

PENGEMBANGAN *E-HANDOUT* FISIKA BERBASIS *PROBLEM BASED LEARNING* UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS SISWA KELAS X MIPA SMA NEGERI 1 RENDANG

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ABSTRAK

Penelitian ini bertujuan menghasilkan produk berupa *e-handout* berbasis *problem based learning* yang valid, praktis dan efektif untuk meningkatkan keterampilan berpikir kritis siswa kelas X MIPA di SMA Negeri 1 Rendang dalam pembelajaran fisika khususnya materi usaha dan energi serta momentum dan impuls. Penelitian *Research and Development* (R&D) ini menggunakan desain penelitian pengembangan AM3PU3. Subjek penelitian ini adalah 2 orang ahli isi pembelajaran, 2 orang ahli media pembelajaran, 2 orang ahli desain pembelajaran, 5 orang praktisi guru, 30 orang siswa, dan 1 orang guru fisika dalam uji lapangan. Jenis instrumen yang digunakan dalam mengumpulkan data berupa angket dan tes uraian keterampilan berpikir kritis. Adapun teknik analisis data menggunakan analisis deskriptif kualitatif, deskriptif kuantitatif, dan efektivitas produk.

Hasil penelitian pengembangan *e-handout* fisika berbasis *problem based learning*, yaitu (1) *e-handout* dinyatakan valid berdasarkan hasil validitas isi pembelajaran sebesar 0,79 berkriteria baik, validitas media pembelajaran sebesar 0,93 berkriteria sangat baik, validitas desain pembelajaran sebesar 95% berkualifikasi sangat valid, validitas praktisi guru sebesar 93,6% berkualifikasi sangat valid. (2) *e-handout* yang dikembangkan praktis digunakan dalam pembelajaran fisika, nilai hasil angket kepraktisan guru sebesar 80 berkualifikasi praktis serta nilai kepraktisan respon siswa sebesar 84 berkualifikasi sangat praktis. (3) *e-handout* fisika berbasis *problem based learning* dinyatakan efektif untuk meningkatkan keterampilan berpikir kritis siswa, dengan hasil perhitungan nilai rata-rata *post-test* sebesar 82,7 telah melebihi nilai KKM yaitu 75. Keefektifan *e-handout* untuk meningkatkan keterampilan berpikir kritis siswa didukung pula nilai ketuntasan klasikal sebesar 100% berkualifikasi sangat baik.

Kata-kata kunci: *e-handout* fisika, *problem based learning*, dan keterampilan berpikir kritis

DEVELOPMENT OF *PROBLEM BASED LEARNING-BASED PHYSICS E-HANDOUT* TO IMPROVE CRITICAL THINKING SKILLS OF STUDENTS OF CLASS X MIPA SMA NEGERI 1 Rendang

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ABSTRACT

This study aims to produce a product in the form of e- handout based on problem based learning that is valid, practical and effective to improve critical thinking skills of class X Mathematics and Natural Sciences students at SMA Negeri 1 Rendang in learning physics, especially business and energy materials as well as momentum and impulses. Research Research and Development (R&D) This research uses AM3PU3 development research design. The subjects of this study were 2 learning content experts, 2 instructional media experts, 2 instructional design experts, 5 teacher practitioners, 30 students, and 1 physics teacher in the field test. Types of instruments that are used in collecting the data in the form of questionnaires and test description of the skills to think critically. The data analysis technique used descriptive qualitative analysis, descriptive quantitative, and product effectiveness.

The results of the research on the development of physics e- handouts based on problem based learning, namely (1) the e - handouts were declared valid based on the results of the validity of the learning content of 0.79 with good criteria, the validity of the learning media of 0.93 with very good criteria, the validity of teachers by 93.6% qualified very valid. (2) e handouts were developed practice use in learning physics , the value of the results of the questionnaire practicality of teachers by 80 qualified practical and value practicality response to students of 84 qualified very practical . (3) e - handouts physics -based problem-based learning is declared effective for meningkatkan the skills to think critically students , with the results of the calculation of the value of the average post-test by 82 , 7 have exceeded the value of KKM is 75. The effectiveness of e- handout to improve skills Students' critical thinking is also supported by a classical completeness score of 100% with very good qualifications.

Words key : *e handout physics , problem based learning , and the skills to think critically*