ABSTRAK

PENGEMBANGAN MODUL AJAR PEMBELAJARAN KIMIA SMA BERBASIS *PROJECT BASED LEARNING* (PjBL) PADA MATERI KIMIA HIJAU KURIKULUM MERDEKA

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Peserta didik fase E di SMA Pangudi Luhur Sedayu kurang aktif dalam pembelajaran dan mengalami kesulitan dalam memahami prinsip- prinsip kimia hijau dan penerapannya dalam kehidupan sehari-hari. Untuk mengatasi persoalan tersebut dibutuhkan suatu inovasi. Inovasi yang dilakukan adalah mengembangkan pembelajaran berbasis *Project Based Learning* (PjBL). Penelitian ini bertujuan untuk: (1) membuat modul ajar yang divalidasi oleh validator; (2) mengukur efektivitas modul ajar yang diperoleh dari skor tingkat pemahaman belajar peserta didik dan respon kuesioner peserta didik. Jenis penelitian ini yaitu *Research & Development* (R&D). Instrumen dalam penelitian yang digunakan yaitu lembar wawancara, lembar validasi, butir soal, dan lembar kuesioner respon peserta didik. Sampel pada penelitian ini adalah peserta didik fase E sebanyak 10 orang. Data yang diperoleh dianalisis secara kualitatif dan kuantitatif . Hasil yang diperoleh dari penelitian menunjukkan: (1) produk berupa modul ajar telah dikembangkan menggunakan model pengembangan modifikasi Borg & Gall (1989) dengan tahap pengumpulan informasi, perencanaan, pengembangan produk, uji coba terbatas, dan revisi produk. Modul Ajar memiliki nilai validitas dengan rata-rata persentase 96,13% dengan kriteria sangat valid; (2) modul ajar efektif dengan rata-rata persentase 92,18% dan modul ajar sangat praktis dengan rata-rata nilai persentase 97,4%.

Kata kunci: Modul Ajar, Kurikulum Merdeka, *Project Based Learning* (PjBL), Kimia Hijau

ABSTRACT

DEVELOPMENT OF A TEACHING MODULE FOR HIGH SCHOOL-BASED CHEMISTRY LEARNING PROJECT BASED LEARNING (PjBL) ON INDEPENDENT CURRICULUM GREEN CHEMISTRY MATERIALS

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Phase E students at Pangudi Luhur Sedayu High School are less active in learning and have difficulty understanding the principles of green chemistry and their application in everyday life. To overcome this problem requires innovation. The innovation carried out is developing learning based on Project Based Learning (PjBL). This research aims to: (1) create a teaching module that is validated by validators; (2) measuring the effectiveness of the teaching module obtained from the score of students' level of learning understanding and students' questionnaire responses. This type of research is Research & Development (R&D). The research instruments used were interview sheets, validation sheets, question items, and student response questionnaire sheets. The sample in this study was 10 phase E students. The data obtained was analyzed qualitatively and quantitatively. The results obtained from the research show: (1) the product in the form of a teaching module has been developed using the Borg & Gall (1989) modified development model with stages of information gathering, planning, product development, limited trials, and product revision. The Teaching Module has a validity value with an average percentage of 96.13% with very valid criteria; (2) effective teaching module a percentage of 92.18% and the teaching module is very practical with an average percentage score of 97.4%.

Keywords: *Teaching Module, Independent Curriculum, Project Based Learning* (PjBL), *Green Chemistry*