

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Based on the result and discussion of the data that has been explained it before about PhET simulation as teaching tools in learning Solar System topic was placed in 8th grade is one of a private school in Padalarang, it can be concluded that:

1. The implementation PhET simulation conducted in seven meetings which are pretest-posttest and learning activity. The use PhET in the learning activities was done well and it can be an improvement for experimental group. Student activity was conducted in computer laboratory and class to implement PhET simulation. They learned about Solar system by PhET simulation and did some activities based on students worksheet was distributed by teacher. PhET simulation used for students activities in the worksheet and teacher explanation to review the material.
2. For students' understanding of the concept Solar System, especially in orbits and gravity of planet showed that experimental group has higher score ($\langle g \rangle = 0.45$) than control group ($\langle g \rangle = 0.42$) where control group was not use PhET simulation in delivering the materials. Based on the data obtained in this study, there is significant improvement for students understanding between experimental group and control group. So the hypothesis H_a is accepted in this study. The result significant value It can be concluded H_a accepted. Because of Asymp.Sig. (2-tailed) is $.038 \leq$ probability 0.05

PhET simulation can improve the cognitive students in learning Solar System. It can be seen from the data result which has measured in this study. The cognitive domain is measured in this study are Remembering (C1), Understanding (C2), Applying (C3), and Analyzing (C4). They are based on the Revised Bloom's Taxonomy. Based on the result, each cognitive level is significantly different between experimental group and

control group. The most significantly among the cognitive level is Understanding (C2). PhET simulation is most influential to Understanding (C2) domain. So, PhET Simulation can be an improvement for students' understanding in the orbits and gravity concept.

3. Student responses about PhET simulation as a teaching tool in the learning process is a good response. They are very enthusiastic when they used PhET Simulation when they learn about the Solar system. Because they can more explore the abstract concept and they can solve the problem from the worksheet that given to them. PhETsimulation is very interactive media. They more understand which is a content abstractly concept. Based on the questionnaire that been explained in the experimental group and get a result is increasing score that was used PhET simulation in the learning process.
4. In learning Solar system using PhET simulation, there is a correlation significantly between students' understanding and motivation. Thus, the higher students' motivation in learning, there more high in students achievement.

5.2 Recommendation

It needs more animation in PhET simulation especially characteristic of the planet and the animated more interesting to primary students.

1. It needs further research about the student's process skill for the simulation media in the learning process
2. Learning material must provide by PhET website to see the limitations of material in all level grades