Improving Student's Learning Outcomes and Student's Activity of Social Science (IPS) Subject by Using Jigsaw Learning Model at Class VIII B in SMPN 14 Sijunjung

Wildawati[1] Azwar Ananda[2] Helmi Hasan[3]
[1] Affiliations 1, [2] Affiliations 2
* e-mail: wildawati21@yahoo.com

Abstract: This research aim to increase the learning on subject integrated and to increase the activities students' results on subjects Integrated Social Science by using jigsaw learning model at B eigth class of SMPN 14 Sijunjung. This recearch used Action Recearch Approach. The subject of recearch was the students of B eigth class of SMPN 14 Sijunjung. The procedure of Action Recearch Approach concisted of three cycles in which each of it concisted of four stages: planning, action/implementation, observation, and reflection. The recearch instrumens were observation sheets, notes worksheet, tesis and dokumentation. The data validity check was done by discussing with the expert of observers and corrector. The data was analyzed qualitatively and quantitatively.The result of the of recearch found that 1) the students result had increased which could be seen from the average score of examination after cycle that were cycle I, cycle II, and cycle III. This score had reached the expected indicators, that is or reached the criteria. 2) The learning activitiese of the B eight class studens on subjects Integrated Social Science by using jigsaw learning model had increased that was the activities score of cycle, cycle II, and cycle III. Based on the finding of the research it was concluded that the use of jigsaw learning model could increase the activities and the learning results of the students at B eight class of SMPN 14 Sijunjung on subjects Integrated Social Science.

Keywords: Learning Increase, Students Activities, Jigsaw Model

Conflict of Interest Disclosures:
The authors declare that they have no significant competing financial, professional or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

Introduction

Life quality of a nation is determined by educational factors. It is in accordance to the Act of Republic of Indonesia Number 20 Tahun 2003 on National Education System Chapter I, with statement: Education means conscious and well-planned effort in creating a learning environment and learning process so that

learners will be able to develop their full potential for acquiring spiritual and religious strengths, develop self-control, personality, intelligence, morals and noble character and skills that one needs for him/herself, for the community, for the nation, and for the state.

To realize the purpose of education above, the education quality should be improved by, for example, the quality of learning. Teachers play an important role in improving learning quality because they directly act as facilitator who guide and develop students' ability for being intellectual, skilled and morale human beings. Teachers are demanded to implement Student-Centered strategies in order to improve education quality.

According to Melvin 1. Silberman (2010: 12), Learning needs students' mental involvement and works. Explanation and demonstration alone will not result in lasting learning outcomes. Only active learning activity will result in meaningful learning outcomes.

Based on writer's observation when teaching at Class VIIISMPN 14 Sijunjung school year 2016/2017, students' learning activity was low. It was found that 1) students were not responsive to the tasks assigned by the teacher, students were not active and had low motivation to discuss in group, 2) student were afraid of making mistakes, 3) feeling shy in expressing their opinions, did not care, were not willing to ask and answer the questions from other peers or teachers, 4) the students did not submit the tasks on time for reasons of forgetting, unfinished, or unaware of having tasks, 5) Students were not focus in learning such as doing tasks for other subjects, disturbing friends 6) Students considered IPS as a difficult lesson, 7) Teacher-centered learning process.

To solve those problems, the researcher conducted a research entitled: Improving Student's Learning Outcomes and Student's Activity of Social Science (IPS) by Using Jigsaw Learning Model at Class VIII B in SMPN 14 Sijunjung.The researcher chose Class VIII B because students' activity and learning outcomes in this class was lower than other VIII classes.

Steps in implementing Jigsaw Learning model, as mentioned by Lie (2002: 68-69), are1) Teachers divideteaching materials into 4 parts, 2) Before giving lesson, teachers introduce the topics that are going to discuss on that day. Teachers can write the topics on the board and then ask student's knowledge about them. This brainstorming acitivity aims to activate students' schemata in order to be more ready to receive new lesson material.3) Students are divided into group of 4 students. First part is given to the first student, the second part to the second student and so on. 4) Then, students are asked to read and work on their own part. 5) After that, students share what they've learned and done. In this activity students can complement and interact with one another. Especially for reading activity, teacher later distributes unread parts to each student. 6) Student read the part. 7) The activity is closed by a discussion session about the topic in lesson material. Discussion can be done in pairs or with all teachers.

Jigsaw Learning model is a learning model which guides students to present their ideas/opinions to other peers. This learning model is effective to train students to speak up their minds/ideas and own opinions.

The purpose of this research was to know if the implementation of Jigsaw Learning Model could improve student's activity and learning outcomes of IPS subject at Class VIIIB SMPN 14 Sijunjung.

The formulation of the problem of this research was How is the effort to improve students' learning outcomes of IPS subject by using Jigsaw Learning Model at Class VIII B SMPN 14 Sijunjung? How is the effort to improve students' activity of IPS subject by using Jigsaw Cooperative Learning at ClassVIII B SMPN 14 Sijunjung?

Table 1. Average Anniversary Value of IPS Students of Grade VIII SMPN 14 Sijunjung Even Semester of 2016/2017.

No	Class	Number of students	Completed	persentage	Average value	Completeness (%)
1	VIIIA	21	10	13	70.00	62
2	VIIIB	20	9	11	57.1	55
3	VIIIC	21	8	13	67.00	62
4	VIIID	22	9	13	65.00	59

Source: IPS Teacher SMPN 14 Sijunjung

Method

This reseach was a *Classroom Action Research* (CAR). The study was conducted in SMPN 14 Sijunjung. The subject of this research was students at VIIIB SMPN 14 Sijunjung with the total of 21 student consisting 12 male students and 7 female students. The researcher chose this class because Class VIIIB had lowest activity and learnig outcomes among the two classes.

This research was conducted according to CAR design which had three cycles:
1. Planing. In this stage, teacher prepared lesson plans, designed research instruments such as student observation sheet, decided observer who would observe students' acvity during learning process. The observation was done by observer and researcher as IPS teacher who taught in Class VIIIB.
2. Action was the implementation of designed lesson plan which used Jigsaw Learning Model.
3. Observation was done by teacher and observer during the learning process thorugh identifying, recording, and observing all actions that took place, then conducting simple analysis by the researcher in percentage form.
4. Reflection. The researcher reviewed obtained data from each observation sheet at the end learning process in each meeting. The data was analyzed, evaluated, and finally decided whether it should be revised or not. Refletion allowed researcher to know achieved goals and weaknesses that needed to be revised for the next meeting. In other words, reflection provided advices and reccomendation of better lesson plan for the next meeting.

Then, analysis was done on qualitative and quantitative data. Qualititative data which was used to describe students' activities in the Cycle 1 was elaborated in sentences and processed in persentage and graphic calculation.

Quantitative data was obtained from percentage calculation at every cycle. Percentage calculation of student's activity criteria was analized quantitatively and displayed in percentage. Data of involved students and data of students' behavior in every activity were calculated by using following formulation:

$$P = \frac{F}{N} \times 100\%$$

annotation :
P = Percentage of students' activity
F = Frequency of Active Students
N = All students being studied.

The assessment criteria of student learning activity were summarized in the following table:
Table 1. Assessment Criteria of Learning Activity

Percentage of quantitative learning	Category

activity data (P)	
0%-20%	Very Poor
21%-40%	Poor
41%-60%	Fair
61%-80%	Good
81%-100%	Very Good

(Arikunto : 2011 : 251)

To know students' completeness in learning process, two following formulations were used:

a. Individual Completeness is determined by formulation:

$$\text{Individual Completeness} = \frac{\text{Average Score}}{\text{Maximum Score}} x100\%$$

With the criteria: if a student got score 78% of given or got a score of 78, the student was categorized into *complete* criteria.

b. Clasical Completeness. The criteria is 'if 78% students in a class have achieved target scores (complete). The formulation is:

$$\text{Classical Completeness} = \frac{\text{the number of completed students}}{\text{The total of students}} x\ 100\%$$

Before the instrument was used, it was first validated by senior teachers.

Findings

a.**Planning of Cycle I**

1. Preparing Lesson Plans for
2. Cycle I had two meetings
3. Preparing teaching materials
4. Dividing learners

b.Action.
The learning procedures were: 1) Opening : teacher greeted and prepared the students to follow the learning process and asked the students to sit neatly.
-checking students' attedance and readiness to start the lesson.
1). Apperception: -asking previous lesson
-asking questions related to current lesson such as "have you ever commited an act that violates the school rules?"
2).Motivation :-Explaining learning objectives.
- Informing students about the material they were going to dicuss through displaying images of deviant behavior.
Main Activity of Jigsaw Learning Model Cycle 1 awere :
1. Students were divided into 4 groups according to Jigsaw Model group division, *home group* and *expert group.* Students who got similar number discussed same materials in expert group. Every group discussed and mastered the materials.
2. Teacher guided expert group back to home group to explain discussed and mastered material to their peers in home group. Expert group presented and explained the material which later would be presented in home group. The group presented in home group.
3. Closing
a. Teacher and students made conclusion and did evaluation
b. Students were guided by teacher to do oral reflection.

c. Tasks : taking a note learned material and reading materials for the next meeting at home.

c. **Observation**, at this stage, all students' activity was noted and at the end of cycle I, daily test was conducted.

Reflection

After learning, observation results were discussed together with the observer reagarding problems faced during teaching-learning process..

Hasil yang sudah dicapai pada siklus I adalah

a. Activity of Expert group at meeting 1 and meeting 2in Cycle 1 increased from average score of 42% to 54.2%. Best score was achieved in the activity of kenaikan expressing ideas, active students in group, and other three activities which were in *fair* category. The reason was that students' unfamiliarity toward Jigsaw Learning Model, habit of relying on friend in doing the task, less focus in learning, and there were some students who did not write down the conclusion on their books.

b. Home group activity from meeting 1 to meeting 2 in Cycle 1 increased from average of 47% to 64%. Best improvement was achieved by the activity of answering questions and expressing ideas, students asked quetions, communication activity, and other 2 activities categorized in *fair.* This wascaused by students' unfamiliarity toward Jigsaw Leaerning Model, and confusion of what they should ask because they had not mastered the material

c. Expert group discussion and home group presentation were done in hurry so some students lost their focus.

d. There were some students who did not write summary on their books.

Revision

Based on the discussion with the observer in Cycle 1, revision should be made in Cycle II so that the learning process would be more condusive. The revisions were:

1. 10 minute extra time for discussion session for each group.
2. Giving motivation to expert group who could not make conclusion of their group discussion on time.
3. Giving rewards such as extra score to active and disciplined students in the discussion and reducing score of students who were not seriously following the learning process.
4. All students writed summary on their notes.

Cycle II

Research in Cycle II on Jigsaw Learning Process in Class VIII B was conducted as follows:

a. **Planning of Cycle II**

In Cycle II, activity was planned as follows:

1. 10 minute extra time for discussion session for each group
2. Giving motivation to expert group who could not make conclusion of their group discussion on time.
3. Giving rewards such as extra score to active and disciplined students in the discussion and reducing score of students who were not seriously following the learning process
4. Paying attention to less active students without ignoring other students.
5. Giving observation sheet which had been prepared before to the observer. During learning process, the observer observed any student's activity in home and expert gorup according to observation format.
6. Preparing lesson plans for 2 meeting in Cycle II with the same procedures inCycle I

b. **Action**

The procedure in Cycle II was similar to Cycle I

c. **Observation**

Observing student's activity in home and expert group. Daily test was done at the end of Cycle II.

d.Reflection

The results achieved

a. Expert group activity in meeting 1 and meeting 2 in Cycle II improved from average of 64.6% to 67.6%. Best score was obtained by the activities of teamwork, students were active in the group, expressing ideas activity, and other 2 activities. These activities improved to *good* category. This was

caused by some factors. For example, students were familiar with Jigsaw Learning Model, increasing responsiblity and discipline to master the material on time and more focus in learning.

b. Home group acitivity in meeting 1 and meeting 2 in Cycle 2 improved from average of 58.4%to 64.6%. Best improvement was obtained by activities of listening, students' communication, asking, and other 2 activities which were in the category of *good*. The reason was the improvement of students' self-confidence in communication and the lesson mastery.

c. Discussion of Expert group and presentation of Home group duration was added up to 10 minutes so that the learning process went well and the students were increasingly concentrating.

d. There were few students who still did not write the summary on their books.

Revision
1. Giving rewards such as extra score to active and disciplined students in the discussion and reducing score of students who were not seriously following the learning process.
2. To be able to complete the material of Semester 1 before Semester 1 examination, the researcher and observer agreed to do Cycle III. There aere some students who were difficultly mastering the lesson, there were few students who were not focus. Student's activity and learning outcomes need better improvement.
3. All students wrote the summary of the discussion on their notes.

a. Planning of Cycle II
1. Giving observation sheet which had been prepared before to the observer. During learning process, the observer observed any student's activity in home and expert gorup according to observation format.
2. teacher's skill in classroom management should be improved and teacher should give motivation and affirmation to students in order to not afraid, not hesitate to talk and ask questions, aswer questions, and be more focus in learning so that the learner became more active in learning, more familiar with their peers, the communication went well and the students were not afraid and shy to present the materials.
3. Giving rewards such as extra score to active and disciplined students in the discussion and reducing score of students who were not seriously following the learning process.
4. Paying attention to less active students without ignoring other students and disciplining students who disturbed learning atmosphere. For example, a student are when the lesson were going to start.
5. Preparing lesson plans for 2 meetings in Cycle III.

b. Action
The procedures were similar to Cycle II
Achievements in Cycle III are :
1) Learning process at Cycle III improved. Expert group was 66.5% in the category of *good*and Home group was 68.5% in the category of *good.*
2) Students understood Jigsaw Learning Model because their learning activity and learning oucomes improved.

Revision:
1. Giving rewards such as extra score to active and disciplined students in the discussion and reducing score of students who were not seriously following the learning process.
2. To be able to complete the material of Semester 1 before Semester 1 examination, the researcher and observer agreed to do Cycle III. There are some students who were difficultly mastering the lesson, there were few students who were not focus. Student's activity and learning outcomes need better improvement research result of Cycle III

The research in Cycle III which was conducted at Class VIII B, followed these procedures :
a.Planning of Cyle III
1. Giving observation sheet which had been prepared before to the observer. During learning process, the observer observed any student's activity in home and expert gorup according to observation format.

2. teacher's skill in classroom management should be improved and teacher should give motivation and affirmation to students in order to not afraid, not hesitate to talk and ask questions, aswer questions, and be more focus in learning so that the learner became more active in learning, more familiar with their peers, the communication went well and the students were not afraid and shy to present the materials.
3. Giving rewards such as extra score to active and disciplined students in the discussion and reducing score of students who were not seriously following the learning process.
4. Paying attention to less active students without ignoring other students and disciplining students who disturbed learning atmosphere. For example, a student are when the lesson were going to start.
5. All students wrote the summary on their books
6. Preparing Lesson Plans for 2 meeting in Cycle according to Standard of Competency and basic competence

b. Action

The steps were similar to Cycle II

c. Observation

Observing student's activity in home and expert group. Daily test was done at the end of Cycle III

d.Reflection

1. Learning process in Cycle III improved. Expert group improved to 66.5% in the category of *good.* Home group improved to 68.5% also in the category of *good.* The details can be seen in table 2 and table 3below.
2. Students understood how participate in Jigsaw Learning Model since their activity and learning outcomes has also improved. The details can be seen in table 2 and table 3 below.

Table 2 Average Score of Individual Activity in Home Group at Class VIII B SMPN 14 Sijunjung in Cycle I, II, dan III

	Cycle I		Cycle II		Cycle III	
	P1 %	**P2 %**	**P1 %**	**P2 %**	**P1 %**	**P2 %**
Total	11,00	14,55	14,50	18,6	16,85	18,05
Average	0,52	0,70	0,70	0,88	0,80	0,85

Table 3 Average Score of Individual Activity in Home Group at Class VIII B SMPN 14 Sijunjung in Cycle I, II, dan III

	Cycle I		Cycle II		Cycle III	
	P1 %	**P2 %**	**P1 %**	**P2 %**	**P1 %**	**P2 %**
Total	11,00	14,55	14,50	18,6	16,85	18,05
Average	0,52	0,70	0,70	0,88	0,80	0,85

Table4Students' Learning Outcomes in Cycle I, II, and III atClass VIII B

Cycle	Percentage of completed learners	Percentage of incompleted learners	Average value of learning outcomes
I	75	30	71,3
II	79	21	73,6
III	90,47	9	85,23

Results and Discussion

Rumiyatun, Application of Cooperative Learning Model Jigsaw Type To Improve Student Learning Outcomes In Economics Ips Subject, Journal of Economic Education Dynamics of EducationVol. VII, No.1, June 2012 Page. 43-52. In his research, Implementation of Cooperative Learning Model of Jigsaw Type can improve Student Learning Outcomes in Economic IPS Subject.

Asnawi, Rini, (2013), Implementation of Jigsaw Cooperative Learning Model on Integrated IPS Lessons In Improving Student Learning Outcomes In Kahuku Likupang National Junior High School, Journal of Economic Education Vol 1, No 4 (2013). The result of his research Application of Cooperative Learning Model of Jigsaw Type on Integrated Ips Subject In Improving Student Learning Outcomes In Kahuku Likupang National Junior High School.

Fauzi's research, Achmad, "Implementation of Jigsaw Type Cooperative Learning Model to Improve Motivation of Students' Mathematics Learning at SMA Negeri 1 Pamukan Barat". The results showed that the application of cooperative learning model type jigsaw can increase the motivation to learn mathematics in SMA Negeri 1 Pamukan Barat.

The implementation of Jigsaw Learning model in IPS subject at Class VIII B can improve students' learning activity. This can be seen from student's activity which is relevant with learning activity according to arranged indicators. The relevant activities in Expert group is, for example, the delivery of the ideas by students, student's teamwork, students write discussion summary in their notes, students read the materials, and student diligently do the tasks. activities in Home group are student's communication with other peers, asking and aswering questions, listening to and mastering the materials.

According to Nana Sudjana (2009: 61), student's activeness can be seen from "student's participation in doing learning tasks, problem solving, asking questions to other peers, collecting information for problem solving, conducting group discussion according to teacher's guide and conducting self-assesment related to their ability and achieved outcomes". In conclusion, active participation in learning process can be realized in various activities such as students' articipation in problem solving, students ask questions to other peers and teachers of imcomprehensible things, students actively answer teacher's questions, do tasks according to teacher's instruction, come to class on time.

The activity of Home group in Cycle 1 and Cycle 2 improved from 47,2% to 63,2%. In Cycle II, activity score in meeting 1 and 2 improved from 58,2% to 61,2%. The average score of activity in Cycle III at meeting 1 and meeting 2 improved compared to CycleI and II, from 67,6% to 72,4%. This score has met desired indicators of success that is 61%-80% or has achieved the criteria of *good*due to improvement of averages at Cycle I (55,2%), at Cycle II (59,7%), and at Cycle III (70%). The reason was that the students has understood how to implement Jigsaw Learning Model so that the activity in the home group also improved.Based on the research at Cycle I, II and III, Jigsaw Learning Model improved student's activity and learning outcomes of IPS subject at VIII B. The information from Cycle I, II, and III explained that:

The implementation of Jigsaw Learning Method IPS subject in Class VIII B improved student's learning activity. Individual activity in Expert group at Cycle I in meeting 1 (total =10,5 and average score = 0,5) improved in meeting 2 (total=14,6 and average score=0,68). In Cycle II meeting 1 the total was 14,4 and average was 0,71in meeting 2 the total was 16,65 and average was 0,80. In cycle III meeting 1 the total was 17,05 anad average was 0,81, in meeting 2 it improved to the total of 18,05 and the average of 0,85. Individual activity in Home group at Cycle I in meeting 1 (total =11and average score = 0,52) improved in meeting 2 (total=14,55and average score=0,70). In Cycle II meeting 1 the total was 14,5and average was 0,70 in meeting 2 the total was 18.6 and average was 0,88. In cycle III meeting 1 the total was 16.85 and average was 0,80, in meeting 2 it improved to the total of 18,05 and the average of 0,85 in meeting 2 it improved to the total of 14.55 and average of 0.70.

Students' learning outcomes from Cycle I to Cycle III has improved from average of 71,23 to 73,26. The improvement also happened from Cycle II to Cycle III (85.23). moreover, the ercentage of incompleted students decreased from 30% (Cycle I) to 21% (Cycle II) and more decreased to 9% (Cycle III). This also mean that the percentage of completed students increased along the cycles. Cycle I was 75%, Cycle II was 79% and Cycle III was 90,47%. This result supported the statement of (2009: 155)

According Purwanto (2011: 46) learning outcomes is a change in the behavior of learners due to learning that he achieved mastery over a number of materials given in the process of teaching and learning.

Furthermore Nana Sudjana (2009: 3) defines the learning outcomes of learners is essentially a change in behavior as a result of learning in a broader sense covers the fields of cognitive, affective, and psikomotorik.

According to Benjamin S. Bloom (in Nana Sudjana 2009: 22) mentions six types of cognitive domain behavior, as follows: a. Knowledge, achieving the memory of what has been learned and stored in the memory. Knowledge is related to facts, events, notions of rules, theories, principles, or methods.b. Understanding, including the ability to grasp meaning and meaning of what is learned.c.Application, including the ability to apply methods and rules to deal with real and new problems. For example, using principles.d.Analisis, includes the ability to break a unity into parts so that the overall structure can be well understood. For example reducing the problem to a small part. e. Synthesis, including the ability to form a new pattern. For example the ability to develop a program. F. Evaluation, including the ability to form opinions about some things based on certain criteria. for example, the ability to judge repeated results.

The conclusion of cognitive theory is that cognitive one of the main factors affecting the success of the learning process in the class is the cognitive factor possessed by the learners

Learning outcomes is the reflection visible changes of attitudes in students which can be observed and assessed in the form of behavior and skill changes. The changes can be defined as better improvement or developement than previous ones. For example, for not knowing to understand, from impolite to polite, and others.Based on the elaboration above, it can be concluded that Jigsaw Learning Model improved students' activity and learning outcomes of IPS subject at Class VIII B SMPN 14 Sijunjung.

Conclusion

The implementation of Jigsaw Learning Model could improve student's learning activity in IPS subject at Class VIII B SMPN 14 Sijunjung. This was showed from the comparison between student's activity averagevalues in cycle I, II andcycle III.

Average of students' activities of expert group was in the category of *fair.* There is slight improvement in meeting 2 of Cycle I despite its unchanged category. However, its category was then changed to *good* in meeting 1 of Cycle 2 while in meeting 2 of Cycle 2 the category was good and slightly improved. In Cycle III the activity more increased in from meeting 1 to meeting 2 with category of *good.*

Average of students' activity in home group in meeting 1 of Cycle I was in the category of *fair.* Meeting 2 of Cycle I changed it to category of *good.* Its average improved in meeting 1 Cycle to and in the category od *good.* this also applied in meeting 2 of Cycle II. The implementation of Cycle III increase the average of students' activity although the category was still *good.*

In term of students' learning outcomes, it also improved from Cycle I to Cycle III.Moreover, the percentage of imcompleted students decreased from Cycle I to Cycle III. while completed students' percentage increased from Cycle 1 to Cycle III, from *fair* category to *very good* category.

The implication of this research is Jigsaw Learning Model improved students' learning activities and learning outcomes. Theoritical implication is as additional kwoledge about *Classroom Action Research* (CAR) that can motivate teachers and other researchers to conduct similar research for the sake of improving learning outcomes. This research could also be a reference for teachers in designing active, creative and fun learning activities and this Jigsaw learning model could also be sonsideration for teachers to implement different strategies in teaching IPS and other subjects. By Jigsaw, teachers could understand student needs and conditions in learning in order to create suitable learning atmosphere for students.

Practical implication of this research was that the positive findings related to the improvement of IPS teaching-learning quality. This research adds teachers' knowledge about learning strategies for the sake of improving students' acitivity and laerning outcomes through Jigsaw Model. So, teachers need to be trained on how to use the learning model through seminars, upgrading programs by schools under Education Official's supervision.

Acknowledgment

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