## ABSTRAK

**Alfath Anshorullah : Pengembangan media animasi sel volta berorientasi representasi makroskopik,submikroskopik dan simbolik**

Tujuan dari penelitian ini adalah untuk mengidentifikasi kebutuhan siswa dan guru terhadap media pembelajaran yang akan dibuat dan untuk menganalisis hasil uji validasi,menganalisis hasil uji coba kelayakan dan mendekskripsikan tampilan media animasi pada materi sel volta. Dalam penelitian ini menggunakan metode *Research and Development (R&D)* dengan tahapan analisis, tahapan desain dan tahapan pengembangan. Hasil angket pada kebutuhan guru dan siswa menunjukan bahwa media animasi pada materi sel volta sangat diperlukan untuk proses pembelajaran, hasil validasi pada aspek pembelajaran mendapatkan nilai 0,85 dan dinyatakan valid, pada aspek substansi materi mendapatkan nilai 0,8 dan dinyatakan valid, pada aspek tampilan dan navigasi mendapatkan nilai 0,757 dan dinyatakan valid, dan pada aspek evaluasi mendapatkan nilai 0,75 dan dinyatakan valid. Adapun hasil uji kelayakan pada aspek pembelajaran mendapatkan persentase 85,7% dan dinyatakan layak, pada aspek tampilan dan navigasi mendapatkan persentase 92% dan dinyatakan sangat layak, pada aspek efektifitas produk animasi mendapatkan persentase 85,3% dan dinyatakan layak. Berdasarkan hasil validasi dan uji coba terbatas maka media animasi sel volta dikatakan valid dan layak untuk digunakan sebagai media pembelajaran pada materi sel volta



**Kata kunci :** Media animasi,Representasi kimia,sel volta.

## ABSTRACT

**Alfath Anshorullah : Development of Volta Cell Animation Media Oriented Toward Macroscopic, Submicroscopic, and Symbolic Representations**

The aim of this study is to identify the needs of students and teachers regarding the instructional media to be developed, to analyze the results of the validation process, to assess the feasibility test results, and to describe the design features of the animation media on the topic of voltaic cells. This research employed the Research and Development (R&D**)** method, encompassing the stages of analysis, design, and development. The results of the needs assessment questionnaire revealed that animation-based media for the voltaic cell topic is highly needed in the learning process. The validation results indicated that the learning aspect obtained a score of 0.85, indicating a valid category; the material content aspect scored 0.80 and was also considered valid; the appearance and navigation aspect scored 0.757 and was deemed valid; and the evaluation aspect scored 0.75 and was categorized as valid. Furthermore, the feasibility test results showed that the learning aspect received a percentage of 85.7%, categorized as feasible; the appearance and navigation aspect received a percentage of 92%, categorized as highly feasible; and the product effectiveness aspect received a percentage of 85.3%, also categorized as feasible. Based on the validation results and limited field testing, it can be concluded that the voltaic cell animation media is valid and feasible to be used as instructional media in teaching the voltaic cell topic.



**Kata kunci :** Animation media, chemical representation, voltaic cell