

## **ABSTRACT**

### ***Development of Interactive Multimedia Handout Games Aided in Discovery Learning Model in Measurements Learning Material to Improve Critical Thinking Skills High School Students***

**Risya Handayani**

*The low of student's critical thinking skills was due to the teaching materials used in schools still comes from the publisher in the form of textbooks and LKPD, the translation is still common, not listed indicators, learning objectives clearly, and not yet shows the steps the learning model that directs the activity of thinking. This situation affects the critical thinking skills of students who have not been satisfactory. Though the teaching materials is one of the important components in the learning competencies that affect all learners. Therefore, it was necessary to develop teaching materials that can improve critical thinking skills. One of the teaching materials that is interactive multimedia Handout games aided. This research was aimed to develop interactive multimedia Handout games aided on discovery learning model in material measurements to improve critical thinking skills high school students with validity, practicality, and effectiveness criteria.*

*Research and development type with 4-D model consists of the stage that are define, design, develop, and dessiminate was adopted in this research. The data types were interactive multimedia handout games aided validity, practicality, and effectiveness. Research instrument used was a questionnaire, validation sheet, sheet practicalities and observation sheets attitudes and skills, as well as the achievement test.*

*Research result showed that interactive multimedia handout games aided were found to be valid and practical with Handout validity 0,79; students workshet validity 0,80; practicality according to questionnaire responses of teacher for both of Handout and students worksheet were 91,66% and 91,88%; Handout practicality according to questionnaire responses of students was 84,33% and students worksheet was 84,29%. Trial result show that interactive multimedia handout games aided have been effective for using with students critical thinking skills increased form 54,51% until 84,10%. Furthermore, in disseminate step, the obtained result showed that interactive multimedia handout games aided were found to be effective in increasing students critical thinking skills. Therefore, interactive multimedia handout games aided on discovery learning model in material measurements to improve critical thinking skills high school students have fulfilled validity, practicality, and effectiveness criteria.*

## ABSTRAK

### **Pengembangan *Handout* Multimedia Interaktif Berbantuan *Games* Dalam Model *Discovery Learning* Pada Materi Pengukuran Untuk Meningkatkan *Critical Thinking Skills* Peserta Didik SMA**

**Risya Handayani**

Rendahnya *critical thinking skills* peserta didik disebabkan oleh bahan ajar yang digunakan di sekolah masih berasal dari penerbit berupa buku ajar dan LKPD, penjabaran masih umum, tidak dicantumkan indikator, tujuan pembelajaran secara jelas, dan belum memperlihatkan langkah-langkah model pembelajaran yang mengarahkan pada aktivitas berpikir. Keadaan ini berdampak pada *critical thinking skills* peserta didik yang belum memuaskan. Padahal bahan ajar merupakan salah satu komponen penting dalam pembelajaran yang mempengaruhi semua kompetensi peserta didik. Oleh karena itu, perlu dikembangkan bahan ajar yang mampu meningkatkan *critical thinking skills*. Salah satu bahan ajar tersebut adalah *Handout* multimedia interaktif. Penelitian ini bertujuan untuk menghasilkan *Handout* multimedia interaktif berbantuan *games* dalam model *discovery learning* pada materi pengukuran untuk meningkatkan *critical thinking skills* peserta didik SMA dengan kriteria valid, praktis dan efektif.

Jenis penelitian adalah *research and development (R&D)* dengan model 4D yang terdiri dari tahap *define, design, Develop, dan dessiminate*. Jenis data yang diperoleh berupa validitas, praktikalitas, dan efektivitas *Handout* multimedia interaktif. Instrumen penelitian yang digunakan adalah angket, lembar validasi, lembar praktikalitas dan lembar observasi sikap dan keterampilan, serta tes hasil belajar.

Hasil penelitian menunjukkan bahwa *Handout* multimedia interaktif telah valid dan praktis dengan perolehan validitas *Handout* 0,79; validitas LKPD 0,80; praktikalitas menurut angket respon guru baik untuk *Handout* maupun LKPD dengan perolehan 91,66% dan 91,68%; praktikalitas *Handout* menurut angket respon peserta didik 84,33% serta LKPD 84,29%. Hasil uji coba juga menunjukkan bahwa *Handout* multimedia interaktif telah efektif untuk digunakan dengan meningkatnya *critical thinking skills* peserta didik dari 54,51% hingga menjadi 84,10%. Selanjutnya, pada tahap penyebaran diperoleh hasil bahwa *Handout* multimedia interaktif efektif dalam meningkatkan *critical thinking skills* peserta didik. Dengan demikian, penelitian ini menghasilkan *Handout* multimedia interaktif berbantuan *games* dalam model *discovery learning* pada materi pengukuran untuk meningkatkan *critical thinking skills* peserta didik SMA memenuhi kriteria valid, praktis dan efektif.