ABSTRAK

JUMIATI: Pengembangan Media Pembelajaran Web Berbasis *Green Science* dengan Muatan *Green Economy* Pada Materi IPA Untuk Peserta Didik Sekolah Menengah Pertama (SMP). **Program Studi Pendidikan Kimia FKIP Universitas Malikussaleh, 2026**

Pemanfaatan media digital dalam pembelajaran Ilmu Pengetahuan Alam (IPA) di MTsS Darul Falah masih belum optimal. Proses pembelajaran masih didominasi oleh penjelasan langsung, penggunaan media sederhana, dan PowerPoint pada materi tertentu, sedangkan pemanfaatan media pembelajaran berbasis web masih terbatas. Selain itu, pembelajaran IPA belum secara khusus mengintegrasikan konsep *Green Science* dan *Green Economy*, padahal kedua konsep tersebut relevan dalam menghubungkan pembelajaran sains dengan kesadaran lingkungan, pemanfaatan sumber daya secara efisien, dan prinsip keberlanjutan. Penelitian ini bertujuan untuk mengembangkan serta mengetahui tingkat kevalidan dan kelayakan media pembelajaran web berbasis *Green Science* dengan muatan *Green Economy* pada materi IPA untuk peserta didik kelas VII Sekolah Menengah Pertama (SMP). Penelitian ini menggunakan metode *Research and Development* (R&D) dengan model ADDIE yang terdiri atas lima tahapan, yaitu *analysis, design, development, implementation,* dan *evaluation*. Tahap analisis dilakukan melalui observasi dan wawancara dengan guru IPA untuk mengidentifikasi permasalahan dan kebutuhan pembelajaran. Tahap desain dilakukan dengan menyusun struktur media, tampilan, navigasi, materi pembelajaran, video, serta bentuk integrasi *Green Science* dan *Green Economy*. Pada tahap pengembangan, produk dikembangkan menggunakan Google Sites yang memuat materi IPA kelas VII, gambar, video pembelajaran, video eksperimen berbasis *microlearning*, petunjuk penggunaan, dan berbagai konten yang menghubungkan konsep IPA dengan lingkungan serta pemanfaatan sumber daya. Produk yang dikembangkan selanjutnya divalidasi oleh dua orang ahli media dan tiga orang ahli materi yang memiliki keahlian dalam bidang Fisika, Kimia, dan Biologi. Setelah dilakukan validasi dan revisi, media dinilai oleh empat orang guru IPA dan diujicobakan kepada 26 peserta didik kelas VII MTsS Darul Falah. Data dikumpulkan melalui observasi, wawancara, lembar validasi ahli media, lembar validasi ahli materi, lembar penilaian guru, dan angket respons peserta didik. Data penelitian dianalisis secara deskriptif kuantitatif dan kualitatif. Data kuantitatif dianalisis menggunakan skor rata-rata dan persentase, sedangkan data kualitatif berupa komentar dan saran validator digunakan sebagai dasar dalam melakukan perbaikan dan penyempurnaan produk. Hasil penelitian menunjukkan bahwa validasi ahli media memperoleh skor rata-rata sebesar 4,63 dengan kategori sangat baik, sedangkan validasi ahli materi memperoleh skor rata-rata sebesar 4,22 dengan kategori sangat baik. Hasil penilaian kelayakan oleh empat guru IPA memperoleh skor rata-rata sebesar 4,72 dengan kategori sangat baik.

Kata kunci: ADDIE, *Green Economy, Green Science*, media pembelajaran web, pembelajaran IPA.

ABSTRACT

JUMIATI: *Development of a Green Science-Based Web Learning Medium Incorporating Green Economy Content for Science Subjects for Junior High School Students. Chemistry Education Study Program, Faculty of Teacher Training and Education, Universitas Malikussaleh, 2026.*

The use of digital media in Natural Science (IPA) learning at MTsS Darul Falah has not yet been fully optimized. The learning process is still dominated by direct instruction, the use of simple learning media, and PowerPoint presentations for certain topics, while the use of web-based learning media remains limited. In addition, science learning has not specifically integrated the concepts of Green Science and Green Economy, even though both concepts are relevant for connecting science learning with environmental awareness, efficient resource utilization, and sustainability principles. This study aims to develop and determine the validity and feasibility of a Green Science-based web learning medium incorporating Green Economy content for seventh-grade junior high school students. This study employed the Research and Development (R&D) method using the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. The analysis stage was carried out through observations and interviews with science teachers to identify learning problems and needs. The design stage involved developing the media structure, interface, navigation, learning materials, videos, and the integration of Green Science and Green Economy. During the development stage, the product was developed using Google Sites and included seventh-grade science materials, images, instructional videos, microlearning-based experimental videos, user guidelines, and various contents that connect science concepts with environmental issues and resource utilization. The developed product was then validated by two media experts and three subject-matter experts with expertise in Physics, Chemistry, and Biology. After validation and revision, the media was assessed by four science teachers and tested with 26 seventh-grade students at MTsS Darul Falah. Data were collected through observations, interviews, media expert validation sheets, subject-matter expert validation sheets, teacher assessment sheets, and student response questionnaires. The research data were analyzed using quantitative and qualitative descriptive methods. Quantitative data were analyzed using mean scores and percentages, while qualitative data in the form of validators' comments and suggestions were used as the basis for revising and improving the product. The results showed that the media expert validation obtained an average score of 4.63, categorized as very good, while the subject-matter expert validation obtained an average score of 4.22, also categorized as very good. The feasibility assessment conducted by four science teachers obtained an average score of 4.72, which was categorized as very good.

Keywords: *ADDIE, Green Economy, Green Science, science learning, web-based learning media.*