

ABSTRAK

Nur Afnia Br Surbakti. Pengembangan Bahan Ajar Fisika Berbasis Budaya Jawa Pada Materi Fisika di SMA.

Pembelajaran fisika di tingkat SMA sering kali menghadapi tantangan berupa rendahnya minat siswa dalam memahami konsep fisika yang dianggap abstrak dan kurang relevan dengan kehidupan sehari-hari. Salah satu pendekatan untuk mengatasi tantangan ini adalah dengan mengintegrasikan budaya lokal ke dalam bahan ajar fisika, sehingga materi yang disampaikan menjadi lebih kontekstual dan menarik. Penelitian ini bertujuan untuk mengembangkan bahan ajar fisika berbasis budaya Jawa pada materi fisika SMA, yang diharapkan dapat meningkatkan pemahaman konsep dan keterlibatan siswa dalam pembelajaran. Metode penelitian yang digunakan adalah model pengembangan 4D (Define, Design, Develop, Disseminate). Tahap pertama, dilakukan analisis kebutuhan untuk mengidentifikasi materi fisika yang relevan dengan budaya Jawa. Tahap kedua, bahan ajar didesain dengan mengintegrasikan aspek budaya seperti seni, tradisi, dan teknologi lokal. Tahap ketiga, bahan ajar divalidasi oleh ahli dan diujicobakan kepada siswa untuk mengukur tingkat kelayakan dan efektivitasnya. Tahap terakhir adalah diseminasi hasil pengembangan kepada guru fisika melalui pelatihan dan pendampingan. Hasil penelitian menunjukkan bahwa bahan ajar fisika berbasis budaya Jawa dinilai valid dan layak digunakan oleh pakar pendidikan dan guru fisika. Implementasi bahan ajar ini di kelas mampu meningkatkan minat belajar siswa dan pemahaman mereka terhadap konsep fisika. Penelitian ini diharapkan dapat menjadi referensi dalam pengembangan bahan ajar kontekstual berbasis budaya lokal yang mendukung pembelajaran fisika yang lebih bermakna.

Kata Kunci: *Bahan Ajar; Fisika; Budaya Jawa; Pembelajaran Kontekstual; SMA*

ABSTRACT

Nur Afnia Br Surbakti. Development Of Physics Teaching Materials Based On Javanese Culture In Physics Materials In High School.

Physics learning at the high school level often faces challenges such as low student interest in understanding physics concepts, which are perceived as abstract and less relevant to everyday life. One approach to addressing this challenge is by integrating local culture into physics teaching materials, making the content more contextual and engaging. This study aims to develop physics teaching materials based on Javanese culture for high school physics topics, which are expected to improve students' conceptual understanding and engagement in learning. The research method used is the 4D development model (Define, Design, Develop, Disseminate). In the first stage, a needs analysis was conducted to identify physics topics relevant to Javanese culture. In the second stage, teaching materials were designed by integrating cultural aspects such as arts, traditions, and local technologies. In the third stage, the teaching materials were validated by experts and tested on students to assess their feasibility and effectiveness. The final stage involved disseminating the developed teaching materials to physics teachers through training and mentoring sessions. The results of the study indicate that the physics teaching materials based on Javanese culture were deemed valid and feasible by education experts and physics teachers. The implementation of these materials in the classroom successfully increased students' learning interest and their understanding of physics concepts. This study is expected to serve as a reference for developing contextual teaching materials based on local culture to support more meaningful physics learning.

Keywords: *Teaching Materials; Physics; Javanese Culture; Contextual Learning; High School.*