ABSTRAK

Yohana Destri Wanty Manalu, NIM 4193141049 (2023). Pengembangan Buku Saku Berbasis *Science Technology Engineering and Mathematics* pada Materi Sistem Indra Kelas XI di SMA Swasta Parulian 2 Medan T.P 2022/2023.

Penelitian ini bertujuan untuk mengembangkan buku saku berbasis STEM pada materi sistem indra di kelas XI SMA dengan kriteria valid, praktis, dan efektif. Penelitian ini menggunakan model pengembangan 4D dengan menggunakan metode pra-eksperimen *one group pretest-posttest design*. Pada penelitian ini menggunakan instrumen yang telah divalidasi berupa RPP, angket penilaian ahli materi pembelajaran dan ahli media pembelajaran, instrumen tes (*pretest* dan *posttest*), serta angket respon guru dan siswa. Hasil penelitian dan pengembangan ini menunjukkan bahwa: (1) Buku saku dalam kriteria valid ditinjau dari aspek kelayakan isi dan kelayakan bahasa buku saku dengan kategori sangat layak; (2) Buku saku dalam kriteria valid ditinjau dari aspek kelayakan kegrafikan dan kelayakan penyajian buku saku dengan kategori sangat layak; (3) Berdasarkan penilaian guru, buku saku dalam kriteria valid ditinjau dari aspek kelayakan isi buku saku dengan kategori layak; (4) Buku saku memenuhi kriteria praktis berdasarkan penilaian siswa dengan kategori sangat positif; (5) Buku saku memenuhi kriteria efektif dengan adanya peningkatan hasil belajar siswa yang signifikan, berdasarkan analisis nilai hasil belajar siswa *pretest* dan *posttest* didapat N-Gain sebesar 0,60 (termasuk dalam kategori sedang) dinyatakan memberikan efektivitas hasil belajar siswa.

Kata Kunci: Buku Saku, STEM, Sistem Indra

ABSTRACT

Yohana Destri Wanty Manalu, NIM 4193141049 (2023). Development of a Science Technology Engineering and Mathematics-Based Pocket Book on Indra System Material Class XI at Parulian 2 Private High School Medan T.P 2022/2023.

This study aims to develop a STEM-based pocket book on sensory systems in class XI SMA with valid, practical, and effective criteria. This study used a 4D development model using the one group pretest-posttest pre-experimental design method. This study used validated instruments in the form of lesson plans, assessment questionnaires from learning material experts and learning media experts, test instruments (pretest and posttest), as well as teacher and student response questionnaires. The results of this research and development show that: (1) the pocket book is in the valid criteria in terms of the feasibility aspect of the content and language feasibility of the pocket book with a very decent category; (2) The pocket book is in the valid criteria in terms of the aspect of graphic feasibility and the feasibility of presenting the pocket book with a very decent category; (3) Based on the teacher's assessment, the pocket book is in the valid criteria in terms of the feasibility aspect of the contents of the pocket book in the proper category; (4) The pocket book fulfills practical criteria based on student assessments in a very positive category; (5) The pocket book meets the criteria of effectiveness with a significant increase in student learning outcomes. Based on the analysis of pretest and posttest student learning outcomes, an N-Gain of 0.60 (included in the medium category) is stated to provide effectiveness for student learning outcomes.

Keywords: *Pocket Book, STEM, Sensory System*