ABSTRAK

PENGEMBANGAN BUKU AJAR BERBASIS PEMANFAATAN LIMBAH KULIT DURIAN: SEBAGAI SUPLEMEN SUMBER BELAJAR PADA PEMBELAJARAN YANG BERORIENTASI PADA PEMECAHAN MASALAH LINGKUNGAN

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Penelitian ini bertujuan untuk mengembangkan buku ajar berbasis pemanfaatan limbah kulit durian sebagai suplemen sumber belajar serta mendeskripsikan karakteristik, validitas, dan tanggapan pengguna terhadap produk yang dikembangkan. Penelitian ini menggunakan Metode Research and Development (R&D) yang mengacu pada Desain Gall et al. (2003). Buku ajar yang dikembangkan memuat materi pemanfaatan limbah kulit durian menjadi karbon aktif, briket biomassa, bioetanol, biochar, adsorben, pupuk organik dan selulosa. Instrumen pengumpulan data berupa angket validasi ahli dan angket tanggapan pengguna. Hasil validasi ahli menunjukkan rata-rata persentase aspek kesesuaian isi sebesar 81,65%, konstruksi 83,31%, keterbacaan 80,94%, dan kemenarikan 82,94%, dengan rata-rata keseluruhan 82,21% berkategori sangat tinggi. Tanggapan guru terhadap aspek kesesuaian isi, konstruksi, dan keterbacaan masing-masing sebesar 90,6%, 93,3%, dan 90%, sedangkan tanggapan peserta didik terhadap aspek keterbacaan dan kemenarikan masing-masing sebesar 95,17% dan 96,03% dengan kategori sangat tinggi. Berdasarkan hasil tersebut, buku ajar berbasis pemanfaatan limbah kulit durian dinyatakan valid dan sangat layak digunakan sebagai suplemen sumber belajar pada pembelajaran yang berorientasi pada pemecahan masalah lingkungan.

Kata kunci: buku ajar, limbah kulit durian, pemecahan masalah lingkungan, suplemen sumber belajar

ABSTRACT

DEVELOPMENT OF A TEACHING BOOK BASED ON THE UTILIZATION OF DURIAN PEEL WASTE AS A SUPPLEMENTARY LEARNING RESOURCE IN ENVIRONMENTALLY PROBLEM-ORIENTED LEARNING

By

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This study aims to develop a textbook based on the utilization of durian peel waste as a supplementary learning resource and to describe the characteristics, validity, and user responses to the developed product. This study employed the Research and Development (R&D) method based on the Gall et al. (2003) design. The developed textbook includes materials on the utilization of durian peel waste into activated carbon, biomass briquettes, bioethanol, biochar, adsorbents, organic fer-tilizer, and cellulose. The data collection instruments consisted of expert validation questionnaires and user response questionnaires. The results of expert validation showed that the average percentage for content suitability was 81.65%, construction 83.31%, readability 80.94%, and attractiveness 82.94%, with an overall average of 82.21%, classified as very high. Teacher responses to content suitability, construction, and readability aspects were 90.6%, 93.3%, and 90%, respectively. Meanwhile, student responses to readability and attractiveness aspects were 95.17% and 96.03%, respectively, both classified as very high. Based on these results, the textbook based on the utilization of durian peel waste is considered valid and highly feasible to be used as a supplementary learning resource in learning oriented toward solving environmental problems.

Keywords: teaching book, durian peel waste, environmental problem solving, supplementary learning resource