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Profile of Students' Creative Thinking Skills and Implementation of Free Inquiry in Senior High School

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Abstract: This study aims to determine the profile of students' creative thinking skills and the implementation of inquiry free in schools. The descriptive research design used a qualitative approach and involved 31 high school students. The data were obtained from interviews, tests, and questionnaires. The data collection instruments used were (1) interview instruments with teachers, (2) test question sheets with indicators of creative thinking skills, namely fluency, flexibility, originality, and elaboration, also (4) questionnaires. The results showed six students in the very creative, four in the creative, eight in the moderately creative, six in the less creative, and seven in the non-creative. Creative thinking skills in each category are fluency by 63%, flexibility by 48%, originality by 45%, and elaboration by 35%. The research concludes that the inquiry free learning model can be applied in schools to help improve students' creative thinking skills, especially on the elaboration indicator.

Keywords: creative thinking, free inquiry, linear motion.

Abstrak: Penelitian bertujuan untuk mengetahui profil kemampuan berfikir kreatif siswa dan implementasi inquiry free di sekolah. Desain penelitian deskriptif digunakan dengan pendekatan kualitatif dan melibatkan 31 siswa SMA. Data dalam penelitian diperoleh dari hasil wawancara, tes, dan angket yang diberikan kepada siswa. Instrumen pengumpulan data yang digunakan yaitu (1) instrument wawancara dengan guru (2) lembar soal tes yang berisi pertanyaan dengan indikator keterampilan berfikir kreatif yaitu fluency, flexibility, originality, dan elaboration, serta (4) angket respon. Hasil penelitian menunjukkan enam siswa pada kategori sangat kreatif, empat siswa pada kategori kreatif, delapan siswa kategori cukup kreatif, enam siswa kategori kurang kreatif, dan tujuh siswa pada kategori tidak kreatif. Kemampuan berfikir kreatif setiap kategori yaitu kategori fluency sebesar 63%, kategori flexibility sebesar 48%, kategori originality sebesar 45%, dan kategori elaboration sebesar 35%. Kesimpulan penelitian adalah model pembelajaran free inquiry dapat diterapkan di sekolah untuk membantu meningkatkan kemampuan berfikir kreatif siswa khususnya pada indikator elaborasi.

Kata kunci: berfikir kreatif, free inquiry, gerak linier.

▪ INTRODUCTION

In the 21st century the problems faced are increasingly complex in line with the rapidly developing science and technology. One of the problems that has become the center of attention of the government is in the field of education. This is based on the function of the national education system, namely developing the nation's capabilities and intelligence. The implementation of the 2013 curriculum is structured to make students ready to face various challenges of the 21st century. According to Sholihah & Supardi (2018) curriculum 13 is made to train students' higher order thinking skills which are shown by students' creative thinking skills to face the challenges of the 21st century. In addition, according to Trilling & Fadel (2009) there are several skills that need to be possessed by the generation in the 21st century including skills in information technology media, skills to innovate, and develop a career in life. The existence of some of these skills requires the ability to think. Thinking is defined as a cognitive process that emphasizes the reasoning process in obtaining knowledge which requires creative thinking skills.

Creative thinking is a habit that is trained to reveal the possibility of solving a problem that is closely related to the creative aspect which is one of the goals of education so it is important to improve students' creative thinking. There are several parameters to determine the ability to think creatively, namely the ability to think smoothly, express varied ideas in finding solutions to problem solving, solve problems using several ways, and use systematic steps in solving problems, according to Nursito (2000) there are parameters that can be used as criteria to the inability of creative thinking of students is their ability to think well *fluency* is find ideas, think *flexibility* that is getting the idea that vary, the ability to think *originality* that is a some new idea with others, and the ability to detail *elaboration* is the skill of combining various ideas.

Creative thinking skills can be done by providing opportunities for students in the process of solving their own problems. According to Usman & Halim (2018) providing opportunities for students by giving confidence in doing their own work can improve creative thinking skills. Teachers are required to be able to encourage students' creative thinking skills during the learning process carried out in schools. The existence of this process creates a relationship in the form of interactions that are formed in the process of delivering knowledge between teachers and students. According to Hasibuan & Hufri (2018) learning occurs due to the interaction between students, educators, and the environment to achieve a learning goal. However, in reality the learning process is centered on the teacher or *teacher center* so that students only receive the subject matter. Learning materials that require students' creative thinking skills are physics lessons.

Physics lessons are subjects that students do not like by having a high level of difficulty compared to other subjects. This is also because learning physics requires students to understand the physical meaning and concepts and solve them mathematically, and make results based on physics concepts. According to Rusilowati (2006) physics lessons require students' intellectual abilities with a relatively high level and understanding of concepts, numeracy skills, observation, and thinking skills are needed in the process of studying physics. In the process of studying physics, there is a thinking process in dealing with a problem in learning physics. When studying physics, creative thinking skills are needed because they can develop students' curiosity to find information on the problems being faced in the learning process, so that physics learning is no longer considered difficult to learn. There are several ways to solve these

problems, one of which is to provide an alternative to the use of appropriate learning models.

According to Hartini et al., (2014) teachers have a role in developing thinking patterns by providing a learning model of physics in accordance with the needs and conditions of the students so that they can more in easily process of understanding the physics materials. Learning model that is often used by teachers using direct learning model so that learning becomes meaningful. In the direct learning model the teacher becomes the center of the learning process which causes students to be less in the process of constructing knowledge, think concepts and actively participating in getting a concept being studied. According to (Satria et al., 2020) that meaningful learning can be created by making students experience themselves in solving problems through their own experiences by conducting investigations.

The learning model that can be used to train students in conducting investigations is the learning model *inquiry*. According to Rahmawati et al. (2016) The *inquiry* learning model is an *inquiry* that is able to train students' creative thinking skills in solving problems by providing learning experiences with scientific attitudes and thinking skills. Learning with the model *inquiry* requires students to process knowledge so that they obtain knowledge through a number of facts, not the result of remembering, but based on the process of finding. There are several types of learning models, *inquiry* namely *guided inquiry*, *free inquiry*, and *modified free inquiry*. Learning *guided inquiry* is one model with the teacher has an important role in guiding and directing the learning process. The *free inquiry* gives students freedom in the process of looking for problems to solving problems that are carried out independently without teacher guidance. Approach to learning model *modified free inquiry* is the result of a collaborative learning model between learning model *guided inquiry* and *free inquiry* with the characteristics of a little guidance from the teacher. The learning model *free inquiry* gives students freedom in the process of seeking that knowledge.

According to Sawitri et al. (2018) during the learning process using the model *free inquiry* with the characteristics of the teacher giving students freedom in the learning process so that the role of the teacher is very little in providing guidance. The learning model *free inquiry* gives students the freedom to determine problems to investigate, find and solve problems and design the procedures needed to solve problems (Wahyudin, 2010). The use of the learning model *free inquiry* gives freedom to students in finding a problem, solving problems, obtaining data by conducting experiments, the data obtained are then analyzed, and draw conclusions from the experiments carried out. This allows students to have a hands-on learning experience like a researcher.

The model of learning activities *free inquiry* has been carried out by several experts (Putri et al., 2013). The existence of various freedoms in determining problems can train creative thinking skills through finding an idea in the data analysis process to discussing problems and making conclusions. In the teaching and learning process using the model, *free inquiry* students are required to be able to develop their creative thinking skills with the aim of knowing the difficulties experienced by students during the learning process for under privileged students in the process of developing the ability to creative thinking. The existence of the characteristics of the learning model *free inquiry* also creates weaknesses or deficiencies in the implementation process. This shows that student centered learning is indicated by the small role of the teacher. Learning with little guidance from the teacher is generally used for students who are already familiar with using the learning model *inquiry*. The ability of the students to think is also a factor

in the success of using the learning model *free inquiry*. Like the research conducted previously by Darma et al. (2014) with the focus of research on understanding concept and understanding student's creativity by using two learning models, namely generative and *free inquiry* with a population of SMAN 1 Denpasar students with a sample of class XI students. In the 2013/2014 academic year, the results of the normalized learning gain score using the model *free inquiry* were greater than those using the generative learning model to assess students' conceptual understanding and creative thinking skills.

Based on theoretical studies that have been carried out and support from previous research results, the use of the learning model *free inquiry* can be an alternative that is expected to be able to train students' creativity. This researcher wants to focus research on the profile of students' creative thinking skills and the implementation of the learning model *free inquiry* in schools in facing the challenges of the 21st century and especially in learning physics.

▪ METHOD

This study used a descriptive research design. Descriptive research is used to measure a situation that exists in society which is used as information to describe a situation, event and object that can be explained through numbers and words. The approach used is qualitative and not to test a hypothesis. It is intended that the research data obtained can be presented in detail and clearly. The research results obtained can be used to determine the profile of students' creative thinking skills and appropriate learning models to be applied in increasing students' creative thinking skills. This research was conducted in April 2021 from 31 students of class X IPA 5 SMA 1 Sumenep. The data obtained in this study were taken from interviews, tests, and questionnaires filled out by students and teachers. The instruments used in this research are (1) an interview sheet to find out the profile of the teacher in teaching in the classroom (2) the test sheet contains four questions to measure students' creative thinking skills (3) Questionnaire to find out the teacher's profile in teaching in the classroom. The instrument used has been validated for construction, content, and linguistics by experts and declared fit for use. The questionnaire used was ten questions with yes and no answer choices. The questions given aim to determine students' abilities based on indicators of creative thinking and to know the learning process in schools has implemented the inquiry syntax. One of the questionnaires given is based on the questions you have worked on, whether you can work on the questions using several different solutions.

The test sheet contains four questions. Each of which represents an indicator of creative thinking. The indicators of creative thinking skills are *fluency* thinking, *flexibility* thinking, *original* thinking, and *elaboration* thinking. The ability to think creatively can be known through the analysis of the test sheet data with the criteria for the ability to think creatively. Criteria for creative thinking ability are five categories of students' creative thinking abilities according to their intervals, namely the very creative category is in the 100% - 81% interval, creative is in the 80% - 61% interval, creative enough is in the 60% - 41% interval, less creative is in the interval 40% - 21%, and not creative are in the 20% - 0% interval. The table above serves to assess students' creative thinking abilities that are in certain categories so that they can group students' abilities by knowing the percentage score of the student category using the following formula. The formula used to find the percentage score is by dividing the score obtained by the total score then multiplied by 100%.

▪ RESULT AND DISCUSSION

This research was conducted to categorize the creative thinking skills of class X students, especially in the material of linear motion with uniform speed, linear motion uniform acceleration and the implementation of learning model *free inquiry* in high school. The ability to think creatively is measured by giving four questions in the form of essays with different indicators in each question. In the first question, the indicator of creative thinking skills used is *fluency*. According to Yusro (2015) the indicator of *fluency* describes students' methods of generating ideas in answering questions. The ability to think *fluency* in students shows the existence of diverse ideas in answering questions based on observations that produce ideas in the form of answers to problem solving. Problem two using indicator be thinking *flexibility*. According to Trianggono (2017) the ability to think *flexibility* is the ability of students to create ideas in the form of various answers from several points of view, find several different ways of solving through various approaches. This ability requires students to be able to produce different problem solving procedures with the same answer. In the third question, the indicator used is originality thinking.

According to Sarah (2018) the ability to think *original* is the ability to provide ideas in the form of ideas that are different from the usual or unique based on the results of their thoughts that are different from others. Ideas are formed based on the results of their understanding of questions or questions that provide different answers between students. The fourth question uses indicators in the form of detailed thinking or *elaboration*. According to Patmawati et al. (2019) *elaboration* it can be interpreted as the ability of students to create and generate original idea stimulation from their own thinking processes based on previous experiences. The ideas that are formed from experience and observations that have been made can be combined to form a new idea in solving problems. Furthermore, students are given a questionnaire in the form of questions based on the results of their experience while studying at school.

1. Results test of creative thinking skills in material linear motion with uniform speed and linear motion with uniform acceleration

Based on the results obtained by the data acquisition skill level of creative thinking is calculated based on the answers given by the students through a google form. There are five different types of points ranging from 0 to 4. Students will get scores according to the assessment rubric that has been made based on students' responses to the questions.

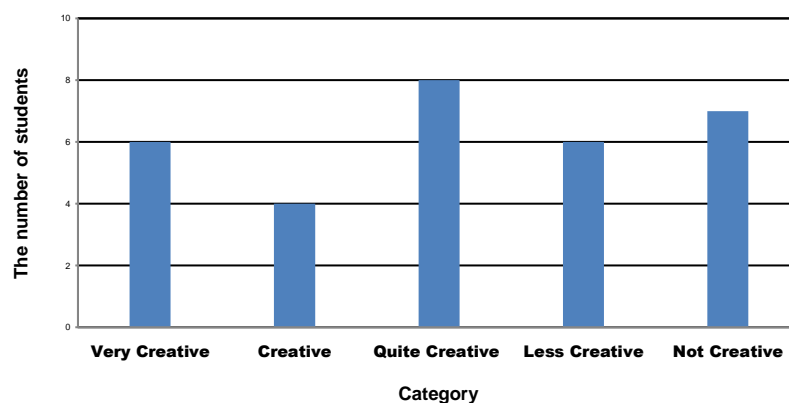


Figure 1. Figure The number of students in each creative thinking skill

In Figure 1 it can be seen that the number of each student according to their creative thinking ability shows the value of students' creative thinking skills is different from one student to another. Based on the number of class X students who took part in this study, it was found that the number of students was the same at several levels of creative thinking skills. In the very creative category there are six people. There are four people who have the category of creative ability, eight people with the ability to think quite creatively and six people with the ability to think less creatively. And there are seven people who have the category of not creative abilities. The results of one of the students who have worked on the questions quite well:

Fluency

First question students are expected to be able to mention the characteristics of linear motion based on the existing graph. The student's answer is In the first question students are asked to mention the characteristics of material linear motion with uniform speed and linear motion with uniform acceleration based on the existing graph. The student's answer linear motion with uniform speed is the motion of an object on its trajectory is a straight line, the speed is constant, if the acceleration is constant then the object's motion is slowing down. Linear motion with uniform acceleration is motion of an object in a straight line and the acceleration is not zero, its velocity varies. Linear motion uniform acceleration is uniform straight motion, variable speed, non-zero acceleration. Based on these answers, students are able to identify problems, by being able to answer the questions on each graph. However, based on these answers, the students did not explain the effect of speed and perception on travel time and did not describe the acceleration based on pictures.

Flexibility

Second question is expected to be able to create ideas or ideas on how to solve the problem using two ways that produce the same and correct answers. Based on these answers, students are able to understand and answer correctly but are less able to write solutions to solve problems systematically and completely. In addition, students do not write units for each number and immediately write m (meters) at the end of the answer. Students should write down the components that have been known in the problem and then proceed with solving the problem in the 1st way and then using the 2nd method of solving the problem so that it is more systematic and easy to understand. Examples of components that are known in the problem are time (t) of 3s and the initial height of the object (h_0) of 50m.

Originality

Third question students are expected to be able to analyze the problem with the image in order to make problem solving solutions based on the results of their respective thinking. The following is an answer from one of the students Andi's displacement is 8m get from 12 minus 4 and distance traveled by Andi 16m get from 12 plus 4. Based on the students' answers, it shows that students have not described the steps for solving problems systematically or coherently. Students directly add it without writing the formula first. One of the answers given is incomplete, namely the displacement does not indicate the direction or reference point used. In addition, students explain in advance what is meant by distance and displacement before starting to write formulas.

Elaboration

In the fourth question, students are asked to be able to analyze the problem and then look for answers by combining the experience they have experienced with the concept of physics together. The following are the answers from students, namely the marbles experience a straight motion. The marbles in the bowl filled with water move faster than the marbles in the dish soap because dish soap is thicker. Based on these answers, students can understand the problem, however, it does not specifically explain the motion experienced by the marbles. The student did not mention the effect of friction on the speed experienced by the marble. The answers given by students have shown students are able to understand the problem well.

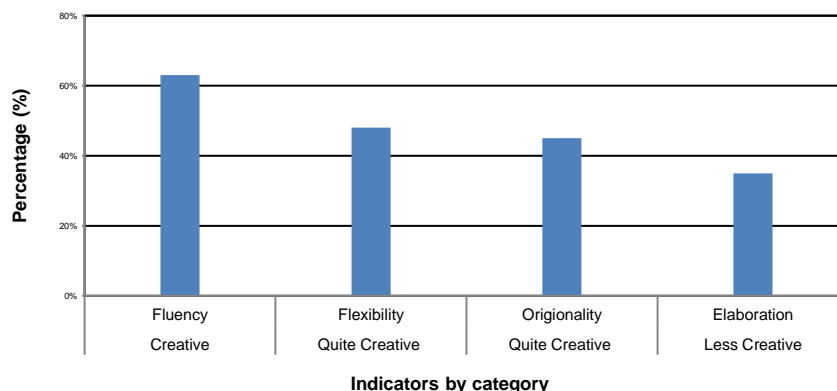


Figure 2. The average value of students' creative thinking skills in each indicator

From the Figure 2, it shows different results in each indicator of students' creative thinking skills. Based on the data obtained the lowest score on the indicator of creative thinking skills in the aspect *elaboration* with a presentation of 35%. In this aspect, students lack *fluency* in processing information obtained from questions with previous experience. Understanding of the addition of information that can cause changes in meaning and the ability to formulate student conclusions is lacking. The *originality* aspect of students in the category is quite creative with a presentation of 45%. In this aspect, students are quite capable of expressing opinions based on the results of thinking by collaborating the concept of physics with pictures but there are students who have not been able to collaborate with the information that has just been obtained with the information that they previously had.

The data obtained with a value of 48% in the category of creative enough on the indicator of creative thinking skills in the aspect of flexible thinking or *flexibility*. In this aspect, students are able to produce systematic and detailed steps in making answers or planning problem solving. Students do not understand the formulas that exist conceptually that can be used in the process of finding answers. This is indicated by the answers of students who only use one way of solving the problem. Students do not make answer solutions systematically and in detail indicated by answers that directly write down numbers without providing information about the known aspects and the aspects being asked. Students are quite able to know the concepts used even though they are lacking in generating ideas from several points of view.

The last indicator is the aspect *fluency* creative category with a presentation of 63%. This aspect is the aspect that has the highest value compared to other aspects. Students are able to make answers by looking at the information on the three graphs.

The existence of graphs makes it easier for students to remember the information they have to mention the characteristics of linear motion with uniform speed and linear motion with uniform acceleration.

2. Student questionnaire results

Questionnaires were distributed to 31 students IPA at SMAN 1 Sumenep class X which has received materials linear motion with uniform speed and linear motion with uniform acceleration are asked to complete a questionnaire about the creative thinking skills of students with ten questions. Students are asked to answer yes or no according to their experiences. The data obtained are presented in Table 1.

Table 1. Students' responses to the questions given in the questionnaire

No.	Questions	Yes	No
1.	Based on the questions you have worked on, can you come up with many ideas to solve or answer the questions?	24	8
2.	Based on the questions you have worked on, can you solve the problems using several different solutions?	20	11
3.	Based on the questions you have done. Are you able to work on problems that require lots of ideas and combine several elements of images, principles, and concepts in a coherent and clear manner?	31	-
4.	Based on the questions you have worked on, can you answer questions that are unusual, require lots of ideas, and combine several concepts?	24	7
5.	Based on the questions you have worked on, are you able to answer questions that are unusual, require lots of ideas, and combine several concepts?	8	23
6.	Does the teacher give you freedom in finding a problem that will be discussed in the learning process?	15	16
7.	Does the teacher give freedom to students in making hypotheses from the problems discussed in the learning process?	11	20
8.	Do you collect information from books or the internet to find out the problems being discussed in the learning process?	7	24
9.	Does the teacher provide an student worksheet or practicum to prove hypotheses or temporary answers to the problems discussed in the learning process?	14	16
10.	Can students formulate answers in the form of conclusions from the problems discussed in the learning process?	18	13

Based on the responses given by students, it shows that students' abilities vary in answering questions. This is in accordance with the results of the interview with the teacher which stated that in the learning process several learning models were used at the same time according to the conditions in the class. Teacher has also trained creative thinking skills but not like the actually able to make students able to think creatively. Students also have difficulty in solving a problem because learning tends to be teacher centered which causes little opportunity for students to express opinions about the formulation of the problem in the learning process. In addition, students are not trained to be able to make a hypothesis on a problem. The number of existing formulas causes students to be less able to develop their thinking analysis because they are fixated on

one formula only. The learning process usually only uses books, power point, teaching materials, worksheets, and teacher explanations. Students rarely access the internet when learning takes place in the classroom. Students say that it takes a lot of time so that sometimes conclusions are conveyed at the next meeting. Learning using practicum is also very rarely done in physics learning. So that an effective alternative is needed to support the teaching and learning process of students in order to be able to master the material being taught.

3. Results of interview with teachers

Data from interviews were obtained from a teacher who teaches physics at SMAN 1 Sumenep who teaches in class X MIPA. The results of the interview show that teachers have trained creative thinking skills to students because it is very important to be trained so that students are able to compete in the 21st century by being equipped with four competencies or often better known as 4C. To train students' creative thinking skills by applying several specific learning models and in accordance with learning objectives. One of the learning models applied by the teacher is *inquiry, direct instruction, quided* and *open ended*. However, in the implementation process, the class does not fully carry out the inquiry learning syntax according to the needs, class conditions, and students' conditions who are not entirely able to participate in learning with syntax *inquiry*. In addition, the number of basic competencies makes it necessary for teachers to choose a learning model according to the characteristics of the material to be taught.

The learning model is *inquiry* appropriate to use to train students' skills in creative thinking, however, it still provides a number of other learning models to add diverse experiences to students. In addition, teachers sometimes combine *direct instruction* learning models and other learning models by taking several syntax in them so that learning is more effective and efficient. Students give a good response when the teacher uses the learning model *inquiry*. During the teaching process, the teacher did experiments in the laboratory and gave worksheets to work on in groups. This is supported by the existence of laboratory facilities at SMAN 1 Sumenep. Students respond quite well when learning is done by adding experiments. However, learning by adding practicum in it takes a longer time compared to ordinary learning which causes learning with additional practicum to be rarely used.

4. Discussion

Based on the data obtained from the four test questions given it can be seen that there are some students who do not have creativity in completing as presented in Figure 2. The filling of answers that are less systematic in composing sentences causes the answers written by students can not produce the right answers. This causes important creative thinking skills to be trained by teachers because good creative thinking skills are very important for students to have in carrying out activities, especially in solving individual or group problems when in school or outside school when together with other communities (Samuji & Siswanton, 2020). Creative thinking skills become one of the students' capital to face the development of the 21st century.

Patmawati et al. (2019) stated that the ability of students to get an idea and be able to decipher these ideas into an idea in solving a problem shows good creative thinking skills as capital in facing the 21st century. In order to face the 21st century students need the ability to think critical, creative and innovative and able to adapt to various changes. The existence of good creative thinking skills has a positive impact on problem solving skills. Students can make the best problem solving decisions when they have the

ability to think creatively. On the other hand, the creative thinking skills possessed by students are low, causing students not to get the best problem solving solutions. The different levels of creative thinking skills between students are influenced by several factors. According to Hermansyah (2015), the factors that influence students' creative thinking skills are caused by several factors, namely the environment and within students. Factors from the students themselves are learning motivation and curiosity that varies between students. Lack of motivation in oneself causes laziness to learn. Lack of curiosity also hinders students' thinking skills in finding information and creating new ideas. The existence of curiosity owned by students can train students' creative thinking skills. External factors are obtained from the learning environment at school and at home, less interactive learning resources, and learning models used by teachers. The condition of the school that is a population factor is the existence of laboratory facilities and completeness of equipment to support student skills, especially in physics material. One of the supports for the learning process is the use of interactive learning media in order to increase interest in learning (Wahyudin et al., 2010). Teachers have an important role in increasing students' interest in learning by creating pleasant classroom conditions, interactive learning media, and choosing the right learning model and being able to train students' creative thinking skills. When these two factors can be combined, it will cause the learning process to be successful, marked by increasing students' motivation, interest in learning, and creative thinking skills.

Based on the results of the data obtained from questions with four indicators of creative thinking skills namely *fluency*, *flexibility*, *originality*, and *elaboration* the questionnaire results indicate the suitability of the data. Ulfa et al. (2018) said that *fluency* is the ability of students to make a good problem-solving solution smoothly and in a short time because students are able to combine all previously owned ideas easily. The data obtained shows the suitability of the indicator of *fluency* students getting a score of 63% into the creative category. Student responses show that they have been able to come up with ideas coupled with pictures that make it easier to remember the material.

Sulandari et al. (2018) stated that flexibility is *the* ability of students to provide problem solving ideas based on several points of view so as to produce several ways of solving varied problems. In this indicator, the score of 48% falls into the category of quite creative. Student responses indicate that there are a number of students who have difficulty in finding several ways. Students only tend to memorize formulas without understanding the concepts so that they have difficulty in finding ways other than the way they usually use. This condition is in accordance with the answers given by students who provide one problem solving answer. Cholisoh (2019) described that originality requires students to be able to come up with ideas based on the results of their own thinking process so that it will bring up several diverse answers based on the understanding and way of thinking of each student. In this indicator, students get a score of 45% into the category of quite creative. Student responses show that there are some students who have difficulty in getting a solution to the problem by understanding the problem and then looking for a solution to the concept of physics. In this question, the answers written by students are different in the process of elaborating the calculations. According to Armandita et al., (2017) said that *elaboration* is the ability of students to combine various knowledge based on new and previously experiences and then relate them to physics concepts so as to find appropriate problem solving solutions. In this indicator, students get a score of 35% into the less creative category. Student responses showed that there were several students who were unable to get the right answer because of the different experiences experienced by students. Students also do not combine several related physics concepts. So this indicator shows the lowest level of

creativity.

The results of students' abilities based on indicators show that learning that aims to make students active in class will have an impact on better understanding of the material on students, namely the use of learning models *inquiry*. Learning model *inquiry* requires students to be active directly in prosen learning so that the learning is centered on the student or the *student center*. This will also cause students to gain more experience by indirectly finding results in the process of solving the problems at hand. There are differences in students in solving problems. There are students who directly write your answers using the equations and finish mathematically. In addition, there are students who are able to solve problems by applying systematic solutions by providing an overview of the concepts of physics and then mathematically. However, there are some students who are not able to understand how to solve problems, causing students to be unable to find answers both theoretically and mathematically. This supports the findings of Tayuda & Siswanto (2020) students are less able to work on problems that require complex theoretical and mathematical analysis to answer questions.

Based on students' answers, it shows that students do not have the ability to think creatively in solving physics problems. One of the reasons is because it has not implemented a learning model that trains students' creative thinking skills. Creative thinking skills can be trained by making the learning process meaningful by applying certain learning models (Suparmi, 2018). The learning model that can train these abilities is *free inquiry*. The use of the learning model *free inquiry* can train problem solving skills to use theoretical and mathematical physics concepts simultaneously. Students can also use more appropriate strategies by combining abilities in logic. Students will reduce their habit of solving problems using only logic and immediately writing down the final results without a systematic problem solving process and the right concept. The use of the learning model *free inquiry* can be a means for students to learn to solve problems systematically by combining theoretical and mathematical abilities. In addition, students can better understand the concepts of physics and reduce the burden on students with many formulas. If students already have good creative thinking skills, it will make it easier for students in the learning process and the ability to understand problems that are felt to be complicated and different from before. This will facilitate the process of learning and exchange of knowledge.

▪ CONCLUSION

The data interpretation concluded that students' creative thinking skills at SMA Negeri 1 Sumenep are in medium category based on all creative thinking indicators i.e fluency, flexibility, originality, and elaboration. Furthermore, it is necessary to train students' creative thinking skills in learning physics, especially on linear motion materials. Creative thinking skills of students with six people in the very creative category, four people in the creative category, eight people in the quite creative category, six people in the less creative category, and seven people in the non-creative category. Creative thinking ability in each category is the category fluency by 63%, the category flexibility by 48%, the category originality by 45%, and the category elaboration by 35%. It can be concluded that the *free inquiry* learning model can be applied in schools to help improve students creative thinking skills, especially *elaboration* indicators. As a suggestion in research, research can be carried out with a more significant number of samples to determine students' creative thinking ability in class X. The use of materials can use other materials in class X other than linear motion materials.

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