

## ABSTRAK

**Suci Handayani Nasution. NIM. 8166173017. Pengembangan Media Pembelajaran Berbasis *Mobile Learning* pada Materi Sistem Ekskresi untuk Meningkatkan Penguasaan Konsep dan Kemandirian Belajar Siswa Kelas XI IPA SMA Negeri I Delitua. Tesis. Program Pascasarjana Universitas Negeri Medan (Unimed). Medan. 2019.**

Penelitian ini bertujuan untuk mengetahui: (1) kelayakan media pembelajaran berbasis *mobile learning*; (2) Perbandingan Hasil Belajar Penguasaan Konsep Siswa; dan (3) Perbandingan Kemandirian Belajar Siswa yang Diajar dengan Menggunakan Media Pembelajaran Berbasis *Mobile Learning* dengan tanpa media pembelajaran berbasis *Mobile Learning*. Jenis penelitian ini adalah penelitian *Research and Development*. Desain penelitian ini menggunakan model pengembangan Borg and Gall. Subjek penelitian yaitu siswa dan guru biologi. Pada tahapan awal, dilakukan analisis kebutuhan yang subjeknya terdiri dari 3 orang guru biologi dan 117 siswa kelas XI IPA SMA Negeri 1 Delitua. Uji coba kelompok kecil meliputi 9 orang siswa. Uji coba kelompok sedang meliputi 1 kelas berjumlah 36 orang siswa dan Uji coba kelompok besar meliputi 2 kelas XI IPA SMA Negeri 1 Delitua berjumlah 72 siswa. Untuk tahap uji efektivitas media *mobile learning* sistem ekskresi yaitu siswa kelas XI SMA Negeri 1 Delitua meliputi kelas XI IPA-1 dan XI IPA-5. Instrumen dalam penelitian ini berupa hasil wawancara guru dan siswa, angket penilaian terhadap media *mobile learning* dan tes penguasaan konsep siswa pada materi sistem ekskresi. Hasil penelitian ini diperoleh bahwa: (1) pengembangan media pembelajaran berbasis *mobile learning* pada materi sistem ekskresi untuk siswa kelas XI IPA SMA Negeri 1 Delitua pada penelitian ini diperoleh dengan kategori sangat baik, pada aspek: materi (95.95%), desain media pembelajaran (86.89%), dan teknologi media pembelajaran (92.92%). Sehingga pengembangan media pembelajaran berbasis *mobile learning* pada materi sistem ekskresi sangat layak digunakan untuk siswa kelas XI; (2) Hasil belajar penguasaan konsep siswa pada materi sistem ekskresi yang diajar dengan menggunakan media pembelajaran berbasis *mobile learning* ( $80,00 \pm 3,87$ ) ( $\bar{X} \pm SD$ ) lebih tinggi dibandingkan dengan hasil belajar penguasaan konsep siswa yang diajar tanpa media pembelajaran berbasis *mobile learning* ( $68,47 \pm 5,92$ ) ( $t$ -hitung = 9,772;  $P = 0,000$ ); dan (3) Hasil kemandirian belajar siswa pada materi sistem ekskresi yang diajar media pembelajaran berbasis *mobile learning* ( $99,72 \pm 2,58$ ) lebih tinggi dibandingkan dengan hasil kemandirian belajar siswa yang diajar tanpa media pembelajaran berbasis *mobile learning* ( $91,02 \pm 2,59$ ) ( $t$ -hitung = 14,263;  $P = 0.000$ ). Hasil penelitian ini mengimplikasikan bahwa media pembelajaran berbasis *mobile learning* memberikan dampak penguasaan konsep dan kemandirian belajar siswa menjadi lebih baik.

*Kata Kunci:* Media Pembelajaran *Mobile Learning*, Penguasaan Konsep, Kemandirian Belajar Siswa

## ABSTRACT

**Suci Handayani Nasution. NIM. 8166173017. Development of Mobile Learning-Based Learning Media in the Material of Excretion Systems to Increase Mastery of Concepts and Learning Independence of Students of Class XI IPA in Delitua I High School. Thesis. Postgraduate Program in Medan State University (Unimed). 2019.**

*This research was conducted on students in Delitua 1 Public High School whose purpose was to find out: (1) the feasibility of mobile learning based learning media; (2) Comparison of Learning Outcomes Mastery of Student Concepts; and (3) Comparison of the Independence of Student Learning that is Taught Using Mobile Learning Based Media with No Learning Media Based on Mobile Learning. The research subjects were students and biology teachers. At the initial stage, a needs analysis was conducted in which the subjects consisted of 3 biology teachers and 117 XI grade students of Delitua 1 High School. Small group trials included 9 students. The medium group trial includes 1 class totaling 36 students and a large group trial covering 2 XI IPA classes in Delitua 1 Public High School is 72 students. For the test phase of the effectiveness of the mobile learning excretion system, namely the eleventh grade students of Delitua 1 Senior High School include the XI IPA-1 and XI IPA-5 classes. This type of research is Research and Development research. The design of this study uses the development model of Borg and Gall. The instruments in this study were the results of teacher and student interviews, assessment questionnaires on mobile learning media and tests of students' mastery of concepts in excretory system material. The results of this study found that: (1) the development of mobile learning-based learning media in excretory system material for students of class XI IPA 1 Delitua High School in this study were obtained with very good categories, on aspects: material (95.95%), media design learning (86.89%), and learning media technology (92.92%). So that the development of mobile learning-based learning media on excretory system material is very feasible to use for class XI students; (2) Learning outcomes of mastery of students 'concepts in excretory system material taught by using mobile learning-based learning media ( $80.00 \pm 3.87$ ) ( $\pm SD$ ) are higher than learning outcomes mastery of students concepts taught without mobile-based learning media learning ( $68.47 \pm 5.92$ ) ( $t$ -count = 9.772;  $P = 0,000$ ); and (3) The results of student learning independence in the excretion system material taught by mobile learning-based learning media ( $99.72 \pm 2.58$ ) are higher than the results of student learning independence taught without mobile learning-based learning media ( $91.02 \pm 2.59$ ) ( $t$ -count = 14.263;  $P = 0,000$ ). The results of this research imply that learning media based on mobile learning have the effect of mastering concepts and student learning independence becoming better.*

**Keywords:** *Mobile Learning Learning Media, Mastery of Concepts, Student Learning Independence*