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Implementation of cooperative learning model type Jigsaw in social science to increase students' learning outcome

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Abstract

This study aimed at improving learning outcome in social science using cooperative learning model type Jigsaw in social science. The model was implemented in a primary school. This learning model was developed into 2013 curriculum-based learning. We conducted the study into cycle 1 and cycle 2, each consisted of 3 meetings. The research subjects were 4th grade students. The research design was arranged based on planning, action, and reflection. Results show that there is an increase in the number of students passing the minimum requirement. Therefore, Jigsaw can improve students' learning outcomes.

Keywords: *cooperative learning; Jigsaw; learning outcome*

Introduction

Learning is a system or process, of learning students, which are planned, implemented, and evaluated systematically thus the students can achieve learning objectives effectively and efficiently (Komalasari, 2010). Meanwhile, learning in social science aims at educating and providing students with the ability to develop their abilities according to what they will have (Solihatin & others, 2007). Social science is an integration of various branches of social sciences such as sociology, history, geography, economics, politics, law, and culture (Trianto, 2010). Social Sciences is formulated on the basis of the reality and social phenomena of society which are embodied in an interdisciplinary approach from aspects and branches of social science. In elementary school, social science studies a set of events, facts, concepts and generalizations related to social issues, thus the students are directed to be democratic, responsible and peaceful citizens of the world.

Learning process in Indonesia, including social science, refers to the 2013 Curriculum. The old-fashioned curriculum was teacher-based learning; meanwhile, the Curriculum 2013 is student-centered. Therefore, teachers are required to be more creative and innovative in the selection of learning models.

Of the many models, cooperative learning is one technique that is widely developed in Indonesia. According to Slavin (1990), cooperative learning is a learning method that students are working in small groups collaboratively. The group consists of 4-6 heterogeneous people. There are several cooperative learning methods that have been

developed, i.e. together and alone learning, teams-games-tournament (TGT), group investigation, constructive controversy, Jigsaw, student teams achievement divisions (STAD), complex instruction, team accelerated instruction (TAI), cooperative learning structures, and cooperative integrated reading and composition (CIRC) (Johnson, Johnson, & Stanne, 2000). Among them, Jigsaw is a type of cooperative learning that has several members in one group to be responsible for mastering part of the learning material and being able to teach that part to other members in the group (Walker & Crogan, 1998).

Several previous studies have proven that the Jigsaw cooperative learning model can improve student learning outcomes. Rahmawati (2010) obtained an increase in student learning outcomes from 40% to 64% after cycle I and to 92% in cycle II. Asis (2013) showed that after cycle I, 50% students passed the minimum grade, and after cycle II, 93.75% students passed the grade. Astiti & Widiana (2017) showed that implemented the same method could significantly improve the learning outcomes of primary school students from an initial score of 43.47% to 100% at the end of the second cycle. Thus, Jigsaw cooperative learning model is an alternative to improve students' learning outcomes in primary school.

Based on observations made in grade 4 in one of the Salatiga City Primary Schools, teachers have not fully used the Curriculum 2013. In addition, conventional learning models provided make students less active and less concentrated. As a result, students' learning outcomes were low and many students did not reach the minimum grade. Therefore, in this study, we will improve students' learning outcomes in social science by using Jigsaw cooperative learning.

Materials and Methods

This research is a type of classroom action research. This research took place in a primary school in Salatiga, Indonesia, specifically in the 4th grade of social science subjects in the academic year of 2017/2018. The number of students in grade 4 is 28 students. This research was carried out in 2 cycles, each each consisted of 3 meetings. There were 4 stages in each cycle: planning, acting, observing, and reflecting. Collecting data in this study uses instrument tests to measure students' learning outcomes, and observation sheet to measure the activity of students and teachers in implementing the Jigsaw model based on Curriculum 2013. Data were analyzed descriptively and comparatively. Completeness analysis is used to determine the magnitude of completeness and incompleteness in the pre cycle, cycle 1, and cycle 2. While comparative analysis is used to see the increase in learning outcomes from pre

cycle, cycle 1, and cycle 2. We completed the research when 80% students reached a minimum score of 66.

Results and Discussion

The pre-cycle data in this study were taken from the results of social science exam. In Table 1, approximately 43% of students did not reach the minimum requirement score. The maximum and minimum score in pre-cycle was 80 and 40, respectively. The completeness of student learning outcomes was considerably low. We expected that by using the Jigsaw cooperative model, students could improve their learning outcomes.

After Cycle I, there was an increase in the completeness of students' learning outcomes. Of the 28 students, 75% students passed the minimum requirement and the rests did not. The average score of students in cycle 1 was 71.7. From the observation, there were several problems in the learning process. Students showed lack of understanding of the Jigsaw method. In addition, there were many students who were busy themselves and made the class crowd, and did not dare to ask if they did not understand. Students also seemed to be confused about teacher's planned activities. From the reflection of Cycle I, there were deficiencies in the application of the Jigsaw method, i.e. the teacher had not conveyed the learning objectives to be achieved, and had not concluded and reflected the learning by involving the students.

Cycle II was held for 3 meetings. The first and second meetings discussed the material on the environment and economic activities of the people which depend on their natural resources. At the third meeting, the material was discussed and the final test was conducted. From the observations, during this cycle, the activities of teachers and students were better than those in Cycle 1. All students understood the learning process and knew what they had to do. In this cycle, there were fewer problems than before. Students had asked if they did not

Table 1. Students' completeness and score in Social science in Pre-Cycle

Score	No. of Students	Percentage (%)	Completeness
<66	12	43	Not Complete
≥66	16	57	Complete
Σ	28	100	
Mean		67.7	
Min score		40	
Max score		80	

understand the material and could suit themselves in a group based on the teacher's instructions thus the class was not crowded. Therefore, we considered that Cycle II was succeeded.

Apart from observations, the success of the activity could also be seen from the test results. Of the 28 students, only 1 student received grades less than the minimum requirement. The remaining 27 students scored above the minimum. Thus, the students' completeness reaches 96%. In addition, the average value of students also increased to 77.5 (Table 3).

Table 2. Students' completeness and score in Social science after Cycle I

No	Score	Completeness	No. of Students	Percentage (%)
1.	<66	Not complete	7	25
2.	≥66	Complete	21	75
Σ			28	100
Mean			71.7	
Min score			50	
Max score			90	

Table 3. Students' completeness and score in Social science after Cycle II

No	Score	Completeness	No. of Students	Percentage (%)
1.	<66	Not complete	1	4
2.	≥66	Complete	27	96
Σ			28	100
Mean			77.5	
Min score			60	
Max score			100	

Tabel 4. Comparison of each cycle

No	Completeness	Pre-Cycle		Cycle 1		Cycle II	
		(f)	(%)	(f)	(%)	(f)	(%)
1	Complete	16	57	21	75	27	96
2	Not complete	12	43	7	25	1	4
Σ		28	100	28	100	28	100
Mean		67.7		71.7		77.5	
Min score		40		50		60	
Max score		80		90		100	

Comparison of students' completeness in each cycle is needed to get a better view for the impact of Jigsaw technique. In the pre cycle 16 students (57%) reached the minimum grade, with an average score of 67.7. After the Jigsaw method was applied in cycle I, the number of students who passed the grade were increased to 21 students (75%), with an average score of 71.7. And after Cycle II, 27 students (96%) passed, with an average score of 77.5 (Table 4). The successful application of the Jigsaw method to improve students' learning outcomes was also reported earlier (Asis, 2013; Dewi, 2017; Elmi, Marmawi, & others, n.d.; Mukminatun, 2009; Rejeki, 2009; Widiastini, Kusmariyatni, & Arini, 2014).

At the end of this cycle only 1 student did not pass. We observed that the student loved playing around and did not pay attention to the learning process. Tewksbury (1995) said that Jigsaw would work if the teacher stated the goals clearly before the implementation of the method, and the students should do various activities during the session to keep them busy and did not play around. Slavin (1990) concluded that the rewards for the groups were important for the method to work.

Conclusion

Jigsaw, as one of a cooperative learning model, is capable to increase students' learning outcome when it is implemented correctly. The teacher should remember to explain the method to all students before the implementation and should give various activities to the students.

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References

Asis, B. (2013). Meningkatkan hasil belajar IPS dengan menggunakan model pembelajaran kooperatif tipe Jigsaw pada siswa kelas IV SDN 1 Gimpubia. *JURNAL DIKDAS*, *1*(3).

Astiti, D. K. S., & Widiana, I. W. (2017). Penerapan Metode Pembelajaran Jigsaw Sebagai Upaya Meningkatkan Hasil Belajar IPA Pada Siswa Kelas IV SD. *Jurnal Ilmiah Sekolah Dasar*, *1*(1), 30–41.

Dewi, Y. A. (2017). PPenerapan model kooperatif tipe Jigsaw untuk meningkatkan hasil belajar IPS siswa kelas V. *BASIC EDUCATION*, *6*(8), 831–839.

Elmi, B., Marmawi, R., & others. (2013). Penggunaan Model Pembelajaran Kooperatif Tipe Jigsaw Dalam Pembelajaran IPS Untuk Meningkatkan Hasil Belajar. *Jurnal Pendidikan Dan Pembelajaran*, *3*(6).

Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). Cooperative learning methods: A meta-analysis.

Komalasari, K. (2010). Pembelajaran kontekstual konsep dan aplikasi. *Bandung: Refika Aditama*.

Mukminatun, S. (2009). Upaya meningkatkan hasil belajar ipa melalui pembelajaran kooperatif model jigsaw pada siswa kelas IV sd Negeri 12 Sragen tahun pelajaran 2009/2010. Skripsi Universitas Sebelas Maret Surakarta.

Pontoh, H., Jamaludin, J., & Hasdin, H. (n.d.). Penerapan Model Pembelajaran Jigsaw Untuk Meningkatkan Hasil Belajar Ilmu Pengetahuan Sosial (IPS) Siswa Kelas V SD Inpres Salabenda Kecamatan Bunta. *Jurnal Kreatif Tadulako Online*, *4*(11).

Rahmawati, L. (2010). Penerapan Model Pembelajaran Jigsaw untuk Meningkatkan Hasil Belajar Siswa dalam Pembelajaran IPS Kelas III B SDN Karangsari 3 Kota Blitar. *SKRIPSI Jurusan Kependidikan Sekolah Dasar & Prasekolah-Fakultas Ilmu Pendidikan UM*.

Rejeki, N. E. S. (2009). Meningkatkan Hasil Belajar Matematika Melalui Model Pembelajaran Kooperatif Tipe Jigsaw Pada Siswa Kelas Viii G Semester 2 Smp Negeri 2 Toroh Grobogan. *Media Penelitian Pendidikan: Jurnal Penelitian Dalam Bidang Pendidikan Dan Pengajaran*, *3*(2).

Slavin, R. E. (1990). *Cooperative learning: Theory, research, and practice*. Prentice-Hall,.

Solihatin, E., & others. (2007). Cooperative Learning Analisis Model Pembelajaran IPS. *Jakarta: Bumi Aksara*.

Tewksbury, B. J. (1995). Specific strategies for using the “Jigsaw” technique for working in groups in non-lecture-based courses. *Journal of Geological Education*, *43*, 322–326.

Trianto. (2010). *Mendesain Model Pembelajaran Inovatif-Progresif: Konsep, Landasan dan Implementasinya pada kurikulum Tingkat Satuan Pendidikan (KTSP)*. Jakarta: Kencana.

Walker, I., & Crogan, M. (1998). Academic Performance , Prejudice , and the Jigsaw Classroom : New Pieces to the Puzzle. *Journal of Community & Applied Social Psychology*, *8*, 381–393.

Widiastini, M., Kusmariyatni, N., & Arini, N. W. (2014). Keefektifan model pembelajaran kooperatif tipe jigsaw untuk meningkatkan hasil belajar IPS Siswa kelas V. *MIMBAR PGSD Undiksha*, *2*(1).