

ABSTRACT

Fadhillah Rahma Purba, IDN 4193342004 (2023). Development of STEM-Based Pocketbook Learning Media on The Topic of The Human Respiratory System on Student Learning Outcomes of Class XI SMA Mitra Inalum Tanjung Gading 2023/2024.

This study aims to determine the feasibility and effectiveness of STEM-based pocketbooks on human respiratory system material to be used in the learning process. The type of research used is development research (R&D) with a 4-D development model which includes defining, designing, developing and disseminating. The pocket book developed has been validated by material experts by 93.1% with the category "Very Feasible", learning experts by 100% with the category "Very Feasible" and design experts by 94.3% with the category "Very Feasible". The results of the biology teacher's response were 98.2% with the category "Very Feasible" and student responses based on individual, small group and limited group trials obtained an average percentage of 95.3%, 98.9% and 97.7% respectively with "Good" criteria. The final product of the pocket book based on the feasibility level can be categorized as "Very Good" as a learning media in learning activities, especially the material of the human respiratory system. Based on the results of the Independent Sample t-Test between the posttest of the experimental and the control class, a significance value of $0.000 < 0.005$ was obtained. This shows that there is a difference in the average student learning outcomes between the experimental and control classes. Based on the results of the study, it can be concluded that the STEM-based pocket book on human respiratory system material is feasible to use as a companion learning media to improve student learning outcomes.

Key words : Development, Human Respiratory System, Learning Outcomes, Pocketbook, STEM.