PENGEMBANGAN PERKULIAHAN KONSERVASI BERBASIS PBL-SSI UNTUK MENINGKATKAN *COMPUTATIONAL THINKING* DAN *ENVIRONMENTAL LITERACY* MAHASISWA

(Development of PBL-SSI Based Conservation Courses to Improve Students' Computational Thinking and Environmental Literacy)

THESIS

Diajukan Untuk Memenuhi Salah Satu Syarat Memperoleh Gelar Magister Pada Program Studi Pendidikan Biologi

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PROGRAM STUDI PASCASARJANA PENDIDIKAN BIOLOGI
FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
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M.Pd, Universitas Pendidikan Indonesia, 2025

Sebuah Tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Magister Pendidikan (M.Pd.) pada Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam

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Dengan ini saya menyatakan bahwa tesis saya dengan judul "**Pengembangan Perkuliahan Konservasi Berbasis PBL-SSI Untuk Meningkatkan *Computational Thinking* Dan *Environmental Literacy* Mahasiswa"** ini beserta seluruh isinya adalah benar-benar karya saya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai etika yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung risiko/sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

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ABSTRAK

Seiring meningkatnya aktivitas manusia, tidak dapat di pungkuri bahwa semakin banyak masalah lingkungan yang muncul. Konservasi hadir sebagai penengah antara kebutuhan manusia akan penerapan teknologi dan kepentingan menjaga keberlanjutan lingkungan. Perkuliahan Biologi Konservasi memegang peran penting untuk membangun generasi yang dapat menyelesaikan sekaligus mencegah kerusakan lingkungan, serta melestarikannya. Hal tersebut dilangsungkan dalam perkuliahan biologi konservasi yang bersifat teoritis dan praktis. Namun, pada pelaksanaan nya perkuliahan biologi konservasi yang terjadi belum dapat membekalkan keterampilan tersebut. Permasalahan lingkungan yang kompleks memerlukan kemampuan berpikir yang logis dan sistematis untuk menemukan solusinya dan pemahaman lingkungan yang tepat untuk mendasari kemampuan tersebut. Literasi lingkungan dapat membekalkan pengetahuan lingkungan sebagai langkah awal untuk menganalisis permasalahan lingkungan. Selanjutnya berpikir komputasi sebagai keterampilan yang dapat menunjang individu untuk dapat berpikir sistematis dan logis dalam merancang solusi permasalahan lingkungan. Untuk dapat membekalkan kedua keterampilan tersebut maka PBL-SSI dipilih sebagai model perkuliahan yang relevan. Penelitian ini bertujuan untuk mengembangkan rancangan perkuliahan biologi konservasi berbasis PBL-SSI sebagai upaya untuk meningkatkan keterampilan berpikir komputasi dan literasi lingkungan mahasiswa, khususnya pada topik ancaman konservasi. Penelitian ini merupakan penelitian *mix-methode* dengan desain *embended* dan skema penelitian kualitatif mendukung penelitian kuantitatif. Instrumen penelitian yang digunakan terdiri dari panduan wawancara, lembar validasi, lembar observasi, tes *computational thinking*, tes *environmenral literacy*, angket penilaian *behavior*, dan angket respon mahasiswa. Hasil menunjukkan bahwa rancangan perkuliahan yang dikembankan layak digunakan, terdapat peningkatan keterampilan berpikir komputasi dan literasi lingkungan pada mahasiswa setelah mengikuti perkuliahan ancaman konservasi berbasis PBL-SSI.

Kata Kunci: Konservasi, *Computational Thinking*, Literasi Lingkungan, PBL-SSI.

ABSTRAC

Human activities have increased it is undeniable that more and more environmental problems are emerging. Conservation is present as a mediator between human needs for the application of technology and the interests of maintaining environmental sustainability. Conservation Biology lectures play an important role in building a generation that can resolve and prevent environmental damage, as well as preserve it. This is carried out in theoretical and practical conservation biology lectures. However, in its implementation, the conservation biology lectures that occur have not been able to provide these skills. Complex environmental problems require logical and systematic thinking skills to find solutions and a proper understanding of the environment to underlie these skills. Environmental literacy can provide environmental knowledge as a first step in analyzing environmental problems. Furthermore, computational thinking as a skill can support individuals to be able to think systematically and logically in designing solutions to environmental problems. In order to provide both skills, PBL-SSI was chosen as a relevant lecture model. This study aims to develop a conservation biology lecture design based on PBL-SSI as an effort to improve students' computational thinking skills and environmental literacy, especially on the topic of conservation threats. This study is a mixed-method study with an embedded design and a qualitative research scheme supporting quantitative research. The research instruments used consisted of interview guides, validation sheets, observation sheets, computational thinking tests, environmental literacy tests, behavior assessment questionnaires, and student response questionnaires. The results showed that the developed lecture design was feasible to use, there was an increase in computational thinking skills and environmental literacy in students after taking PBL-SSI-based conservation threat lectures.

Keywords: *Conservation, Computational Thinking, Environmental Literacy, PBL-SSI***.**

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