ABSTRAK

PENGEMBANGAN MULTIMEDIA INTERAKTIF BERBASIS ANDROID PADA MATERI SISTEM PERNAPASAN MANUSIA UNTUK KELAS XI SMA

Putri Kumala Rahmawati

161434076

Materi pembelajaran biologi khususnya sistem pernapasan manusia yang cukup kompleks dan bersifat abstrak menjadi tantangan bagi setiap guru dalam menentukan media pembelajaran yang sesuai dengan karakteristik materi yang diajarkan. Hasil survei kebutuhan dari 4 guru Biologi SMA di Daerah Istimewa Yogyakarta menunjukkan adanya kebutuhan media digital yang praktis, menarik, interaktif, dan mampu memvisualisasikan proses yang terjadi di dalam tubuh secara rinci. Salah satu media pembelajaran yang relevan dengan kendala dalam pengajaran materi sistem pernapasan manusia adalah multimedia interaktif yang dikemas dalam *software* Android. Penelitian ini dilakukan untuk mengetahui kualitas dan kelayakan produk multimedia interaktif sebagai media pembelajaran pada materi Sistem Pernapasan Manusia.

Jenis penelitian ini merupakan *Research and Development* (RnD). Langkah-langkah pengembangan multimedia interaktif terdiri dari 5 tahap, yaitu potensi dan masalah, pengumpulan data, desain produk, validasi desain, dan revisi desain. Produk yang dihasilkan berupa aplikasi multimedia interaktif berbasis Android yang divalidasi oleh ahli materi, ahli media, dan dua guru biologi SMA kelas XI.

Hasil penelitian menunjukkan bahwa rerata skor validasi yang diperoleh dari penilaian keempat ahli terhadap multimedia interaktif berbasis Android pada materi sistem pernapasan manusia sebesar 3,65 dengan kriteria ‘sangat baik’. Media dinyatakan layak untuk diujicobakan dalam skala terbatas.

Kata kunci : *research and development*, multimedia interaktif, Android, sistem pernapasan manusia.

ABSTRACT

THE DEVELOPMENT OF ANDROID-BASED INTERACTIVE MULTIMEDIA ON HUMAN RESPIRATORY SYSTEM MATERIAL FOR GRADE XI OF SENIOR HIGH SCHOOL

Putri Kumala Rahmawati

161434076

Biology learning material, especially the human respiratory system which is quite complex and abstract in nature becomes a challenge for every teacher in deciding learning media which are suitable with learning material taught. The survey results of needs from four senior high school teachers in the Special Region of Yogyakarta showed the needs of digital media which were practical, interesting, and interactive. It also visualized specifically the body system process. One of the learning media which is relevant to the problem in teaching human respiratory system material is interactive multimedia which is in Android software. This research was conducted to know the quality and feasibility of products developed as learning media on the Human Respiratory System material.

This research is Research and Development (RnD). There are five methods of interactive multimedia development, namely potency and problem, data collection, product design, design validation, and design revision. The final product produced was an Android-based interactive multimedia application which was validated by material experts, media experts, and two biology teachers of senior high school grade XI.

The result showed that the average of validation score obtained from the assessment of the four experts on Android-based interactive multimedia on human respiratory system material was 3.65 with the 'very good' criteria. The medium was declared as good for use with a few revisions based on the validators' comments and suggestions.

Keywords: *research and development, interactive multimedia, Android, human respiratory system.*