

ABSTRAK

Siti Utami Rodiani. 2024. **PENGEMBANGAN MULTIMEDIA INTERAKTIF BERBASIS SMARTPHONE MENGGUNAKAN ARTICULATE STORYLINE PADA MATERI GELOMBANG CAHAYA**

Peserta didik di SMAN 1 Cisarua Kabupaten Bogor mempunyai akses terhadap perangkat berteknologi tinggi seperti *smartphone* dengan sistem operasi android maupun iOS, namun pemanfaatan teknologi dalam pembelajaran fisika masih sangat terbatas. Minimnya penggunaan media pembelajaran interaktif dalam proses pembelajaran yang masih berpusat pada guru. Tujuan dari penelitian ini adalah untuk menciptakan produk multimedia interaktif berbasis *smartphone* menggunakan *articulate storyline* pada materi gelombang cahaya yang valid dan praktis. Lima tahap model ADDIE – *analysis, design, development, implementation, dan evaluation* – digunakan dalam penelitian dan pengembangan ini. Pedoman wawancara serta lembar observasi digunakan untuk menganalisis kebutuhan, lembar validasi digunakan untuk mengukur tingkat kelayakan produk, dan angket respon pendidik dan peserta didik digunakan untuk menilai kepraktisan produk. Hasil penelitian berupa produk multimedia interaktif yang dijalankan pada *smartphone*. Skor rata-rata ahli materi sebesar 0,92 dan ahli media sebesar 0,88, maka produk penelitian ini berkategori sangat layak. Produk penelitian dikategorikan sangat praktis oleh pendidik dengan persentase kepraktisan 90,5% dan dikategorikan sangat praktis oleh peserta didik dengan persentase kepraktisan 92,6%. Dapat disimpulkan bahwa produk yang dikembangkan sangat valid dan praktis untuk digunakan dalam pembelajaran. Produk ini juga efektif dalam mengurangi beban kognitif yang *extraneous*, karena multimedia interaktif yang dikembangkan memenuhi prinsip-prinsip *Contiguity, Coherence, Signaling, dan Redundancy*. Hasil tes kognitif menunjukkan 77% peserta didik mencapai tingkat “Tuntas”, maka hasil belajar peserta didik menggunakan multimedia interaktif berkategori “Tinggi”.

Kata kunci: *Articulate storyline*, gelombang cahaya, Interaktif, Multimedia

ABSTRACT

Siti Utami Rodiani. 2024. ***DEVELOPMENT OF SMARTPHONE BASED INTERACTIVE MULTIMEDIA USING ARTICULATE STORYLINE ON LIGHT WAVE MATERIAL***

Students at SMAN 1 Cisarua, Bogor Regency have access to high-tech devices such as smartphones with Android or iOS operating systems, but the use of technology in physics learning is still very limited. The minimal use of interactive learning media in the learning process is still centered on the teacher. The purpose of this study was to create an interactive multimedia product based on a smartphone using an articulate storyline on the material of light waves that is valid and practical. The five stages of the ADDIE model - analysis, design, development, implementation, and evaluation - were used in this research and development. Interview guidelines and observation sheets were used to analyze needs, validation sheets were used to measure the level of product feasibility, and questionnaires from educators and students were used to assess the practicality of the product. The results of the study were interactive multimedia products that were run on smartphones. The average score of material experts was 0.92 and media experts was 0.88, so this research product was categorized as very feasible. The research product was categorized as very practical by educators with a practicality percentage of 90.5% and categorized as very practical by students with a practicality percentage of 92.6%. It can be concluded that the product developed is very valid and practical for use in learning. This product is also effective in reducing extraneous cognitive load, because the interactive multimedia developed meets the principles of Contiguity, Coherence, Signaling, and Redundancy. The results of the cognitive test showed that 77% of students reached the "Complete" level, so the learning outcomes of students using interactive multimedia are categorized as "High".

Keyword: Articulate Storyline, Interactive, Light Wave, Multimedia