

CHAPTER V

CONCLUSION AND SUGGESION

5.1 Conclusion

Based on the results of research and development of integrated digital comic media with spiritual values in chemical bonding material that has been carried out using the 4D development model up to the develop stage, the developed product is declared suitable for use in learning based on the established feasibility criteria, namely meeting the categories of highly valid, highly practical, and receiving positive responses from students, so it can be concluded that:

1. Needs analysis indicates the urgency of media development. The results of the needs analysis of teachers and students are in the high to very high category, indicating a need for story-based visual learning media to help understand abstract chemical bonding concepts. Teachers and students also show interest in the use of digital comics and acceptance of the integration of spiritual values as character building in learning.
2. The developed media meets excellent validity criteria. Validation results by subject matter experts, media experts, and spiritual values experts show an average Aiken's V score of 0.89, which is in the highly valid category. This indicates that the aspects of conceptual accuracy, curriculum suitability, visual design quality, readability, and spiritual values integration have met the eligibility standards after undergoing a revision process in accordance with the validators' suggestions.
3. The media has a high level of practicality. The practicality test results by chemistry teachers showed an average score of 3.65 out of 4.00, which is categorized as very practical. The media is considered easy to use, systematic in presentation, and can be integrated into learning without requiring complex technical procedures.
4. The media received positive responses from students. The results of the student response questionnaire showed an average percentage of 78.65% in the positive category. Students considered the media to be interesting,

helpful in understanding chemical bonding concepts, easy to follow, and made learning more enjoyable.

5.2 Suggestion

Based on the research results and existing limitations, several suggestions can be given as follows:

1. For chemistry teachers, digital comics can be used as an alternative or complementary learning medium to help explain abstract chemical bonding concepts. Their use is recommended in combination with discussions, exercises, and concept reinforcement so that students' understanding is not only visual but also conceptual and symbolic.
2. For future researchers, it is recommended to continue research to the disseminate stage of the 4D model so that the media can be tested on a wider scale. Further research also needs to test the effectiveness of the media through experimental designs to determine its effect on learning outcomes, conceptual understanding, and students' affective aspects. In addition, future research is expected to develop a deeper and more contextual integration of spiritual values by linking chemical bonding concepts with simple phenomena in daily life. This approach can make spiritual values more meaningful, specific, and easier for students to internalize. Furthermore, the development of digital comics can be enhanced by adding interactive features to make the media more adaptive to the advancement of learning technology.