked 115th out of 139 countries(Florida et al. 2015). The creative thinking skill of students during online learning at SMPN 62 Surabaya are in the creative category. 12% of students are very creative, 48% are in the creative category, and 40% are in the quite creative category. Based on the achieved indicators of fluency 75%, flexibility 60%, Originality 73%, and Elaboration 46%(Qomariyah and Subekti 2021).

Based on the description above, researchers are interested in knowing the profile of creative thinking skill of junior high school students in Ponorogo Regency. The aim of this research was to determine the creative thinking abilities of class IX students by using an instrument with indicators of creative thinking skill integrated with local wisdom in Plancungan Village, Slahung District, Ponorogo Regency.

2. MATERIALS AND METHODS

2.1. Quantitative Descriptive Method

This research uses a quantitative descriptive method. This method aims to reveal something as it is. Descriptive research is carried out by searching for information, explaining the objectives, approach used, and collecting data.

2.1.1. Research design

This research was conducted in semester 2, namely March to April. Data collection was carried out by interviewing Class IX science teachers at each school. Interviews were conducted by distributing Google forms via WA. The test instrument in the form of essay questions is given to students directly. Because at the time of conducting the research, 4 schools were already implementing face-to-face meetings, while three schools were still implementing 50% face-to-face meetings.

The population used was 7 junior high schools in Ponorogo district. These schools were SMPN 3 Slahung, MTS Miftahul Ulum, MTSN 4 Ponorogo, SMPN 1 Mlarak, SMP Darur Rohmah, SMPN 2 Balong, and SMPN 1 Kauman. Samples were taken from one class in each school.

The research design used was non-equivalent control group-post-test-only. This design is used in cases where there is no randomization due to practical considerations or it is not possible to collect pretest data. Although this design is less complex than other designs, with low error propagation, and is susceptible to internal validity threats(Krishnan 2019).

Data analysis uses the following percentages:

S = x $100\frac{R}{N}$

Information:

S = Creative Thinking Skill Score

R = Correct Score

N = Maximum Score

2.1.1.1. The achievement of each Creative Thinking Skill Indicator is made into a percentage and then the results are compared with (Table 1) below:

Table 1. Indicator Criteria for Creative Thinking Skill

In Percent (%)	Conclusion
81 – 100	Very good
61 – 80	Good
41 – 60	Enough
21 – 40	Not enough
0 – 20	Very less

Source :Astuti, W (2014)

2.1.1.2. The level of students' creative thinking skill is made into a percentage and then categorized by comparing the results in (Table 2) as follows:

Table 2. Level of Students' Creative Thinking Skill

Total Score (%)	Category
81.00 – 100.00	Very creative
61.00 – 80.00	Creative
41.00 – 60.00	Quite Creative
21.00 – 40.00	Less Creative
0.00 – 20.00	Not Creative

Source: Riduwan, 2015

3. RESULTS AND DISCUSSION

3.1.Barriers to Online Learning

From the results of interviews with junior high school science teachers in 7 schools in Ponorogo Regency, it can be seen that several obstacles to online learning can be seen in (Figure 1) below:

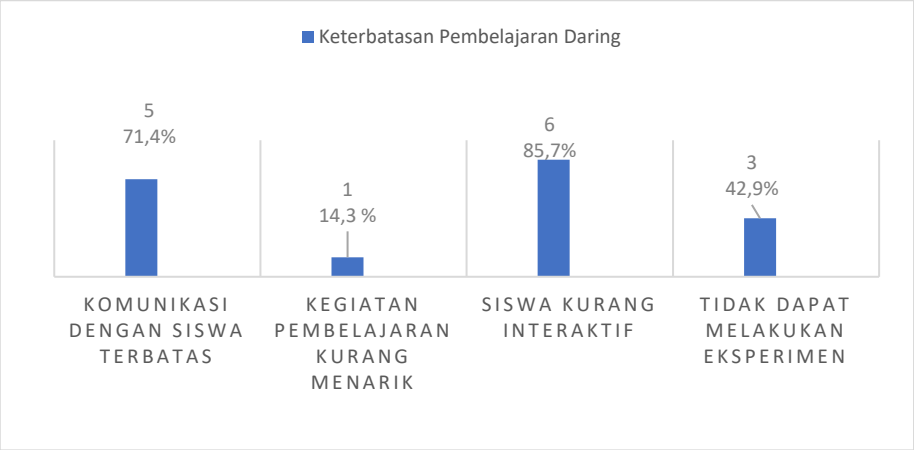


Figure 1. Barriers to Online Learning

The reason students are less interactive in online learning is because the use of learning platforms disrupts two-way communication with students. Communication can run smoothly if the facilities and infrastructure are met. In reality, there are several significant obstacles to online learning, such as lack of technological mastery, internet costs, and additional work for parents.(Purwanto et al., 2020). Lack of preparation in learning management, assessment and supervision (Rigianti, 2020). Therefore, training is needed in order to be technologically literate for school residents so that online learning runs smoothly.

Efforts to increase student participation can be done by implementing interesting learning models. Teachers need to determine effective learning strategies to foster student interest(Handayani & Jumadi, 2021). We can observe the learning model used in (Figure 2)

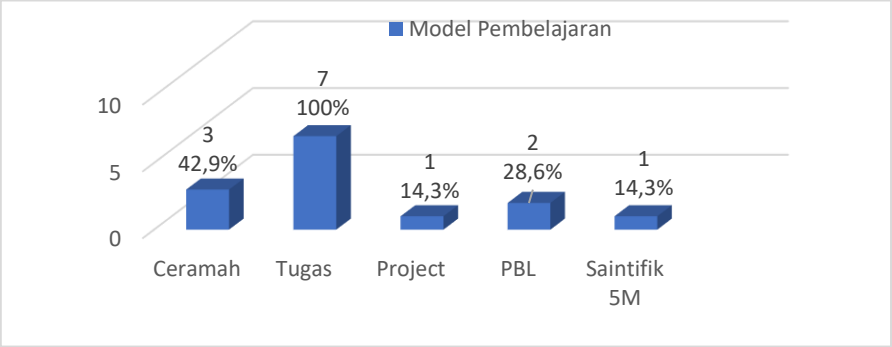
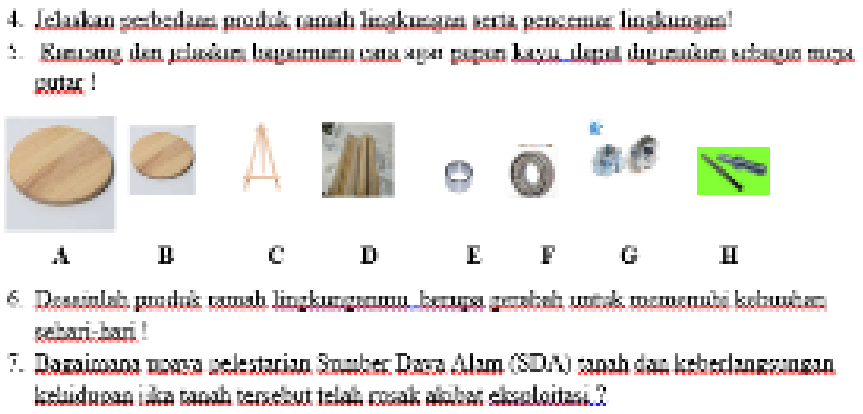


Figure 2. Learning Model

The assignment model is always applied to online learning. Other models need to be implemented so that the implementation of learning can be maximal, like face-to-face (Purwanto et al., 2020). The aim of online learning is to increase the effectiveness of the learning process (Popa et al., 2020). Online learning will be beneficial when teachers use media such as videos or virtual meetings(Dhawan, 2020). The surrounding environment as a learning source in the form of videos, direct observation, and the application of a caring attitude are solutions for online learning.

The obstacles to learning science online are well known. Next, prepare a test instrument in the form of essay questions to determine the profile of students' creative thinking skill. This instrument was developed using indicators of creative thinking skill that are integrated into local wisdom in Plancungan Village. The local wisdom of Plancungan Village is the pottery industry. Pottery products include jugs, layah, plates and other household utensils.

Environmentally friendly products in the form of pottery are never absent from traditional ceremonies such as mantu, piton-piton, tingkepan and so on. So a question was developed about the differences between environmentally friendly products and pollutants in question number 4. Furniture in the form of a turntable used in the pottery making process was integrated in question number 5. Question number 6 was designing products from earthenware as an effort to preserve the environmentally friendly product industry so that it remains popular with generations. millennial. The main ingredient for pottery is clay from the mountains. Therefore, land needs to be used sustainably so that the ecosystem is not disturbed and people's needs are met. The instruments used are as shown in (Figure 3) below:


4. Jelaskan perbedaan produk ramah lingkungan serta pencemar lingkungan!
5. Rancang dan jelaskan bagaimana cara agar papan kayu dapat digunakan sebagai meja putar !

A B C D E F G H

6. Desainlah produk ramah lingkungannya berupa gerabah untuk memenuhi kebutuhan sehari-hari !
7. Bagaimana upaya pelestarian Sumber Daya Alam (SDA) tanah dan keberlangsungan kehidupan jika tanah tersebut telah rusak akibat eksploitasi ?

Figure 3. Questions about creative thinking skills integrated with local wisdom

This description question has been validated by experts and the four items have been declared valid. The distribution of questions in 7 schools was carried out on different days and with different numbers of students. This is because 3 schools are still implementing 50% face-to-face learning.

Local wisdom is often defined as local knowledge, local intelligence, and local policy(Siswandi, Taruna, & Punaweni, 2011). Javanese culture is a form of intelligence and wisdom resulting from the experience of the Javanese people(Rahyono, 2015). Science learning now needs to be balanced with the cultivation of scientific values and local wisdom in society(Suastra, 2010). Integrating local wisdom in learning through a scientific approach can foster students' creative abilities.

3.2. Achievement of Creative Thinking Skill Indicators

The results of creative thinking skill based on the achievement of fluency, flexibility, originality and elaboration indicators are presented in (Table 3) as follows:

Table 3. Achievement of Creative Thinking Skill Indicators

Name School	Total Indicator Score Creative Thinking Skill of 139 Students			
	Fluency	**Flexibility**	**Originality**	**Elaboration**
Mlarak I Middle School	37	57	50	46
SMPN 3 Slahung	35	28	59	40
MTS Miftahul U.	30	8	30	17
Darur R Middle School	33	48	40	18
MTSN4 Ponorogo	25	43	50	21
SMPN 2 Balong	24	19	25	21
Kauman 1 Middle School	109	64	69	74
Total	293	266	232	237
Percentage (%)	35	32	39	28
Average - Average	**33.5% Not enough**			

Based on the table above, the total score of the four indicators of creative thinking skill can be calculated. The average creative thinking skill of 33.5% is in the poor category. These results are in line with the profile of Creative Thinking Skill at SMPN 15 Surakarta with an average of 39.84% low criteria(Kurnia et al., 2021). The results of Creative Thinking Skill for each indicator at Muhammadiyah 5 Ngoro Middle School for class VIII students are an average of 25.5%(Asivah & Wulandari, 2020).

The percentage of achievement of indicators at SMPN 1 Mlarak and SMPN 1 Kuman is between 41-60 so it is in the sufficient category. These results are in line with the profile at SMPN 2 Balong before the pandemic. The achievement of creative thinking indicators was 55.38% in the sufficient category(Almuharomah & Mayasari, 2018). Achieving indicators of creative thinking skill can be done by implementing learning strategies. The explanation for the Creative Thinking Skill Indicators based on construction includes fluency, flexibility, originality and elaboration(Guilford, 1975) are as follows :

3.2.1. Skill to Think Fluently (Fluency)

Fluent thinking is related to Ideational Fluency (giving different names), Association Fluency (looking for similarities), and Expression Fluency (writing different sentences)(Guilford, 1975). This corresponds to generating lots of ideas so that you can find a solution(Awang & Ramly, 2008). So thinking fluently is an skill that produces various appropriate answers(Munandar, 2009).

The percentage of fluent thinking skill in 7 junior high schools in Ponorogo Regency is 35% in the poor category. These results are in accordance with the profile at SMPN 2 Balong of 39.20 in the poor category(Almuharomah & Mayasari, 2018). The deficient category in the ability to think fluently was also found at SMPN 15 Surakarta at 39.81%(Kurnia et al., 2021). The ability to think fluently can be improved one way by means of creative discussions.

3.2.2. Flexible Thinking Skill (Flexibility)

Flexible thinking skill is related to spontaneous and adaptive attitudes(Guilford, 1975). In line with students' ideas, they provide many answer themes(Fauziah, 2013). Meanwhile, Munandar's idea of thinking luwer has different directions(Munandar, 2009). Basically, this flexible thinking ability is characterized by solving problems in different ways.

The percentage of flexible thinking abilities in 7 junior high schools in Ponorogo Regency is an average of 32% in the poor category. The category obtained is the same as the low category obtained at SMPN 15 Surakarta but with a different percentage(Kurnia et al., 2021). Creative students are more flexible in changing approaches when faced with complex problems.

3.2.3. Original Thinking Skill (Originality)

The skill to think original is related to unique thinking, different designs, reinterpretations, or new emphases(Guilford, 1975). The definition of original thinking is thinking that is different from other people's is also explained by(Fauziah, 2013) (Munandar, 2009). Original thinking is new thinking that is different from other people.

The percentage of original thinking ability in 7 junior high schools in Ponorogo Regency is 39% in the low category. These results are in accordance with the percentage of original thinking at SMPN 15 Surakarta of 38.02 in the low category(Kurnia et al., 2021). Genuine thinking skill can be improved by planning, designing and creating work.

3.2.4. Detailed Thinking Skill (Elaboration)

The skill to think in detail is related to remembering structured activities, as well as making detailed lists(Guilford, 1975). The idea of detailed thinking is carried out by explaining the cause and effect of each answer(Fauziah, 2013). In line with this idea, detailed thinking is carried out by adding, modifying, expanding and enriching ideas(Munandar, 2009). So detailed thinking can be done by making lists, explaining cause and effect, and enriching ideas.

The percentage of Detailed Thinking Skill in 7 junior high schools in Ponorogo Regency is 28% in the poor category. These results are in accordance with the profile at SMPN 15 Surakarta of 35.67 in the low category(Kurnia et al., 2021). Detailed thinking can be trained by providing apperception before learning related to a problem.

3.3. Level of Creative Thinking Skill

The level of students' creative thinking skill can be calculated by adding up the creative thinking ability scores of each student and then converting it into a percentage. After being a percentage, it was analyzed again into 5 levels of Creative Thinking Ability. The results can be seen in (Table 4) below:

Table 4. Percentage of Creative Thinking Skill Categories

Name School	Percentage % Categories Very Creative (SK), Creative (K), Quite Creative (CK), Less Creative (KK), Not Creative (TK)				
	Very creative	**Creative**	**Enough Creative**	**Not enough Creative**	**No Creative**
Mlarak I Middle School	0	20	73.33	6.67	0
SMPN 3 Slahung	0	0	0	73.08	26.92
MTS Miftahul U.	0	0	0	53.33	46.67
Darur R Middle School	0	0	18.75	81.25	0
MTSN4 Ponorogo	0	0	0	63.64	36.36
SMPN 2 Balong	0	0	0	66.67	33.33
Kauman 1 Middle School	0	3.33	73.33	23.33	0

Students at the creative level are at SMPN 1 Mlarak at 20% and at SMPN 1 Kauman at 3.33%. The creative thinking skill of class IX junior high school students in Ponorogo Regency are mostly at the Less Creative level.

4. CONCLUSIONS

The demands of teachers to train 21st century skills are very challenging, especially in the current pandemic era. Face-to-face learning has changed to online. Elementary to high school students' perceptions of PJJ agree that they are not happy with studying at home. Obstacles to online science learning in Ponorogo Regency include limited communication with students, less interesting learning activities, less interactive students, and not being able to carry out experiments. The online learning model that is usually used is in the form of assignments via WhatsApp groups. The lecture learning model is in the next position. The Problem Based Learning (PBL), Project Based Learning (PjBL) learning models and the 5M scientific approach are only partially used.

Creative Thinking Skills need to be trained in online learning. However, the average achievement of creative thinking indicators is 33.5% in the poor category. The indicator analysis is fluency at 35%, flexibility at 32%, originality at 39%, and elaboration at 28%. Achievement of 4 indicators of creative thinking is in the poor category.

The creative thinking skill level of junior high school students at the creative level is 2.88%, and the non-creative category is 19.42%. Students at the creative level are at SMPN 1 Mlarak at 20% and at SMPN 1 Kauman at 3.33%. The creative thinking skill of class IX junior high school students in Ponorogo Regency is at the Less Creative level. So it is necessary to make efforts to improve students' creative thinking skill. These efforts include the use of project learning models, integrating local wisdom, and learning with a STEM approach.

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