

CHAPTER V

CONCLUSION AND SUGGESTION

5.1 Conclusion

Based on the results of the research and discussion that have been described, the conclusions obtained in this study are as follows:

1. The level of validity of problem-based learning-based e-modules on work and energy materials that have been developed obtains very valid results. The stages that have been analyzed based on the results of validation by material experts have an average percentage of 98.18% and media experts 91% with the analysis, design, development, implementation, and evaluation stages.
2. In the development of e-modules based on program-based learning, work and energy materials for the level of practicality are categorized as very practical. Practicality trials got results from several respondents, namely the test results from physics teachers obtained a percentage of 91%, small group trials with 10 students obtained 89% percentage, and large group trials with 33 students obtained 95.28%.
3. In the development of problem-based learning-based e-modules on work and energy materials, it is categorized as high on the level of effectiveness. With the results of the N-gain obtained by 0.78 and declared very effective in learning, because it can improve student learning outcomes.

5.2 Suggestion

Based on the conclusions above, the suggestions that the researcher will convey are:

1. At the time of research, researchers were less able to coordinate students, so researchers had limited time. To future researchers, it is hoped that during the learning process it is better to pay more attention to time efficiency
2. To further research, it is best to pay attention to the questions that will be presented to students so that they are in accordance with the expected achievement of the indicators.
3. To further research, can explain and pursue students to better understand the use of teaching materials, especially the use of E-modules

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