ABSTRAK

PENGEMBANGAN MEDIA PEMBELAJARAN PERMAINAN EDUKASI BERBASIS *ANDROID* MATERI SISTEM IMUN KELAS XI

Efrianti Sinaga

171434076

Proses pembelajaran di era pandemi *Covid-19* dengan alternatif dalam jaringan (daring) menggunakan media pembelajaran yang monoton dan berdampak pada aktivitas peserta didik yang rendah. Berdasarkan hasil wawancara analisis kebutuhan dengan lima guru biologi kelas XI SMA di kota Yogyakarta, diketahui bahwa guru memiliki kendala dalam mengembangkan media pembelajaran yang disajikan dalam bentuk teknologi aplikasi khususnya pada materi yang sulit dipahami peserta didik seperti materi sistem imun. Peserta didik membutuhkan media pembelajaran yang berdampak positif terhadap keaktifan dan motivasi saat mengikuti pembelajaran biologi sehingga mampu membangun pengetahuannya sendiri. Media pembelajaran Permainan Edukasi berbasis *android* menjadi salah satu media pembelajaran yang berpeluang dalam mengatasi kendala tersebut. Tujuan dari penelitian ini adalah mengembangkan media pembelajaran permainan edukasi pada materi sistem imun untuk siswa kelas XI dan mengetahui kelayakan media pembelajaran tersebut.

Penelitian menggunakan metode *Research and Development* (R&D) yang dikembangkan oleh Borg and Gall dalam Sugiyono (2013) dengan mengadaptasi 5 dari 10 tahapan penelitian, yaitu (1) potensi masalah (2) pengumpulan data (3) desain produk (4) validasi desain produk dan (5) revisi desain produk.

Media pembelajaran Permainan Edukasi berbasis *android* memiliki format file *application package file* (*.apk)* dengan ukuran 64.9 MB serta memuat menu tentang aplikasi, petunjuk penggunaan, materi, *Victorem Immune System* atau latihan soal, dan Antibody VS Antigen atau game tantangan. Hasil validasi produk menunjukkan rata-rata skor nilai 3.66 dengan kriteria "Sangat Baik". Dapat disimpulkan bahwa media pembelajaran Permainan Edukasi yang dikembangkan layak untuk diujicobakan melalui proses revisi.

Kata Kunci: *Research and Development,* Permainan Edukasi, media pembelajaran, *android*, sistem imun

ABSTRACT

DEVELOPMENT OF ANDROID BASED EDUCATIONAL GAME AS A LEARNING MEDIA TO TEACH IMMUNE SYSTEM MATERIAL FOR 11th GRADE STUDENTS

Efrianti Sinaga

171434076

Learning during the covid-19 pandemic with online alternatives, using monotonous learning media and has an impact on low student activity. Based on the necessities analysis with five teacher who teach biology in 11th grade around Yogyakarta, teachers have problems in developing learning media in the form of application technology especially material that is difficult for students to understand such as the immune system. Students need learning media, which can increase activity and motivation when learning biology so that students can improve their own knowledge. Android-based education game learning media is one of the learning media, which can solve these problems. The purpose of this research is to develop educational game learning media on immune system material for grade XI student high school and knowing its quality.

Research used R&D method by Borg and Gall in Sugiyono (2013) while adapting 5 of 10 stage in the method, which are (1) potential problems, (2) data collection (3) product design (4) product design validation and (5) product design revision.

The android-based Education Game learning media has an application package file format (.apk) with a size 64.9 MB and there are, about the app, instruction for use, imunne system material, Victorem Immune System (practice question), and Antibody VS Antigen (game challenges). The product validation results show that the android-based Eduction Game learning media gets an average score of 3.66 with "Very Good" criteria. It can be concluded that the andoroid-based Education Game learning media that has been developed is eligible to be tested with revision process.

Keyword: Research dan development, education game, learning media, android, immune system.