

## ABSTRAK

PENGEMBANGAN MULTIMEDIA INTERAKTIF PADA  
TOPIK IKATAN KOVALEN UNTUK MENDUKUNG  
PENGUASAAN KONSEP PESERTA DIDIK

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Ikatan kovalen merupakan salah satu topik kimia yang memiliki konsep abstrak dan sulit diamati secara langsung, sehingga memerlukan media pembelajaran yang dapat membantu peserta didik dalam membangun dan menguasai konsep. Saat ini, SMA N 1 Kalasan belum memanfaatkan multimedia interaktif dalam pembelajaran sebagai sarana untuk membantu penguasaan konsep ikatan kovalen peserta didik. Penelitian ini bertujuan untuk: (1) menghasilkan produk berupa multimedia interaktif menggunakan Smart Apps Creator 3; (2) mengetahui validitas, efektivitas, dan kepraktisan produk; (3) menganalisis penguasaan konsep peserta didik. Penelitian ini merupakan *Research and Development* (R&D) yang mengacu pada model pengembangan ADDIE (Lee & Owens, 2004: 3). Instrumen pendukung yang digunakan yaitu lembar validasi produk dan instrumen penelitian, soal *pretest* dan *posttest*, soal evaluasi dalam produk, dan angket respon peserta didik. Uji coba terbatas dilakukan bersama 10 peserta didik kelas X MIPA SMA N 1 Kalasan. Data yang diperoleh dianalisis menggunakan statistik Aiken's V dan deskriptif. Hasil penelitian menunjukkan bahwa: (1) produk yang dikembangkan cocok menggunakan model pengembangan ADDIE karena memiliki tahapan yang sistematis dan sederhana; (2) produk memenuhi kriteria sangat valid dengan rata-rata persentase yaitu 90,8%; memenuhi kriteria sangat efektif berdasarkan rata-rata nilai *posttest* yaitu 76,7; dan memenuhi kriteria sangat praktis dengan rata-rata persentase yaitu 91,7%; (3) produk yang dikembangkan mampu membantu peserta didik dalam menguasai konsep topik ikatan kovalen yang ditunjukkan dengan ketercapaian ranah kognitif level C2, C3, dan C4. Pada tahap *pretest*, persentase ketercapaian ranah kognitif level C2, C3, dan C4 berturut-turut yaitu 50%, 0%, dan 10%. Persentase ketercapaian level C2, C3, dan C4 berturut-turut pada pengerjaan soal evaluasi dalam produk yaitu 60%, 90%, dan 100%. Pada tahap *posttest*, persentase ketercapaian ranah kognitif level C2, C3, dan C4 berturut-turut yaitu 90%, 60%, dan 50% serta *N-gain score* yaitu 0,59 dengan kategori sedang yang menunjukkan penguasaan konsep yang cukup baik. Produk dapat digunakan untuk menunjang penguasaan konsep peserta didik pada topik ikatan kovalen.

**Kata kunci:** multimedia interaktif, Smart Apps Creator 3, ikatan kovalen, penguasaan konsep

**ABSTRACT****DEVELOPMENT OF INTERACTIVE MULTIMEDIA ON THE TOPIC OF COVALENT BOND TO SUPPORT STUDENTS' CONCEPTUAL MASTERY**

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*Covalent bond is one of the chemistry topics that has abstract concepts and difficult to observe directly, so it requires learning media that can help students to build and master concepts. Currently, SMA N 1 Kalasan has not used interactive multimedia in learning as tool to help students master the concept of covalent bond. This research aims to: (1) create product in the form of interactive multimedia using Smart Apps Creator 3; (2) know the validity, effectiveness, and practicality of the product; (3) analyze students' conceptual mastery. This study is Research and Development (R&D) which refers to the ADDIE development model (Lee & Owens, 2004: 3). The supporting instruments used were validation sheets of product and research instruments, pretest and posttest questions, evaluation questions in the product, and students' response questionnaire. The limited trial was carried out with 10 students of X MIPA at SMA N 1 Kalasan. The data obtained were analyzed using Aiken's V and descriptive statistics. The results showed that: (1) product was suitable to be developed with the ADDIE development model because it had systematic and simple stages; (2) product has fulfilled very valid criteria with average percentage of 90,8%; fulfilled very effective criteria based on average posttest score of 76.7; and fulfilled very practical criteria with average percentage of 91.7%; (3) the product developed was able to assist students in mastering the concept of covalent bond as indicated by the achievement of cognitive domain at C2, C3, and C4 levels. At the pretest stage, the percentage of cognitive domain achievement at C2, C3, and C4 levels were respectively 50%, 0%, and 10%. The percentage of achievement at C2, C3, and C4 levels in testing evaluation questions of product were respectively 60%, 90%, and 100%. At the posttest stage, the percentage of cognitive domain achievement at C2, C3, and C4 levels were respectively 90%, 60%, and 50%, and also N-gain score was 0.59 with moderate category which indicated quite good conceptual mastery. Product can be used to support students' conceptual mastery on the topic of covalent bond.*

**Keywords:** *interactive multimedia, Smart Apps Creator 3, covalent bond, conceptual mastery*