

## CHAPTER V

### CONCLUSION AND RECOMMENDATION

#### A. Conclusion

Research of constructed interactive animation to measure students' collaborative problem solving skills and students' understanding in learning earthquake has been conducted systematically. Based on the research result and discussion, the research conclusion is constructed as follows:

1. There are three systematic steps of creating interactive animation, includes, 1) selecting the content or topic, 2) Planning of template and design (story board creation), 3) converting the story board into Flash Animation.
2. Interactive animations construction using Flash Software is an instrument which is able to measure students' collaborative problem solving skill in the term of its processes and results. Interactive animation increased students' enthusiast and engagement in solving problem as groups. The interaction among the groups' members can be witnessed during the process of finishing missions or solving problems on interactive animation.
3. The samples of this experiment have some weaknesses in the context of collaborative problem solving skills such as (A3) Understanding roles to solve problem, (B1) Building a shared representation and negotiating the meaning of the problem (common ground), (B2) Identifying and describing tasks to be completed, (D1) Monitoring, and repairing the shared understanding, and (D3) Monitoring, providing feedback and adapting the team organization and roles.
4. Based on the value of pretest and posttest average on every sub-concept of earthquake, students were good in understanding types of earthquake and its effect to the earth by the value above the average which is 80, moreover the highest average value that was also above

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the average is earthquake measurement concept with 88.03. While the lowest average that students failed to obtain was on analyzing the following disaster after earthquake.

5. Interactive animation is not able to improve students' understanding in learning earthquake significantly by the proof of statistical and manual calculation. The value of pre-test and post-test average significance is 0.49 compared to national academic standard achievement (KKM).
6. The score average of Pre-test and Post-test experienced a good improvement for every cognitive domain which are C1 (recalling), C2 (understanding), C3 (Applying), and C4 (Analyzing). The biggest improvement percentage was on C1 (recalling) at 33%, and the second is C2 (Understanding) with 25%, while the lowest improvement percentage was on C3 (Applying) which was only 3%. Yet, the difference of Pre-test and Post-test average on every sub-concept did not show a significant improvement, the category of N-Gain in every sub-concept of earthquake is low.

## **B. Recommendation**

Based on the findings of the research that have been discussed and concluded, there are several recommendations which have to be concerned for the following similar research. They are:

1. For researcher
  - a. Interactive animation constructions should be planned well and systematically so there will be no miss in the context of content and also structure of animation.
  - b. Design an interactive animation which is completely compatible to the collaborative problem solving syntax.
  - c. It should be better if the researcher construct Pre-test and Post-test instrument after fixing the concepts and sub-concept that will be used in the interactive animation.

d. It should be better if the experiment treatment is done for more than one meeting and makes the interactive animation into some parts, so the students will have more time to comprehend the concepts deeper before Post-test Instrument is given.

2. For teacher

- a. The research of interactive animation to measure collaborative problem solving skills and improve students' understanding has revealed how students became so enthusiast to play an interactive animation and how they engaged to solve the problem within the members, also be active to express their opinion both in front of other pupils and the teacher, so it will be good if the teacher applies this method in the other science topics.
- b. It will be good if the teacher know and understand well about students' learning pace in order to the objectives of teaching and learning can be reached impressively.

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