

## **CHAPTER V**

### **CONCLUSION, IMPLICATION, AND RECOMMENDATION**

#### **5.1. Conclusion**

According to the research which conducted in 7<sup>th</sup> grade of junior high school, it can be conclude that SSI-BL as learning approach could improve students' argumentation skill in learning energy resource. Based on this research, it also can conclude that students' attitude toward science were not good enough due to some reason. However, it can be seen that there is a tendency of the improvement of students' attitude toward science since the level of students' participation were improved. Furthermore, the average score of pre-test and post-test for students' attitude toward science shows good category. Further conclusion derive from the research questions are presented below.

The first point is the current issue that covered social and science given at the beginning of the lesson has important role in the implementation of SSI-BL. This framework could engage students in learning actively and make students easy to identify the problem of the issue. Besides, the implementation of learning experience's framework that facilitating students' for having higher-order practices through presentation activity and constructing argumentation map by using Lucidchart allowed students practiced in making a sophisticated argument.

As for the second point is the students' argumentation skill has in low improvement after implementing SSI-BL by using Lucidchart with the N-Gain score is 0.27. The improvement also obtained for each component of argumentation skill with the medium and low improvement. The claim and backing component have medium improvement with N-Gain score is 0.33 and is 0.32. Furthermore, for the rest of four component including data, warrant, qualifier, and rebuttal categorized in low improvement. The lowest N-Gain score reach by data component since the student might misunderstanding to deliver the data.

The last point is that the negative N-Gain score that is -0.05 has revealed for students' attitude toward science after intervention. Further, each sub-scale also shows the low improvement by the N-Gain score of control belief is way better than other

attitudes toward science sub-scales. The results for students' attitudes influence by the low interaction among students since the activity was setting individually instead of grouping. Even though, there is tendency of students' attitudes toward science to improve since the students' who followed the learning activity with actively participated as the volunteer to present of argumentation map has medium improvement. Besides, the average score for both pre-test and post-test is categorized in good category. The engagement of student initially at the beginning of the lesson was high since they are actively answer and questioning regarding the issue. However, online learning might be lower student' motivation that makes them not really into to followed the whole activity properly.

## **5.2. Implication**

From the result and discussion of the implementation SSI-BL by using Lucidchart has been conducted, there are some implications follows. The first point is the implementation of framework SSI-BL could influence students' response in learning activity. Importantly, the design element by bring the issue that covered social and science engage students in learning and help them to identify the problem of the issues given. Besides, the learning experience by giving higher order practices such as presentation and constructing argumentation could influence the students' outcome. Additionally, the certain tool such as Lucidchart guide students in construct argumentation by providing certain features.

The second point is the improvement of argumentation skill after learning SSI-BL by using Lucidchart is influenced by the intervention that facilitating students to engage with social and science dimension. As consequence, students' multiple perspective generates that lead student to give more justification and evidence. Besides, constructing and presenting of argumentation map are offered visual and verbal that providing SSI in multiple perspectives helped to form sophisticated arguments. Furthermore, the use of Lucidchart helped students in constructing argumentation by following some features.

The last point is the interaction among students support students for having positive attitudes toward science. Besides, facilitating students with various higher order

practices and engage them for having multi-perspective toward the issues given could supports students' attitude toward science. In addition, the student's motivation to followed the learning activity is important factor so the students have the complete experience in the implementation of SSI-BL by using Lucidchart.

### **5.3. Recommendation**

There are several recommendations for future research regarding the implementation of SSI-BL by using Lucidchart in energy resource topic. The first is considering the sample of this study which is 32 students, the future research should be in large number of samples. The large number of participants may lead for having the better results since it will provide more data. Additionally, the broadly and deeply discussion could be generated.

The second is the intervention time should be longer for the future study. The longer time for intervention may give the participants more experience in developing they argumentation skills and attitudes toward science. In other words, the participant would have more practice in order to improve their abilities. Besides, the other topic suggested for the future research. It is because the certain issues from the topics could give differently result.

The third suggestion is use various higher order practices for the better implementation of the learning experiences. In other words, not only focused on the presentation but the debate activity by giving different roles for students. In this case, students would train better for making argumentation and develop the positive attitude toward science.

Lastly, the social interaction among students is important factors. The students' will have more perspective from their friend that would influence to students' argumentation and supports positive attitude toward science. In this case, the researcher suggests for grouping students instead of individual during intervention.