

Sinta Dwi Ningrum. 2026. *Pengembangan E-Module Berbasis Socio-Scientific Issues Terintegrasi ADI untuk Meningkatkan Kemampuan Penjelasan Ilmiah*. Skripsi, Program Studi Pendidikan IPA, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Trunodjoyo Madura. Pembimbing: Maria Chandra Sutarja.

ABSTRAK

Rendahnya kemampuan penjelasan ilmiah ditandai dengan rendahnya kemampuan mengemukakan klaim, menyajikan bukti yang relevan, serta menghubungkan bukti dengan konsep ilmiah. Salah satu penyebabnya adalah keterbatasan bahan ajar. Penelitian ini bertujuan untuk mengetahui kevalidan, keterbacaan, respons peserta didik, dan peningkatan kemampuan penjelasan ilmiah melalui *e-module* berbasis *socio-scientific issues* terintegrasi ADI. Jenis penelitian menggunakan *research and development* (R&D) dengan model pengembangan ADDIE. Subjek penelitian berjumlah 42 peserta didik MTs Negeri Bangkalan yang terdiri dari 3 peserta didik kelas VIII-J untuk uji coba perorangan, 9 peserta didik kelas VIII-J untuk uji coba kelompok kecil, dan 30 peserta didik kelas VII-I untuk tahap implementasi. Instrumen penelitian meliputi pedoman wawancara, angket analisis kebutuhan, lembar validasi ahli media dan ahli materi, angket keterbacaan, angket respons, lembar tes, dan perangkat pembelajaran. Hasil penelitian menunjukkan validasi ahli media sebesar 94,23% dan validasi ahli materi sebesar 91,67% dengan kriteria sangat valid. Hasil keterbacaan sebesar 87,25% dengan kriteria sangat baik. Hasil respons peserta didik sebesar 86,44% dengan kriteria sangat baik. Hasil peningkatan kemampuan penjelasan ilmiah memperoleh rata-rata *N-Gain* sebesar 0,51 dengan kriteria sedang. Kesimpulannya yaitu *e-module* berbasis *socio-scientific issues* terintegrasi ADI memiliki kevalidan sangat valid, memiliki keterbacaan sangat baik, memiliki respons sangat baik, dan dapat meningkatkan kemampuan penjelasan ilmiah.

Kata kunci: ADI, *E-Module*, Kemampuan Penjelasan Ilmiah, *Socio-Scientific Issues*

Sinta Dwi Ningrum. 2026. *Development of E-Module Based on Socio-Scientific Issues Integrated with ADI to Improve Scientific Explanation Ability*. Thesis, Science Education Study Program, Faculty of Teacher Training and Education, Trunodjoyo University Madura. Advisor: Maria Chandra Sutarja.

ABSTRACT

The low ability of scientific explanation is characterized by the low ability to put forward claims, present relevant evidence, and connect evidence with scientific concepts. One of the causes is limited teaching materials. This study aims to determine the validity, readability, student responses, and improvement of scientific explanation skills through an e-module based on socio-scientific issues integrated with ADI. This type of research uses research and development (R&D) with the ADDIE development model. The research subjects were 42 students of MTs Negeri Bangkalan consisting of 3 students of class VIII-J for individual trials, 9 students of class VIII-J for small group trials, and 30 students of class VII-I for the implementation stage. The research instruments included interview guidelines, needs analysis questionnaires, media expert and material expert validation sheets, readability questionnaires, response questionnaires, test sheets, and learning tools. The results showed that media expert validation was 94.23% and material expert validation was 91.67% with very valid criteria. The readability results were 87.25% with very good criteria. The results of student responses were 86.44% with very good criteria. The results of the improvement in scientific explanation skills obtained an average N-Gain of 0.51, with a moderate criterion. The conclusion is that the ADI-integrated socio-scientific issues-based e-module has very valid validity, has very good readability, has very good responsiveness, and can improve scientific explanation skills.

Keywords: ADI, E-Module, Scientific Explanation Ability, Socio-Scientific Issues