

ABSTRAK

Jumasari Siregar: **Pengembangan Buku Elektronik (*E-Book*) Kimia SMA Kelas XI Semester I Terintegrasi Pendekatan STEM (*Science, Technology, Engineering, And Mathematics*) Untuk Meningkatkan Hasil Belajar dan Efikasi Diri Peserta Didik**. Tesis. Medan: Program Studi Pendidikan Kimia, Pascasarjana Universitas Negeri Medan, 2024.

Buku Elektronik (*E-Book*) merupakan salah satu alternatif bahan ajar yang dapat digunakan oleh guru maupun peserta didik kapan saja dan dimana saja. Penelitian ini bertujuan untuk mengetahui; hasil analisis kebutuhan bahan ajar dan konsep materi yang digunakan disekolah, tingkat kelayakan buku elektronik (*e-book*) kimia SMA kelas XI semester 1 terintegrasi pendekatan STEM, hasil belajar, respon, dan efikasi diri peserta didik setelah menggunakan buku elektronik (*e-book*) kimia SMA kelas XI semester 1 terintegrasi pendekatan STEM. Penelitian ini merupakan penelitian *research & development* (R&D) dengan model pengembangan ADDIE (*Analysis, Design, Development, Implementation, dan evaluation*). Sampel penelitian terdiri dari 36 peserta didik kelas XI sebagai kelas uji coba di SMA Sekolah Indonesia Kota Kinabalu, Sabah Malaysia. Instrumen penelitian terdiri dari angket berdasarkan BSNP, tes uji pemahaman, angket respon, dan angket efikasi diri peserta didik. Hasil penelitian menunjukkan buku elektronik (*e-book*) yang dikembangkan memperoleh hasil rata-rata validasi 3,7 tergolong dalam kategori sangat layak, pada hasil belajar setelah menggunakan buku elektronik (*e-book*) kimia SMA kelas XI semester 1 terintegrasi pendekatan STEM diperoleh rata-rata nilai 86 nilai peserta didik lebih tinggi dari KKM (75), untuk Efikasi diri peserta didik diperoleh rata-rata sebesar 92,55% dengan kategori tinggi, dan untuk respon peserta didik diperoleh rata-rata 92,9% dengan kategori tinggi/sangat layak. Hasil data mengungkapkan bahwa buku elektronik (*e-book*) yang telah dikembangkan valid serta dapat meningkatkan hasil belajar dan efikasi diri peserta didik.

Kata kunci: *E-Book*, STEM, Hasil Belajar, Efikasi Diri

ABSTRACT

Jumasari Siregar: **Development of an Electronic Book (E-Book) for High School Chemistry Class XI Semester I Integrated STEM (Science, Technology, Engineering, and Mathematics) Approach to Improve Student Learning Outcomes and Self-Efficacy.** Thesis. Medan: Chemistry Education Study Program, Medan State University Postgraduate, 2024.

Electronic Book (E-Book) are an alternative teaching material that can be used by teachers and students anytime and anywhere. This study aims to determine; the results of the analysis of the need for teaching materials and the concept of materials used in schools, the level of feasibility of electronic books (e-books) for class XI semester 1 chemistry integrated with the STEM approach, the completeness of learning outcomes, responses and self-efficacy of students after using electronic book (e-book) for high school chemistry class XI semester 1 integrated STEM approach. This research is research & development (R&D) research with the ADDIE (Analysis, Design, Development, Implementation and Evaluation) development model. The research sample consisted of 36 class XI students as a trial class at SMA Sekolah Indonesia Kota Kinabalu, Sabah Malaysia. The research instrument consists of a questionnaire based on BSNP, an understanding test, a response questionnaire, and a student self-efficacy questionnaire. The results of the research show that the electronic book (e-book) that was developed obtained an average validation result of 3.7, which is classified as very feasible, in terms of completeness of learning outcomes after using the electronic book (e-book) for class XI semester 1 chemistry in an integrated STEM approach. 86 of students' scores were higher than the KKM (75), for student self-efficacy the average was 92.55% in the high category, and for student responses the average was 92.9% in the high/very feasible category. The data results reveal that the electronic books (e-books) that have been developed are valid and can improve students' learning outcomes and self-efficacy.

Keywords: E-Book, STEM, Learning Outcomes, Self-Efficacy