## ABSTRAK

**Nurul Wahyuni Lailiyah**: Pembuatan Laboratorium Virtual Berbasis Android Pada Praktikum Sintesis Senyawa Nitrogen

Penelitian ini bertujuan untuk mendeskripsikan tampilan, menganalisis hasil uji validasi dan hasil uji kelayakan dari media pembelajaran laboratorium virtual pada praktikum sintesis senyawa nitrogen. Tahapannya mengadopsi tahapan *Design Based Research* (DBR) yaitu analisis, desain, dan pengembangan. Tampilan laboratorium virtual ini memiliki lima menu utama diantaranya materi, alat dan bahan, MSDS (*material safety data sheet*), praktikum, dan soal evaluasi yang dirancang dengan memadukan teks, gambar, suara, animasi, serta video. Produk awal media pembelajaran laboratorium virtual divalidasi oleh tiga validator. Hasil uji validasi diperoleh $r_{hitung}$ pada aspek substansi materi sebesar 0.87, aspek pembelajaran 0.90, aspek bahasa 0.83, aspek rekayasa perangkat lunak 0.83, serta aspek visual dan audio 0.87 sehingga secara keseluruhan didapatkan rata-rata $r_{hitung}$ sebesar 0.86 dengan kategori valid. Media yang telah diperbaiki dilakukan uji kelayakan kepada 10 responden memperoleh rata-rata 88,66% dengan kriteria layak. Dengan demikian, laboratorium virtual dinyatakan valid dan memiliki interpretasi kelayakan yang tinggi sehingga dapat digunakan sebagai media pembelajaran pada praktikum sintesis senyawa nitrogen.



Kata kunci: laboratorium virtual, media berbasis android, praktikum sintesis senyawa nitrogen

## *ABSTRACT*

**Nurul Wahyuni Lailiyah**: *Making Android-Based Virtual Laboratory In The Nitrogen Compound Synthesis Practicum*

*This research aims to describe the appearance, to analyze the results of the validation test and the results of the feasibility test of the virtual laboratory learning media in the nitrogen compound synthesis practicum. The stages used Design Based Research (DBR) stage include analysis, design, and development. This virtual laboratory display has five main menus including materials, tools and materials, MSDS (material safety data sheet), practicum, and evaluation questions designed by combining text, images, sound, animation, and video. The initial product of the virtual laboratory learning media was validated by three validators. The results of the validation test showed that the* $r_{count}$ *on the material substance aspect was 0.87, the learning aspect was 0.90, the language aspect was 0.83, the software engineering aspect was 0.83, and the visual and audio aspects were 0.87 so that the average* $r_{count}$ *was 0.86 with a valid category. The media that has been repaired is carried out with a feasibility test on 10 respondents, obtaining an average of 88.66% with appropriate criteria. Thus, the virtual laboratory is valid and has a high feasibility interpretation so that it can be used as a learning medium in the nitrogen compound synthesis practicum.*



*Keywords: virtual laboratory, android based media, nitrogen compound synthesis practicum*