

**PENGEMBANGAN MODUL SISTEM PERTAHANAN TUBUH
BERBASIS *PROBLEM BASED LEARNING* TERHADAP HASIL
BELAJAR BIOLOGI SISWA KELAS XI**

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ABSTRAK

Penelitian ini merupakan penelitian *research and development* dengan tujuan menghasilkan bahan ajar berupa modul sistem pertahanan tubuh berbasis *problem based learning* pada pembelajaran biologi untuk kelas XI di SMA. Subjek dalam penelitian ini adalah siswa kelas XI MIPA 1 di SMAN 3 Singaraja dengan jumlah siswa sebanyak 36 orang . Prosedur penelitian pengembangan ini mengacu pada model ADDIE yang terdiri dari *analysis, design, development, implementation, evaluation*. Instrumen penelitian yang digunakan dalam penelitian ini adalah lembar pedoman wawancara, angket validasi ahli dan praktisi, lembar validasi soal, angket respons guru, angket respons siswa, dan lembar soal *post test* . Berdasarkan hasil penilaian uji validitas oleh ahli diperoleh hasil penilaian dengan rerata persentase 93,85% kategori sangat valid dan oleh praktisi diperoleh hasil penilaian dengan rerata persentase 89,93% kategori sangat valid. Hasil uji validitas soal diperoleh skor rata-rata 0,70 kategori relevan. hasil uji kepraktisan melalui respons guru diperoleh hasil penilaian dengan rerata persentase 85,72% kategori sangat praktis dan hasil penilaian respons kepraktisan siswa dengan rerata persentase 82,12% kategori sangat praktis. Hasil uji keefektifan dengan perhitungan ketuntasan belajar klasikal diperoleh hasil penilaian dengan rerata persentase 84,44% kategori sangat baik. Oleh karena itu, disimpulkan bahwa modul sistem pertahanan tubuh berbasis *problem based learning* dinyatakan memiliki kualitas valid, praktis dan efektif ditinjau dari hasil belajar siswa.

Kata kunci : pengembangan, modul sistem pertahanan tubuh, *problem based leaning*

**DEVELOPMENT OF PROBLEM BASED LEARNING BODY DEFENSE
SYSTEM MODULE ON STUDENT BIOLOGY LEARNING OUTCOMES
OF CLASS XI**

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ABSTRACT

This research is a research and development research with the aim of producing teaching materials in the form of a problem based learning body defense system module in biology learning for class XI in high school. The subjects in this study were students of class XI MIPA 1 at SMAN 3 Singaraja with a total of 36 students. This development research procedure refers to the ADDIE model which consists of analysis, design, development, implementation, evaluation. The research instruments used in this study were interview guide sheet, expert and practitioner validation questionnaires, question validation sheets, teacher responses questionnaires, student responses questionnaires, and post test question sheets. Based on the results of the feasibility test by the experts, the results of the assessment with an average percentage of 93,85% are in the very feasible category and by practitioners, the results of the assessment are obtained with an average percentage of 89,93% in the very feasible category. The results of the test of the validity of the questions obtained an average score of 0.70 relevant categories. the results of the practicality test through the teacher's responses obtained the results of the assessment with an average percentage of 85,72% in the very practical category and the results of the assessment of students' practicality responses with an average percentage of 82.12% in the very practical category. The results of the effectiveness test with the calculation of classical learning completeness obtained the results of the assessment with an average percentage of 84.44% in the very good category. Therefore, it is concluded that the problem-based learning-based body defense system module is declared to have decent, practical and effective quality in terms of student learning outcomes.

Keywords: **development, body defense system module, problem based learning**