

## ABSTRAK

Juniantari, Ni Putu (2022), *Pengembangan E-Modul Interaktif Berbasis Problem Based Learning (PBL) Untuk Meningkatkan Kemampuan Pemecahan Masalah Pada Siswa Kelas X*. Tesis, Pendidikan Matematika, Program Pascasarjana, Universitas Pendidikan Ganesha

Tesis ini sudah disetujui dan diperiksa oleh Pembimbing I : Prof.Dr.Phill. I Gusti Putu Sudiarta,M.Si dan Pembimbing II : Prof.Dr. I Gusti Putu Suharta, M.Si

*Kata-kata kunci:* e-modul interaktif, PBL, kemampuan pemecahan masalah.

Penelitian ini bertujuan untuk memperoleh e-modul interaktif yang valid, praktis, dan efektif, serta untuk mengetahui bagaimana karakteristik e-modul interaktif berbasis PBL dapat meningkatkan kemampuan pemecahan masalah matematika siswa. Jenis penelitian ini adalah penelitian pengembangan yang menggunakan model pengembangan oleh Plomp. Metode yang digunakan ialah metode penelitian yang berpedoman pada penelitian desain tipe pengembangan oleh Plomp. Prosedur penelitian terdiri dari 3 tahap, yakni tahap penelitian awal, tahap prototipe, dan tahap penilaian. Subjek dari penelitian ini ialah ahli, guru, serta siswa kelas X SMA Negeri 1 Mengwi. Data mengenai validitas e-modul interaktif diperoleh melalui lembar validitas. Data kepraktisan e-modul interaktif diperoleh melalui lembar pengamatan, angket respon siswa, dan angket respon guru. Sedangkan data keefektivitasan e-modul interaktif diperoleh melalui skor prestasi belajar matematika siswa yang difokuskan untuk mengetahui kemampuan pemecahan masalah matematika siswa. Data yang telah dikumpulkan selanjutnya diolah secara deskriptif. Hasil penelitian menunjukkan bahwa e modul interaktif yang dikembangkan tergolong valid, praktis dan efektif. Dengan rata-rata validitas e-modul 3,24; rata-rata angket respon siswa 3,12; rata-rata angket respon guru 3,25; serta rata-rata lembar keterlaksanaan 2,85; sedangkan rata-rata prestasi belajar siswa 77,86. Karakteristik e-modul interaktif yang dikembangkan yaitu, (1) setiap pembukaan materi diawali dengan masalah yang berkaitan di kehidupan sehari-hari, (2) memuat permasalahan dan aktivitas yang memungkinkan siswa dapat menemukan konsep secara mandiri, (3) memuat latihan soal yang menyajikan permasalahan, (4) memuat bagian kegiatan penilaian diri bertujuan agar siswa mampu mengenal dan menilai sendiri kemampuannya, dan (5) memuat latihan soal dan evaluasi interaktif dimana siswa langsung mendapat hasil serta *feedback*.

## ABSTRACT

Juniantari, Ni Putu (2022), Development of Problem Based Learning (PBL) Interactive E-Modules to Improve Problem Solving Ability in Class X Students. Thesis, Mathematics Education, Postgraduate Program, Ganesha University of Education

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Keywords: interactive e-module, PBL, problem solving ability.

This study aims to obtain valid, practical, and effective interactive e-modules, as well as to find out how the characteristics of PBL-based interactive e-modules can improve students' mathematical problem solving abilities. This type of research is development research that uses the development model by Plomp. The method used is a research method guided by Plomp's development type design research. The research procedure consists of 3 stages, namely the initial research stage, the prototype stage, and the assessment stage. The subjects of this study were experts, teachers, and students of class X SMA Negeri 1 Mengwi. Data regarding the validity of the interactive e-module was obtained through the validity sheet. The practicality of the interactive e-module data was obtained through observation sheets, student response questionnaires, and teacher response questionnaires. Meanwhile, data on the effectiveness of interactive e-modules was obtained through students' mathematics learning achievement scores which were focused on knowing students' mathematical problem solving abilities. The data that has been collected is then processed descriptively. The results showed that the interactive e-module developed was valid, practical and effective. With an average validity of the e-module 3.24; the average student response questionnaire is 3.12; the average teacher response questionnaire is 3.25; and the average implementation sheet is 2.85; while the average student achievement is 77.86. The characteristics of the interactive e-module developed are, (1) each material opening begins with problems related to everyday life, (2) contains problems and activities that allow students to find concepts independently, (3) contains practice questions that present problems. , (4) contains a section of self-assessment activities aimed at making students able to recognize and assess their own abilities, and (5) contains practice questions and interactive evaluations where students immediately get results and feedback.