

## CHAPTER V

### CONCLUSIONS AND SUGGESTIONS

#### 5.1 Conclusions

The objectives of this research had been transformed to be problem statements which were then hypothesized. The supporting data were found and analyzed by Statistical Product and Service Solution (SPSS) version 16.0 to reveal all the hypotheses. The null hypotheses had been all rejected by significant statistical evidences and so hadn't been alternative hypotheses which were automatically accepted. The data analysis and the result of this study have provided a basis for the following conclusions:

1. There is significant difference between students' achievement obtained by learning model of Guided Discovery-Inquiry Laboratory Lesson compared to Direct Instruction where Guided Discovery-Inquiry Laboratory Lesson gives better result rather than Direct Instruction, with associated significance value of  $<0.05$  and  $t_{\text{count}} \text{ of } > t_{\text{table}}$
2. There is significant difference between students' character of activeness developed by learning model of Guided Discovery-Inquiry Laboratory Lesson compared to Direct Instruction where Guided Discovery-Inquiry Laboratory Lesson gives better development rather than Direct Instruction, with associated significance value of  $<0.05$  and  $t_{\text{count}} \text{ of } > t_{\text{table}}$
3. There is significant difference between students' character of cooperation developed by learning model of Guided Discovery-Inquiry Laboratory Lesson compared to Direct Instruction where Guided Discovery-Inquiry Laboratory Lesson gives better development rather than Direct Instruction, with associated significance value of  $<0.05$  and  $t_{\text{count}} \text{ of } > t_{\text{table}}$
4. There is significant difference between students' character of responsibility developed by learning model of Guided Discovery-Inquiry Laboratory Lesson compared to Direct Instruction where Guided Discovery-Inquiry Laboratory Lesson gives better development rather than Direct Instruction, with associated significance value of  $<0.05$  and  $t_{\text{count}} \text{ of } > t_{\text{table}}$

5. There is a positive and significant correlation between students' character of activeness to the students' achievement obtained by Guided Discovery-Inquiry Laboratory Lesson, with associated significance value of  $<0.05$  and  $t_{\text{count}}$  of  $> t_{\text{table}}$  perfected by r-value which indicates those two variables are very highly correlated
6. There is a positive and significant correlation between students' character of activeness to the students' achievement obtained by Direct Instruction, with associated significance value of  $<0.05$  and  $t_{\text{count}}$  of  $> t_{\text{table}}$ , but unfortunately its r-value indicates those two variables are only quite correlated
7. There is a positive and significant correlation between students' character of cooperation to the students' achievement obtained by Guided Discovery-Inquiry Laboratory Lesson, with associated significance value of  $<0.05$  and  $t_{\text{count}}$  of  $> t_{\text{table}}$  perfected by r-value which indicates those two variables are highly correlated
8. There is a positive and significant correlation between students' character of cooperation to the students' achievement obtained by Direct Instruction, with associated significance value of  $<0.05$  and  $t_{\text{count}}$  of  $> t_{\text{table}}$ , but unfortunately its r-value indicates those two variables are only quite correlated
9. There is a positive and significant correlation between students' character of responsibility to the students' achievement obtained by Guided Discovery-Inquiry Laboratory Lesson, with associated significance value of  $<0.05$  and  $t_{\text{count}}$  of  $> t_{\text{table}}$  perfected by r-value which indicates those two variables are highly correlated
10. There is a positive and significant correlation between students' character of responsibility to the students' achievement obtained by Direct Instruction, with associated significance value of  $<0.05$  and  $t_{\text{count}}$  of  $> t_{\text{table}}$ , but unfortunately its r-value indicates those two variables are only quite correlated

## 5.2 Suggestions

The outcomes of this research recommend chemistry teachers to implement this kind of learning model due to its effectiveness and significances compared to direct instruction one on the teaching of solubility and solubility product based on the 2013 curriculum. The overall results of this study offer implications for future researchers who may be interested in studying the effectiveness of Guided Discovery-Inquiry Laboratory Lesson on the teaching of chemistry topics or other subjects. This study could be replicated among a larger population in North Sumatera, Indonesia and even across the nation.

Because this study limited the scope of research to senior high school students; selected characters of activeness, cooperation, and responsibility; and cognitive aspects of level C1-C4 only, so that future researchers could enlarge the scope of this research by examining this kind of learning model to elementary, junior high school, or even university students; analyze other characters development such as critical thinking, creative, etc; and enhance the students' achievement standard up to level C5 and C6 of Bloom's taxonomy as well.

For perfection of this research, future researchers could include additional variables which may give contribution to students' cognitive and affective aspects such as examining the effectiveness of guided discovery-inquiry laboratory lesson in improving the students' achievement and characters development based on sex (gender), family background, etc.

Furthermore, investigating the similar and different researches about guided discovery-inquiry laboratory lesson are really required to develop this own learning model especially and science education quality in Indonesia globally.