DESAIN *PROJECT BASED LEARNING* BERMUATAN *EDUCATION FOR SUSTAINABLE DEVELOPMENT* PADA TOPIK PEMISAHAN PIGMEN TUMBUHAN UNTUK MENUMBUHKAN LITERASI SAINS MAHASISWA CALON GURU

TESIS

Diajukan untuk Memenuhi Sebagian Syarat untuk Memperoleh Gelar Magister Pendidikan Kimia

Oleh

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PROGRAM STUDI MAGISTER PENDIDIKAN KIMIA

FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM

UNIVERSITAS PENDIDIKAN INDONESIA

2023

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Oleh

Adek Diah Murti

Sebuah Tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Magister Pendidikan

Adek Diah Murti

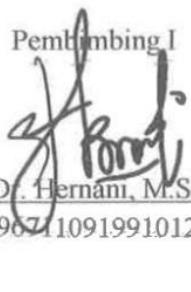Universitas Pendidikan Indonesia

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ADEK DIAH MURTI

DESAIN *PROJECT BASED LEARNING* BERMUATAN *EDUCATION FOR SUSTAINABLE DEVELOPMENT* PADA TOPIK PEMISAHAN PIGMEN TUMBUHAN UNTUK MENUMBUHKAN LITERASI SAINS MAHASISWA CALON GURU

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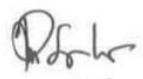
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ABSTRAK

Penelitian ini bertujuan untuk menghasilkan desain *project based learning* bermuatan ESD pada topik pemisahan pigmen tumbuhan beserta perangkatnya yang tervalidasi untuk menumbuhkan literasi sains mahasiswa calon guru. Metode penelitian *Mixed Method* dengan desain *Exploratory* digunakan pada penelitian ini, dengan partisipan 36 mahasiswa di salah satu program studi Pendidikan Kimia, Universitas Negeri di Kota Pekanbaru. Instrumen yang digunakan dalam penelitian ini adalah soal tes prakonsepsi, lembar validasi ahli, Lembar Kerja Mahasiswa (LKM), rekaman audio-video, dan soal tes literasi sains. Berdasarkan hasil analisis data prakonsepsi, mahasiswa mengalami banyak hambatan belajar pada konteks personal dan global. Hasil validasi menunjukkan bahwa diperlukan perbaikan pada tujuan pembelajaran, beberapa penyempurnaan pada situasi didaktis dan antisipasi didaktis, serta pertanyaan pada lembar kerja mahasiswa. Setelah desain diterapkan pada pembelajaran diketahui bahwa mahasiswa belum memiliki pengetahuan dan kompetensi yang cukup mendalam pada konteks global, sehingga perlu adanya perbaikan lebih lanjut pada desain pembelajaran. Setelah dilakukan analisis terhadap hasil tes literasi sains, diperoleh bahwa kemampuan literasi sains mahasiswa berada pada kategori baik untuk setiap domain. Namun, pencapaian kemampuan literasi sains mahasiswa pada konteks global sedikit lebih rendah dibandingkan dengan indikator konteks yang lain. Dengan demikian, dapat disimpulkan bahwa desain pembelajaran yang sudah dikembangkan dapat menumbuhkan kemampuan literasi sains mahasiswa calon guru pada topik pemisahan pigmen tumbuhan.

Kata kunci: Desain Pembelajaran, *Project Based Learning*, *Education for Sustainable Development*, Pemisahan Pigmen Tumbuhan, Literasi Sains

ABSTRACT

This study aims to develop an ESD oriented project based learning design in the topic of separating plant pigments and their validated tools to foster science literacy of preservice teachers. A mixed-Method research method with exploratory design is used in this study, with 36 student participants in one of the Chemistry Education study programs at a state University in Pekanbaru city. The instruments used in this study were preconception test questions, validation sheets, Student Worksheets (LKM), audio-video recordings, and scientific literacy test questions. Based on the results of preconception data analysis, students have many learning barriers in personal and global contexts. The results of the validation show that improvements are needed in learning objectives, some improvements in didactical situations and didactic anticipation, and questions on student worksheets. After the learning design is implemented, it is known that students do not yet have sufficient knowledge and competence in a global context, so there is a need for further improvement in learning design. After analyzing the results of the scientific literacy test, it was found that students' scientific literacy abilities were in the good category for each domain. However, the achievement of students' scientific literacy skills in a global context is slightly lower than other context indicators. Thus, it can be concluded that the learning design that has been developed can foster scientific literacy abilities of preservice teachers on the topic of separating plant pigments.

Keywords: Learning Design, Project Based Learning, Education for Sustainable Development, Separating Plant Pigments, Scientific Literacy

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Penelitian ini berisi kajian tentang kemampuan literasi sains mahasiswa calon guru kimia menggunakan desain pembelajaran berbasis proyek bermuatan *education for sustainable development*. Hasil penelitian ini diharapkan dapat memberikan kontribusi bagi pengembangan ilmu pengetahuan dalam bidang pendidikan kimia. Penulis menyadari masih terdapat kekurangan dalam penulisan tesis ini, namun penulis telah melakukan usaha dengan maksimal dalam proses penyempurnaannya. Penulis mengharapkan kritik dan saran yang membangun untuk perbaikan tesis ini. Semoga tesis ini bermanfaat bagi kita semua dalam pembelajaran kimia.

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DAFTAR TABEL

DAFTAR GAMBAR

Gambar   **Halaman**

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