



## Development of LKPD Based on ExCluSiVE Learning Model to Improve Creative Thinking Skills in Mathematics Learning in Grade IV Elementary School

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**ABSTRACT:** This study aims to develop LKPD based on the ExCluSiVE learning model that is feasible, practical and effective to improve creative thinking skills in mathematics subjects in grade IV elementary schools. The type of research and development used refers to the theory of Research and Development (R&D) Borg and Gall. The population in this study was 36 students in grade IV UPTD SD Negeri 5 Metro Timur. The samples in this study were class IVA as an experimental class and class IVB as a control class. Data collection techniques in this study are observation, interviews, documentation, and questionnaires. Data analysis techniques use qualitative descriptive analysis with data review and quantitative descriptive analysis using expert data, product practicality, validity, reliability, difficulty level, N-gain, normality, homogeneity, and effectiveness. The results showed an average expert test of 89.78% with feasible criteria, an average practicality test of 87.50% with very practical criteria; validity test V Aiken LKPD for material of 0.66, media of 0.67, language of 0.65 with valid criteria; reliability test of Cronbach's Alpha material 0.817, medium 0.720, language 0.796 with high category; the average increase in students' creative thinking ability before and after the study was 26.20%; the average N-Gain value is 0.83 in the high category; Test the effectiveness of independent sample t-test: 1) tCalculate value is 5.469 and tTable (df-34,  $\alpha=5\%$ ) is 1.690, then  $t_{\text{Calculate}} \geq t_{\text{Table}}$ ,  $\alpha=5\%$ , 2) Sig. (2-tailed) value is  $0.000 < 0.05$ . The results of the study can be concluded LKPD based on the ExCluSiVE learning model to improve creative thinking skills in mathematics learning in grade IV SD Negeri 5 Metro Timur on feasible, practical and effective flat building materials.

**KEYWORDS:** ExCluSiVE, Creative Thinking Skills, Student Worksheets (LKPD).

### INTRODUCTION

The success or failure of achieving learning objectives is directly influenced by the learning process experienced by students. According to Joyce & Weil (2004), teachers are required to master various strategies or learning models, so that teachers are able to overcome the boredom experienced by students during the learning process. In the mathematics learning process as well as the learning process in general, students are expected to be able to construct their own knowledge. Mathematics is a science that involves logic and overshadows other sciences. In addition, it has very important uses to learn, understand, and apply in everyday life. Mathematics is an important field of study in everyday life. This can be seen by the presence of more hours of mathematics lessons compared to other subjects. According to Siregar (2017), behind the importance of learning mathematics, it is a lesson that until now by students is still considered difficult. In fact, on the other hand, mathematics is an important subject in human life, mathematics plays a role in almost all aspects even in today's technological and digital times. In mathematics learning, the thinking process is very necessary to understand a problem. As stated by Susanto (2013), mathematics learning is a teaching and learning process built by teachers to develop students' thinking creativity, and can improve the ability to construct new knowledge as an effort to increase good mastery of mathematical material.

Creative thinking for students is very important in the era of global competition, because the level of complexity of problems in all aspects of modern life is getting higher. According to Alexander (2007), it takes someone who has high thinking skills and creativity to be able to provide solutions to a problem quickly and smoothly, provide solutions with diverse forms and are new and also unique. Pusfarini & Jalmo (2016), the creativity possessed by students is closely related to the creative thinking skills they have.



Today, in every existence of life, whether in the form of work or other professions, requires resources that have a high level of skills that require individuals and society to have the habit of constantly learning, reasoning, thinking creatively, making decisions, and solving problems. Departing from this presentation, it can be said that students who have creative thinking skills are able to make reliable conclusions, have broad insights, make wise decisions, produce good products, and creative discoveries, so creative thinking is considered important to support students in efforts to explore the understanding of a concept.

Creative thinking is a process of creating things or ideas that were previously unrelated. It can be concluded that humans who think creatively are classified as intelligent and specially talented because they are able to come up with new things. Likewise, the opinion of (Nurmahudina, District, & Wahyudi, 2019) the creative thinking process requires imagination to find or create ideas that are not interconnected into a new unity.

The ability to think higher order requires individuals and society to have the ability to constantly learn, reason, think creatively, make decisions and solve problems. Higher order thinking includes the ability to think creatively. Creative thinking according to Saefudin (2012), in particular, can be said to be creative thinking as a unity or combination of logical thinking and divergent thinking in order to produce something new, both in the educational profession and other professions that require human resources to develop their mindset.

Efforts to support the ability to think creatively require an optimal learning process, one of which depends on the use of teaching materials used. The use of appropriate teaching materials can also support the achievement of learning objectives. Teaching materials are a set of learning facilities or tools that contain learning materials, methods, limitations and ways of evaluating that are designed systematically and interestingly in order to achieve the expected goals, namely achieving competencies or subcompetencies with all their complexity. Based on this explanation, it is clear that the use of teaching materials affects the success of the learning process. There are various types of teaching materials, one of which is the Student Worksheet (LKPD). LKPD is one of the teaching materials that can be used to improve the quality of learning. The LKPD in question is a type of practicum guide intended to help and guide students to work continuously and purposefully. Practicum guides are used as a guide for the stages of practicum work for students and teachers.

As educators at least have a material to be used as teaching material for help so that students can understand learning easily, the lack of innovative media in learning causes low creative thinking ability of students. Learning achievement also decreases, and educators only do one-way learning, the lack of application of varied models is also one of the causes of low creative thinking of students. Even though many things support learning in improving creative thinking skills, one of which is using an ExCluSiVE-based learning model. This model was developed based on the theory of constructivism, which is one of the philosophies of knowledge that emphasizes our knowledge is our own formation (construction). The ExCluSiVE learning model was also developed based on metacognition theory which focuses on knowledge, consciousness, and process or control.

According to Wiliyanti, Darlis and Sari (2019), the impact obtained by students after implementing ExCluSiVE learning in the classroom can not only change and improve the abilities of students from the cognitive, affective, and psychomotor domains, but also other changes in the form of increasing students' positive values and critical attitudes in learning. In addition, the ExCluSiVE learning model is also useful in assessing facts or phenomena that exist in the surrounding environment and are related to the real experience of everyday students. This model is in accordance with the theory of constructivism, which is one of the philosophies of knowledge that emphasizes that our knowledge is our own construction. The ExCluSiVE learning model is also in accordance with metacognition theory which focuses on knowledge, consciousness, and process or control.

The variety and innovation of learning carried out by teachers including teaching materials should be adjusted to the applicable curriculum, the level of ability of students, and the conditions in which students learn so that learning objectives and achievement of competencies for students are achieved optimally (Prastowo, 2014). Educational success is the ability and success of teachers to prepare learning materials. In order for the implementation of learning to achieve the objectives, learning materials must be prepared, because learning materials have the most important position of the entire curriculum.

The main problem in this study is the need for innovation in making textbooks in the form of Mathematics LKPD Based on the ExCluSiVE Learning Model for Grade IV Elementary Schools which can be used to improve creative thinking skills and as a guide in delivering learning materials.

Based on problems found in several schools related to the use of teaching materials, especially LKPD which is less effective. The teaching materials used by the textbooks provided by the school, students are lacking in practicing doing math practice problems. The



creative thinking ability of students is still low. There is a need for the development of LKPD. Student Worksheets (LKPD) are one of the learning resources that can be developed by educators as facilitators in learning activities.

The LKPD that is prepared can be designed and developed according to the conditions and situations of learning activities that will be faced. The learning process has not organized the learning experience of students, therefore learning needs to be supported by an exclusive learning model with systematic activities so that the organized learning process achieves goals.

The Exclusive Model is a learning model that is useful in examining facts or phenomena that exist in the surrounding environment and are related to students' real experiences every day. LKPD developed can make students actively involved in class and support in improving creative thinking skills. Students interact directly with teaching materials directly. The development of LKPD based on the Exclusive learning model is expected to improve creative thinking skills.

Creative thinking is a mental activity to make continuous connections, until the "right" combination is found or until one gives up. Creative associations occur through similarities or through analogical thinking. The association of ideas forms new ideas. So, creative thinking ignores established relationships, and creates relationships of its own. This understanding shows that creative thinking is a mental activity to find a combination that has not been known before.

## METHODS

The research will be carried out at UPTD SD Negeri 5 Metro Timur using development (R&D). Research and Development (R&D) is a process or steps to develop a product or perfect a product. Development research that aims to develop products, in this study uses the ADDIE development model which consists of five stages, namely: (1) Analysis (needs analysis), (2) Design (design), (3) Development (development), (4) Implementation, (5) Evaluation. In order to produce a product must use research that is a needs analysis, and to test the effectiveness of the product so that it can function in the wider community, research is needed that tests the effectiveness of the product.

The learning carried out in the experimental class will be used ExCluSiVE-based LKPD products to improve the creative thinking skills used, while the control class is learning as usual without using ExCluSiVE-based LKPD to improve creative thinking skills. Next, processing comparison data between the experimental class and the control class to determine whether the LKPD product is based on ExCluSiVE to improve creative thinking skills. In this study, the research design used was pretest posttest Group Design with the following pattern.

**Table I.** Pretest-Posttest Control Group Design.

Group	Pre Test	Treatment	Post Test
Experiment	O1	X	O2
Control	O3	-	O4

The instrument used in this study is in the form of test questions to measure students' critical thinking skills. The research instrument will go through several instrument tests so that it can be said to be valid and reliable to use. The results of the data from the instrument will be processed to be concluded by going through several test stages, namely product validity tests, product practicality tests and product effectiveness tests.

## DISCUSSION

The results of this study aim to develop products that have effectiveness to improve students' thinking skills measured based on research instruments. The results of the research will be described into several points to make it easier for readers to understand the results of the research, including the feasibility of LKPD, the practicality of LKPD and the effectiveness of LKPD.

### A. LKPD Eligibility

The advantage of LKPD based on the ExCluSiVE learning model in this study is that it is able to improve the creative thinking ability of students. LKPD based on the ExCluSiVE learning model can make students more active in learning activities and solve problems by thinking creatively (Sinatra, 2013).

Based on the material expert test, an average score of 91.47% was obtained. Furthermore, in the media expert test, the average value was 87.50%, and the linguist test showed an average value of 90.36%. Of the three expert test results, it showed an average score of



89.78% with very feasible criteria. While the practicality test of products containing aspects of diversity, convenience and usefulness showed an average score of 87.50% with very practical criteria. Based on the results of expert tests and practical tests of the product, the development of LKPD based on the ExCluSiVE learning model to improve creative thinking skills in mathematics learning in grade IV elementary school is very feasible to be used in improving students' creative thinking skills.

## B. Practicality of LKPD

A practical LKPD is an attractive, easy, and useful LKPD in its use. This is in accordance with research (Noviana et al., 2019) which explains that LKPD is said to be practical by looking at three aspects. First, the attractiveness aspect is the quality of LKPD which causes interest, desire, or attraction to use LKPD from the attractiveness of colors, images, letters, and material content. Second, the convenience aspect is the implementation or use of LKPD which is simple and does not make it difficult for educators and students. Third, the usability aspect is the ability to generate benefits from LKPD by measuring or assessing according to the objectives of the assessment developed.

The results of the product practicality test by 4 educators of mathematics subjects UPTD SD Negeri 5 Metro Timur had an average score of 87.50%, including the very practical criteria. So it can be concluded that LKPD based on the ExCluSiVE learning model to improve creative thinking skills in mathematics learning in grade IV elementary school is very practical to be used to improve the creative thinking ability of students in aspects of interest, convenience and usefulness.

## C. Effectiveness of LKPD

The advantage of LKPD based on the ExCluSiVE learning model is that it is able to increase student motivation and encourage students to be able to think creatively in the learning process. In this case, students are required to be active in optimizing their intelligence and talents (Djemari, 2012).

The effectiveness test was conducted to determine the effectiveness and influence of LKPD based on the ExCluSiVE learning model on learning outcomes related to students' creative thinking skills. The effectiveness test was carried out in an experimental class with a total of 36 students of grade IV UPTD SD Negeri 5 Metro Timur. To test the effectiveness of LKPD based on the ExCluSiVE learning model, it is carried out by means of normality tests, homogeneity tests, t tests, and N-Gain tests. This can be proven from the results of research as follows:

### 1. N-Gain Test

Based on the results of the analysis, an average N-Gain value of 0.83 was obtained in the high category. This shows that the effectiveness of the treatment of using LKPD development products based on the ExCluSiVE learning model to improve creative thinking skills in mathematics learning in grade IV UPTD SD Negeri 5 Metro Timur on flat building material and can improve students' creative thinking skills.

### 2. Effectiveness

Based on the results of the analysis of the independent sample t-test effectiveness test using the IBM SPSS Statistics ver 26.0 for Windows program above, it can be seen that the value of tCalculate is 4.564 and tTable (df-34,  $\alpha=5\%$ ) is 1.690. This means tCalculate  $\geq$  tTable. This means a Sig. (2-tailed) value of  $0.000 < 0.05$ .

From these results, it can be seen that there are differences in the effectiveness of LKPD development products based on the ExCluSiVE learning model in mathematics subjects with flat building materials for students. That is, the use of LKPD based on the ExCluSiVE learning model to improve creative thinking skills in mathematics learning in grade IV elementary school is effectively used in improving students' creative thinking skills.

## CONCLUSION

Based on the results of research and discussions that have been carried out, the researchers concluded:

LKPD based on the ExCluSiVE Learning Model is feasible to improve creative thinking skills in mathematics subjects with flat building material in grade IV elementary schools. LKPD that has been developed is theoretically, practically, valid and reliable to improve students' creative thinking skills.

LKPD based on the practical ExCluSiVE Learning Model to improve creative thinking skills in mathematics subjects with flat building material in grade IV elementary schools. LKPD that has been developed by researchers is very practical in aspects of attractiveness, convenience and usefulness so that it can be used.





LKPD based on the ExCluSiVE Learning Model is effective for improving creative thinking skills in mathematics subjects with flat building material in grade IV elementary schools. LKPD that has been developed by researchers is very effective in improving creative thinking skills compared to LKPD commonly used (government).

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