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The Impact of Lesson Study for Learning Community (LSLC) on Student Participation Based Jigsaw Learning Model

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Abstract
Participation is an important factor in achieving maximum learning in achieving learning goals. However, the level of student participation in learning is still relatively low. Therefore, efforts need to be made in the form of innovation in learning to increase student participation in learning, such as implementing LSLC based on the Jigsaw learning model. This research is a descriptive study with a sample of class XI IPS 1 SMA Adabiah 2 Padang. This research aims to see the impact of LSLC on student participation in learning using the Jigsaw learning model. Based on the results of data analysis, it was found that for each meeting there was a significant increase in student participation. So it can be concluded that learning using LSLC and the Jigsaw learning model has a positive impact on student participation in learning.

Keywords: Jigsaw Learning Model, Lesson Study of Learning Community (LSLC), Participation

Introduction

Participation is the role of each individual student, whether in their group or not, during the learning process (Sudiarto, 2022). There are 4 indicators of student participation, namely: 1. attention to learning, 2. listening skills, 3. asking/proposing ideas, and 4. quality of ideas/ideas (Nofrion, 2023). Apart from these four indicators, student participation in learning can also be shown by students' activeness in learning, paying attention to the teacher when explaining in class, asking what is blocking their mind, and being able to communicate reciprocally in learning (Ismiyati & Salamah, 2020).

The problem that teachers often experience when teaching is low student participation (Zainuddin, 2017; Akbar, 2022; (Sani et al., 2022). The reason this occurs is because learning tends to be one-way (teacher-centered) so that learning outcomes are still low (Permana et al., 2020). Teachers have great difficulty overcoming these obstacles (Rahma & Ritonga, 2022; Izzah et al., 2022). Teachers need help and collaboration with other teachers to overcome them (Ario, 2018).

The solution that is expected to overcome the problem of low student participation is to implement Lesson Study For Learning Community (LSLC). LSLC is participatory learning (Asri, 2022; Sudiarto, 2022). LSLC is a community forum that works together to improve learning problems in the classroom. In this LSLC, lecturers and/or teachers together discuss problems that occur in class. The problem is analyzed, and the right solution is sought (Ng, B, 2022; Madinda et al., 2022; Hasanah et al., 2023). The process of finding a solution is in accordance with the stages in Lesson Study, namely plan, do, see. Plan is the stage where lecturers and teachers design appropriate learning, and it is estimated that it can be a solution to the problems that have occurred in the classroom so far. Do is the stage where exemplary teachers chosen by the community carry out plans that have been previously designed by the community. Lecturers and other teachers act as observers who observe how the learning process takes place and students' responses to the learning design provided. See is a reflection stage, where lecturers and teachers together convey the findings obtained during observations and discuss whether the design that has been created can overcome problems in the classroom or not (Rejeki et al., 2018; Rini, 2021; Rusiyanti et al., 2022 ; Sani et al., 2022).

The innovative learning model is needed that accommodates student participation, namely a jigsaw type learning model. The reason the model lecturer chose the jigsaw model was because this model had several

advantages. Through jigsaws, students can increase their sense of responsibility for their own learning and also the learning of others (Nofiana et al., 2019). Students not only study the material provided, but they must also be ready to provide and work on the material to other group members, so that their knowledge increases (Saktiyani et al., 2020; Jayanti, 2021). Jigsaw can also increase students' collaborative work to learn assigned material (Nurmaliah et al., 2018; Dewi et al., 2021; Missyella et al., 2023).

Method

This research is descriptive research. The aim of this research is to analyze the impact of Lesson Study For Learning Community (LSLC) on student participation in jigsaw-based learning. In accordance with this aim, samples were taken using a purposive sampling technique (Lenaini, 2021). The research sample was 35 students of class XI IPS 1 SMA Adabiah 2 Padang. Apart from being in accordance with the research objectives, this sample selection was also based on the principal's consideration that this class had very low participation compared to other classes.

The research data is in the form of a description of student participation. Data was taken through observation techniques during the learning process in class. Student participation data was collected using an observation instrument with a 1-4 scale rubric. The research was carried out within the LSLC framework in 3 cycles with each cycle having plan, do and see stages. Each cycle data is collected and its progress is analyzed to determine its impact on student participation.

Results and Discussion

Based on the results of the data analysis carried out, it can be said that the application of LSLC in Jigsaw-based learning can increase student participation in learning. The results of this research can be seen based on observations made during 3 meetings. In this research, at each meeting, students will be given a score for their participation. The following is the scoring rubric for observing student participation in learning.

Table 1. Rubric for Attention to Learning (Participation)

Scor	Criteria	Indicator
1	Very Low	Not paying attention to learning
2	Low	Paying less attention to learning
3	Medium	Pay attention to learning but is unstable
4	High	Pay attention to learning steadily

(Nofrion, 2022)

Table 2. Rubric for Listening Skill to Learning (Participation)

Scor	Criteria	Indicator
1	Very Low	Doesn't listen to the teacher's explanation or the opinions of other students
2	Low	Listen to the teacher's explanation or students' opinions after being reminded by the teacher
3	Medium	Listen to the teacher's explanation or other students' opinions without the teacher needing to remind them
4	High	Listens to the teacher's explanation or other students' opinions without needing to be reminded by the teacher and contributes to the dialogue

(Nofrion, 2022)

Table 3. Rubric for Asking or Proposing Ideas and Thoughts (Participation)

Scor	Criteria	Indicator
1	Very Low	Never ask/put forward ideas and ideas

2	Low	Ask/put forward ideas and concepts after being appointed by the teacher
3	Medium	Expresse opinions at least once during learning on his own initiative
4	High	Expresse opinions more than once during learning on his own initiative

(Nofrion, 2022)

Table 4. Rubric for Quality of Ideas and Thoughts (Participation)

Scor	Criteria	Indicator
1	Very Low	Idea and thought do not contain relevant information
2	Low	Only a small number of idea and thought are constructive, precise and specific
3	Medium	Most idea and thought are constructive, precise and specific
4	High	Idea and thought are constructive, precise and specific

(Nofrion, 2022)

Based on the scoring rubric for observing student participation in learning, positive results were obtained, increasing student participation activities at each meeting. At each meeting, both individually and in groups, student participation scores increased quite well. This fact proves that LSLC with Jigsaw-based learning has a positive effect and can increase student participation in learning. The following is the average data on individual student participation scores.

Table 5. Mean Participation Score for Each Student in Group 1

Group	Student	Meeting		
		Meeting 1	Meeting 2	Meeting 3
1	1. AHR	2.5	2.5	3.5
	2. AS	3	3	4
	3. AL	3	3	4
	4. DARA	2.5	2.5	3.5
	5. MIS	2.5	2.5	3.5

Based on Table 5, it can be seen that the average participation score for each student member of group 1 was constant at meetings 1 and 2 and then increased at meeting 3. At meetings 1 and meeting 2 the average score obtained by 5 students was 2.7. There were no students who were able to get the maximum score of 4 at meeting 1 and meeting 2. At meeting 3 there were already 2 students who were able to achieve a score of 4 and the average score for each student rose to 3.7. Below is a diagram of the average score for each group 1 student in Figure 1.

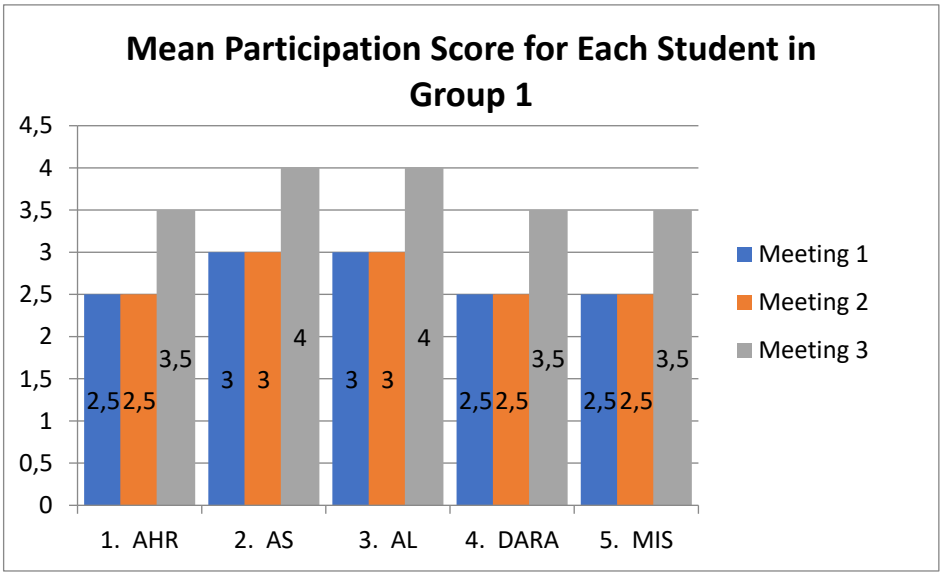

Figure 1. Diagram of the Mean Participation Score for Each Student in Group 1

The diagram of the mean score for each student in Figure 1 shows that each student member of group 1 experienced an increase in the mean participation score using LSLC and Jigsaw-based learning. This can be seen from the diagram presented that at meeting 3 the mean score of student participation was higher than the diagram at meetings 1 and 2. The results of the mean participation score for each student in group 1 show that at meetings 1 and 2 student participation in learning is still the same because students are in the process of adapting to learning with LSLC and the Jigsaw model. As time goes by, students have begun to understand learning with LSLC and the Jigsaw model. This can be proven by the mean participation score increasing at meeting 3. It can be concluded that the mean participation score for each group 1 student has increased through learning using LSLC and the Jigsaw model. Below are presented the results of the mean participation score for each group 2 student.

Table 6. Mean Participation Score for Each Student in Group 2

Group	Student	Meeting		
		Meeting 1	Meeting 2	Meeting 3
2	1. AARA	2.5	2.5	3.5
	2. AK	3	3	4
	3. AAN	4	4	4
	4. FP	3.5	3.5	4
	5. MRA	3	3	4

Based on Table 7, it can be seen that each student member of group 2 tends to experience an increase in the mean participation score, especially at meeting 3. Students get the same score at meeting 1 and meeting 2. The mean score obtained by students at meeting 1 and meeting 2 is 3.2. At meetings 1 and 2, only 1 student got a score of 4. Furthermore, there was an increase in the mean student participation score at meeting 3, where at meeting 3 the mean participation score was 3.9 and 4 students were able to get the maximum score, namely 4. The following is presented diagram of the mean participation score for each group 2 student in Figure 2.

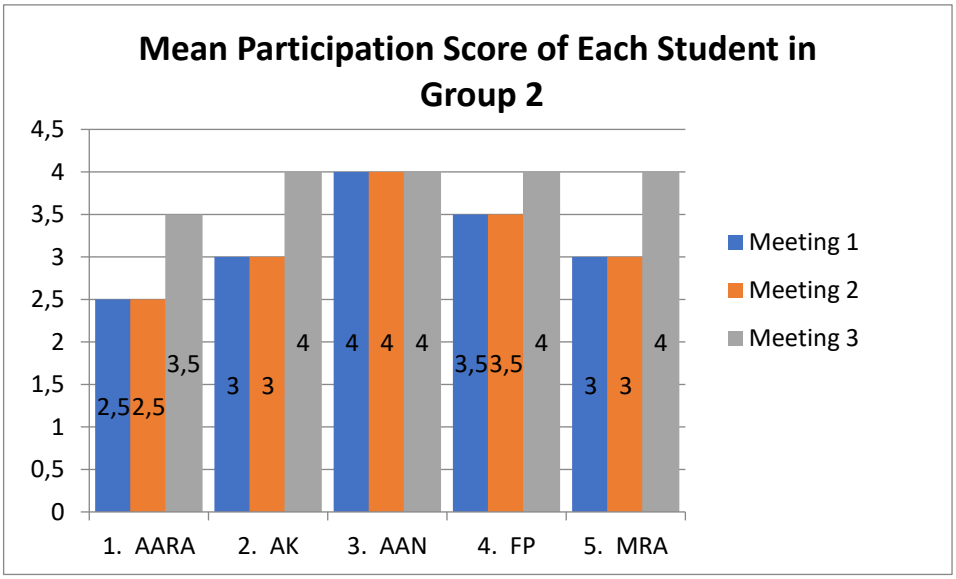

Figure 2. Diagram of the Mean Participation Score for Each Student in Group 2

In Figure 2 it can be seen that the mean student participation score diagram at meeting 3 is the highest between the diagrams at meetings 1 and 2. The higher diagram at meeting 3 shows that there has been an increase in the mean student participation score from the previous meeting. Students belonging to group 2 experienced an increase in their mean score at meeting 3 because the students were used to learning using LSLC and the Jigsaw model. It can be concluded that learning using LSLC and the Jigsaw model will have a positive effect on student participation in learning. Below are presented the results of the mean participation score for each group 3 student.

Table 7. Mean Participation Score for Each Student in Group 3

Group	Student	Meeting		
		Meeting 1	Meeting 2	Meeting 3
3	1. AM	2	2.75	3.25
	2. AR	3	4	4
	3. QSPA	2.5	2.75	3.25
	4. SMG	2	2	3

Based on Table 7, it can be seen that the mean participation score of students belonging to group 3 has increased for each meeting. At meeting 1 the mean student score was 2.375. At the next meeting the mean student score rose to 2,875 and there was already 1 student who managed to get a score of 4. At meeting 3, the mean student score rose again to 3,375. The significant increase in the mean student score at each meeting shows an increase in LSLC and Jigsaw learning in student participation in learning. Below is a diagram of the mean score for each group 3 student in Figure 3.

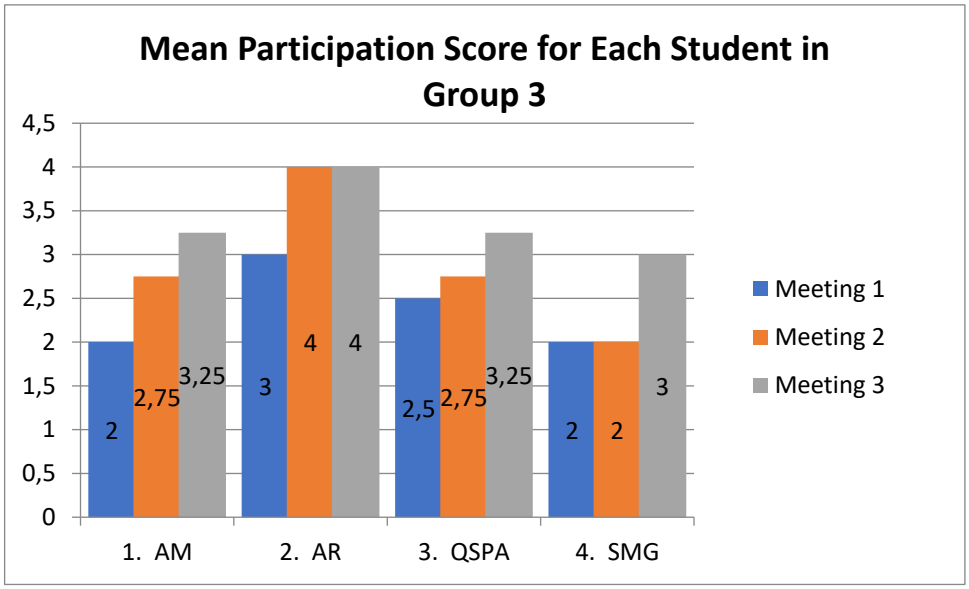

Figure 3. Diagram of the Mean Participation Score for Each Student in Group 3

In Figure 3, it can be seen that the mean participation score diagram for each student member of group 3 always increases from meeting 1 to meeting 3. The diagram at meeting 3 is higher than meetings 1 and 2, which shows that student participation in learning has increased from the previous meeting. The increase in the average participation score of each student at each meeting shows that learning using LSLC and the Jigsaw model has an impact on increasing student participation for each meeting. Below are presented the results of the mean participation score for each group 4 student

Table 8. Mean Participation Score for Each Student in Group 4

Group	Student	Meeting		
		Meeting 1	Meeting 2	Meeting 3
4	1. AY	2.25	3	3.25
	2. ASS	2.75	3	3.5
	3. IAM	3	3.75	4
	4. NNF	2	2.25	3

Based on Table 8, it can be seen that the mean participation score of students belonging to group 4 always increases from meeting 1 to meeting 3. At meeting 1 the mean student participation score is 2.5. The mean student participation score then rose at meeting 2 to 3. At meeting 3 the mean student score increased again to 3.4 and there were students who managed to get the maximum score. Below is a diagram of the mean score for each group 4 student in Figure 4.

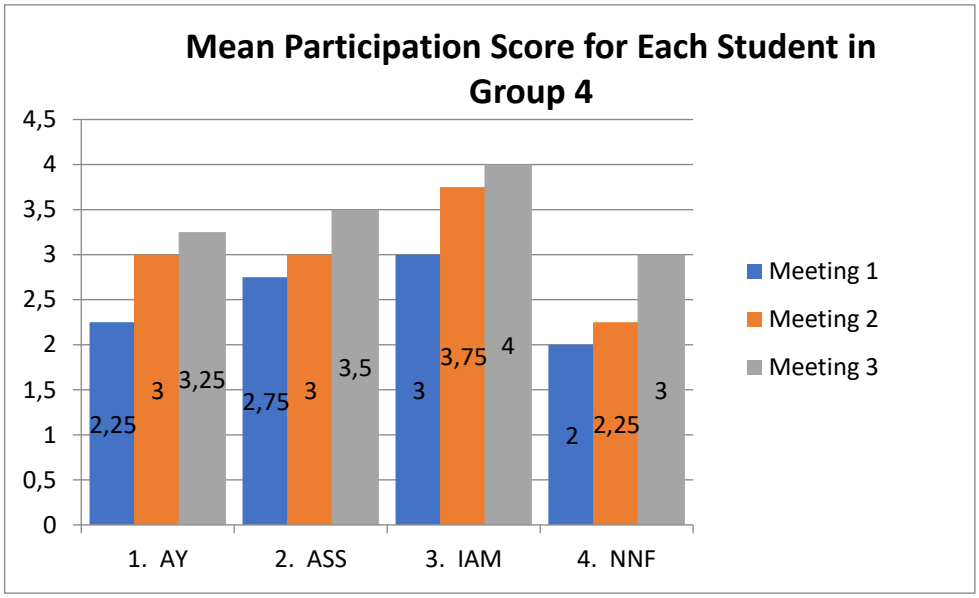

Figure 4. Diagram of the Mean Participation Score for Each Student in Group 3

In Figure 4, it can be seen that the mean score diagram of students belonging to group 4 continues to increase at each meeting. The mean student participation score diagram always increases up to meeting 3 and the mean student score diagram at meeting 3 is the best among the previous meetings. At each meeting it was seen that student participation became better by using LSLC and the Jigsaw model. It can be concluded that learning using LSLC and the Jigsaw model will have a positive effect on student participation in learning. Below are presented the results of the mean participation score for each group 5 student.

Table 9. Mean Participation Score for Each Student in Group 5

Group	Student	Meeting		
		Meeting 1	Meeting 2	Meeting 3
5	1. DJN	2.5	3	4
	2. FM	3	4	4
	3. MRN	1.75	3	3.5
	4. MAAR	2.25	3.25	3.5
	5. VA	1.5	2	3

Based on Table 9, it can be seen that the mean participation score of students belonging to group 5 has increased significantly for each meeting. At meeting 1 the mean student score was 2.2 and the highest score that students could achieve was 3. At meeting 2 the mean student score rose to 3.05. At meeting 2 the maximum score obtained by students also rose to 4. At meeting 3 the mean student score rose again to 3.6 and there were already 2 students getting a score of 4. Below is a diagram of the mean score for each group 5 student in Figure 5.

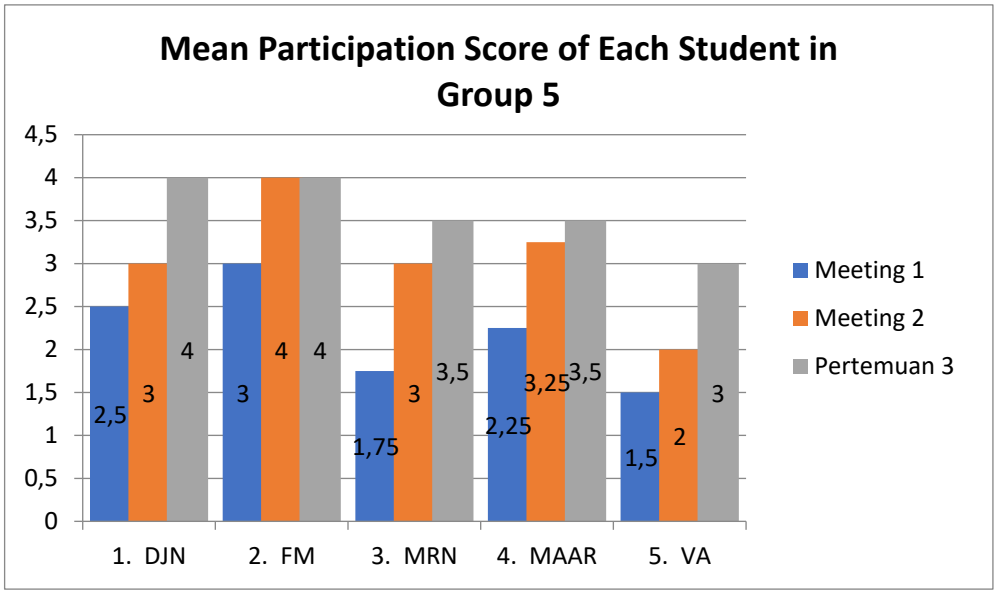

Figure 5. Diagram of the Mean Participation Score for Each Student in Group 5

In Figure 5 it can be seen that the mean participation score diagram for each group 5 student always increases from meeting 1 to meeting 3. The mean participation score diagram at meeting 3 is higher than meeting 2. The mean participation score diagram at meeting 2 is higher than meeting 1. This proves that learning with LSLC and the Jigsaw model makes the participation of students belonging to group 5 increase at each meeting. Below are presented the results of the mean participation score for each group 6 student.

Table 10. Mean Participation Score for Each Student in Group 6

Kelompok	Siswa	Pertemuan		
		Pertemuan 1	Pertemuan 2	Pertemuan 3
6	1. FAMR	1.75	2.75	3.5
	2. MA	1.75	2.75	3.5
	3. RPR	3	4	4
	4. SAA	1.75	2.75	3.5

Based on Table 10, it can be seen that the mean participation score of students belonging to group 6 always increases at each meeting. At meeting 1 the mean student score was 2.06 and 3 out of 4 students only got an mean score of 1.75. At the next meeting the mean student score rose to 3.06 and 3 out of 4 students were able to achieve a score of 2.75. At meeting 3 the mean student score was 3.62 and some had already achieved a score of 4. The increase in the mean student participation score can also be seen in the diagram presented in Figure 6

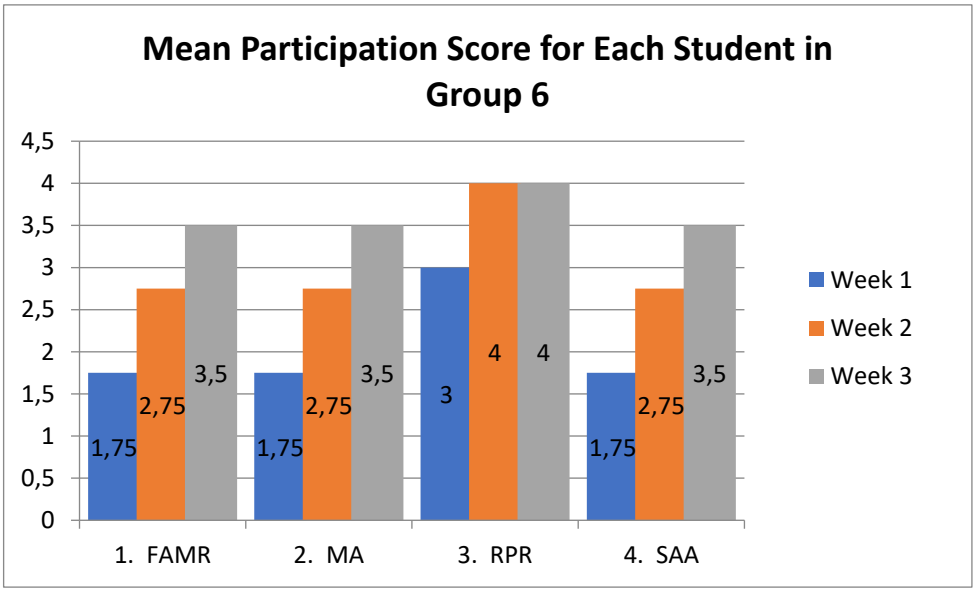

Figure 6. Diagram of the Mean Participation Score for Each Student in Group 6

Figure 6 shows that the mean participation score for each group 6 student has increased at each meeting. The mean score diagram at meeting 2 is higher than meeting 1. The same thing is the mean score diagram at meeting 3 is higher than meeting 2. These results show an increase in student participation at each meeting. The increase in the mean student participation score at each meeting was caused by the application of LSLC and the Jigsaw model in learning which made students accustomed to and motivated to participate actively in learning. Below are presented the results of the mean participation score for each group 7 student.

Table 11. Mean Participation Score for Each Student in Group 7

Group	Student	Meeting		
		Meeting 1	Meeting 2	Meeting 3
7	1. GRF	3	3	4
	2. LK	3	4	4
	3. NOD	2.5	3	3.5
	4. TMA	2.5	3	3.5

Based on Table 11, it can be seen that the mean participation score obtained by each group 7 student tends to increase for each meeting. At meeting 1 the mean score obtained by students was 2.75 and no student was able to get a score of 4. At meeting 2 the mean score obtained by students rose to 3.27 and there was already one person who managed to get a score of 4. At meeting 3 it was obtained that the mean score obtained by students was higher than meetings 1 and 2, namely 3.75 and 2 students were able to achieve a score of 4. The increase in the mean score of student participation can also be seen in the diagram presented in Figure 7.

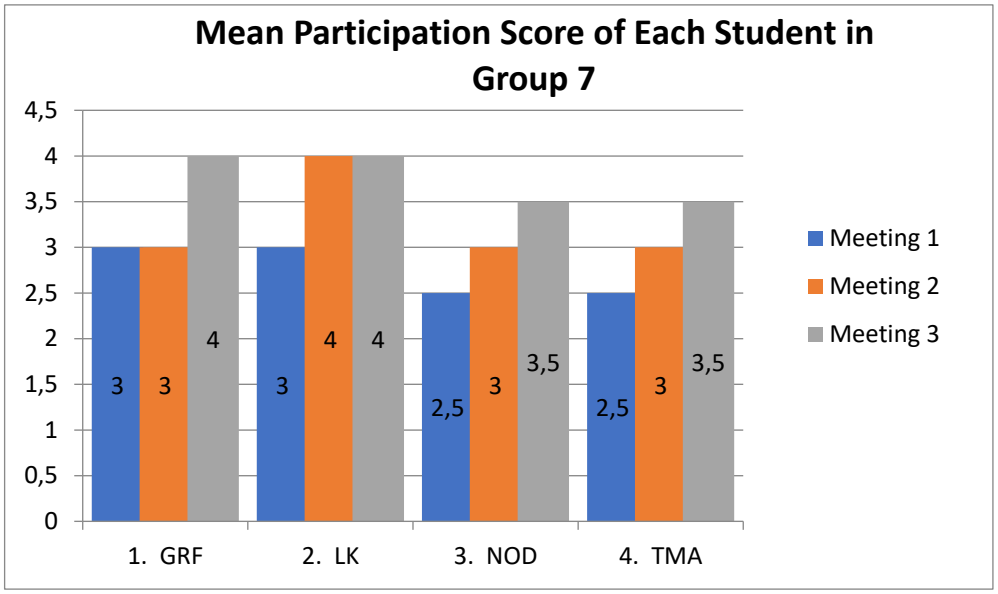

Figure 7. Diagram of the Mean Participation Score for Each Student in Group 7

In Figure 7 it can be seen that the mean score diagram for each student in group 7 was highest at meeting 3. The mean score diagram for students at meeting 2 was also higher than meeting 1. This means that there is a tendency to increase the mean participation score students at each meeting. The increase in the mean score of student participation at each meeting was caused by learning using LSLC and the Jigsaw model which encouraged students to always participate in learning. Below are presented the results of the mean participation score for each group 8 student.

Table 12. Mean Participation Score for Each Student in Group 8

Group	Siswa	Meeting		
		Meeting 1	Meeting 2	Meeting 3
8	1. HAS	3	4	4
	2. MAF	2	3	3.5
	3. RAC	2.5	3	4
	4. SMS	3	4	4

Based on Table 12, it can be seen that the mean participation score of students belonging to group 8 also always increases from meeting 1 to meeting 3. At meeting 1 the mean student score was 2.62 and no student was able to reach a score of 4. At meeting 2 the mean score student increase to 3.5 and 2 students were able to achieve a score of 4. Furthermore, at meeting 3 the mean student score rose again to 3.87 and 3 students obtained the maximum score, namely 4. This increase in the mean score shows that student participation which gets better with each meeting. The increase in the mean student participation score can also be seen in the diagram presented in Figure 8.

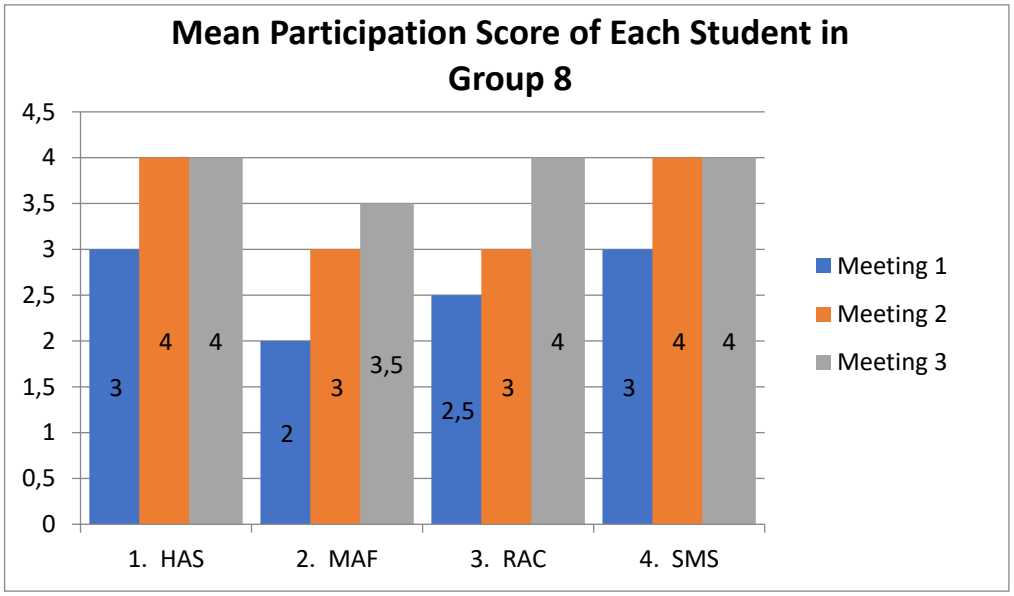

Figure 8. Diagram of the Mean Participation Score for Each Student in Group 8

In Figure 8 it can be seen that the average participation score diagram for each group 8 student increases for each meeting. The chart at meeting 3 is always higher than the previous meeting. At each meeting, there is an increase in the mean score, which means that student participation in learning also increases at each meeting. An increase in the mean student participation score as a result of learning using LSLC and the Jigsaw model. Learning using LSLC and the Jigsaw model supports increasing student participation in learning. Therefore, there was an increase in the mean student participation score at each meeting, which was the impact of LSLC learning and the Jigsaw model.

Based on the data from the mean participation score of each student at each meeting, it can be concluded that students experienced an increase in the mean participation score in learning at each meeting. The mean student participation score increased quite significantly and positively from meeting 1 to meeting 3. In line with the increase in the mean score at each meeting, student participation in learning also experienced good progress at each meeting. The increase in student participation in learning can also be seen from the mean scores per group as presented in the following table.

Table 13. Mean Participation Score for Each Group

Group	Meeting 1	Meeting 2	Meeting 3	Mean
Group 1	2.70	2.70	3.70	3.03
Group 2	3.20	3.20	3.90	3.43
Group 3	2.07	2.88	3.38	2.77
Group 4	2.50	3.00	3.44	2.98
Group 5	2.20	3.05	3.60	2.95
Group 6	2.06	3.06	3.63	2.92
Group 7	2.75	3.25	3.75	3.25
Group 8	2.63	3.50	3.88	3.33

Based on Table 13, it can be seen that the mean student participation score in each group also increased from meeting 1 to meeting 3. At meeting 1, the mean score for each group was 2.51. At the next meeting the mean score of each group increased to 3.08. At meeting 3, the highest mean score was obtained from the previous meeting, namely the mean group score was 3.66. The increase in the mean group score occurred because student participation also increased for each meeting. The mean score for each group can be seen based on the following diagram.

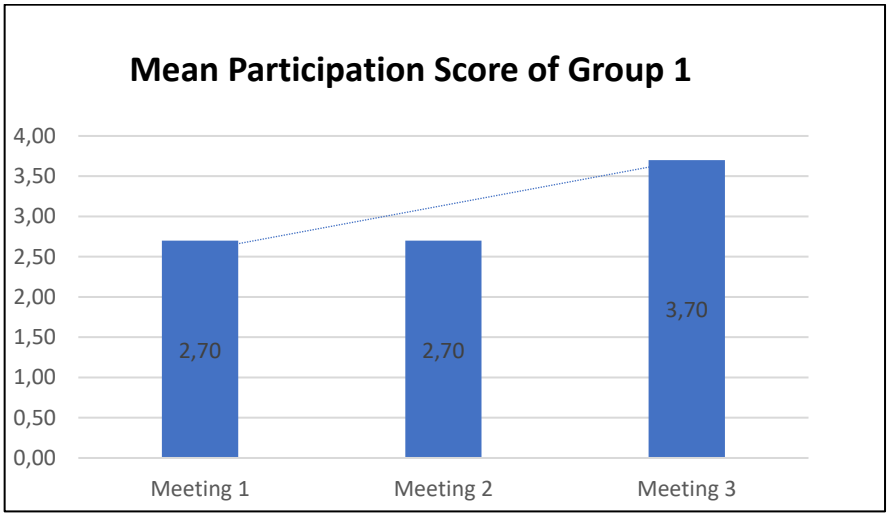

Figure 9. Diagram of the Mean Participation Score for Each Student in Group 1

Based on Figure 9, it can be seen that the mean participation score for group 1 increased between meeting 1 and meeting 3. The mean score for group 1 at meeting 1 was 2.70, then this mean score remained at meeting 2. The mean score was stagnant at meeting 2. meeting 1 and meeting 2 were because students were in the process of getting used to learning using LSLC and the Jigsaw model. After students get used to learning using LSLC and the Jigsaw model, the mean score of student participation in learning increases. The mean score of group 1 increased at meeting 3, namely to 3.70. It can be concluded that group 1 student participation has progressed at each meeting. The following is the mean participation score for group 2 in Figure 10.

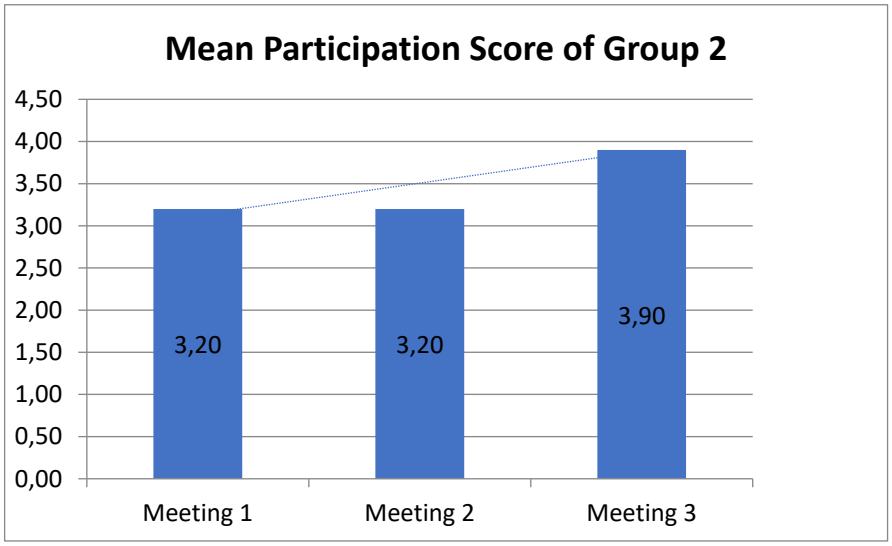

Figure 10. Diagram of the Mean Participation Score for Each Student in Group 2

Based on Figure 10, it can be seen that the mean participation score for group 2 has increased between meeting 1 and meeting 3. The mean score for group 2 at meeting 1 is 3.2. At meeting 2 the mean score remained the same, namely 3.20. The same thing also happened in group 2 where students were still adapting to learning using LSLC and the Jigsaw model so that there had been no increase in student participation in learning at meetings 1 and 2. After that the mean score for group 2 had increased at meeting 3, namely to 3.90 . It can be concluded that group 2 student participation experienced a positive increase in student participation in learning. The following is the mean participation score for group 3 in Figure 11.

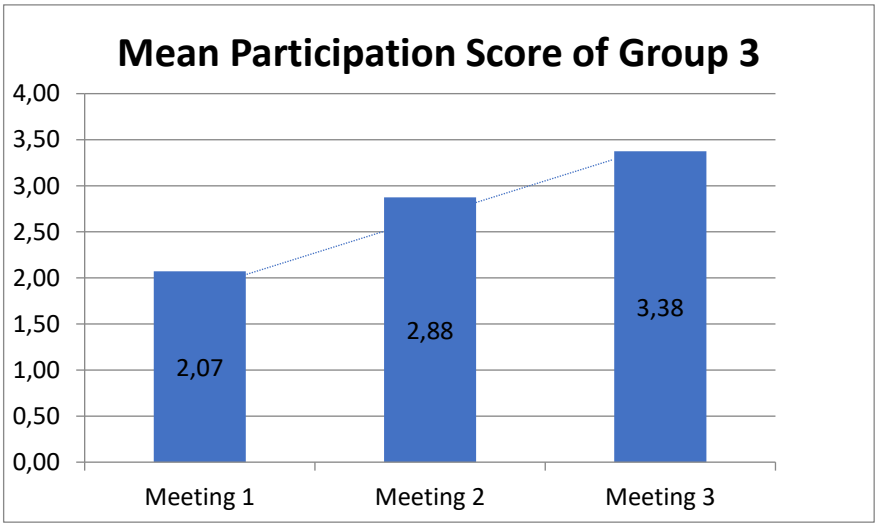

Figure 11. Diagram of the Mean Participation Score for Each Student in Group 3

Based on Figure 11, it can be seen that the mean participation score for group 3 always increases at each meeting. At meeting 1 the mean score for group 3 was 2.07. At meeting 2 the mean score of group 3 rose to 2.88 and at meeting 3 the mean score for group 3 became 3.38. At each meeting the increase in the mean score of group 3 can be said to be quite significant. In contrast to groups 1 and 2 where mean group participation score was stable at meetings 1 and 2, in group 3 at each meeting the mean participation score continued to increase. This proves that group 3 students who adapt more quickly to learning using LSLC and the Jigsaw model will experience an increase in the mean score of student participation in learning. It can be concluded that group 3 student participation is better at each meeting. The following is the mean participation score for group 4 in Figure 12.

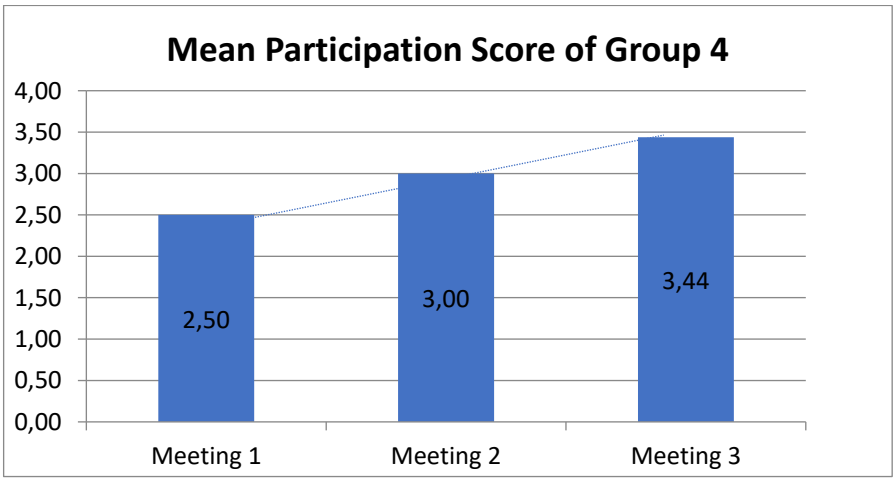

Figure 12. Diagram of the Mean Participation Score for Each Student in Group 4

Based on Figure 12, it can be seen that the mean participation score for group 4 always increases at each meeting. At meeting 1 the mean score of group 4 was 2.50. Then at meeting 2 the mean score of group 4 rose to 3.00 and at meeting 3 the mean score of group 4 rose again to 3.44. At each meeting the mean score of group 4 increased quite well. The increase in the mean score at each meeting was caused by learning using LSLC and the Jigsaw model which helped students to participate more in the learning process. It can be concluded that group 4 student participation has increased for each meeting. The following is the mean participation score for group 5 in Figure 13.

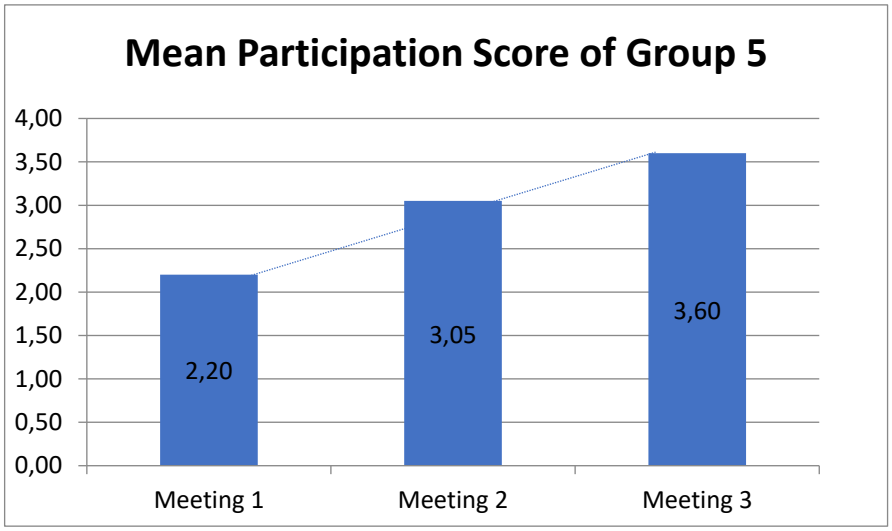

Figure 13. Diagram of the Mean Participation Score for Each Student in Group 5

Based on Figure 13, it can be seen that the mean participation score for group 5 has increased from meeting 1 to meeting 3. At meeting 1 the mean participation score for group 5 was 2.20. At meeting 2 the mean score for group 5 rose to 3.05 and at meeting 3 the mean score for group 3 became 3.60. There is an increase in the mean score of student participation in learning due to learning using LSLC and the Jigsaw model which facilitates students to participate in learning. It can be concluded that group 5 student participation is better at each meeting. The following is the mean participation score for group 6 in Figure 14.

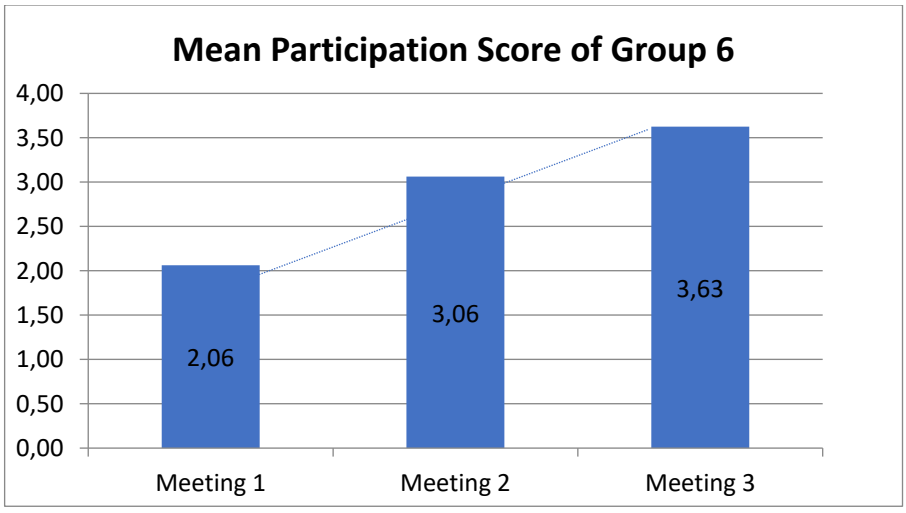

Figure 14. Diagram of the Mean Participation Score for Each Student in Group 6

Based on Figure 14, it can be seen that the mean participation score for group 6 continues to increase at each meeting. At meeting 1 the mean score of group 6 was 2.06. At meeting 2 the mean score of group 6 rose to 3.06. At meeting 3 the mean score of group 6 was 3.63. It can be concluded that the participation of group 4 students is better at each meeting. The following is the mean participation score for group 7 in Figure 15.

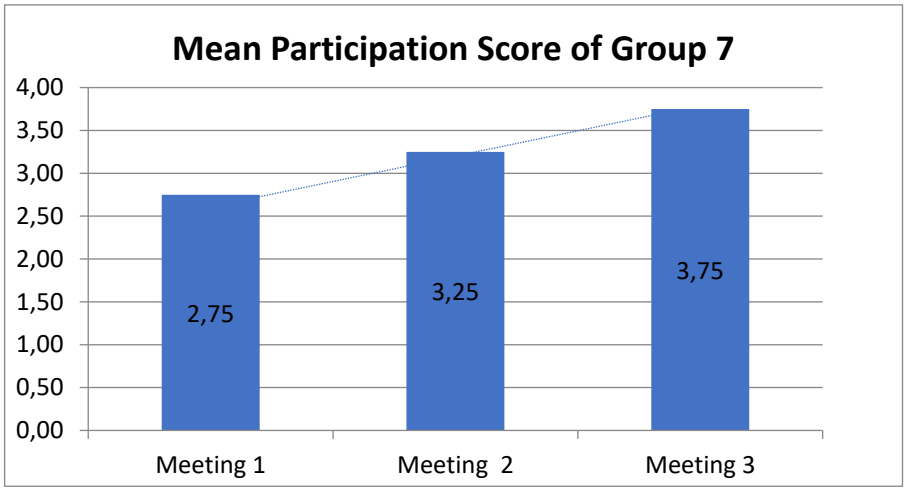

Figure 15. Diagram of the Mean Participation Score for Each Student in Group 7

Based on Figure 15, it can be seen that the mean participation score for group 7 continues to increase at each meeting. At meeting 1 the mean score of group 7 was 2.75. Then at meeting 2 the mean score of group 7 rose to 3.25 and at meeting 3 the mean score of group 7 rose again to 3.75. It can be concluded that the participation of group 7 students after implementing learning with LSLC and the Jigsaw model became increasingly better at each meeting. The following is the mean participation score for group 8 in Figure 16.

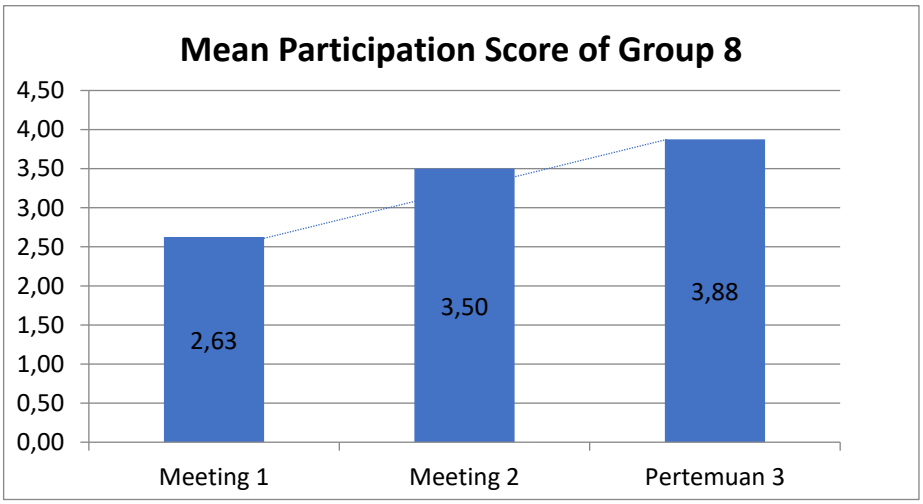

Figure 16. Diagram of the Mean Participation Score for Each Student in Group 8

Based on Figure 16, it can be seen that the mean participation score for group 5 has increased from meeting 1 to meeting 3. At meeting 1 the mean score for group 8 was 2.63. At meeting 2 the mean score of group 8 rose to 3.50 and at meeting 3 the mean score for group 3 became 3.88. This increase in the mean score proves that student participation in learning has also improved for the better. The increase in the average student participation score was also caused by learning using LSLC and the Jigsaw model. It can be concluded that group 8 student participation is better at each meeting.

The results of the analysis of the mean participation score for each individual and group show that the average participation score for each meeting has increased for the better. The increase in the mean student participation score proves that there is an impact of LSCL on student participation in learning. The positive impact of LSLC on increasing student participation in learning cannot be separated from the stages in LSLC which help to produce better student participation. There are three stages of LSLC carried out in this research, namely plan, do, and see. These three stages of LSLC play an important role in increasing student participation in learning. The plan or planning stage is the initial stage of preparation for learning. At this stage, learning problems are identified and alternative learning solutions are selected. Then at the do or implementation stage, learning activities are carried out and there are observations or observations of the implementation of the learning. Next, at the see or reflection stage, all parties involved in the observation activity reflect to comment on the results of observations of student behavior during the learning process in

class. The three main stages in LSLC ensure learning is carried out optimally so that it will have an impact on increasing student participation in the learning process.

The increase of student participation in learning is also driven by the learning model used, namely the Jigsaw learning model. The Jigsaw learning model has a concept, namely an active learning process that involves all students. In the Jigsaw learning model, students are trained to be able to participate in groups in discussing lesson material. Students will become more active in the learning process and will also be able to express their opinions during group discussions. The learning process contained in the Jigsaw model makes students more familiar and motivated to participate in the learning process.

Learning using LSLC and also the Jigsaw learning model has been proven to increase student participation in learning. The stages in the LSLC and Jigsaw model facilitate students to meet the indicators of student participation in the learning process. Students can achieve better scores for participation indicators through the learning they do. The stages of learning through the Jigsaw model are related to participation indicators, such as the first indicator of participation, namely attention to learning, so in the Jigsaw learning model there is an initial step for the teacher to introduce strategies and topics that will be studied by students. In this step, the teacher has previously planned the learning very well through the planning stages in LSLC so that the learning carried out is very well planned and procedural. The learning carried out is more optimal and interesting so that it also has an impact on increasing student participation in learning

The next participation indicator is listening skills. There are learning stages in the Jigsaw model that can help fulfill this indicator, namely when students are divided into several groups and then the students are given different tasks. At this stage, to obtain information or other material, students must listen to information or material from other friends and this will help students to understand indicators of participation, namely listening skills. At the LSLC stage, the Jigsaw learning indicators and steps are carried out at the do or implementation stage.

The third indicator of participation is asking/putting forward ideas. The stage of the Jigsaw learning model that can help students to fulfill this indicator is when students are asked to join other groups in conducting discussions and exchanging opinions to form a good understanding of the concept. At this stage students are trained to ask questions, express ideas or opinions, which is included in the form of participation in the learning process. Therefore, through the learning process of exchanging ideas with other groups, the third indicator of participation, namely asking/putting forward ideas, will become better. At the LSLC stage, the Jigsaw learning indicators and steps are carried out at the do or implementation stage.

The last indicator of participation is the quality of ideas. In this indicator, students will see how they participate in finding the quality of ideas or ideas. The stage of the Jigsaw learning model that can help students to fulfill this indicator is when each group returns to its original group to share the results of the discussion and after that each group will make a presentation based on the understanding they have gained. At this stage students are asked to pay attention to the presentation and also find the quality of each group's ideas or ideas for the material being studied. This stage helps students to understand the fourth indicator of participation, namely the quality of ideas. At the LSLC stage, the Jigsaw learning indicators and steps are carried out at the see or reflection stage.

1. ***Plan***

Figure 17. Activity of Stage Plan

2. ***Do***

Figure 18. Activity of Stage Do

3. ***See***

Figure 19. Activity of Stage See

Conclusion

Student participation in learning when viewed based on the mean score for each student shows an increase during the implementation of LSLC and the Jigsaw model. The results of the mean participation score for each student tended to increase quite significantly from meeting 1 to meeting 3. In the results of the mean participation score for each student, it was seen that there had never been a decrease during the 3 sessions. It's just that there are some students who get the same score in 2 meetings, such as in meetings 1 and 2. This happens because of several factors, including students who are still adapting learning using LSLC and the Jigsaw model. Students also feel that there is a teacher or lecturer observing the learning process, making learning a little stiffer. However, at meeting 3 the students were able to overcome and adapt to these things so that all students experienced an increase in their mean participation score in learning.

The mean participation score for each group also increased quite well at each meeting. At meetings 1 to 3, the mean participation score for groups 1 to 8 always increased. This proves that learning using LSLC and the Jigsaw learning model can increase student participation in learning. The increase in the mean group score for each meeting was also caused by the stages of the Jigsaw and LSLC learning models which helped and facilitated students to increase their participation in learning.

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