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DEVELOPING A PBL-INTEGRATED PHET MODULE TO IMPROVE STUDENTS' LEARNING INTEREST

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Abstract

This research aims to implement PhET Simulations supported by teaching modules to develop the learning interest of junior high school students in ecosystem sub-materials. PhET Simulations is a site that provides free science practicum learning that can be used for classroom or individual learning. The background of this research is based on the low grade average score for science subjects still below the standard of completeness score, which is 68. while the KKM score (*Kriteria Ketuntasan Minimal*) is 75%. To address this problem, teaching modules were developed specifically designed to help increase students' interest in learning through materials relevant to daily life. The teaching modules developed include various components, such as instructions for use, information maps, competency objectives, and material descriptions accompanied by learning activities, practice questions, and final tests. This study uses the PhET Simulations teaching material method with the help of a teaching module with a PBL development model. The validity of the teaching module is measured through validity tests, teacher readability tests, and student readability tests. Based on the results of the teaching module validation test which stated that the criteria were valid with an average score of 84.82, the LKPD validation was declared valid with an average score of 84.68. Meanwhile, the results of the students' questionnaire responses showed an average score of 49.56 very agreeable answers. The results of the research are expected to show the process and results of the implementation of PhET Simulations that are valid and effective in developing students' learning interests in ecosystem sub-materials. This research produces outputs in the form of articles published in international journals, copyright registration documents, and teaching module products.

Keyword: PhET Simulations, Teaching modules, Learning interest

INTRODUCTION

Education is important in shaping a competent and competitive young generation. According to Law No. 20 of 2003, education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation and state (Amir, 2016). Student learning interest plays an important role in the success of learning. When students are interested in the subject matter, they are more actively involved, motivated, and strive to understand the concepts being taught (Lisnawati, 2023). Student learning interest acts as a driving factor that motivates them, because learning interest can encourage students to pay greater attention to learning (Rahmayanti, 2016). This helps students to concentrate on learning and