

CHAPTER V

CONCLUSION

5.2 Conclusion

Based on the results of the research that has been carried out, it can be concluded that:

1. Characteristics of the three-tier diagnostic test instrument include:
 - a. 24 questions developed in the valid category.
 - b. The reliability of the developed three-tier diagnostic test is 0.854 on tier-1 and 0.827 on tier-2.
 - c. The difficulty level of 24 items consists of 2 questions in the easy category, 21 questions in the medium category, and 1 question in the difficult category on tier-1, and for tier-2 there are 2 questions in the easy category, 21 questions in the medium category and 1 question in the difficult category.
 - d. The discrimination index of 24 questions consisted of 22 accepted questions, and 2 questions were discarded at tier-1 and at tier-2, 22 questions were accepted and 2 questions were discarded.
 - e. The distractor in the answer choices for tier-1 questions has 1 distractor that does not work well and the distractor in the choice of reasons (tier-2) has 1 choice that does not work well.
2. There are 29% of students in the category of understanding the concept, 29% of students in the category of not understanding and 42% of students experiencing misconceptions on the material Temperature and Heat.

The highest misconception is in the concept of technological problems that can be caused by the nature of expansion, which is 60% and the lowest misconception is in the concept of heat and the definition of temperature, which is 29%.

5.2 Suggestion

Based on the research Results , the following suggestions are given:

1. Three-tier diagnostic test instruments can be developed on materials other than temperature and heat,
2. Research instruments to analyze misconceptions on the concepts of temperature and heat need to be tested in a wider scope,
3. Ensure that the diagnostic instrument contains all the concepts of physics related to the material to be tested and each concept consists of the same number of questions,
4. Physical teachers need to conduct remediation on concepts and heat on materials that are identified by misconceptions by improving the teaching system in identified misconceptions, so that they can provide meaningful learning. Teachers must be able to understand and understand the concept of learning correctly, so that students can understand and understand the material presented can be well received.
5. The three-tier diagnostic test instrument can be used as a consideration for conducting research on misconception analysis on other physical materials.