Effectivity of Model Project Based Learning (PjBL) Type Make Crossword Puzzle Project to Improve 5th Grade Elementary Student's Collaboration Skills

Sapikzal Pratama✉ [1], **Mubiar Agustin[2], Eko Ardiyanto[3]**

[1,2,3] Magister Pendidikan, Universitas Pendidikan Indonesia, Bandung, Indonesia

✉ syavic@upi.edu

Abstract. Project Based Learning (PjBL) Model was assumed less popular for elementary teacher to use because ineffectively. Though teacher seldom used it in class. This research aimed to know how effective PjBL type crossword puzzle project to improve student collaboration. The Method was descriptive qualitative. Data was collected by student's peer rating and observing student's collaboration on PjBL of 27 students at 5th grade SDN 114 Bojongkoneng, Cibeunying Bandung classroom. The finding was 77,77% students collaboration actively when did the project. Also by peer rating, 74,09% students argued that their mates in group in good collaboration. In conclusion PjBL type Make a Crossword puzzle have positively influenced to improve students collaboration skill.

Keywords: PjBL, Crossword Puzzle, Collaboration, Skills

INTRODUCTION ~ The development of era in the 21st century is marked by rapidly pace technology of development. As a result, new types of jobs have emerged that were not predicted previously. This has attracted the attention of various parties. Many countries are competing to innovate in order to be at the forefront in accommodating these needs. One of the things that has been done is a change in education as a first step. The largest portion of the orientation of education is to meet the needs of the world of work, as a result the curriculum is structured in such a way that the approach used is a competency approach.

Competence or many also call it skills is the ability to complete a task, meaning nothing more than technical talent (Doglas Bourn, 2018). Bourn's opinion is considered reasonable because competence is achieved through a learning process that is not easy. In Indonesia, we can see when the use of the "Kurikulum Tingkat Satuan Pendidikan" (KTSP) is then updated in the 2013 Curriculum where the approach used is Competence. Students are required to master certain competencies that have been required.

This study took the object of cooperation skills. Cooperation skills are the ability of a person to interact and provide feedback about something with others to achieve goals. Cooperative skills are one of the dimensions of social skills. According to Maryani (2011: 20) the dimensions of social skills are grouped into 4 interrelated parts, namely: 1) Basic interacting skills; 2) communication skills; 3) team/group building skills are skills to accommodate the opinions of others, cooperate, help each other, and

pay attention to each other; and 4) problem solving skills.

Cooperation occurs at least between two individuals. A study argues that a combination of 80 percent cooperation, 10 percent competition, and 10 percent individual can give students the skills needed in society, because 90 percent of the process of human interaction is cooperative (Bell et al: 1989). Working together in learning means the process of interaction between students in achieving learning goals. In working together, skills are needed so that common goals can be achieved optimally. There are 4 skills to work together according to Johnson et al (in Goodwin: 1999), namely showing performance, carrying out functions, formulating, and fermenting or composing. These skills have levels. Teachers in training collaboration skills should start honing from showing performance, then function, then formulating to the most complex level, namely fermenting. These skills can be applied to upper grade elementary school students (Goodwin: 1999).

One of the learning models that can accommodate the ability to work together and even the four competencies that must be possessed in the 21st century is the Project Based-Learning (PjBL) Model. The PjBL learning model trains students to think critically, analytically and develop higher order thinking skills (Capraro & Slough, 2013). In PjBL, students gain important knowledge, skills, and character through investigation in the form of open-ended questions to make sense of what they are asking in a deliberate way (Krauss and Boss: 2013).

The PjBL learning model provides an authentic and contextual experience for students to structure learning in developing science, technology, engineering, and mathematical concepts supported by language, social science and the arts (Capraro & Slough, 2013). This means that the PjBL learning model can be applied to any subject. In fact, the PjBL learning model can also be applied to all students, from grade 1 elementary school students to university students, both normal students and students with disabilities (Nell K Duke: 2016).

This model opens space for students to explore as freely as possible. This means that in exploring, students are required to be able to solve problems, make decisions, and carry out various types of investigations. In addition, PjBL improves thinking skills, social skills and the ability to work together effectively (I Sasson et al: 2018). These abilities are some of the abilities that must be possessed by someone in the 21st century. That is why the 2013 curriculum highly recommends teachers to use this learning model, because this PjBL learning model is very relevant and always consistently accommodates 21st century competencies (Nell K Duke: 2016) .

The hallmark of a learning model is the syntax or learning steps. The syntax of the PjBL learning model is as follows (Nurohman: 2007) (1) Starts With the Essential Question, (2) Design a Plan for the Project, (3) Creates a Schedule, (4) Monitor the Students and the Progress of the Project, (5) Assess the Outcome, (6) Evaluate the Experiences. In addition to mastering the syntax, a PjBL teacher also needs to know the main things in teaching practice with the PjBL model so that learning is not too widespread which ultimately burdens students. There are four main things according to Grossman

et al (2019), namely (1) Discipline: fostering interest in learning the field of study, (2) Authentic: making relevant experiences, (3) Iterative: fostering a culture of creation, feedback, reflection, and revision, and (5) collaborative: build students' passion in community learning. Because this model is applied in 5th grade elementary school where students have not been given more flexibility in conceptualizing certain projects. then in its implementation the teacher must be more active in guiding the projects that will be carried out by students. Included in determining what projects should be done by students.

One thing that can be used as a project is to make a crossword puzzle (TTS). TTS is a kind of word game where players must accurately fill in the empty boxes with letters which then form words according to the given clues (Orawiwatnakul: 2013). TTS in the modern era first appeared in a United States newspaper New York World in the early 20th century, more precisely in the Sunday edition, December 21, 1913. An editor of the newspaper, Arthur Wynne, looked for ways to enliven his newspaper for the Christmas edition (Collins : 2015). Since then, TTS has spread across cultures and countries. TTS initially only contained direct definitions that required factual answers, then developed into a vague and convoluted pun (B. J Holmes: 2005).

Because it is related to definitions and concepts, TTS is suitable to be applied in the learning process. TTS can be used as an independent learning tool (Patrick et al: 2018 and Orawiwatnakul: 2013). TTS not only gives students the opportunity to associate a fact, but also causes students to describe the relationship between a term and its concept (Crossman: 1983).

From the terms obtained, it can be used as a clause for other terms in answering TTS. This is interesting because, the more students answer, the more points they get. According to B. J. Holmes (2005) there are four provisions commonly used in crossword puzzles, namely (1) Definitions, (2) Synonyms, (3) Components or elements, and (4) Indicators.

Like other games, TTS if given to students, is directly like a medium, or a learning model. Because students only fill in what has been given. Therefore, to increase the level of learning so that the HOT can be achieved optimally, TTS can be used as a project for students. Students can make their own version of a simple crossword puzzle in groups. In addition to training students' creativity, giving projects in groups means providing opportunities to collaborate and work together with friends. This is relevant to the learning objectives using the PjBL model and also relevant to the habituation in learning to hone 21st century skills as described above, one of which is collaboration skills. How effective is Crossword Puzzle or Crossword Puzzle (TTS) in the PjBL learning model to improve collaboration skills will be seen in this study.

METHOD

This research is descriptive qualitative. Data collected by observing 27 students collaboration at C classroom of 5th students at SD Negeri 114 Bojongkoneng Cibeunying. Additional data was used peer rating from students about their collaboration on the project. Data were analyzed by find percentage at the aspect, and described by qualitative based on student action at the class along observation. This research was conducted

on Saturday, October 19, 2019. The object of this research is the collaboration skills of C class at the 5th students in the effectiveness of the Project Based Learning (PjBL) model of the crossword puzzle type.

FINDING

The following is a description of the results of the teaching using the Project Based Learning (PjBL) model of the crossword puzzle type to determine the effectiveness collaboration skills at C class of 5th SD Negeri 114 Bojongkoneng Cibeunying.

The results of the observations were assessed by 2 observers. Namely the teacher of the class and researcher. The observations were made using an

observation sheet that had been prepared by the researcher. The results of the implementation of observation activities are as follows:

In the observation of students during class learning with the subject matter of the types of community economic business using the Project Based Learning (PjBL) model of the crossword puzzle type carried out by 2 observers. On the cooperative skill observation sheet, a score of 4-1 is given for each aspect consisting of interaction, responsibility, group process.

Based on the results of observations, the percentage of the effectiveness of students' collaboration skills can be calculated using percent formula.

Tabel 1. Percetage from observing collaboration skills for each aspect

No	Aspect	Percentage (%)
1	Interaction	79,62
2	Responbility	75
3	Work in group	78,70

Calculations are made based on each aspect. In the interaction aspect, the percentage is 79.62%, the responsibility aspect is 75%, and the group process aspect is 78.70%. The percentage gain from the observation results in the interaction aspect is higher and the lowest gain in the responsibility aspect.

The average percentage gain from each aspect of cooperative skills is 77.77%, based on the criteria for students' cooperative skills in the table. 4 is in the "high" qualification.

The results of the score on the assessment questionnaire between friends based on the score criteria (1) never, (2) sometimes, (3) often, and (4) always. The

score is obtained by calculating the average number of scores divided by 10, based on the number of items in the questionnaire. The average score for the assessment questionnaire between friends is 29.94

Through the calculation of the formula above, a score of 2.9 is obtained if it is rounded up to 3 on the "often" score criterion. The conclusion from the score is that the VC class students at SD Negeri Bojongkoneng Cibeunying, are often involved in collaboration in participating in group activities.

Based on the acquisition of the average score of the assessment questionnaire between friends, which is 800.25. To find

out the percentage of the effectiveness of using the Project Based Learning (PjBL) model, the crossword puzzle type can be calculated using the following formula:

The percentage of the assessment questionnaire among friends is 74.09%, based on the criteria for student collaboration skills in the table. 4 is in the "high" qualification.

The results of data analysis showed that there were differences in the percentage based on each data collection technique, namely an assessment questionnaire between friends and observations. The average percentage gain from each aspect of cooperation skills is 77.77% in the "high" qualification. While the acquisition of the percentage of the assessment questionnaire between friends is 74.09% in the "high" qualification.

DISCUSSION

The collaboration shown by students when working on a crossword puzzle project was shown by students by taking roles in working on joint assignments, such as someone looking for questions and answers, someone writing a crossword puzzle diagram.

The roles taken by each student are also carried out with a full sense of responsibility. Each student does not forget to remind the other friend's work if his friend neglects to do his part. This often happens, for example, one of his friends goes to see the results of another group's work, or does other things outside of working on a project given by the teacher. It was relevan to the result which 75% student did their responbilities well.

Although each student has a role in making the project given by the teacher, students also don't forget to give their ideas, opinions about the project they are working on. This is a very good form of cooperation. Good cooperation starts from giving each other ideas to get the maximum thing. By giving each other opinions, problems can be resolved quickly and optimally.

Students' cooperative skills in working on projects of making crossword puzzles are also shown how students' interpersonal relationships are in discussions with their groups. Interacting with each other shows that this project-based activity is liked by students. Students like to look for questions that are considered difficult to trap their friends from other groups so that they have difficulty answering crossword puzzles belonging to their group. Students also like work in their groups to run smoothly, so that if one member of their group is distracted from doing something else, they quickly rebuke them to refocus on the project they are working on.

On the whole, by using the PjBL model, collaboration skills among students can be carried out well. The ability to work together between students occurs effectively. By using a crossword puzzle project as a project that must be done by students, students can be responsible for the tasks and roles that must be carried out in honing their collaboration skills, can measure activity Overall by using the PjBL model, collaboration skills among students can be carried out well. The ability to work together between students occurs effectively. By using a crossword puzzle project as a project that must be done by students, students can be responsible for the tasks and roles that

must be done in honing their collaboration skills, can measure the activity of each student through good interaction in working on projects assigned by the teacher. teacher, each student through good interactions in working on projects assigned by the teacher. Overall by using the PjBL model, the skills of working together among students can be carried out well. The ability to work together between students occurs effectively. By using a crossword puzzle project as a project that must be done by students, students can be responsible for the tasks and roles that must be done in honing their collaboration skills, can measure the activity of each student through good interaction in working on projects assigned by the teacher. teacher.

CONCLUSION

The results of the data analysis regarding collaboration skills in the Crossword Puzzle type PjBL learning model showed that students' cooperative skills were included in the high category with the average percentage of each aspect of collaboration skills being 77.77%. Likewise seen based on the assessment questionnaire between friends, namely 74.09%. From these results it can be concluded that the Crossword Puzzle Type PjBL learning model is effective in improving students' cooperative skills.

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