ABSTRAK

Beatrix Ely Narwasti, 2023. Pengembangan Modul Ajar Elektronik Matematika Materi Perbandingan Trigonometri yang Memfasilitasi Kemampuan Literasi Matematis Peserta Didik Kelas X SMA Stella Duce 2 Yogyakarta. Program Studi Pendidikan Matematika, Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sanata Dharma.

Penelitian ini bertujuan untuk (1) mengetahui langkah-langkah dan hasil pengembangan modul elektronik matematika materi perbandingan trigonometri yang memfasilitasi kemampuan literasi matematis peserta didik kelas X SMA Stella Duce 2 Yogyakarta; (2) mengetahui kualitas modul elektronik matematika materi perbandingan trigonometri yang memfasilitasi kemampuan literasi matematis peserta didik kelas X SMA Stella Duce 2 Yogyakarta. Jenis penelitian ini merupakan penelitian dan pengembangan dengan metode ADDIE. Subjek penelitian dalam penelitian ini adalah peserta didik kelas X SMA Stella Duce 2 Yogyakarta. Teknik pengumpulan data yang dilakukan dalam penelitian ini adalah wawancara, kuesioner, dan tes.

Penelitian dan pengembangan ini menghasilkan produk berupa modul elektronik materi perbandingan trigonometri yang memfasilitasi kemampuan literasi matematis peserta didik. Pengembangan modul elektronik ini dilakukan berdasarkan langkah-langkah ADDIE. Peneliti pada tahap analisis mendapati bahwa perlu dikembangkan sebuah modul elektronik yang memfasilitasi kemampuan literasi matematis peserta didik kelas X SMA Stella Duce 2 Yogyakarta. Peneliti pada tahap *design* membagi materi perbandingan trigonometri menjadi dua submateri dengan memberikan permasalahan kontekstual dalam penyajikan materi dan soal. Peneliti kemudian mengembangkan modul, validasi, dan revisi modul. Tahap selanjutnya peneliti mengimplementasikan modul elektronik pada peserta didik kelas X MIPA 1. Pada tahap evaluasi peneliti mendapatkan bahwa peserta didik tertarik dengan modul elektronik yang dikembangkan, namun terdapat bahasa yang sulit dipahami peserta didik. Kualitas modul elektronik yang dikembangkan dikategorikan sangat baik dengan persentase 84,25%. Kualitas modul elektronik ini dinilai berdasarkan hasil validasi, tingkat kepraktisan, dan tingkat keefektifan.

Kata kunci: modul elektronik, kemampuan literasi matematis, penelitian dan pengembangan

ABSTRACT

Beatrix Ely Narwasti, 2023. Development of Electronic Mathematics Teaching Module in Trigonometric Ratios that Facilitates Mathematical Literacy Skills of the 10th Grade Students of Stella Duce Senior High School 2 Yogyakarta. Mathematics Education Study Program, Department of Mathematics and Natural Sciences, Faculty of Teacher Training and Education, Sanata Dharma University.

This research aims to (1) know the steps and results of developing electronic mathematics module in trigonometry ratios that facilitates the mathematical literacy skills of the 10th Grade Students of Stella Duce Senior High School 2 Yogyakarta; (2) know the quality of an electronic mathematics module in trigonometry ratios that facilitates the mathematical literacy skills of the 10th Grade Students of Stella Duce Senior High School 2 Yogyakarta. The type of this research was Research and Development (R&D) with the ADDIE method. The research subjects in this study were the 10th Grade Students of Stella Duce Senior High School 2 Yogyakarta. Data collection techniques used in this study were interview, questionnaire, and test.

This research and development resulted an electronic module of trigonometry ratios that facilitates students' mathematical literacy skills. The development of this electronic module was based on ADDIE's steps. Researcher at the analysis stepfound that it was necessary to develop an electronic module that facilitated the mathematical literacy abilities of 10th Grade Students of Stella Duce Senior High School 2 Yogyakarta. Researcher at the design step divided the trigonometry ratios material into two sub-materials and provided contextual problems in presented the material, example, and practice questions. The third step was module development, validation, and module revision. The fourth step was the implementation of electronic modules for students. At the evaluation step the researcher found that students were interested in the electronic module being developed, but there was language that was difficult for students to understand. The quality of the developed electronic module is categorized as very good with a percentage of 84,25%. The quality of this electronic module is assessed based on the validation results, the level of practicality, and the level of effectiveness.

Keyword: *electronic module, mathematical literacy skills, research and development*