Classroom Innovation: A Study on the SPBL Model’s Role in Fostering Creative Thinking among Humanities Students

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ABSTRACT
Indonesia's PISA results in 2018 have decreased due to the low ability of students to meet global demands. Creative thinking is one of the 21st-century skill competencies and the profile of Pancasila students. SPBL can improve students' creative thinking skills through its syntax. The purpose of this study was to determine the impact of integrating creative thinking teaching through spatial problem-based learning (SPBL). This quasi-experimental research design used a pretest and posttest control design with a sample of 66 students. The research instruments were in the form of tests and questionnaires. The essay test consists of five questions given at the pretest and posttest. The research data were analysed by independent sample t-test, which resulted in a significance value of 0.73 > 0.05. The gain score value of the experimental class (48%) was higher than the control class (40.1%). The results showed that the SPBL approach did not have a significant effect, but it could improve the creative thinking of class 11th IPS students at SMAN 1 Pronojiwo, Lumajang Regency. So, students must get used to the SPBL model.

KEYWORDS
SPBL; Creative Thinking Ability; Geography Education

INTRODUCTION
The Program for International Student Assessment (PISA) is an international assessment program designed to help countries prepare human resources with competencies that meet the demands of the international market (OECD, 2018). The results of the PISA in 2018 stated that Indonesia's ranking decreased compared to 2015 (Ministry of Education and Culture, 2019). The components assessed were reading ability (371), mathematics (379), and science performance (396). The material tested by PISA is the same every three years, except for an increasing number of countries. According to Pratiwi (2019), Indonesia's participation in PISA does not have a significant impact on improving Indonesian education. However, this condition makes the mind open to improving the quality...
of Indonesian. Education is facing the challenges of the 21st century (Tohir, 2019).

Spatial Problem-based Learning (SPBL) is a spatial problem-based geography learning model developed according to the needs of 21st-century learning. The integration of PBL and SBL models is effectively used to explore students’ creativity in solving geosphere phenomena as a learning context (Fristadi & Bharata, 2015). SPBL syntax consists of spatial problem orientation, problem formulation, and spatial data collection followed by data analysis; then, the results are presented (Silviariza & Handoyo, 2020). The advantages of SPBL include making students work in teams, students can identify and formulate spatial problems through observation with scientific processes, and students to think about solving spatial problems contextually and factually. So that learning becomes more meaningful (Afriani, 2018).

The SPBL model has recently been implemented to improve higher-order thinking skills, namely critical thinking. As a result, students’ critical thinking skills improved after being given SPBL treatment. In addition to improved test results, students’ behaviour during field activities was actively seeking information. According to Carriger (2016), critical thinking is convergent; that is, this way of thinking uses a logical approach that always leads to a single answer. Furthermore, Richard Elder says that critical people are often represented as sceptical, negative, focused on trivial mistakes, lacking spontaneity and unable to imagine (Richard & Elder, 2008). However, solving problems is not always tied to a single answer. However, in science education, these critical and creative thinking skills actually complement each other (Wahyudi et al., 2021).

Creative thinking is the opposite of critical thinking. Creative is a divergent way of thinking (Guilford, 1968). Divergent is an open mind that explores various possible answers to a question/problem. According to Soesilo (2014), increasing the ability to think creatively needs to be pursued in facing the problems and needs of life or even the progress of the nation and, of course, can improve the results of PISA further. Examples of creative thinking achievements are Japan, South Korea and other developed countries (Diani, 2014; Leni, 2019; Masunah, 2017). Without imagination and creative ability, it would not be able to become an industrial country as quickly as it is today. Of course, it starts with observing the industrial products of other countries, studying them, and creating their own. This proves that the results of human creativity are not obtained spontaneously but require a certain process. According to Wallas (1926), the creative thinking process has four stages, including preparation, incubation, illumination, and verification (Sari et al., 2017). The four stages are not always carried out sequentially but depend on each individual when carrying them out.

Individual behaviour that characterises creative thinking, according to Munandar (2009), includes fluency, flexibility, originality, and elaboration. Fluency thinking, i.e. students can generate many questions or problems with answers, solutions, or ideas. Flexibility is looking at a problem in a different way. This indicator is usually the student’s conveying a variety of unusual uses of the object and may consider circumstances different from those that others have conveyed. In addition, originality is the ability of students to express new and original things that no one else has ever considered. Individuals who have original thoughts often question old ways and try to think of new ways. Detailed thinking (elaboration) is the skill of students to enrich and elaborate an idea. Often, actions that arise to give consideration and justify from their point of view can be accounted for (Soesilo, 2014).
The urgency of creative thinking must be increased for students because it is one of the educational skills of the 21st century that faces global challenges and becomes one of the profiles of Indonesian students, namely Pancasila Students. Creative thinking in the 21st century is used in dealing with everyday problems. Framing challenges into opportunities and viewing obstacles as anchors that help rather than hinder (Ambrose, D. & Sternberg, 2016). Currently, the Indonesian curriculum seeks to realise the profile of Indonesian students as Pancasila Students (Irawati et al., 2022). Student creativity is developed to express themselves, develop themselves, and face various challenges (Nurasiah et al., 2022). Individuals do not run out of ways to find solutions to the problems at hand. Furthermore, creativity brings a person to think flexibly, in a balanced way and not rigidly. Creative individuals are ready to take risks in pursuit of goals and reject obvious alternatives as they seek to push the boundaries of their knowledge and abilities (Marzano, 1988).

Previous research on improving creative thinking skills has been extensively conducted (Ersoy & Başer, 2014; Febrianti et al., 2016; Muhyani et al., 2022; Ratnah et al., 2022). The result is that students' creativity in thinking increases after being treated with problem-based learning models. These results can be seen from tests that have been adjusted to indicators of creative thinking. However, no research has been conducted on the SPBL model on the ability to think creatively. Aini et al. (2020) say that visual-spatial learners are often creatively talented. Therefore, it is important to conduct further research on the variables of creative thinking ability.

The limitation of this study is that the application of the SPBL model is still carried out once. This model has not been used to assess students' higher-order thinking skills other than critical thinking. Meanwhile, the ability to think creatively is also more widely applied in the field of mathematics (Maskur et al., 2020; Moma, 2017; Ramadhani et al., 2020; Sari et al., 2017; Cape, 2018). This causes limited reference sources that can be used in the same research in the field of geography. On the other hand, research by applying SBL and PBL models to geosphere studies has been carried out by many previous researchers. So, it is necessary to conduct a recent study on the application of SPBL to students' creative thinking skills.

At the end of 2021, Indonesia was hit by a disaster in the form of a volcanic eruption. This happens because Indonesia is located in a disaster-prone area (Christian, 2014). Based on this phenomenon, researchers use disaster mitigation as material in research through spatial problem-based learning. The SPBL model is better applied in disaster mitigation materials because it is directly related to the environment around students through a spatial approach. Previous research states that the environment can affect students' spatial thinking (Purwanto et al., 2021). Thus, SPBL model research will be tested at SMAN 1 Pronojowo with favourable environmental conditions. Based on this description, the study aims to determine the influence of the SPBL model on the creative thinking ability of grade 11 social studies students.

METHOD

This quantitative research uses a quasi-experimental design because there are variables that are controlled and given treatment to the experimental group (Sukmadinata, 2015). There are two classes tested, namely experimental and
control. The study was designed using a pretest-posttest control design (Sugiyono, 2018).

Before the application of the learning model, the class to be tested is given a pretest to see the initial ability of students in terms of creative thinking. After that, the treatment of the SPBL model was done in the experimental class, and conventional learning was done in the control class. In the last meeting, to find out the students' learning outcomes after being treated, the two classes were given post-test questions.

**Research Subject**

The subject of this study is a grade 11 social studies student in the even semester of the 2021/2022 academic year at SMAN 1 Pronojiwo, Lumajang Regency, East Java. The location of the school is close to the eruption disaster of Semeru Volcano. Based on initial observations with the teacher, each class has the same level of knowledge. So that the selection of subjects is carried out by random sampling, meaning that researchers take random samples and do not see their position in the population (Sugiyono, 2021). The samples used amounted to 66 people, 34 control class people (11 IPS 1) and 32 experimental class people (11 IPS 2).

**Instruments and Data Collection**

This study uses disaster mitigation material on Basic Competency (KD) 3.7 with cognitive domain C4. Students are asked to break down information into parts, find hypotheses, distinguish opinions from facts, and find causal relationships. The case study that will be used is the eruption of Semeru Volcano, which occurred in December 2021.

The research data was obtained from the results of students’ pretest and posttest scores. This research instrument is in the form of learning tools, including lesson plans, creative thinking ability tests, and questionnaires to determine student success in understanding disaster mitigation material through learning the SPBL model. The test of creative thinking ability is measured based on several indicators that represent the creativity of thinking skills, such as fluency, flexibility, originality, and elaboration. This test is given by students in the form of description answers that can provide a place for students to pour their creativity into answering questions. This is adjusted to the creative way of thinking, which emphasises divergent thinking as a form of openness in thinking that explores various possible answers to a problem/problem. The grid of student test instruments is presented in Table 1.

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Description</th>
<th>Sub Topics</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fluency</td>
<td>Generate ideas or alternative solutions to questions</td>
<td>Location of Semeru Volcano with residential areas</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Flexibility</td>
<td>Generate multiple ideas with many possible approaches</td>
<td>Factors that determine damage during eruption</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The impact of eruptions in a spatial context</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Originality</td>
<td>Generate new ideas like never before</td>
<td>Comparison between spatial locations and their effects</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Elaboration</td>
<td>Generate and develop answers to his ideas</td>
<td>Actions taken against the potential eruption of Semeru volcano</td>
<td>5</td>
</tr>
</tbody>
</table>
The research instrument carried out a feasibility test first. This test is intended so that the instrument can be used to measure research variables. The following validity tests are shown in Table 2.

<table>
<thead>
<tr>
<th>Question Number</th>
<th>r_{value}</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.781</td>
<td>Valid</td>
</tr>
<tr>
<td>2</td>
<td>0.439</td>
<td>Valid</td>
</tr>
<tr>
<td>3</td>
<td>0.657</td>
<td>Valid</td>
</tr>
<tr>
<td>4</td>
<td>0.591</td>
<td>Valid</td>
</tr>
<tr>
<td>5</td>
<td>0.502</td>
<td>Valid</td>
</tr>
</tbody>
</table>

The validity of the instrument uses the product-moment correlation test technique. The question item is said to be valid if \( r_{hitung} > r_{table} \) with 0.349. Based on Table 2, the validity test results show that all question items are declared valid.

Next, reliability tests use alpha coefficients to assess the consistency of instruments in research. If the alpha value > 0.6, it means that the instrument is reliable. Based on Table 3, the reliability value of the creative thinking ability test instrument is 0.614, so the instrument can be declared reliable.

### Data Analysis

Analysis of research data was carried out with t-tests to determine the difference in significance between the control class and the experimenter. However, researchers conducted prerequisite tests in the form of normality tests and homogeneity tests first. Normality testing uses Kolmogorov-Smirnov with a confidence level of 95% (sig. 5%), while homogeneity test (levene's test for equality variances) with a level of 5%. If the prerequisite test is met, then hypothesis testing is carried out. This study hypotheses that (1) Ho means that the SPBL model does not affect the creative thinking ability of grade 11 social studies students, and (2) Ha means that the SPBL model affects the creative thinking ability of grade 11 social studies students.

Hypothesis decision-making is a hypothesis accepted if the value of sig. < 0.05 and vice versa. Hypothesis testing was performed using SPSS 25 for Windows. The increase in students' creative thinking ability was analysed by doing an average n-gain score with the following formula.

\[
g = \frac{\text{Posttest average} - \text{pretest average}}{\text{maximum score} - \text{pretest average}}
\]

The gain score \(<g>\) of \( <g> 0.7; 0.3 \leq <g> <0.7 \) and \( <g> \leq 0.3 \) are categorised into high, medium, and low criteria, respectively.

### RESULT

Quasi-experimental research on the Spatial Problem Based Learning (SPBL) model was conducted offline at SMAN 1 Pronojiwo. One of the schools is located in a rural area on the slopes of Semeru volcano. The time allocation for each lesson hour is 35 minutes. The study was conducted once a week in as many as four
meetings for 70 minutes (2JP). The control class (11 IPS 1) applied the conventional learning model, and the experimental class (11 IPS 2) was treated with the SPBL model.

The results of research activities that have been carried out show that the SPBL model is effective in improving students' creative thinking skills. Data on the assessment of creative thinking ability variables are obtained from test scores and then calculated by gain scores. A comparison of the average value of the pretest, posttest, and gain score of the experimental class and control class can be seen in Table 4.

| Table 4. Comparison of Pretest, Posttest, and Gain Score Average Scores |
|-----------------------------|-------------|----------|-----------|
| Group          | Pretest   | Posttest | Gain Score |
| Experiment       | 49.2       | 74.5     | 48%        |
| Control          | 43.1       | 67.6     | 40.1%      |

Based on Table 4, the average pretest and posttest of both classes have increased. The experimental class increased by 48%, with an average pretest score of 49.2 and a posttest score of 74.5. Meanwhile, the control class produced an average pretest score of 43.1 and a posttest score of 67.7, increasing by 40%. According to the opinion of Hake in Sri Utami et al. (2016), if the gain score is 48% and 40%, then it is included in the category of less effective. Even so, the experimental class had a higher gain score than the control class. These results showed that the increase in students' creative thinking skills in the experimental class was better than in the control class.

**Figure 1. Diagram of Achievement Results of Creative Thinking Ability Indicators**

Figure 1 shows that the gain score for each indicator of creative thinking ability has increased. This is shown by the acquisition of groups that apply SPBL higher than groups that apply conventional learning methods. The highest gain score value is on the smoothness indicator, while the lowest is on the original indicator. Students of the experimental group were more fluent than the control group in providing results in solving spatial problems with more than two answers.

<p>| Table 5. Student Questionnaire Results |
|----------------------------------------|----------|</p>
<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Basic knowledge of disasters</td>
<td>83%</td>
</tr>
<tr>
<td>2</td>
<td>Eruptive characteristics of Semeru Volcano</td>
<td>71%</td>
</tr>
<tr>
<td>3</td>
<td>Disaster mitigation</td>
<td>86%</td>
</tr>
<tr>
<td>4</td>
<td>Local wisdom and utilisation of the impact of the eruption disaster</td>
<td>85%</td>
</tr>
<tr>
<td>5</td>
<td>Student participation in disaster mitigation</td>
<td>68%</td>
</tr>
</tbody>
</table>
The results of processing questionnaire data on the learning process with the SPBL model obtained the results of (1) as many as 83% of respondents stated that they understood basic knowledge of disasters, (2) as many as 71% of respondents stated that they knew the characteristics of the Semeru volcano eruption disaster, (3) as many as 86% of respondents stated that they understood eruption disaster mitigation actions, (4) as many as 85% of respondents understood local wisdom and the use of disaster impacts, and (5) as many as 68% of responders were able to participate in disaster mitigation efforts. Student participation in disaster mitigation is the lowest percentage of results because students' understanding of the characteristics of the eruption of the Semeru volcano still needs to be improved. So, students will not only understand the material for disaster mitigation actions but also be able and dare to implement it in people's lives. Students' efforts in responding to this questionnaire may foster an attitude of responsibility and a desire to increase their knowledge of disasters that occur around them.

Hypothesis

Before the hypothesis test, researchers conduct prerequisite tests, including normality and homogeneity tests. The normality test can be seen in Table 6.

<table>
<thead>
<tr>
<th>Group</th>
<th>Kolmogorov Smirnov</th>
<th>Statistics</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>0.143</td>
<td>32</td>
<td>0.96</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>0.145</td>
<td>34</td>
<td>0.69</td>
<td></td>
</tr>
</tbody>
</table>

The normality gain score of the experimental group was 0.96, and the control group was 0.69. Both showed a significance value of >0.05, meaning that the value of students' creative thinking ability in both groups was normally distributed.

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.989</td>
<td>1</td>
<td>64</td>
<td>0.324</td>
</tr>
</tbody>
</table>

The homogeneity test uses the Levene test with a significance level of 5%. The result obtained is 0.324, meaning the value of sig. >0.05. So, the variable data of creative thinking ability in both samples has homogeneous variations.

Next, the independent sample t-test on equal variances is shown in table 8.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>32</td>
<td>48.02</td>
<td>0.04333</td>
<td>1.825</td>
<td>64</td>
<td>0.73</td>
</tr>
<tr>
<td>Control</td>
<td>34</td>
<td>40.11</td>
<td>0.04312</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on Table 8, hypothesis testing on the gain score obtained a significance value (2-tailed) of 0.73 > 0.05. According to Chakker et al. (2016), statistical test results of more than 0.05 indicate an insignificant difference. This result is due to the lack of samples used in the study (Perkasa, 2016; Ramadhani et al., 2020). Both groups had equally strong creative thinking skills. So, this research hypothesis decides that Ha is rejected and Ho is accepted, meaning that the SPBL model does not have a significant effect on the creative thinking ability of grade 11 social studies students.
DISCUSSION

Creative thinking is one of the competencies in higher-order thinking that must be possessed by high school students (Ministry of Education and Culture, 2017). This study applies the SPBL model to improve the creative thinking ability of middle and upper-middle students. Learning based on spatial problem-solving can encourage students to learn to maximise their thinking ability towards new things or situations (Silviariza et al., 2021). In line with van Riesen et al. (2018), experiments can lead students to construct their knowledge to help solve problems. SPBL model learning makes students more actively involved compared to conventional models. Therefore, the implementation of research in the classroom is adjusted to the syntax in the SPBL model. Starting from orienting spatial problems around students, formulating problems, collecting data, and discussing together to presenting the results of group discussions.

The results stated that the SPBL model had a significant effect on the ability to think creatively. This happens because the new SPBL is implemented using creative thinking. This model was first used in creative thinking, and it turned out to be a success of 0.73. This will strengthen the research results that the SPBL model does not have a strong influence on the ability to think creatively because this model is a newly implemented model to measure creative thinking ability (Silviariza & Handoyo, 2020). However, students seem enthusiastic about finding spatial problems around them. In line with the research of Dewi Primayana (2019), students can find a spatial problem through phenomena that occur around their residence. So that after finding a real problem, students can provide solutions based on their knowledge and creativity in answering. Here is one of the enthusiastic results of students in the form of map products.

The application of SPBL model guides students in researching problem topics through a spatial approach (Pranawestu & Kharis, 2012; Wijayanto et al., 2020). At the discussion stage, students and groups make a map of the vulnerable area (KRB) of Mount Semeru and mark the location of a place, including the location of houses, schools, and offices. This is a challenge for students in this learning activity because their spatial thinking skills are honed. The map-making activity aims to hone students' thoughts regarding the location of a place and its influence. So as to be able to relate phenomena between spaces.

Furthermore, students' creative thinking process in problem-solving can increase with the application of SPBL model learning. This is because problem-based learning has a problem-focused level of interaction, and teachers provide student facilities in the form of direction (Hanney & Savin-Baden, 2013). In addition, the syntax of this problem-based learning model is based on
constructive theory and provides opportunities for students to develop learning motivation, creative thinking and cognitive results (Saptenno et al., 2019). In line with the research of Simanjuntak et al. (2021), the creative thinking skills of students taught with problem-based learning are better than students who are treated using conventional learning. Figure 1 proves that the learning outcomes of experimental class students have improved higher than those of the control class. The increase occurred due to the treatment of the SPBL model in the experimental class.

The problems given to students are non-routine problems, meaning that the problems are real and close to the student's environment and not abstract problems faced by students (Ramadhani et al., 2020). One of them is the problem of the lack of people's understanding of the existence of activities to protect themselves from disasters. For example, people are still panicking when an eruption occurs (panic attack), which is included in the topic of disaster mitigation in grade 11 geography lessons. Involving learning that thinks creatively to students on the topic of disaster mitigation will have an impact on students' ability to solve non-routine problems that students will face when natural disasters occur.

Creativity emphasises divergent thinking (spreading) as a form of open thinking that explores several possible answers to a problem/problem. Students can think exploringly and are different from the ability to think of children in general (Soesilo, 2014). So, the researcher analyses students' answers to find out the extent of their way of thinking in dealing with a problem.

The ability of students to respond to a problem based on the four signs of creative thinking is still not fully addressed, according to Figure 1. Gain scores that show discrepancies in creative thinking capacity prove this. Because students continue to express what is in their minds, the recognition of spatial objects among students is still low. This shows that students still need to develop their creative thinking capacity. Students' spatial thinking can be unlocked with the adoption of syntax to collect data and information, allowing the intense support needed for this stage.

Originality is the ability to give birth to new and unique ideas that are not thought of by others. Genuine thinking is the lowest indicator of students. The reason is that many students have not been able to express the different characteristics of a spatial space around them. Researchers assume that this condition is also seen in the implementation of learning activities, namely, students having difficulty with the syntax of formulating problems. Although the comparison was only limited to the group used in the study, some students had different answers than their peers. Students can answer questions by paying attention to the history of natural phenomena that are used as case studies for problem-solving.

Fluency is the most superior indicator because students are able to think of many answers to solve spatial problems. Among the students' answers, it is known that students can connect essential concepts of geography, such as location, distance, affordability, and interrelation between spaces, to solve real (not abstract) problems. In addition, students can also read spatial representation tools in the form of maps presented, although they cannot explain them in detail. Different from the research of Ersoy & Başer (2014), problem-based learning does not significantly affect students' fluency of thinking. So, this study was able to prove that fluency indicators can also be improved through SPBL.
Flexibility is a flexible thinking skill that can produce varied answers by looking at problems from different perspectives. When solving geographical problems, students focus not only on basic concepts but also on geographical approaches and related geosphere phenomena. Students' flexible thinking helps them deal with unexpected situations and fosters motivation and positive thinking.

Furthermore, the indicator that must provide detailed answers to the problems faced is elaboration (43%). However, students' answers vary and are able to relate the knowledge they have to solve problems. However, students still can't explain the answer in detail. This is likely because the discussion time in SPBL learning is limited. So, only know the points that need to be remembered. In addition, according to Torrance (1974), creativity focuses on perseverance and hard work and does not depend on the emergence of inspiration. Creativity requires a fairly long process and is not stopped by the emergence of mere inspiration. In line with the research of Su et al. (2021), students' creative thinking increased after the application of the learning model for 16 weeks.

The next research finding is that other influences cannot be controlled by researchers, such as the environment and learning settings of students that greatly affect their thinking skills. SMAN 1 Pronojiwo, as a place to experiment, is one of the academic institutions that has characteristics of a rural environment. This finding is in line with the opinion of Purwanto et al. (2021) that students in schools with urban environmental characteristics are better when compared to students in schools with rural environmental characteristics. Meanwhile, students' learning arrangements, especially the implementation study period, are very short and tight, with students' preparation for grade advancement exams causing their focus to split. This results in the application of the SPBL model being less than optimal in influencing students' creative thinking.

Finally, researchers distributed questionnaires to students who were given the SPBL model treatment. This questionnaire shows that most students have understood the content of the material studied, ranging from basic knowledge of disasters, characteristics of volcanic eruptions, disaster mitigation efforts, local wisdom and utilisation of impacts caused by eruptions, and students can participate in community life for disaster mitigation. This research implies that students can more easily develop spatial concepts, so they can have a deep understanding by studying spatial issues while learning geography for disaster mitigation by utilising SPBL models and real-world experience.

Learning with the Spatial Problem Based Learning (SPBL) model is an interesting and new experience for students. The use of the SPBL model is not yet commonly done by students, so at the beginning of the learning process, they have difficulty finding and formulating spatial problems. For this reason, students need teacher assistance in the process of implementing syntax. On the other hand, students strive to be active in participating in learning activities. This causes the need for additional time so that the implementation of the SPBL model can be achieved optimally.

CONCLUSION

Based on the results of hypothesis testing and research conducted, it shows that the SPBL model does not have a significant effect on the creative thinking ability of grade 11 social studies students at SMAN 1 Pronojiwo. This happens because the significance value is greater than 0.05, which is 0.73. However, in fact, it has an effect even though it is low, as evidenced by the posttest results of
students who have improved and students understand the material studied based on case studies of spatial problems.

*Fluency* is the best predictor of students' creative thinking. *Originality*, however, is a factor that needs to be improved again. The average variation in student responses is the same. Therefore, students are still unable to come up with original ideas. Thus, students are able to solve spatial problems using various solutions based on the information they have learned before.

Based on the results of this study, students need to practice the use of the SPBL model to improve their creative thinking skills. Furthermore, researchers can continue in more depth regarding the application of the SPBL model to students' higher-order thinking skills.

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