

ABSTRAK

**PENGEMBANGAN MODUL ELEKTRONIK INTERAKTIF
BERBANTUAN FLIP PDF CORPORATE PADA
TOPIK LARUTAN PENYANGGA**

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Larutan penyangga merupakan salah satu topik kimia yang dianggap sulit karena kaya akan konseptual dan perhitungan matematis, sehingga memerlukan bahan ajar yang dapat membantu peserta didik dalam memahami konsep dengan baik. Bahan ajar merupakan salah satu perangkat pembelajaran yang dapat meningkatkan kualitas belajar peserta didik. Selama pembelajaran kimia di SMA Negeri 1 Depok, bahan ajar yang digunakan hanya terbatas pada buku paket dan LKPD. Guru belum pernah mengembangkan bahan ajar seperti modul elektronik interaktif, tetapi sudah pernah menggunakan modul elektronik dalam bentuk *Portable Document Format* (PDF). Penelitian ini bertujuan untuk: (1) mengetahui kelayakan produk yang dikembangkan dan (2) mengetahui respon peserta didik selama menggunakan produk. Penelitian ini merupakan *Research and Development* (R & D) dengan model pengembangan 4D yang dimodifikasi menjadi 3D yang terdiri atas tahap *Define, Design, dan Develop*. Instrumen penelitian yang digunakan adalah lembar wawancara, lembar angket survei, lembar validasi, butir soal latihan, butir soal dalam bentuk tes formatif Kegiatan Belajar 1, 2 dan 3, serta angket respon peserta didik terhadap produk. Sampel penelitian adalah 10 orang peserta didik kelas XI MIPA SMA Negeri 1 Depok yang dipilih melalui teknik *purposive sampling*. Data penelitian dianalisis menggunakan statistik Aiken's V dan deskriptif. Hasil penelitian menunjukkan bahwa: (1) produk memenuhi kriteria kelayakan yang sangat valid dengan rata-rata persentase yaitu 91%, kriteria sangat efektif dengan rata-rata nilai latihan soal dan tes formatif peserta didik sebesar 87,5 yang didukung dengan rata-rata persentase ketuntasan peserta didik dalam mengerjakan seluruh butir soal dalam produk sebesar 78%, kriteria sangat praktis dengan rata-rata persentase 86% dan (2) respon peserta didik terhadap penggunaan produk yaitu sangat baik dengan rata-rata persentase sebesar 86%. Sebanyak 70% peserta didik memberikan komentar positif dari sisi kemenarikan desain dan materi dalam produk.

Kata Kunci: Modul Elektronik Interaktif, Flip PDF Corporate, Larutan Penyangga

ABSTRACT**DEVELOPMENT OF FLIP PDF CORPORATE-ASSISTED INTERACTIVE ELECTRONIC MODULE ON THE TOPIC BUFFER SOLUTION**

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Buffer solution is one of chemistry topics that is considered difficult because it is rich in conceptual and mathematical calculation, so it requires teaching materials that can help students to understand concepts well. Teaching materials are one of learning tools that can improve the quality of students learning. During chemistry lesson at SMA Negeri 1 Depok, teaching materials used were limited to textbooks and worksheets. Teachers have never developed teaching materials such as interactive electronic modules, but have used electronic modules in the form of Portable Document Format (PDF). This research aims to: (1) determine the feasibility of the product being developed and (2) find out the response of students using the product developed. This study is a Research and Development (R & D) with 4D development model modified into 3D which consists of the Define, Design, and Develop stages. The research instruments used were interview sheet, survey questionnaire, validation sheets, practice questions, formative tests of 1st, 2nd and 3rd Learning Activities, as well as student response questionnaire. The research sample was 10 students of XI MIPA class at SMA Negeri 1 Depok who were selected through purposive sampling technique. Research data were analyzed using Aiken's V and descriptive statistics. The results of the study showed that: (1) product has fulfilled very feasible and very valid criteria with average percentage of 91%, fulfilled very effective criteria with average value of student practice questions and formative tests of 87.5 which was supported by average percentage of students' completeness in answering the questions is 78%, and fulfilled very practical criteria with average percentage of 86% and (2) students' response to product is very good. As many as 70% of students gave positive comments in terms of the attractiveness of the design and conceptual in the product.

Keywords: *Interactive Electronic Module, Flip PDF Corporate, Buffer Solution*