

ABSTRACT

Lusty Patma Dwi. 2021. "Development of Android-Based Interactive Multimedia with a Contextual Approach to the Excretion System and Respiratory System Material for Students Class XI". Thesis. Study program Master of Biology Education, Padang State University.

The rapid development of technology today has an impact on various aspects of life, especially in the aspect of education. The use of android among students has an impact on the learning process. Based on the results of the initial investigations that the researcher had carried out by distributing questionnaires to 25 XI IPA 1 students, it was known that students already had an Android, but Android was more often used to open social media such as Instagram, Facebook and others than used for learning, then the results of interviews The biology teacher states that students can use cell phones to access learning, especially on abstract material such as excretion system material and the respiratory system. The covid-19 pandemic also had an impact on learning, the results of student interviews said it was difficult to follow online learning because it was constrained by signals, this was the same as what the teacher said in the interview, the teacher also had difficulty explaining the material because the signal was unstable, this caused some children get a score below the predetermined KKM.

The purpose of this study is to produce interactive multimedia based on android with a contextual approach to the excretion system and respiratory system material for class XI students that is valid, practical and effective. The type of this research is development research with the Plomp model. There are three stages of development, namely the preliminary research phase, the development or prototyping phase, and the assessment phase. The instrument in this study was a validity assessment sheet, a practicality assessment sheet, a student's critical thinking ability assessment sheet using 15 pretest and posttest questions, a psychomotor analysis sheet and a student affective domain.

The results showed that interactive multimedia based on android is very valid with a value of 93.75% based on the validation by the validated. The practicality assessment by the teacher obtained a score of 89.34% with very practical criteria and the results of the assessment of students with a value of 94.66 with very practical criteria. The results of the effectiveness test show the influence of android-based interactive multimedia on students' critical thinking skills, skills competencies and attitude competencies. So it can be concluded that the interactive multimedia based on android that has been developed is very valid, very practical, and very effective.

Keywords: *Interactive Multimedia, Android, Contextual, Development.*

ABSTRAK

Lusty Patma Dwi. 2021. “Pengembangan Multimedia Interaktif Berbasis Android dengan Pendekatan Kontekstual Pada Materi Sistem Ekskresi dan Sistem Pernapasan untuk Peserta Didik Kelas XI”. Tesis. Program Studi Magister Pendidikan Biologi Universitas Negeri Padang.

Perkembangan teknologi yang semakin pesat saat ini memberikan dampak pada berbagai aspek kehidupan terutama pada aspek pendidikan. Penggunaan android di kalangan peserta didik memberikan dampak terhadap proses pembelajaran. Berdasarkan hasil investigasi awal yang telah dilakukan peneliti dengan penyebaran angket kepada 25 peserta didik XI IPA 1 diketahui bahwasanya peserta didik telah memiliki android, namun android lebih sering digunakan untuk membuka media sosial seperti instagram, facebook dan lainnya dari pada digunakan untuk belajar, selanjutnya hasil wawancara guru biologi menyatakan bahwa peserta didik boleh menggunakan handphone untuk mengakses pembelajaran, terutama pada materi yang bersifat abstrak seperti materi sistem ekskresi dan sistem pernapasan. Pandemi covid-19 juga memberikan dampak pada pembelajaran, hasil wawancara siswa mengatakan sulit mengikuti pembelajaran secara daring karena terkendala oleh sinyal, hal ini sama seperti yang dikatan guru dalam wawancara, guru juga kesulitan menjelaskan materi karena sinyal yang tidak stabil, hal ini menyebabkan beberapa anak mendapatkan nilai dibawah KKM yang telah ditetapkan.

Tujuan penelitian ini adalah untuk menghasilkan multimedia interaktif berbasis android dengan pendekatan kontekstual pada materi sistem ekskresi dan sistem pernapasan untuk peserta didik kelas XI yang valid, praktis dan efektif. Adapun jenis penelitian ini adalah penelitian Pengembangan dengan model Plomp. Terdapat tiga tahap pengembangan yaitu *preliminary research phase, development or prototyping phase, dan assessment phase*. Instrumen pada penelitian ini yaitu berupa lembar penilaian validitas, lembar penilaian praktikalitas, lembar penilaian kemampuan berfikir kritis siswa dengan menggunakan 15 soal pretest dan posttest, lembar penilaian ranah psikomotor dan ranah afektif siswa.

Hasil penelitian menunjukkan multimedia interaktif berbasis android sangat valid dengan nilai 93,75% berdasarkan validasi yang dilakukan validator. Penilaian praktikalitas oleh guru memperoleh nilai 89,34% dengan kriteria sangat praktis dan hasil penilaian peserta didik dengan nilai 94,66 dengan kriteria sangat praktis. Hasil uji efektivitas menunjukkan adanya pengaruh multimedia interaktif berbasis android terhadap kemampuan berfikir kritis siswa, kompetensi keterampilan dan kompetensi sikap. Jadi dapat disimpulkan bahwa multimedia interaktif berbasis android yang telah dikembangkan sangat valid, sangat praktis, dan sangat efektif.

Kata Kunci: *Multimedia Interaktif, Android, Kontekstual, Pengembangan.*