

ABSTRAK

Andika, Ni Luh Putu (2026), *Pengembangan E-Modul Interaktif Berbasis Microlearning dan Problem Based Learning pada Mata Pelajaran Informatika untuk Meningkatkan Keterampilan Berpikir Kritis Siswa Kelas VIII*. Tesis, Teknologi Pendidikan, Program Pascasarjana, Universitas Pendidikan Ganesha.

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Kata-kata kunci: e-modul interaktif, *microlearning*, *Problem Based Learning*, berpikir kritis, informatika

Perkembangan teknologi informasi dan komunikasi pada abad ke-21 menuntut integrasi teknologi dalam pembelajaran untuk mendukung pengembangan keterampilan berpikir kritis siswa. Namun, kondisi di lapangan menunjukkan bahwa pemanfaatan media pembelajaran interaktif masih belum optimal dan berdampak pada rendahnya keterampilan berpikir kritis siswa. Oleh karena itu, diperlukan inovasi media pembelajaran yang mampu mengakomodasi karakteristik generasi digital melalui pendekatan yang fleksibel dan kontekstual. Penelitian ini bertujuan untuk (1) mendeskripsikan proses rancang bangun e-modul interaktif berbasis *microlearning* dan *Problem Based Learning* (PBL), (2) menganalisis validitas, kepraktisan, dan keefektifan e-modul, serta (3) menganalisis respons pengguna terhadap e-modul pada mata pelajaran Informatika kelas VIII. Subjek penelitian adalah siswa kelas VIII B SMP Negeri 3 Sukasada sebanyak 28 siswa. Penelitian ini menggunakan jenis penelitian *pengembangan (Research and Development)* dengan model ADDIE yang meliputi tahap *analyze, design, development, implementation, dan evaluation*. Data dikumpulkan menggunakan angket, kuesioner, dan tes uraian keterampilan berpikir kritis. Teknik analisis data yang digunakan adalah analisis deskriptif kualitatif dan kuantitatif melalui uji validitas, kepraktisan, serta efektivitas menggunakan Penilaian Acuan Patokan (PAP), N-Gain, dan effect size. Hasil penelitian menunjukkan bahwa: (1) e-modul yang dikembangkan memiliki tingkat validitas sangat baik dengan hasil penilaian ahli isi sebesar 91%, ahli media 95%, dan ahli desain 97%, (2) tingkat kepraktisan sangat baik dengan persentase 95% oleh guru dan 90% oleh siswa, (3) e-modul efektif meningkatkan keterampilan berpikir kritis siswa dengan rata-rata nilai *pretest* sebesar 45,98 meningkat menjadi 70,09 pada *posttest* serta nilai *N-Gain* sebesar 0,45 (kategori sedang), dan (4) respon pengguna menunjukkan kualifikasi sangat baik dengan rata-rata skor guru sebesar 90,63 dan siswa sebesar 81,76. Berdasarkan hasil penelitian tersebut dapat disimpulkan bahwa e-modul interaktif berbasis *microlearning* dan *Problem Based Learning* (PBL) yang dikembangkan dinyatakan sangat valid, sangat praktis, dan efektif dalam meningkatkan keterampilan berpikir kritis siswa kelas VIII. Dengan demikian, e-modul ini layak digunakan sebagai media pembelajaran pada mata pelajaran Informatika kelas VIII.

ABSTRACT

Andika, Ni Luh Putu (2026), Development of Microlearning-Based and Problem-Based Learning Interactive E-Modules in Informatics Subjects to Improve Critical Thinking Skills of Grade VIII Students. Thesis, Educational Technology, Graduate Program, Ganesha University of Education.

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Keywords: interactive e-module, microlearning, Problem Based Learning, critical thinking, informatics

The development of information and communication technology in the 21st century demands the integration of technology in learning to support the development of students' critical thinking skills. However, conditions in the field show that the use of interactive learning media is still not optimal and has an impact on students' low critical thinking skills. Therefore, learning media innovations that are able to accommodate the characteristics of the digital generation through a flexible and contextual approach are needed. This study aims to (1) describe the design process of interactive e-modules based on microlearning and Problem Based Learning (PBL), (2) analyze the validity, practicality, and effectiveness of e-modules, and (3) analyze user responses to e-modules in Informatics class VIII subjects. The subjects of the study were 28 students in grade VIII B SMP Negeri 3 Sukasada. This research uses a type of research and development (Research and Development) with the ADDIE model which includes the stages of analysis, design, development, implementation, and evaluation. Data were collected using questionnaires, questionnaires, and critical thinking skills description tests. The data analysis technique used was qualitative and quantitative descriptive analysis through validity, practicality, and effectiveness tests using the Benchmark Reference Assessment (PAP), N-Gain, and effect size. The results of the study showed that: (1) the e-module developed had a very good level of validity with the results of the assessment of content experts of 91%, media experts of 95%, and design experts of 97%, (2) the level of practicality was very good with a percentage of 95% by teachers and 90% by students, (3) e-modules were effective in improving students' critical thinking skills with an average pretest score of 45.98 increasing to 70.09 in the posttest and an N-Gain score of 0.45 (medium category), and (4) user responses showed excellent qualifications with an average score of 90.63 teachers and students of 81.76. Based on the results of the study, it can be concluded that the interactive e-modules based on microlearning and Problem Based Learning (PBL) that were developed were declared to be very valid, very practical, and effective in improving the critical thinking skills of grade VIII students. Thus, this e-module is suitable for use as a learning medium in the Informatics class VIII subject.