PENGEMBANGAN E-MODUL IPA SMP BERMUATAN *SOCIO SCIENTIFIC ISSUE* (SSI) TERINTEGRASI FLIP PDF *CORPORATE EDITION* PADA MATERI PEMANASAN GLOBAL

Oleh
I Komang Oka Setiawan, NIM 2213071007
Jurusan Fisika dan Pengajaran IPA

ABSTRAK

Penelitian ini merupakan penelitian pengembangan yang bertujuan untuk mendeskripsikan karakteristik, menguji validitas, serta menilai kepraktisan e-modul IPA bermuatan *Socio Scientific Issue* (SSI) pada materi pemanasan global. E-modul dikembangkan menggunakan Flip PDF *Corporate Edition* sebagai media pendukung pembelajaran yang kontekstual dan berpusat pada siswa di jenjang sekolah menengah pertama. E-modul yang dikembangkan memberikan kontribusi edukatif dengan memfasilitasi literasi sains, keterampilan berpikir kritis, serta keterlibatan siswa terhadap isu-isu *sosio-saintifik* di dunia nyata. Penelitian ini menggunakan pendekatan *research and development* berdasarkan model pengembangan Plomp yang meliputi tahap investigasi awal, desain, realisasi/konstruksi, dan tes, evaluasi, revisi. Data dikumpulkan melalui validasi ahli, penilaian kepraktisan oleh guru, serta uji keterbacaan oleh siswa yang melibatkan dua orang ahli, empat guru IPA, dan sepuluh siswa kelas VII. Hasil penelitian menunjukkan bahwa e-modul yang dikembangkan memiliki karakteristik berupa variasi latihan soal, penyajian grafik dan bagan yang informatif, serta LKPD yang dapat diakses langsung oleh peserta didik melalui QR *code* atau tautan digital. Selain itu, materi yang disajikan terintegrasi dengan SDGs poin 13 (*Climate Action*), sehingga memperkuat relevansi pembelajaran dengan isu global. Berdasarkan hasil validasi ahli, e-modul memperoleh indeks validitas isi sebesar 1,00 dengan kategori sangat tinggi. Selain itu, e-modul menunjukkan tingkat kepraktisan sangat tinggi berdasarkan respons guru (jumlah skor skor 72,25) serta tingkat keterbacaan sangat tinggi berdasarkan respons siswa (jumlah skor rata-rata 46,2), yang dinilai menggunakan kriteria penilaian baku. Temuan ini menunjukkan bahwa e-modul IPA berbasis SSI valid, praktis, dan mudah dipahami, sehingga diharapkan dapat digunakan sebagai bahan ajar digital dalam pembelajaran IPA SMP serta memberikan manfaat pedagogis yang kuat dalam meningkatkan pemahaman, kemampuan berpikir kritis, dan partisipasi aktif siswa.

Kata kunci: e-modul IPA, SSI, pemanasan global, SMP

DEVELOPMENT OF A JUNIOR HIGH SCHOOL SCIENCE E-MODULE CONTAINING SOCIO SCIENTIFIC ISSUE (SSI) INTEGRATED WITH FLIP PDF CORPORATE EDITION ON GLOBAL WARMING MATERIAL

By

I Komang Oka Setiawan, Student ID: 2213071007

Department of Physics and Science Education

ABSTRACT

This study is a development research aimed at describing the characteristics, examining the validity, and assessing the practicality of a Science e-module incorporating Socio Scientific Issue (SSI) on the topic of global warming. The e-module was developed using Flip PDF Corporate Edition as a medium to support contextual and student centered learning at the junior high school level. The developed e-module provides educational contributions by facilitating scientific literacy, enhancing critical thinking skills, and encouraging students' engagement with real-world Socio Scientific Issue. This research employed a research and development approach based on the Plomp development model, which consists of the preliminary investigation, design, realization/construction, and test, evaluation, and revision phases. Data were collected through expert validation, practicality assessments by teachers, and readability testing by students, involving two experts, four science teachers, and ten seventh-grade students. The results indicate that the developed e-module is characterized by a variety of practice questions, the presentation of informative graphs and charts, and student worksheets (LKPD) that can be directly accessed through QR codes or digital links. In addition, the material is integrated with SDGs Goal 13 (Climate Action), thereby strengthening the relevance of the learning content to global issues. Based on expert validation results, the e-module achieved a content validity index of 1.00, categorized as very high. Furthermore, the e-module demonstrated a very high level of practicality based on teachers' responses (average score of 72.25) and a very high level of readability based on students' responses (average score of 46.2), as measured using standardized assessment criteria. These findings indicate that the SSI-based Science e-module is valid, practical, and easy to understand. Therefore, it is expected to be utilized as a digital teaching material in junior high school science learning and to provide strong pedagogical benefits in enhancing students' conceptual understanding, critical thinking skills, and active participation.

Keyword: *e-module science, SSI, global warming, junior high school*