

**PENGEMBANGAN BAHAN AJAR BERMUATAN POTENSI LOKAL
UNTUK MENINGKATKAN LITERASI BIODIVERSITAS GURU**

DISERTASI

**Diajukan untuk memenuhi sebagian syarat memperoleh gelar Doktor
Kependidikan dalam bidang Pendidikan Ilmu Pengetahuan Alam**



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**Pengembangan Bahan Ajar Bermuatan Potensi Lokal
untuk Meningkatkan Literasi Biodiversitas Guru**

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PERNYATAAN KEASLIAN DISERTASI

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Disertasi ini berisi penelitian dan pengembangan buku teks literasi biodiversitas bermuatan potensi lokal Jawa Barat. Diharapkan melalui buku teks yang dikembangkan ini mampu memberikan sumbangsih bagi peningkatan literasi biodiversitas bagi guru, khususnya guru SMP.

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PENGEMBANGAN BAHAN AJAR BERMUATAN POTENSI LOKAL UNTUK MENINGKATKAN LITERASI BIODIVERSITAS GURU

ABSTRAK

Krisis penurunan biodiversitas merupakan salah satu masalah paling serius dan termasuk ke dalam permasalahan utama lingkungan global. Hanya orang-orang yang literat biodiversitas yang dapat menemukan solusi terhadap permasalahan-permasalahan tersebut. Guru memiliki peran penting dalam menghasilkan orang-orang yang literat biodiversitas. Kendati demikian, terdapat sejumlah permasalahan muncul dari guru. Literasi biodiversitas guru masih rendah dan kurang mengenal potensi lokal biodiversitas yang dapat dijadikan sumber belajar. Salah satu penyebabnya yaitu sumber belajar literasi biodiversitas bermuatan potensi lokal untuk guru masih terbatas. Tujuan penelitian ini adalah menghasilkan bahan ajar literasi biodiversitas bermuatan potensi lokal untuk meningkatkan literasi biodiversitas guru. Desain *Research and Development* digunakan untuk mendapatkan buku teks literasi biodiversitas bermuatan potensi lokal, khususnya Jawa Barat, yang diawali dengan studi pendahuluan, perencanaan, pengembangan, validasi, dan implementasi buku teks yang dikembangkan. Subyek penelitian saat studi pendahuluan terdiri dari 61 guru IPA yang berasal dari beberapa Kabupaten di Provinsi Jawa Barat. Subjek penelitian saat uji coba terbatas melibatkan 10 orang guru IPA dari Sub Rayon 01 Kabupaten Bandung Barat. Sementara subjek penelitian yang terlibat di tahap implementasi berjumlah 33 orang guru IPA dari berbagai Kabupaten di Provinsi Jawa Barat. Pengambilan data dilakukan melalui observasi, wawancara, angket, tes, dan catatan lapangan. Analisis data dilakukan secara kualitatif dan kuantitatif dengan menggunakan uji beda dan *n-gain* antara hasil *pre-test* dan *post-test*. Setelah melalui tahapan penelitian dan pengembangan dihasilkan bahan ajar literasi biodiversitas untuk guru yang memiliki karakteristik: (1) termasuk jenis buku teks; (2) memuat ranah pengetahuan, kompetensi, disposisi afektif, dan tindakan yang struktur dan kelayakan isinya didasarkan pada syarat disepakati benar oleh ilmuwan; (3) memuat potensi lokal Jawa Barat yang didasarkan pada syarat *intelligible* (dapat difahami dengan jelas), *plausible* (masuk akal), dan *fruitful* (bermanfaat); (4) memenuhi aspek kelayakan isi, penyajian, kontekstual, kegrafikan, dan bahasa yang disesuaikan untuk guru pada tahap perkembangan kognitif formal; dan (5) memiliki keterbacaan terkategori tinggi. Hasil uji coba terbatas menunjukkan peningkatan literasi biodiversitas pada guru dengan rata-rata *N-Gain* sebanyak 61% (kategori sedang). Hasil implementasi lebih luas menunjukkan peningkatan literasi biodiversitas pada guru dengan rata-rata *N-Gain* sebanyak 65% (kategori sedang). Secara berurutan dari rata-rata *N-Gain* tertinggi hingga terendah terjadi pada ranah kompetensi (71%), disposisi afektif (69%), pengetahuan (65%), dan tindakan (55%). Terjadi peningkatan level literasi biodiversitas dengan frekuensi tertinggi pada level multidimensional literasi biodiversitas. Capaian literasi biodiversitas secara umum beserta komponen-komponennya dianalisis dengan Uji Wilcoxon dengan bantuan aplikasi SPSS 25 menghasilkan *Asymp. Sig. (2-tailed)* sebesar $0,000 < 0,05$ sehingga dapat diartikan bahawa buku teks literasi biodiversitas bermuatan potensi lokal Jawa Barat memberikan pengaruh nyata terhadap literasi biodiversitas guru. Faktor penunjang implementasi yaitu dukungan sumber daya, motivasi, dan dukungan sosial. Sementara faktor yang paling menjadi kendala yaitu keterbatasan sumber daya dan kesibukan di tempat kerja masing-masing. Guru memberikan tanggapan positif terhadap buku teks yang dikembangkan.

Kata kunci : bahan ajar, buku teks, literasi biodiversitas, potensi lokal, Jawa Barat

DEVELOPMENT OF TEACHING MATERIALS CONTAINS LOCAL POTENCY TO IMPROVE BIODIVERSITY LITERACY OF TEACHER

ABSTRACT

The crisis of biodiversity loss is one of the most serious problems and is one of the main global environmental problems. Only people who are literate in biodiversity can find solutions to these problems. Teachers have an important role to produce people who are biodiversity literate. However, there are a number of problems that arise from the teacher. Teachers' biodiversity literacy is still low and they do not know the local potency of biodiversity that can be used as learning resources. One of the reasons is that there are still limited resources for learning biodiversity literacy with local potency for teachers. The purpose of this research is to produce biodiversity literacy teaching materials containing local potency to increase teacher biodiversity literacy. The Research and Development design is used to obtain a biodiversity literacy textbook containing local potency, especially West Java, which begins with a preliminary study, planning, development, validation, and implementation of the developed textbook. The research subjects during the preliminary study consisted of 61 science teachers from several districts in West Java Province. The research subjects during the limited trial involved 10 science teachers from Sub-Rayon 01, West Bandung Regency. While the research subjects involved in the implementation phase amounted to 33 science teachers from various districts in West Java Province. Data were collected through observation, interviews, questionnaires, tests, and field notes. Data analysis was carried out qualitatively and quantitatively by using the difference test and n-gain between the results of the pre-test and post-test. After going through the research and development stages, biodiversity literacy teaching materials are produced for teachers that have the following characteristics: (1) including the type of textbook; (2) contains the domains of knowledge, competence, affective disposition, and action whose structure and appropriateness of content are based on the conditions agreed upon by the scientist; (3) contains the local potency of West Java which is based on the conditions of intelligible, plausible, and fruitful; (4) meet the aspects of appropriateness of content, presentation, contextual, graphic, and language adapted for teachers at the stage of formal cognitive development; and (5) has a high readability category. The results of the limited trial showed an increase in biodiversity literacy in teachers with an average N-Gain of 61% (medium category). The results of a wider implementation show an increase in biodiversity literacy in teachers with an average N-Gain of 65% (medium category). Sequentially from the highest to the lowest average N-Gain occurred in the realm of competence (71%), affective disposition (69%), knowledge (65%), and action (55%). There was an increase in the level of biodiversity literacy with the highest frequency at the multidimensional level of biodiversity literacy. The achievement of biodiversity literacy in general and its components were analyzed using the Wilcoxon Test with the help of the SPSS 25 application to produce Asymp. Sig. (2-tailed) of $0.000 < 0.05$) so that it can be interpreted that the biodiversity literacy textbook containing the local potency of West Java has a real influence on teacher biodiversity literacy. Factors supporting implementation are resource support, motivation, and social support. Meanwhile, the most constraining factors are the limitations of resources and busyness in their respective workplaces. The teacher gave a positive response to the developed textbook.

Keywords: teaching materials, textbooks, biodiversity literacy, local potency, West Java

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