

CHAPTER V

CONCLUSION AND SUGGESTION

5.1. Conclusion

Based on the results of the research that has been conducted in the development of test instruments based on the procedural knowledge of fluid dynamics topic in SMA and MA, the following conclusions are obtained:

1. Test instruments based on procedural knowledge of fluid dynamic Topic have been developed at SMA PAB 8 Saentis Percut Sei Tuan for as many as 15 items using the ADDIE research model (Analyze, Design, Develop, Implement, and Evaluate).
2. The test instrument developed has fulfilled the requirements of a good test instrument, namely:
 - a. In expert validity, it was stated to be valid by the validator by obtaining a CVR score of 0.90 and CVI 1, which met the criteria for a valid instrument based on the CVR method using four experts. The average valid criteria is 92%, where 3 item are acceptable and 12 item are revised.
 - b. Test validity in the small class implementation test, where there are 13 items (87%) that are valid and 2 items (13%) that are invalid. While the validity of the test in the large class implementation test was obtained, the questions included in the valid category were 12 items (80%), while the questions included in the invalid category were 3 items (20%).
 - c. The reliability of the test in the small class implementation test was obtained at 0.95, while the test reliability in the large class implementation test was obtained at 0.91, which means that the test used already had good reliability.
 - d. The difficulty level in the small class implementation test was at a medium level, where 12 items (80%) were obtained in the moderate category and 3 items (20%) were in the difficult category. For the large class

implementation test, the difficulty level was 1 item (7%) in the easy category, 11 items (73%) in the moderate category, and 3 items (20%) in the difficult category.

- e. The discriminating power in the small class implementation test obtained 9 items (60%) in the good category, 2 items (13%) in the fair category, 3 items (20%) in the bad category, and 1 item (7%) in the very bad category. Meanwhile, the discriminating power in the large class implementation test obtained 1 item (7%) in the very good category, 9 items (60%) in the good category, 2 items (13%) in the enough category, and 3 items (20%) in the bad category.
 - f. Based on this analysis of student respons, in the small class implementation test with a positive percentage of 79% and the large class implementation test with a percentage of 74.75%.
3. The analysis of students' procedural knowledge based on the indicator of prosedural knowledge, it is moderate, with the percentage of specific types of skills related to a particular field being 50% and the percentage of types of algorithms and criteria for determining when a procedure is appropriate to use being 48%. So students need to trained and develop procedural knowledge by working on questions based on procedural knowledge and doing experiments. Based on these criteria, it can be said that the test instrument is effective and feasible for use.

5.2. Suggestion

Based on the process and results obtained from this research, several suggestions can be made, as follows:

1. It is recommended for future researchers to reserve time to avoid obstacles that occur in the field.
2. It is recommended that other researchers who wish to conduct similar research take subjects from schools with varying quality as far as possible, so that having more subjects with different procedural knowledge will make the data more accurate and varied.

3. It is recommended that students train themselves by getting used to working on questions based on procedural knowledge.
4. It is recommended for students to understand the problem, write down the plan as it is known, and the equations and methods that will be used so that it makes it easier for students to know the next steps that will be taken to write down the steps and procedures for solving.
5. It is recommended for teachers to carry out experiments, even simple experiments or lessons that support the development of students' procedural knowledge for learning Topic that is not just theoretical.