

**PENGEMBANGAN UNIT KEGIATAN BELAJAR MANDIRI BERBASIS
PENDEKATAN STEM PADA MATERI SISTEM RESPIRASI DENGAN
BERBANTUAN EDMODO UNTUK KELAS XI MIPA DI SMA NEGERI
BALI MANDARA**

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ABSTRAK

Penelitian ini bertujuan untuk mengembangkan bahan ajar berupa Unit Kegiatan Belajar Mandiri (UKBM) berbasis pendekatan STEM (*Science, Technology, Engineering and Mathematics*) pada materi sistem respirasi dengan bantuan *e-learning* edmodo sebagai pengiriman bahan ajar dan menguji kelayakan, kepraktisan dan keefektifan dari UKBM yang dikembangkan. Penelitian ini adalah penelitian pengembangan dengan menggunakan model ADDIE (*analyze, design, development, implementation, dan evaluation*). Subjek uji coba produk dalam penelitian ini adalah siswa kelas XI MIPA 3. Instrumen yang digunakan dalam penelitian adalah angket dan soal materi sistem respirasi. Data penelitian dianalisis dengan teknik analisis statistik deskriptif kualitatif dan analisis statistik deskriptif kuantitatif. Hasil penelitian menunjukkan bahwa: (1) kelayakan UKBM berbasis pendekatan STEM dari ahli media mendapatkan presentase skor sebesar 90,6% dengan kriteria sangat layak dan dari ahli materi mendapatkan presentase skor sebesar 80,9% dengan kriteria layak, (2) kepraktisan UKBM berbasis pendekatan STEM mendapatkan presentase sebesar 89,8% dengan kriteria sangat praktis, (3) keefektifan UKBM berbasis pendekatan STEM mendapatkan presentase sebesar 77,78% dengan kriteria baik. Berdasarkan hasil penelitian tersebut, UKBM berbasis pendekatan STEM materi sistem respirasi dapat digunakan sebagai alternatif baru dalam bahan ajar di sekolah.

Kata kunci: Unit Kegiatan Belajar Mandiri (UKBM), pendekatan STEM, materi sistem respirasi, model ADDIE

THE DEVELOPMENT OF INDEPENDENT LEARNING UNIT ON A STEM APPROACH OF RESPIRATION SYSTEM MATERIALS USING EDMODO FOR CLASS XI MIPA IN SMA NEGERI BALI MANDARA

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ABSTRACT

This study aims to develop teaching materials in the form of Independent Learning Unit (ILU) based on the STEM (Science, Technology, Engineering and Mathematics) approach to respiration system with the help of *e-learning* edmodo as teaching material delivery and test the feasibility, practicality and effectiveness of ILU which developed. This research is a development study using the ADDIE model (analyze, design, development, implementation, and evaluation). The respondents of this study are students of XI MIPA 3. The instrument used in this study were a questionnaire and question of respiration system materials. The research data were analyzed with qualitative descriptive statistical analysis techniques and quantitative descriptive statistical analysis. The results showed that: (1) the feasibility of the ILU based on the STEM approach from the media experts get 90.6% with very decent criteria and from the material experts get 80.9% with decent criteria, (2) the practicality of ILU based on the STEM approach get 89.8% with very practical criteria, (3) the effectiveness of the ILU based on the STEM approach get 77.78% with a good criteria. Therefore according to these results, ILU based on the STEM approach to respiration system materials can be used as a support in the learning process.

Keyword: Independent Learning Unit (ILU), STEM approach, respiration system materials, ADDIE model