GEOSFERA INDONESIA
p-ISSN 2598-9723, e-ISSN 2614-8528 Vol. 2 No. 1 (2018), Page 75-82 , April, 2018
https://jurnal.unej.ac.id/index.php/GEOSI

THE EFFECT OF COOPERATIVE LEARNING JIGSAW MODEL ON GEOGRAPHIC LEARNING RESULT

Bejo Apriyanto[1], Elan Artono Nurdin[2], Fahmi Arif Kurnianto[3], Fahrudi Ahwan Ikhsan[4]

[1,2,3,4] Departement of Geography Education, University of Jember, Indonesia
E-mail: apriyanto.bejo@unej.ac.id

DOI: 10.19184/geosi.v2i1.7527

Article History: *Received Date 8th February 2018, Received Revised 16th March 2018, Accepted Date 28th April 2018, Published Date 30th April 2018*

ABSTRACT

Based on observations made on 4 sepetember in class X SMA Islam Lumajang known that 75% of students said that geography subjects boring because too many concepts that must be memorized because they do not understand the benefits of geography lessons for real life, also rarely make observations out class. Strong indications that underlie the difficulties of students to understand the material presented, among others, due to lack of ability of students in solving the problem of Geography. It can be seen from the activity as well as student learning outcomes that show there are only 3% of students who look active, while others less active, and the ability of students in solving problems there are only 7 students who can solve the problem well. The ability of students in solving the problem is still lacking this can be seen from the observation that says there are only 5 of 40 students who can solve the problem while the 90% still need guidance and training in solving problems. To overcome the problem of learning quality, then compiled geography learning by implementing problem-based learning to improve student activity and learning outcomes in understanding environmental problems. The purpose of this study is to describe whether the problem-based learning can improve student activities and learning outcomes in solving environmental problems in class X SMA Islam Lumajang. This research is a classroom action research conducted in 2 action cycles. In this study data obtained in the form of student learning activities, the value of discussion results, and the value of student learning outcomes. Student learning activities are measured by increasing the average percentage of student learning activities

Key Words: *Jigsaw* Model, Learning Result

INTRODUCTION

Changes in paradigm (mindset) conducted by teachers to be able be a facilitator and learning partner for learners to help students to understand what students should master. A job teachers not only convey information to learners, but also must be a facilitator who can facilitate learning (facilitate of learning) to all learners. One of the things that must be considered by a teacher is able to seek the involvement of students learning in a fun atmosphere, happy, full of spirit, not anxious and dare to express opinions openly. As one of the integrative disciplines Geography has a field of study covering the earth, the aspects and processes that shape it, the causal and spatial relationships of humans with the environment and humans with the place (BSNP, 2008: 1). Based on the learning result of this complex geography study field, students are encouraged to understand the physical aspects and processes that shape the earth pattern, the characteristics and the spatial distribution of the ecology on the surface of the earth. In addition students are actively and creatively motivated to examine that that culture and experience influence the human perception of place and region. To be able to give the results of learning and motivation of teachers are required to be more creative in conveying material that will be given.

Based on preliminary observations made at the school that will become where the research is SMA Islam Lumajang, it is known that the results of student learning in following the learning activities of Geography in class X is very less. This can be seen from the average grade obtained by the students in the subjects of Geography is 54% and only 46% of students who achieve the minimum passing grade of geography learning in SMA Islam Lumajang is 63. Likewise with the activity of less students, indicated by the rarity students ask the teacher about the lesson given, even the students tend to be afraid to ask questions so rare questions even if there are students who ask only dominated by 5 children only the most intelligent students in its class. While other students who have moderate to low ability are relatively passive. So it requires an adequate learning model.
Jigsaw model has been used in previous research that isin a study conducted by Swasti (2006) under the title "Application Cooperative Learning Jigsaw Model to Improve Learning Outcomes Geography Student Class X IPS 3 Semester I SMA Islam Lumajang ". Result of the study says that based on learning activities that done for two cycles, it can be concluded that with the application Jigsaw cooperative learning can improve students' geography learning outcomes class X IPS semester 1 SMA Islam Lumajang. But the study did not examine student activity issues.

According to the constructivists in Suparno (2004: 9) "learning is the learner's active process constructs the meaning of either text, dialogue, physical experience, and etc". Learning is also a process of assimilating and linking experience or material learned with the understanding already possessed someone so that understanding is developed. The learner must have experience by making hypotheses, testing hypotheses, manipulating objects, solve problems, seek answers, describe, research, dialogue, holding reflections, expressing questions, expressing ideas, and others to form a new construction. For constructivists, teaching is not a move activity knowledge from teacher to student, but a possible activity students build their own knowledge. So "teaching is a form self study "(Bettencourt, 1989) in Suparno (2004: 10). In constructivist "teaching is to help

one think rightly by letting it think to itself" (Von Glasersfeld, 1989) in Suparno (2004: 10). A teacher or teacher acts as a mediator and facilitator who helps to make the learning process work well. "Co-operative learning is a learning that consciously and deliberately develops a fostered interaction (mutual tolerance) to avoid tangles and misunderstandings that can cause hostility" (Nurhadi et al, 2004: 61). Then according to Abdurrahman and Bintoro in Nurhadi et al (2004: 61) "cooperative learning is a learning that consciously and systematically develop the interaction of silih asah, silih asih and silih asuh antaar sesdama students as life training in society".

Table 2.1 Steps for Co-operative Learning

Phase	Teacher Behavior
Phase 1 Convey goals and motivate students	The teacher conveys all learning objectives to be achieved in the lesson and motivate students to learn
Phase 2 Presenting information	The teacher presents the information to the students by way of demonstration or by material reading.
Phase 3 Organize students into groups work and study	The teacher daubs out to the student how how to form study groups and help each group to do efficient transition
Phase 4 Guiding group work and study	The teacher guides the learning group on when they do the task
Phase 5 Evaluation	The teacher evaluates the learning outcomes about the material which have been studied or respectively the group is presenting its work
Phase 6 Giving appreciation	Master rewards good efforts as well as individual and group learning outcomes.

The steps of cooperative learning Jigsaw model in Sumarmi (2003: 15).
1. Students are grouped into teams
2. Each person on the team is given a different piece of material
3. Each person in the core team is assigned parts of the assigned material
4. Members of different teams who have studied the same section or sub-section meet in new groups (expert groups) to discuss their sub-chapters
5. After the discussion is finished as the team of expert members returns to the original group and takes turns teaching their teammates about the sub chapters that are mastered and each other listens in earnest.
6. Teacher gives evaluation
7. Cover

METHODS

This research uses classroom action research (Classroom Action Research) or often abbreviated as PTK. Classroom action research is research applied at the class level to get the solution from class-specific problems or to test new things in learning by identifying problems, making plans actions, perform actions, retrieve data, and analyze data (Sugyanto, 2005: 18). Classroom action research in this study is research to solve some of the problems that exist in that

class studied by giving action in the form of Jigsaw learning model in the learning process undertaken. In this study the design is used Class Action Research (PTK) which includes four stages, namely Plan Planning, Action, Observation, and Reflection.

- Based on the design of this study using two variables, namely 1) independent variable that is Jigsaw learning model, and 2) dependent variable in the form of geography learning result. The subject of this study selected two groups based on the value of Semester Semester Exam (UTS) even semester semester. The experimental group was treated using Jigsaw learning model, while the control group used the lecture and assignment model.
- The material of this research analysis is gainscore data obtained from the reduction to the ability of high school geography learning outcomes after and before the treatment of learning activities is given. The learning result analysis technique used is t free sample test (independent sample t test), which is done through the help of SPSS 16.0 for Windows at value / significance level $\alpha = 0,05$. Guidelines in decision making for independent sample t test are:
- • If sig value. or significance <0.05 and the average experimental class learning outcomes are higher than the control class then H0 is rejected.
- • If sig value. or significance> 0.05 and the average experimental class learning outcomes are lower than the control class then H0 is accepted.

RESULTS AND DISCUSSION

1. Results

Description of data which is the implementation before and after the action is done. Description of this data includes observation of student activities and learning outcomes. Observation data of this student activity aims to know the student's cooperative activity during using Jigsaw learning model. While the learning result data in the form of a learning mastery that aims to determine the improvement of student learning outcomes by using Jigsaw learning model. This research was conducted with preliminary observation or pre-action activities, cycle I, and cycle II.

Prior to the implementation of the research conducted initial observation to SMA Islam Lumajang around August. In addition to observations researchers do unstructured interview with high school Islamic geography teacher Lumajang about frequently used learning methods and constraints experienced in teaching in the classroom. Observation results found things as follows. (1) mastery of student learning is still low that is only 38.3% only students who are declared thoroughly in learning, (2) the ability of students in the achievement of learning competencies is still lacking so that students' learning outcomes still relatively low seen from the mastery of individual and classical still The average results of the control class and experiment class score increased after learning. The control class has an average increase of 23.73 points from 44.00 to 69.83. While the average value in the experimental class increased by 36.11 points, from 44.00 to 79.17. This result shows that between control and experiment class there is difference of average

score gain value equal to 11. The difference of mean value can be seen in the following diagram.

The result of data analysis through different test of independent sample t test shows the significance number (sig.) 0.000. When viewed at the 95% confidence level, then the figure is less than 0.05 (0.000 <0.05). This means Ho (lecture model and assignment has no significant effect on geography learning result) rejected and Hi (Jigsaw model has significant effect on high school geography learning result) received. Ho is rejected with 100% confidence level.

2. Discussion

a. Pre Action

Prior to the implementation of the research, a preliminary observation was made to SMA Islam Lumajang around August. In addition to observations, researchers conducted unstructured interviews with high school Islamic geography teacher Lumajang on the frequently used learning methods and constraints experienced in teaching in the classroom. The results of observations found the following things. (1) students' learning mastery is still low that is only 38.3% of students who expressed complete in learning, (2) the ability of students in the achievement of learning competencies is still less so that student learning outcomes are still relatively low seen from the mastery of individual and classical still. (3) students tend to accept what is given by the teacher and rarely ask questions to gain knowledge so as to impress the teacher more dominates, (4) at the time the learning activities take place only some active students that is equal to 17.02%, learning activities students have not been awakened properly resulting in student learning outcomes that have not been achieved optimally. Before cycle I, first analyze the initial data obtained from the results of daily tests conducted on the learning process previously, as in Appendix 1. Initial data serve as material for do reflection before conducting research. From the results of the initial reflection will be used as a comparison material in cycle I in order to know the success rate in cycle I. Preliminary data obtained from the results of daily test in class X C on the previous material as follows.

b. Action Planning

Prior to the implementation of action, a lesson plan was developed. The planning is (1) preparing the first cycle of Learning Plan (RPP) in Appendix 4, (2) preparing the material in the form of material summary in Appendix 4.1, (3) preparing the student worksheet (LKS) in Appendix 4.4, (4)) divide the class into several heterogeneous groups in both core groups and expert groups in Annex 4.2 and Appendix 4.3, (5) prepare the instrument of student observation sheets Appendix 2.

c. Implementation of Action

Initial activities conducted are face-to-face activities ie opening lessons with greetings and student presences. The next activity is apresepsi by giving an idea to the students about the material to be learned, with the question "what kind of children, which planet do we live in today?" and all students answer "Earth". Then explain the basic competencies to be achieved that is to describe, so that

students in thinking together can afford describe together the subject matter to improve knowledge students.

By using Jigsaw learning model learning, the learning outcomes are increasingly expected: first, the Jigaw learning model challenges the students to learn because in the learning process there are contextual problems and encourages students to find solutions to problem solving. The statement is in line with the opinion of Slavin & Baden (2003) which states that good learning if students are given authentic problems so that students are more interested in learning in finding solutions to problems. And asserted by Sumarmi (2012), Supratikya & Kristiyani (2013) states Jigsaw is a learning that challenges students to learn, working cooperatively in groups to solve real-world problems and foster the development of curiosity or want to know more. In contrast to learning lectures and assignments, students are lazy in the learning process because students only receive material from teaching, recording and memorizing it. Students do not discover new knowledge without the process of thinking. This is in the opinion of Made (2008) with the method of teaching lecture is more emphasized on the collection of knowledge without considering the process skills and the formation of attitudes in learning, the lack of opportunities for students to develop the ability of reason through group discussions, learning goals determined by lecturers so that learning becomes less meaningful for college student.

By using Jigsaw learning model learning, the learning outcomes are increasingly expected: first, the Jigaw learning model challenges the students to learn because in the learning process there are contextual problems and encourages students to find solutions to problem solving. The statement is in line with the opinion of Slavin & Baden (2003) which states that good learning if students are given authentic problems so that students are more interested in learning in finding solutions to problems. And asserted by Sumarmi (2012), Supratikya & Kristiyani (2013) states Jigsaw is a learning that challenges students to learn, working cooperatively in groups to solve real-world problems and foster the development of curiosity or want to know more. In contrast to learning lectures and assignments, students are lazy in the learning process because students only receive material from teaching, recording and memorizing it. Students do not discover new knowledge without the process of thinking. This is in the opinion of Made (2008) with the method of teaching lecture is more emphasized on the collection of knowledge without considering the process skills and the formation of attitudes in learning, the lack of opportunities for students to develop the ability of reason through group discussions, learning goals determined by lecturers so that learning becomes less meaningful for college student.

CONCLUSION

Based on the results of hypothesis testing and discussion of research results, it is concluded that Jigsaw learning model has a significant effect on the geography of Islamic high school student Lumajang. Things that allegedly affect the learning outcomes are: (1) students are faced with real problems that encourage students to be solved; (2) learning involves students in real and contextual inquiry so that students are more interested to follow the learning process; (3) active students during learning; (4) learning becomes meaningful because of interaction; (5) cooperation in small groups to share knowledge and ideas.

Based on the conclusions of the results of this study, it can be submitted suggestions as follows:

1. For teachers, teachers should be able to master the whole series of stages of the Problem Based Learning model. Teachers continue to provide guidance to students so that students do not down when they have not found a solution to the problems it receives. Teachers should be able to provide problems close to the students.
2. For further research is suggested to: a) test the influence of learning model Probem Based learning to other variables as well as on location, education level, or other material; b) integrate or compare with other learning models.

REFERENCES

Ibrahim, M. & Nur, M. 2000. *Pengajaran Berdasarkan Masalah*. Surabaya: Unesa University Press

Jogiyanto, 2006. *Filosofi, Pendekatan dan Penerapan Pembelajaran Metode Kasus*. Yogjakarta: Andi

Karmana, I Wayan, 2010. *Pengaruh Strategi PBL dan Integrasinya dengan STAD terhadap Kemampuan Pemecahan Masalah, Kemampuan Berpikir Kritis, Kesadaran Metakognitif, dan Hasil Belajar Biologi pada Siswa Kelas X SMA Negeri 4 Mataram*. Tesis tidak diterbitkan. Malang: Universitas Negeri Malang.

Kate, Adams. 2009. Introducing problem based learning to third year B.Ed. students and their tutors. *Journal of Teacher Education and Teachers' Work*, 1 (1)

Koestiningsih, Noer. 2010. *Perbedaan Hasil Siswa yang Belajar dengan Menggunakan Strategi Problem Based Learning (PBL) dan Konvensional Siswa Kelas X di SMKN 1 Blitar*. Tesis tidak diterbitkan. Malang: Universitas Negeri Malang.

Kolmos, Annete *et al*.2007. *Problem Based Learning*. Selahattin Kuru: TREE Isik University.

Lestari, Dina. 2012. *Pengaruh Model Pembelajaran Problem Based Learning terhadap Hasil Belajar IPA Siswa Kelas VIII SMPN 2 Blitar ditinjau dari kemampuan Dasar Matematika*. Tesis tidak diterbitkan. Malang: Universitas Negeri Malang.

Lie, Anita. 2010. *Cooperative Learning: Mempraktikan Cooperative Learning di Ruang-ruang kelas*. Jakarta: PT Gramedia Widiasarana Indonesia.

Made, Ni Suci. 2008. Penerapan Model *Problem Based Learning* Untuk Meningkatkan Partisipasi Belajar dan Hasil Belajar Teori Akuntansi Mahasiswa Jurusan Ekonomi UNDIKSHA. *Jurnal Penelitian dan Pengembangan Pendidikan FIS UNDIKSHA*. Vol 2(1), 74-86

Malikha. Dyan Rifiana. 2012. *Pengaruh Strategi Problem Based Learning Berbantuan Multimedia dan Kemampuan Akademik terhadap Kemampuan Berpikir Kritis dan Hasil Belajar IPA Siswa Jurusan Mesin SMKN 1*

Jenangan Ponorogo. Tesis tidak diterbitkan. Malang: Universitas Negeri Malang.

Mahanal, Susriyati & Zubaidah. 2007. Penerapan Pembelajaran Berdasarkan Masalah dengan Strategi Kooperatif Model STAD pada Mata Pelajaran Sains untuk Meningkatkan Kemampuan Berfikir Kritis Siswa Kelas V MI Jenderal Sudirman Malang. *Jurnal Penelitian Kependidikan*, 17 (1): 32-47.

Nurhadi, dkk. 2004. *Pembelajaran kontekstual dan penerapanya dalam KBK*. Malang: UM Malang.

Nursamsu. 2013. *Efektivitas Penerapan Model Pembelajaran Problem Based Learning (PBL) dan Jigsaw terhadap Hasil Belajar ditinjau dari Motivasi. Tesis tidak diterbitkan*. Malang: Universitas Negeri Malang

Purwanto, Edy. 2005. *Evaluasi Hasil Belajar.* Malang: Universitas Negeri Malang.