

## CHAPTER V

### CONCLUSION AND RECOMMENDATION

#### 5.1. Conclusion

Based on data analysis of the results of research conducted at SMA Negeri 1 Berastagi, it can be concluded that: There was an effect of the implementation of Problem-based learning model on students' test results in the topic of environmental change and conservation of SMA Negeri 1 Berastagi Academic Year 2021/2022. The implementation has increased the test results significantly (32.32 to 77.49).

#### 5.2. Recommendation

The research has shown the increase of students' test result, and it is recommended to implement the model by:

1. For teacher, it is possible to implementing the problem-based learning model as an alternative learning model that can improve student biology learning outcomes. When implementing the PBL model, the teacher should understand every step in the PBL model, so that teachers can give clear instructions to students to follow the steps of the PBL model. In implementing a learning model the teacher also needs to pay attention to the condition of students, learning materials and time allocation.
2. For students, providing its own experience to students in the learning process using PBL which can improve biology learning outcomes, especially on Enviromental change and conservation topic.
3. For other research, it is necessary to do other research on the implementing of the PBL model to different learning materials and student conditions and it is also necessary to develop this research to compare the application of the PBL model with other learning models.