

ABSTRAK**PENGEMBANGAN MODUL AJAR BERBASIS MULTIMEDIA
MENGUNAKAN *QR CODE* PADA MATERI UNSUR PERIODE KETIGA**

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SMA Stella Duce Bambanglipuro belum memiliki sumber belajar kimia selain buku dari pemerintah. Modul ajar merupakan salah satu bahan ajar yang dibutuhkan dalam proses pembelajaran namun belum pernah dikembangkan di sekolah tersebut. Pengembangan modul ajar yang sesuai dengan karakteristik dan kebutuhan peserta didik diharapkan dapat memfasilitasi peserta didik untuk memahami materi unsur periode ketiga secara mandiri dan mendalam. Penelitian ini bertujuan untuk: (1) menghasilkan produk berupa modul ajar berbasis multimedia menggunakan QR code pada materi unsur periode ketiga yang dikembangkan menurut model pengembangan Borg and Gall, dan (2) mengetahui validitas, kepraktisan, dan efektivitas produk. Jenis penelitian ini adalah *Research and Development* (R&D) yang menggunakan model pengembangan Borg and Gall. Instrumen yang digunakan adalah lembar wawancara, lembar validasi produk, soal *pre-test* dan *post-test*, dan angket respon peserta didik. Uji coba terbatas melibatkan 12 peserta didik kelas XII MIPA. Analisis data dilakukan secara deskriptif dan kuantitatif. Hasil penelitian menunjukkan bahwa: (1) produk dikembangkan sesuai dengan model pengembangan R&D menurut Borg and Gall; (2) produk memenuhi kriteria valid dengan rata-rata persentase sebesar 98,21% (segi materi) dan 95,28% (segi media); kriteria efektif dengan nilai N-Gain yang tinggi yaitu 0,72; dan kriteria sangat praktis dengan skor 91,51%. Produk yang dikembangkan dapat digunakan dalam pembelajaran unsur periode ketiga.

Kata kunci: Modul ajar berbasis multimedia, *QR code*, Unsur periode ketiga

ABSTRACT***DEVELOPMENT OF MULTIMEDIA-BASED TEACHING MODULE USING QR CODE ON ELEMENTS OF THE THIRD PERIOD****By*

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SMA Stella Duce Bambanglipuro does not yet have a source for learning chemistry other than books from the government. The teaching module is one of the teaching materials needed in the learning process but has never been developed in the school. The development of teaching modules that are by following the characteristics and needs of students is expected to facilitate students to understand the material in the third-period element material independently and in-depth. This study aims to: (1) produce a product in the form of a multimedia-based teaching module using a QR code on the third period elemental material that is in accordance with the Borg and Gall development model and (2) determine the validity, practicality, and effectiveness of the product. This type of research is Research and Development (R&D) which uses the Borg and Gall development model. The instruments used were interview sheets, validation sheets of products, pre-test and post-test questions, and student response questionnaires. The limited trial involved 12 students of class XII MIPA. Data analysis was carried out descriptively and quantitatively. The results showed that: (1) the product was developed in accordance with the R&D development model according to Borg and Gall; (2) the product meets the valid criteria with an average percentage of 98.21% (in terms of material) and 95.28% (in terms of media); effective criteria with a high N-Gain value, namely 0.72; and very practical criteria with a score of 91.51%. The developed product can be used in learning the elements of the third period.

Keywords: *Multimedia based teaching module, QR Code, Elements of the third period*