

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Based on the discussions, result and analysis of previous chapters, the researcher summed up several conclusions. First, the implementation of STEM Project-Based Learning in learning earth layer and disaster can improve students' STEM Literacy. It can be proven by N-gain result that shows there is medium improvement between the pre-test and post-test of the treatment. In addition, the highest improvement is in student's technology literacy and the lowest improvement is in mathematical literacy. From the hypothesis test, it is proven that the hypothesis H1 is accepted, meaning that there is significant difference between the pre-test and post-test. This means, there is a significant improvement in students' STEM Literacy through the application of STEM Project-Based learning. This could be happened because STEM Project-Based Learning allow student to identify, apply and integrate their knowledge in science, technology, engineering, and mathematics to create the solution of the problem through hands on activity in project-making process.

Secondly, the implementation of STEM Project-Based Learning can also improve students' Problem Solving Skills. It can be proven by N-gain result that shows there is high improvement between the pre-test and post-test of the treatment. The Idea-Finding aspect has the highest improvement and the lowest improvement is in Fact-Finding aspect although categorized in medium improvement. In addition, from the hypothesis test, it is proven that the hypothesis H1 is accepted, meaning that there is significant difference between the pre-test and post-test. This means, there is a significant improvement in students' Problem Solving Skills through the application of STEM Project-Based Learning. It is because STEM Project-Based Learning trained student's ability to define the problem and analyse the solution using their knowledge in science, technology, engineering, and mathematics.

5.2 Recommendation

There are some recommendations based on the results of this research that can be used as potential guides for other researches. The first suggestion is that it is best to perform the study over a longer span before having a much more pronounced result, because it takes time for students to get used to the treatment, it is important to give the student some time to adapt to the new treatment and activities that the researcher wants them to get used to and becomes an intrinsic habit that they do automatically.

The second recommendation would be for the teacher to understand fully what the students need and what kind of directions need to be given to the students in order to apply the student's best STEM Project-based learning treatment, and therefore will obtain better data and outcomes. The third recommendation is to include sample variation, rather than either higher level or low class achievement. This will result in more data variability and more discussion about more different aspects.

The fourth recommendation is to explore the application of STEM Project-Based learning to certain topics and variables in order to deepen our understanding of the impact of STEM Project-Based learning itself in various contexts. It is also necessary to examine certain variables in order to exclude further external factors which could influence the experiment's outcome.