

**PENGEMBANGAN E-MODUL FISIKA BERBANTUAN *PROBLEM
BASED LEARNING* UNTUK MENINGKATKAN PRESTASI BELAJAR
FISIKA SMAN 2 SINGARAJA**

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ABSTRAK

Penelitian ini bertujuan untuk: (1) Mendeskripsikan dan menjelaskan validitas e-modul fisika berbantuan *problem based learning* yang dikembangkan; (2) Mendeskripsikan dan menjelaskan kepraktisan e-modul fisika berbantuan *problem based learning* yang dikembangkan; (3) Mendeskripsikan dan menjelaskan efektivitas e-modul fisika berbantuan *problem based learning* yang dikembangkan. Jenis penelitian ini adalah penelitian pengembangan dengan menggunakan metode pengembangan ADDIE (*Analysis, Design, Development, Implementation, Evaluation*). Desain uji lapangan menggunakan *one group pretest-posttest design* tanpa kelompok kontrol dengan melibatkan 40 peserta didik. Metode pengumpulan data yang digunakan adalah metode wawancara, metode analisis dokumen, angket, dan metode tes. Data dianalisis dengan analisis deskriptif, uji-t sampel berpasangan, dan uji N-Gain. Hasil penelitian menunjukkan bahwa: (1) Hasil validasi isi diperoleh rata-rata skor 4,3 dengan kategori sangat valid. Hasil validasi bahasa diperoleh rata-rata skor 4,4 dengan kategori sangat valid. Hasil validasi media diperoleh rata-rata skor 4,7 dengan kategori sangat valid; (2) Hasil kepraktisan oleh guru diperoleh rata-rata skor 4,5 dengan kategori sangat praktis. Hasil kepraktisan oleh peserta didik diperoleh rata-rata skor 4,2 dengan kategori praktis; (3) Efektivitas produk ditunjukkan dengan hasil uji-t sampel berpasangan pada *pre-test* dan *post-test* saat uji coba lapangan mendapatkan nilai $t_{hitung} > t_{tabel}$ ($37,59 > 2,02$), pada taraf signifikansi 0,05 dengan derajat kebebasan sebesar 39. Tingkat efektivitas produk menggunakan uji N-Gain diperoleh rata-rata skor 0,8 menunjukkan terjadinya peningkatan prestasi belajar peserta didik dengan kategori tinggi. Berdasarkan hasil uji validitas, kepraktisan, dan efektivitas, maka e-modul fisika berbantuan *problem based learning* yang dikembangkan valid, praktis, dan efektif dalam meningkatkan prestasi belajar peserta didik.

Kata kunci: E-Modul Fisika, *Problem Based Learning*, Prestasi Belajar, ADDIE.

**DEVELOPMENT OF PROBLEM BASED LEARNING ASSISTED
PHYSICS E-MODULE TO IMPROVE PHYSICS LEARNING
ACHIEVEMENT AT SMAN 2 SINGARAJA**

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ABSTRACT

This research aimed at: (1) Describing and explaining the validity of problem based learning assisted physics e-modules which was developed; (2) Describing and explaining the practicality of problem based learning assisted physics e-modules which was developed; (3) Describing and explaining the effectiveness of problem based learning assisted physics e-modules which was developed. This type of research is development research used the ADDIE development method (Analysis, Design, Development, Implementation, Evaluation). Field test design used one group pretest-posttest design without a control group which involved 40 students. The data collection methods used are interview methods, document analysis methods, questionnaires, and test methods. Data were analyzed used descriptive analysis, paired sample t-test, and N-Gain test. The research results show that: (1) The results of content validation obtain the average score of 4.3 with a very valid category. The results of language validation obtain the average score of 4.4 with a very valid category. The media validation results obtain the average score of 4.7 with a very valid category; (2) Practicality results by teachers obtain the average score of 4.5 in the very practical category. The students' practical results obtain the average score of 4.2 in the practical category; (3) Product effectiveness is demonstrated by the results of the paired sample t-test on pre-test and post-test during field trials with getting scores $t_{\text{count}} > t_{\text{table}}$ ($37,59 > 2,02$), at a significance level of 0.05 with degrees of freedom of 39. The level of product effectiveness using the N-Gain test obtain the average score of 0.8, indicating an increase in student learning achievement in the high category. Based on the results of validity, practicality and effectiveness tests, the problem based learning assisted physics e-modules developed is valid, practical and effective in improving student learning achievement.

Keywords: Physics E-Module, Problem Based Learning, Learning Achievement, ADDIE.