

## CHAPTER V

### CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Conclusion

The conclusion of this study is based on findings from the data of research, systematic grain is done by paying attention to the research that has been formulated. The conclusions of the research of heat and temperature subject in grade X MAN 2 Model Medan academic year 2015/2016 obtained are:

1. Students' learning outcomes of physics by learning with learning media animation macromedia flash in experimental class before being given treatment pretest average of students is 68.09 and after being given treatment posttest average of students is 80.62.
2. Physics learning outcomes of students by learning without macromedia flash animation in control class before being given treatment pretest average of students is 59.09 and after being given treatment postes average of students is 70.69 .
3. There is an effect with using macromedia flash animation on learning outcomes of students in class X with the value of  $t_{count} > t_{table} = 3.149 > 1.663$  at significance level  $\alpha = 0.05$ .

#### 5.2 Recommendations

Based on the research results and conclusions of the above, then as a follow-up of this study suggested some hal as follows:

1. For students, especially students of MAN 2 Model Medan should always do the preparation and more active learning in every learning activity in order to obtain better learning outcomes. Then, they can determine the best media that can help them to get attractive learning and make them not easily boring.
2. For teachers, especially physics teachers are also expected to use the media more attractive in order to motivate students to be more active in the learning process.

3. For researchers who want to apply a Macromedia Flash animation learning media to pay more attention to the material from which made Macromedia Flash animation and also to increase students' learning outcomes.



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