Technium.
50/2023

The 7th International Conference on Social Sciences
Organized by Faculty of Social Science
and Law Manado State University

The Innovation Breakthrough
in Digital and Disruptive Era
Development of Student Creativity in Social Studies Learning Based on Infographic Project

Nuansa Bayu Segara¹, Evy Nazilatun Nikmah², Niswatin³, Ali Imron⁴, Hendri Prastiyono⁵

¹, ², ³, ⁴, ⁵ Social Science Education Program, Universitas Negeri Surabaya, Indonesia
*Corresponding author. Email: nuansasegara@com

ABSTRACT

Creativity is one of the competencies in 21st-century skills. It needs to be developed in schools through creative social studies learning processes. Project-based learning can be an option to train students to think creatively. This article aims to describe the development of student creativity by applying infographic project-based learning. The research approach is qualitatively descriptive. The subjects of the study were 32 students in the seventh grade at SMP Negeri 42 Surabaya. Data collection techniques include activity observation, non-structuring interviews, and documentation product assessments. The research instruments used creativity rubrics and infographic product rubrics. Data validation is carried out using triangulation techniques. Namely, confirmation is carried out through the results of observation sheets, interviews, and product assessments. End of data analysis using interactive techniques. The results showed that project-based learning can increase the development of student creativity. Improvement occurs at every stage of project-based learning in every aspect and indicator of creativity.

Keywords: Project Based Learning, Creativity, Infographic

1. INTRODUCTION

Today's world demands the ability to equip students with 21st-century skills, namely the ability to think critically and solve problems, to be creative and innovative, as well as communication and collaboration skills [1], [2]. One of the most critical issues in education is the problem of creativity, which is how to produce humans who develop physically, mentally, and intellectually according to ordinary standards and become creative. The educational process, by the majority, emphasizes aspects of intellectual development in a narrow sense so that creative abilities that are an essential part of human development have yet to develop. Creativity is not innate but something that can be created and practiced by stimulating or providing a stimulus [3]. Games or creating projects can stimulate the brain to think creatively. Thus, it can produce something innovative and make creativity develop. Creativity is a form of transfer that applies already-discovered knowledge and skills to new situations [4], [5]. It aligns with the theory of creativity, according to [6]. Creation is not always something completely new but also creates a combination of existing ideas from experience and knowledge that individuals already have. The combination of these ideas is something new.

In development, Educator activities are very influential. Student creativity in developing student creativity will emerge if educators who become facilitators in the classroom also have
adequate creative abilities. Educators are expected to be more creative and have ideas for designing learning. One learning model that can build students' creative behavior is project-based learning [7]. This model is constructivism-based, where learning focuses on recognizing students in real-life situations and placing them in a school environment [8]. Project-based learning is based on constructivist learning theory, emphasizing that students have collaborative skills to control and regulate their thought processes [9], [10]. Project-based learning is based on Lev Vygotsky's social constructivism, leading to activities that regulate the environment for learning, namely the interaction between students and their learning environment [11]–[14]. The learning environment becomes a means of student interaction to find new ideas or solve group problems. In project-based learning, when students interact with their learning environment, they can develop the abilities that exist in them. In project-based learning, students are free to learn on par with their abilities and needs, with further help and guidance from educators who guide students to achieve things they cannot master optimally [15].

The project-based learning model can develop and add creativity to students when designing and creating a product [16]. Learning activities with a project-based learning model use physical activity, which is exciting and can also minimize the emergence of noise and other activities in learning [17]. The project-based learning model can be done collaboratively through projects that aim to optimize student skills; as a result, creativity in students will increase [18]. This increase in creativity is especially evident in embedding ideas into work products because one of the virtues of the project-based learning model is the creation or final product that appears as a result of student learning. In this study, the final product that emerged as a result of student learning was infographics. Infographics start from the English word information and graphic, a technique to present information visually or graphically to make it easier for readers to understand it [19]. Infographics are visual graphics that convey information or knowledge intended to educate readers on complex topics quickly and clearly [20]. An infographic can be defined as an image that contains design information to allow an individual or organization to share information with the public concisely [21].

Implementing social studies learning in schools focuses on cognitive aspects and less on unique aspects, such as creativity. It is evidenced when social studies teachers give assignments to students in the form of questions in textbooks or dictation so that it does not provide opportunities for students to produce a product to develop their creativity. In social studies learning, students tend to be passive, with low curiosity, making them inactive to ask questions. In addition, in terms of imagination, having a sense of beauty still needs to improve. It is proven that when researchers use the assignment method in the form of posters, students' creativity still needs to be developed. Students have many ideas, but some still need help implementing the final learning results through posters. In addition, the resulting posters still need to be added in terms of art and imagination from students.

2. METHOD

The approach used in this study is descriptive-qualitative. Qualitative research is an inquiry strategy that prioritizes extracting concepts, meanings, understandings, characteristics, symptoms, symbols, and descriptions of phenomena and is presented descriptively [22]. This descriptive research aims to provide an overview, explanation, and description of the creativity shown by students [23].

The research subjects were 32 students in class VII of SMP Negeri 42 Surabaya. A purposeful technique is used to determine the subject of the study. This subject was chosen because, in the initial study, it was still found that many students did not have creativity compared to other classes.
At the time of assignment in this class, some students have difficulty creating creative products such as posters.

The technique for collecting this research data is observation, interviews, and documentation. It is done to obtain appropriate and accurate data or information. The observations made are observations of participants. Researchers teach directly in the classroom, observe, see for themselves, record all student behavior during the learning process, and conduct authentic assessments. It is done to determine the development of student creativity through the application of infographic project-based learning. Interviews are conducted to confirm or ensure student creativity based on observations and documentary evidence in the form of infographic products. The interview was conducted in an unstructured way because of the role of the researcher as a human instrument. Then, documentation is applied to complement the observation and interview methods implementation. In this study, the implementation of documentation was carried out during observation and interviews. Thus, the accuracy of the information in this study has been adjusted to the facts.

Researchers use triangulation at the data validation stage to determine or describe the validity of data obtained from observation, interviews, and documentation. Researchers carry out triangulation to ensure that the data and information obtained are indeed happening in SMP Negeri 42 Surabaya. This study used a triangulation technique that was carried out by validating data from the same source with different techniques. Furthermore, the interactive method is used for data analysis [24]. That is, the stages of data reduction, data presentation, and conclusion drawing can be done while the research is running so as not to wait for the research to be completed first. The data reduction stage is carried out by analyzing, selecting, and simplifying each part to obtain accurate and relevant data related to student creativity development in infographic project-based learning.

Furthermore, at the stage of presenting the data in this study, it is presented in the form of narratives and diagrams supported by the results of interviews and documentation based on observations during the learning process. In addition, data results based on indicators in the assessment rubric are processed to produce a more complete score. The scores obtained are then categorized according to the student’s level of creativity. The following guidelines categorize the achievement of student creativity levels as follows in Table 1:

<table>
<thead>
<tr>
<th>Interval</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>80% ≥ SA ≥ 100%</td>
<td>Very Creative</td>
</tr>
<tr>
<td>70% ≥ SA ≥ 79%</td>
<td>Creative</td>
</tr>
<tr>
<td>60% ≥ SA ≥ 69%</td>
<td>Quite Creative</td>
</tr>
<tr>
<td>≥ 60%</td>
<td>Less Creative</td>
</tr>
</tbody>
</table>

Source: [25]

In the last step, the researcher made conclusions about assessing student creativity development, supported by solid evidence at the data collection stage.

3. RESULT AND DISCUSSION

3.1. Learning Process

In class VII SMP Negeri 42 Surabaya, project-based learning is carried out in social studies subject theme 3, "Socio-Cultural Diversity in Society," which discusses cultural diversity. The following is a project-based learning process by the project-based learning syntax that involves conducting authentic assessments to assess the development of student creativity.

3.1.1. Fundamental Question Stage

At this stage, the researcher gives the students a lighter question to provoke curiosity. In these questions, answers from students are used as data
to measure their understanding and knowledge. Some students began to raise their hands and try to answer without any embarrassment or hesitation. In addition, some ask further than the questions that have been asked. From the questions asked, the curiosity of students arose, who finally chose to ask directly. In addition, some students also began to express their opinions or ideas spontaneously and actively. They are not shy when discussing in their respective groups.

There is this stage still found in students who are just silent. They only pay attention to a few friends who are starting to actively try to answer questions, ask questions, and convey ideas. They are silent, and some prefer to chat with their deskmates. Seeing such conditions, this is done by approaching slowly and inviting them to pay attention to the material taught. After that, students can slowly follow the learning process to the end. Teachers cope with passive students by approaching them and asking them to find the cause.

The results of the interview showed that she was "willing to answer questions but afraid of being wrong. There is shyness and hesitancy to express an opinion. That is why our group just listened without trying to answer." (Interview with I1, April 3, 2023) In addition, some say, "I can answer, but I am embarrassed and unsure of my answer for fear of being wrong." (Interview with I2, April 3, 2023) This explanation gave scaffolding by encouraging students to be brave and not afraid of being wrong when answering questions. They are also asked to give feedback on other people's opinions. Encouraging students' skills can be implemented by asking simple questions, and the examples presented reflect the general reality of society. In this way, some dared to answer questions, albeit shyly. However, sometimes students are reluctant to answer questions or try to ask questions if they need help understanding, and there are difficulties.

3.1.2. Stage of Drawing Up a Project Plan

Students are divided into eight groups at this stage, with four students each. The teacher explained to each group that the project made today is an infographic about "Socio-Cultural diversity in Java." The division of topics for each group is carried out randomly. The representative of each group leader came forward to get the prepared paper. Next, the student discusses with his or her group the plan design infographic and the design draft on the paper that has been distributed. Each group divides tasks and discussions to develop a project plan before making infographics on the Canva application. The division of tasks includes: finding suitable templates, downloading supporting images, searching for information and data about the socio-cultural diversity of the tribes obtained, writing design designs on paper, and determining the editing team directly in the Canva application. The design plan or project design is based collaboratively on each student's ideas. Ultimately, students can overcome the problems and become project designers (infographic products).

At this stage, one group was found that still needed to be improved in cooperation. Only one person works in this group, while other members only watch. They intend to do something other than help their friends plan infographic design. Seeing this, the teacher approached the group and asked to determine the cause of the lack of cooperation. The result of the interview was that "There has been no division of duties, brother. So, only one person is doing it." (Interview with I3, April 3, 2023). In addition, they also said that "I did it myself, sis, the problem is long. So, I did the work myself." (Interview with I4, April 3, 2023). From the answers explained earlier, the researcher provides scaffolding by giving direction to the group that the project requires cooperation in the group, not just one person who does it. Cooperation in the group can optimize social relations and a sense of solidarity between group members. Next, the group discussed dividing the tasks among their group members and
continued to work on the project design according to their respective tasks.

3.1.3. Stage of Creating a Schedule

Each group discusses determining the project completion schedule, which includes: 1) assigning tasks to each group member and 2) implementing activities and the time required to complete the project. At this stage, each group must be able to divide between each role of implementing activities and allocating the time needed to work on the project. In addition, students also need to be able to divide the tasks of each group member so that no one group member is burdened. After finishing the discussion, the teacher then asked each group about the schedule that had been mutually agreed upon. It is undeniable that there are obstacles at this stage because, initially, there are differences in each group's schedule for the deadline for completing infographic products. Seeing such conditions, the teacher invites students to vote to find a schedule that can be agreed upon. After the voting was completed, students and researchers finally agreed that the deadline for completing the project was for two meetings with the work on infographic products during social studies learning hours.

3.1.4. Monitoring stage

At this stage, in order to facilitate the observation process, all project activities are carried out at school. Researchers supervise and monitor each group while creating infographic products. Each group started creating infographics through each group's mobile phones by utilizing the Canva application. Teachers go around supervising each group during the infographic creation process, in addition to evaluating the learning process if it is found that students are working on activities that could be more relevant to learning. At this stage, researchers still find some students whose activities are not by learning, namely, being engrossed in talking to their friends, and some who play alone. Seeing this, the researcher immediately approached slowly, then gave directions to students to continue working on infographics according to their assignments. In addition, at this stage, there are also groups debating about the template that will be used to create infographics. Eventually, the group decided to create two infographics. Before being collected, the group voted first to determine which infographics to collect for researchers.

When making infographics, some groups experience obstacles or difficulties in working on them, such as finding the appropriate template, sound design, arranging the layout, and editing the smartphone, sometimes errors and sometimes unstable internet quotas. When each group experiences obstacles or difficulties, they discuss ways to solve the difficulties they face. It aligns with one of the goals of social studies education, which is to train students' skills when facing problems that occur to themselves or those around them. [26]. In other words, students are more responsive to things that arise around them. Only when they did not find a way out did they directly ask the teacher?

3.1.5. Testing Results Stage

The fifth stage is product presentation and assessment. After the infographic products from each group were completed, each group took turns presenting their products in front of the class. From the presentation that has been presented, the best way to find out the extent of knowledge gained by students related to "Socio-Cultural Diversity in Society" is by asking questions and giving answers related to the infographics that have been presented. Of the questions asked by researchers, there was one they could not answer. It happens because when making infographics, they immediately add data or information about the social and cultural diversity of the tribe obtained by their group without wanting to learn or understand it first.

In addition to presentations, at this stage, an assessment was also carried out related to the infographic products that each group had made.
The assessment is carried out by observers based on the product assessment rubric, in which there are several indicators. Furthermore, the group that gets the highest score will get a reward as a form of appreciation from the researcher to the student. In addition to rewards, researchers also provide punishment for disorderly students, namely being asked to come forward in front of the class and groan about what has been explained by their friends at the time of the presentation. After presentations and discussions, educators evaluate each group's project as material for reflection.

3.1.6. Learning Experience Evaluation Phase

The final stage of project-based learning is the evaluation of the learning experience. Researchers and students evaluate the process of doing projects running from the beginning to the end. Student responses related to learning by applying the Project Based Learning Model are happy and enthusiastic, although students still experience obstacles or difficulties at some stages. The activity they like the most is the monitoring stage when making infographics because it is new to them. However, some feel burdened by the project task in the form of infographic products because they claim they need help with editing. It aligns Cap Cut application, while in the Canva application, I rarely use it." (Interview with I5, April 11, 2023). However, another said, "It was a bit difficult to make, but I think it is fun because it is new to me." (Interview with I6, April 11, 2023). In addition, in making infographics, there are also obstacles or difficulties experienced by each group.

Following the interview, they say, "The difficulty when finding a suitable template. In addition, it is not easy when arranging layouts for images and writing. It will not be enough if the data or information we include is too long. Therefore, we must be able to arrange the layout." (Interview with Nadia, April 12, 2023). In addition, some say, "Sometimes mobile phones, when used to edit infographics, suddenly error, sis." (Interview with I7, April 12, 2023). Even so, it does not circulate enthusiasm from them to be able to complete infographic products from each group.

3.2. The Development of Student Creativity

Observation activities to observe the development of student creativity are carried out during the learning process with the help of observers. Observation is carried out to observe the development of student creativity during the

**Figure 1. Increased Student Creativity at Each Meeting of Each Indicator**

with the following interview results, "I am not good at making infographics. I usually edit in the learning process and to find out the obstacles that arise during the learning process. Observation of
the development of student creativity in infographic project-based learning is carried out using an observation sheet instrument guided by the rubric for assessing the development of student creativity. The development of student creativity is observed based on several predetermined indicators. Creativity indicators observed to see the development of student creativity in infographic project-based learning include 1) curiosity, 2) asking, 3) giving ideas, 4) original ideas, 5) expressing opinions spontaneously, 6) elaboration, and 7) being Happy to try new things.

Based on Figure 1, it can be seen that student creativity increases at each meeting. Students' creativity percentage on the indicator of having great curiosity at the first meeting was 55.47%; at the second meeting increased by 15.49% to 64.06%, and at the third meeting increased by 14.64% to 73.44%. The percentage of student creativity on the indicator of having elaboration ability at the first meeting was 54.69%; at the second meeting increased 14.28% to 62.50%; at the third meeting increased 15.00% to 71.88%. The percentage of student creativity on the indicator of being happy to try new things at the first meeting was 55.47%; the second meeting increased by 14.08% to 63.28%, and the third meeting increased by 14.82% to 72.66%.

Table 2 shows the score obtained by each group from the results of the infographic product produced. Two groups fall into the "quite creative" category, and three are "creative." In comparison, the group that produces products is included in the category of "very creative." There are four groups.

The study results show that the development of student creativity levels through project-based learning applied in seventh grade at SMP Negeri 42 Surabaya has increased. The results of this finding are also explained by [27]; [28]; and [29], which reveal that a project-based learning model can increase the development of student creativity. It is shown that there is an increase in the percentage of student creativity indicators at each stage. In addition, project-based learning can increase student creativity by working together to

<table>
<thead>
<tr>
<th>Group</th>
<th>Indicator</th>
<th>Originality</th>
<th>Relevance</th>
<th>Clarity</th>
<th>Attractiveness</th>
<th>Pictures</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>85</td>
<td></td>
</tr>
</tbody>
</table>
create a product that has high creativity in line with previous research conducted by [30], which explains that the application of project-based learning can increase students' creativity and confidence and allow them to work on a project as the result of learning both independently and in groups. Based on the development of student creativity level achievements, the application of project-based learning (infographic products) at SMP Negeri 42 Surabaya provides improvements at every stage. Half of the 32 students at the stage of determining fundamental questions and drawing up a project plan implemented at the first meeting were in the less creative category. Then, most students in the category were quite creative at making schedules and monitoring at the second meeting. At the testing stage, the results and evaluation of learning experiences at the third meeting also increased because most students were in the creative category. From this explanation, it is clear that the development of student creativity when implementing project-based learning in social studies learning has increased, although not optimally.

This study's findings are that some students are creative during the learning process but can only sometimes produce creative projects, and vice versa. Creative students do not necessarily produce creative product results during the learning process. It happens because some groups are creative in the learning process but need to be more creative in doing projects. Based on the results of interviews that researchers have carried out, they admitted that they could not edit so that the resulting project could only be as much as their group could. In addition, some students need to be more creative in the learning process but can produce projects with very creative categories. It happens because one of their group members can already edit so that when they get an assignment in the form of infographics, they can be as creative as possible to produce creative projects.

Based on the results of the discussion above, of course, there are implications or meanings of this research, namely, applying project-based learning to social studies learning can make the development of student creativity increase at every stage. One of the implications or meanings of this is that students can benefit from what they already know. For example, students become more confident when they want to express opinions or ideas spontaneously and are not shy when answering research questions and discussing with their groups. Students can also overcome problems that occur to themselves or those around them.

4. CONCLUSION

Based on the results of research and discussion, the application of infographic project-based learning can increase the creativity of grade VII students at SMP Negeri 42 Surabaya. The development of student creativity, measured using a process assessment rubric based on creativity indicators supported by observations and interviews during the learning process, shows gradual progress at each stage of learning. The project-based learning model can be concluded to be able to develop participants' creativity, which is manifested in indicators 1) curiosity, 2) asking, 3) giving ideas, 4) original ideas, 5) expressing opinions spontaneously, 6) elaboration, and 7) being happy to try new things.

AUTHORS' CONTRIBUTIONS

The authors confirm their contribution to the paper as follows: Nuansa Bayu Segara and Evy Nazilatun Nimah: served as study conception and design: Niswatin and Ali Imron served as scientific advisors: Hendri Prastiyono critically reviewed the study proposal and draft.

ACKNOWLEDGMENTS

We are grateful to the Faculty of Social Sciences and Law leadership at Universitas Negeri Surabaya and the Social Science Education Program for funding this conference.

REFERENCES


Technium Social Sciences Journal
Vol. 50 (Special issue), 106-115, November, 2023
ISSN: 2668-7798
www.techniumscience.com


