

**A POE (PREDICTION, OBSERVATION AND EXPLANATION)
ORIENTED MODULE DEVELOPMENT IN AFFECTING STUDENT'S
LEARNING OUTCOME OF GAMETOGENESIS SUB TOPIC FOR
GRADE XI SCIENCE OF SMA NEGERI 8 MEDAN ACADEMIC YEAR
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ABSTRACTS

The aim of this research was to create a valid and quality POE (Prediction, Observation and Explanation) oriented module based on the curriculum 2013 characteristic. Then the module was tested to know the effectiveness as a Gametogenesis learning media and comparing the student's learning cognitive outcome grade XI Science SMA Negeri 8 Medan between students who were taught by handbook and POE oriented module. The positive things of students who were taught by POE oriented module are giving opportunities for students to learn independently and actively by following the three learning activities, namely: predicting, observing and explaining activity. The type of this research is the development research, which develop a gametogenesis module in POE oriented model by using Borg and Gall's development theory, which consists of ten steps, namely: (1) Observation, (2) Literature Review, (3) Design Product, (4) Expert Validation, (5) Revision Module Draft I, (6) Preliminary Field Testing, (7) Revision Product Draft II, (8) Main Field Testing, (9) Final Revision and (10) Final Product and Dissemination. From the expert validation results, the material, presentation, readability and graphical aspect are in very good criterion or 87.5%, 85.41%, 85.71%, 85%, respectively. After doing revision I, then collecting result from preliminary field testing that the material, presentation, readability and graphical aspect are in very good criterion or 93.7%, 94.5%, 98.6%, 98.6%, respectively. Then continuing to revision II and before getting final product and dissemination, the main field testing was done that the results are very good criterion or 100% in every aspects. Finally, a gametogenesis module in POE oriented model could be used as a learning source in treatment class (XI Science 2) and resulted students learning outcome increased from 57.43 become 84.14, while the students in control class (XI Science 3) that used students handbook through direct instructional learning model reached average score of learning outcome from 56.53 become 69.77. The students learning outcome who used a gametogenesis module has mean 84.14 is higher than students learning outcome who used handbook which has mean 69.77. The statistic analysis shows in significant level of 0.05 that there was a significant difference between student's learning outcome who were taught by POE oriented module and student's handbook ($t_{count} 12.296 < t_{table} 1.9901$).

Keywords: Gametogenesis Module, POE (Prediction, Observation, Explanation).