

## **CHAPTER V**

### **CONCLUSION, IMPLICATIONS, AND RECOMMENDATION**

#### **5.1 Conclusion**

Based on the research question and the result of the science process skills analysis in the worksheet, several conclusions can be drawn in this study:

- 1) Analysis of basic science process skills in grade 7, 8, and 9 science worksheets for junior high school shows that the observation skill occurs the most among five indicators. The appearance of the indicator is represented in more than 40 (forty) worksheets in each grade. The appearance of observation skills takes up to 52.99% of the total basic science process skills occurrence in 186 worksheets. Whereas the fifth indicator, prediction skill, appears the least on worksheets in three grades. It only fills 4.49% of the total basic science process skill occurrence.
- 2) The analysis of integrated science process skills in grade 7, 8, and 9 science worksheets or junior high school shows that result-obtaining skill appears the most compared to the other skills. As the most frequent indicator, the skill takes up 58.41% of the total integrated science process skills appearance in junior high school worksheets. On the other side, experiment-conducting skill is the least indicators to appear on the worksheets in grades 7 and 9 with 1.9% and hypothesizing skill is the least indicator to occur in grade 8 worksheets with 1.27% of the total integrated science process skills.
- 3) The SWOT analysis of basic and integrated science process skills in science worksheet for junior high school shows that there are more than three hands-on activities in each chapter on 6 (six) books. The weakness is that the science process skills indicator occurrence in the worksheet is not evenly distributed. This is proved by the domination of observation and result-obtaining skill appearance in 186 worksheets. While experimenting and constructing hypotheses become the least indicators to appear in the worksheets. Based on the frequent occurrence of observation and result-obtaining skills, the students can exercise their science process skills through the worksheet.

Unfortunately, the whole science process skills indicators cannot be exercised equally because the appearance of the skills is not evenly distributed.

## **5.2 Implications**

Based on the result of the analysis, all science process skill indicators appear in worksheets even though no single worksheet contains all indicators in one worksheet. This indicates that curriculum 2013 books have already put science process skills into notice. Testing and using the number, and constructing space-time relationships are two skills in this study that is rarely discussed in the previous research. The result is not disappointing even though there is still little information known about these skills. Therefore, future study is expected to take these two skills more into notice to enrich the information and diversity of data.

## **5.3 Recommendations**

Based on the result of this study few recommendations can be stated as follow:

### 1) Future research

Developing a science worksheet based on 10 (ten) indicators of science process skills in this study is expected for future research especially the development of hypothesizing and conducting experiment skills item considering the two indicators rarely appear in this worksheet analysis. Further research about testing and using the number, and constructing space-time relationship skills are also needed to study since the previous research about these skills is still limited.

### 2) Teacher

Optimizing the use of science worksheets will be a great help to assist the students to improve their science process skills. Utilizing 10 (ten) indicators from science process skills in this study can be used to achieve the improvement of students' science process skills. Regularly the government provides a training program for improving teachers' competencies, especially for science process skills. It should be recommended for all teachers to be actively involved.