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Development of Flipbooks Based on Guided Inquiry Models to Train Science Process Skills of Junior High School Students on Temperature and Heat Materials

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ABSTRACT

Objective: This development aims to produce a flipbook-based guided inquiry learning model to train science process skills that are feasible in terms of validity, practicality, and effectiveness. **Method:** The type of research used is development research. The development model used is the 4D model (define, design, develop, and disseminate). The assessment instrument used in this study consisted of learning device validation sheets and science process skills tests. **Results:** Based on the results of data analysis, it can be concluded that digital-based flipbooks obtain an average validation in the valid category. These results indicate that flipbooks can be used as learning media. **Novelty:** The novelty of this research is an inquiry-based feature on flipbooks about temperature and heat, which can train students' science process skills. In addition, the developed inquiry-based Flipbook is also a digital flipbook.

INTRODUCTION

Education is a concrete activity to develop the potential of human resources through learning activities. Education is also a forming process of primary abilities. The learning process is the key to supporting educational success (Rahamawati & Wulandari, 2020; Ristianti et al., 2021). At the secondary education level, various kinds of knowledge are taught so students can use it to develop their potential. One of the basic knowledge taught at the junior high school level is natural science, which is significantly related to everyday life (Putri et al., 2020). At junior high school, science learning aims to improve learning abilities, curiosity, thinking skills, responsibility, and concern for the social and natural environment. In the 2013 Curriculum, the implementation of science learning must develop science process skills. In the 2013 curriculum, mastery of science process skills is explained in the basic skills of natural science from the fourth core competency, namely skills competency.

Science process skills are a person's basic skills in using thought, logic, and action effectively and efficiently to achieve specific results. Students must master science process skills because science process skills contain various skills such as observation skills, thinking skills, skills to act scientifically, and communication skills, which will be very beneficial for students as provisions to solving daily problems as well as for preparing themselves to face global competition (Libata et al., 2023; Chongo et al., 2021). Science process skills facilitate science learning, activate students, develop a sense of responsibility, and enhance learning and research methods (Inayah et al., 2020). Science process skills apply to everyday life (Siswono, 2018).

Science process skills can be analyzed from student test answers (Fitriana et al., 2019). However, students' science process skills in Indonesia still need to be improved.

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