

## ABSTRAK

**Hilman Nurhakim Pradana:** Pembuatan Media Pembelajaran Berbasis *Virtual Reality* Menggunakan MilleaLab Pada Konsep Teori Asam Basa

Pembuatan media pembelajaran berbasis *virtual reality* (VR) menggunakan MilleaLab pada Konsep teori asam basa bertujuan untuk menganalisis hasil angket kebutuhan, hasil uji validasi, hasil uji kelayakan, serta mendeskripsikan tampilan media pembelajaran berbasis *virtual reality* pada konsep teori asam basa. Penelitian ini menggunakan metode *design-based research* (DBR) dengan model *ADDIE analysis, design, dan development*. Instrumen yang digunakan yaitu melakukan observasi dengan angket kebutuhan, pembuatan analisis dan peta konsep pada tahap *analysis*. Pembuatan *flowchart, storyboard*, dan buku petunjuk penggunaan media pada tahap *design*. Serta pembuatan media pembelajaran berbasis VR, uji validasi, dan uji kelayakan pada tahap *development*. Hasil angket kebutuhan siswa didapatkan 88% siswa membutuhkan media yang menarik dan 96% siswa bersedia mengikuti pembelajaran berbasis VR jika disediakan. Hasil validasi pada aspek pembelajaran, substansi materi, tampilan dan navigasi, serta evaluasi mendapat nilai berturut-turut 0,92; 0,93; 0,93; 0,96. Adapun hasil uji kelayakan didapatkan persentase sebesar 94%, 89%, 94%, dan 96% pada aspek penyajian isi materi, tampilan dan navigasi, efisiensi, dan efektivitas. Berdasarkan hasil uji validasi dan uji kelayakan maka media pembelajaran yang dibuat dapat dinyatakan valid dan sangat layak untuk digunakan sebagai bahan ajar materi teori asam basa.

**Kata Kunci :** media pembelajaran, *virtual reality*, teori asam basa.



## **ABSTRACT**

**Hilman Nurhakim Pradana:** *Development of Virtual Reality-Based Learning Media Using MilleaLab on Acid-Base Theory*

*The development of virtual reality-based learning media using MilleaLab for acid-base theory aims to analyze the results of student needs observation validation and feasibility testing, as well as to describe the visual appearance of the media. This research employed the Design-Based Research (DBR) methodology, with ADDIE model which includes three main stages the analysis, design, and development. Consisting of observations, conceptual analysis, and the creation of concept maps in analysis stage. Involving the development of flowcharts, storyboards, and user manuals in the design stage. Creation of the VR-based learning media, validation testing, and feasibility testing in the. The results of the student needs questionnaire showed that 88% of students needed interesting media and 96% of students were willing to participate in VR-based learning if it was provided. The validation results for instructional quality, content substance, visual and navigational design, and evaluation aspects obtained scores of 0.92, 0.93, 0.93, and 0.96, respectively. The feasibility test results yielded percentages of 94%, 89%, 94%, and 96% for content presentation, visual and navigation design, efficiency, and effectiveness, respectively. Based on the results of the validation and feasibility tests, the developed learning media is considered valid and highly feasible for use as instructional material in teaching acid-base theory.*

**Keyword:** *learning media, virtual reality, acid-base theory.*

