ABSTRAK

Al Miza Ginting. NIM 4203131040. Pengembangan E-Modul Berbasis STEM-PjBL Pada Materi Asam Basa Untuk Meningkatkan Hasil Belajar

Penelitian ini bertujuan untuk mengetahui analisis kebutuhan, Validitas, Kepraktisan, Efektivitas dan Respon peserta didik terhadap E-Modul berbasis STEM-PjBL. Penelitian ini dilakukan di SMAS Kartika I-2 Medan dan sampel kelas XI IPA 2. Jenis penelitian yang digunakan adalah *Research and Development* (R&D) dan model pengembangan adalah 4-D (Four D). Teknik pengumpulan datanya melalui wawancara, observasi, angket dan tes. Analisi data pada uji validitas menggunakan rumus Momen kappa dan uji efektivitas menggunakan uji N-Gain. Hasil yang diperoleh yaitu Analisis kebutuhannya guru belum maksimal menggunakan model pembelajaran PjBL, dan belum pernah menggunakan E-Modul berbasis STEM-PjBL serta buku yang digunakan belum memuat project dan STEM. Sebanyak 69,7% peserta didik merasa bosan dan 57,6% peserta didik lebih senang melakukan pembelajaran berbasis project. Validitas diperoleh rata-rata momen kappa 0,82 kategori sangat tinggi, dari ahli materi 0,86 dan ahli media 0,79 kategori sangat tinggi. Kepraktisan oleh guru diperoleh rata-rata momen kappa sebesar 0,99 kategori sangat tinggi. Efektivitas diperoleh rata-rata N-gain 0,52 kategori sedang. Respon peserta didik diperoleh rata-rata momen kappa 0,81 kategori sangat tinggi.

Kata Kunci : E-Modul, STEM-PjBL, Asam Basa, Hasil Belajar

ABSTRACT

Al Miza Ginting. NIM 4203131040. Development Of STEM-PjBL Based E-Modules on Acid-Base Material to Improve Learning Outcomes.

This research aims to determine the needs analysis, validity, practicality, effectiveness and response of students to STEM-PjBL based E-Modules. This research was conducted at SMAS Kartika I-2 Medan and the sample was class XI IPA 2. The type of research used was Research and Development (R&D) and the development model was 4-D (Four D). Data collection techniques are through interviews, observations, questionnaires and tests. Data analysis in the validity test uses the Kappa Moment formula and the effectiveness test uses the N-Gain test. The results obtained are that the teacher needs analysis has not optimally used the PjBL learning model, and has never used STEM-PjBL based E-Modules and the books used do not contain projects and STEM. As many as 69.7% of students felt bored and 57.6% of students preferred doing project-based learning. The validity obtained was an average moment kappa of 0.82 in the very high category, from material experts 0.86 and media experts 0.79 in the very high category. Practicality by teachers obtained an average kappa moment of 0.99 in the very high category. The effectiveness obtained was an average N-gain of 0.52 in the medium category. The students' responses obtained an average kappa moment of 0.81 in the very high category.

Keywords: E-Module, STEM-PjBL, Acids and Bases, Learning Outcomes