

# Efektivitas Serious Games Sebagai Metode Pembelajaran Komplementer Praktikum Struktur Mikroskopis Jaringan Rongga Mulut = The Effectiveness of Serious Games as A Complementary Learning Method for Practicum of Microscopic Structure of Oral Cavity

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## Abstrak

Latar Belakang: Ilmu pedagogi didefinisikan sebagai metode dan pendekatan dalam pembelajaran. Game dengan tujuan pedagogi untuk pendidikan dan pelatihan disebut sebagai serious games (SG). SG telah digunakan dalam berbagai intervensi pendidikan kesehatan dan berperan sebagai sarana pembelajaran aktif yang dapat meningkatkan pengetahuan, keterampilan, serta motivasi. Histologi rongga mulut adalah studi tentang struktur mikroskopis sel dan jaringan rongga mulut. Namun, pembelajaran histologi dideskripsikan sebagai salah satu topik yang kurang menarik dan sulit dipahami. Penggunaan SG berpotensi meningkatkan motivasi mahasiswa yang akan berdampak pada peningkatan performa akademik. Namun, penelitian mengenai efektivitas penggunaan serious games sebagai metode pembelajaran komplementer dalam bidang kedokteran gigi masih belum banyak dipahami. Tujuan: Mengevaluasi efektivitas serious games sebagai metode pembelajaran komplementer praktikum histologi jaringan rongga mulut. Metode: Penelitian dilakukan dengan menggunakan desain studi randomized controlled-crossover pada mahasiswa FKG UI prelinik tahun pertama. Responden penelitian terdiri dari 74 mahasiswa dan dibagi menjadi dua kelompok. Kelompok A diberikan pembelajaran dengan serious games terlebih dahulu dan dilanjutkan dengan pembelajaran dengan panduan praktikum (handout). Sedangkan kelompok B diberikan handout dan dilanjutkan serious games. Hasil: Berdasarkan uji analisis statistik, penelitian menunjukkan terdapat perbedaan bermakna secara statistik ( $p < 0,05$ ) pada hasil nilai pre-test, post-test 1 (3 hari pasca intervensi), dan post-test 2 (7 hari pasca intervensi). Uji kuesioner juga menunjukkan motivasi, persepsi, engagement dan pengalaman yang positif setelah belajar menggunakan serious games. Kesimpulan: Pembelajaran serious games efektif meningkatkan kemampuan kognitif serta meningkatkan motivasi mahasiswa dalam mempelajari histologi rongga mulut. Pendekatan inovatif ini dapat direkomendasikan sebagai strategi pembelajaran komplementer praktikum histologi rongga mulut

.....Background: Pedagogy is defined as methods and approaches in learning. Games with pedagogical goals for education and training are called serious games (SG). SG has been used in various health education and acts as an active learning that can increase cognitive, skills, and motivation. Oral histology is microscopic study of cells and tissues structure of the oral cavity. However, histology has been described as one of the less interesting and difficult materials to understand. The use of SG has the potential to increase student motivation which will have an impact on improving academic performance. Nevertheless, studies and research on the effectiveness of serious games as a complementary learning method in dentistry is still not widely understood. Objective: To evaluate the effectiveness of serious games as a complementary learning method for oral practicum histology. Methods: The study was conducted using a randomized controlled-crossover design in the UI first year preclinical dental students. The research respondents consisted of 74 students and they were divided into two groups. Group A was given learning with serious games first, then continued with learning with practicum guides (handout). Meanwhile, group B was given handouts and

continued with serious games. Results: Based on statistical analysis tests, the study showed that there were statistically significant differences ( $p < 0.05$ ) in the results of students' pre-test, post-test 1 (3 days post-intervention), and post-test 2 (7 days post-intervention) scores. The questionnaire test also showed positive motivation, perception, engagement and experience after using serious games. Conclusion: Learning with serious games is effective in increasing cognitive skills and student motivation in studying oral histology. This innovative approach can be recommended as a complementary learning strategy for oral practicum histology.