

## ABSTRAK

### PENGEMBANGAN MEDIA PEMBELAJARAN PERMAINAN HARTA KARUN KIMIA DAN PENERAPANNYA PADA MATERI PERKEMBANGAN TEORI ATOM DAN SIFAT KEPERIODIKAN UNSUR

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Persoalan yang dihadapi dalam pembelajaran kimia di SMA Stella Duce Bambanglipuro adalah keaktifan belajar dan pemahaman peserta didik. Peserta didik cenderung kurang aktif dan kurang paham pada materi perkembangan teori atom dan sifat keperiodikan unsur. Ini disebabkan karena materi ajar yang banyak dan berupa hafalan. Salah satu alternatif yang dapat mengaktifkan sikap aktif peserta didik yakni penerapan metode permainan karena melibatkan aktivitas peserta didik di dalamnya. Melalui penelitian ini, dikembangkan permainan harta karun kimia untuk meningkatkan keaktifan belajar peserta. Instrumen yang digunakan adalah lembar wawancara, lembar validasi produk dan instrumen penelitian, soal *pretest-posttest*, lembar observasi, serta lembar kuesioner. Penelitian bertujuan untuk: (1) mengukur kualitas produk ditinjau dari validitas dan respon peserta didik; (2) mengukur keefektifan produk ditinjau dari hasil belajar peserta didik dan keaktifan belajar. Jenis penelitian yang digunakan adalah *Research and Development* (R&D) dengan model *Analysis, Design, Development, Implementation, dan Evaluation* (ADDIE). Hasil penelitian menunjukkan bahwa: (1) telah berhasil dikembangkan media pembelajaran berupa permainan harta karun kimia dengan tingkat validitas 96,11% yang memenuhi kriteria sangat valid dan persentase lembar kuesioner sebesar 96,79% yang menjelaskan bahwa produk sangat praktis digunakan dalam pembelajaran; (2) Berdasarkan uji *t*, didapatkan nilai *t*-hitung lebih besar dari *t*-tabel ( $3,026 > 2,201$ ) dan nilai probabilitas (*sig 2-tailed*) lebih kecil dari 0,05 ( $0,012 < 0,05$ ), yang menunjukkan adanya perbedaan signifikan antara nilai *pretest* dan *posttest*. Produk tergolong sangat efektif dengan persentase lembar observasi sebesar 88,10% yang menjelaskan bahwa produk sangat efektif digunakan dalam pembelajaran.

**Kata kunci:** Media pembelajaran permainan, Harta karun kimia, Keaktifan belajar, Perkembangan teori atom, Sifat keperiodikan unsur

## **ABSTRACT**

### **DEVELOPMENT OF CHEMICAL TREASURE GAME LEARNING MEDIA AND THE APPLICATION ON ATOMIC THEORY AND THE PERIODIC PROPERTIES OF ELEMENTS**

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*The problems in learning chemistry at Stella Duce Bambanglipuro High School is the activeness of learning and understanding of students. Students tend to be less active and less understanding in the material development of atomic theory and the periodic nature of elements. This is because of the large teaching material and rote memorization. One alternative to activate the students is application the game method because there is direct involvement of students. Through this research, a chemical treasure game was developed to increase participants' learning activity. The instruments used are interview sheets, product validation sheets and research instruments, pretest-posttest questions, observation sheets, and questionnaire sheets. The research aims to: (1) measure product quality in terms of validity and student responses; (2) measure the effectiveness of the product in terms of student learning outcomes and learning activeness. The type of research used is Research and Development (R&D) with the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). The results showed that: (1) learning media in the form of chemical treasure game has been successfully developed with a validity level of 96.11% which meets the criteria of very valid and the percentage of questionnaire sheets of 96.79%, explaining that the product is very practical to use in learning; (2) Based on the t-test, the t count value is greater than t table ( $3,026 > 2,201$ ) and the probability value (sig 2-tailed) is smaller than 0,05 ( $0,012 < 0,05$ ) which indicates a significant difference between the pretest and posttest score. The product is classified as very effective with a percentage of observation sheet of 88.10% explaining that the product is very effective to use in learning.*

**Keywords:** *Learning media, Treasure of chemistry, Active learning, Development of atomic theory, Periodic properties of element*