

**PENGEMBANGAN VIRTUAL REALITY UNTUK MATERI TINDAKAN
PEMBEDAHAN MINOR PADA MATAKULIAH KETERAMPILAN
DIAGNOSTIK DAN TERAPEUTIK (STUDI KASUS PROGRAM STUDI
KEDOKTERAN UNDIKSHA)**

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ABSTRAK

Abstrak— Pembedahan minor, bagian dari tindakan medis darurat, memerlukan keterampilan praktis dan pengetahuan teori. Meskipun menguntungkan, seperti pengenalan antara dokter dan pasien, penghematan waktu dan anggaran, serta kontinuitas perawatan, pembedahan minor juga menghadapi tantangan, termasuk kurangnya pelatihan dan perlengkapan memadai serta risiko patologis. Untuk mengatasi hal ini, penelitian ini mengembangkan aplikasi Virtual Reality (VR) menggunakan model MDLC (Multimedia Development Life Cycle) untuk simulasi pembedahan minor. Aplikasi ini dibuat menggunakan Unity Engine, Blender, dan Package Oculus Integration, bertujuan meningkatkan pemahaman dan keterampilan praktis mahasiswa kedokteran di Universitas Pendidikan Ganesha (Undiksha). Tahapan pengembangan mencakup pengonsepan, perancangan, pengumpulan bahan, pembuatan, pengujian, dan distribusi. Hasil pengujian menunjukkan aplikasi ini valid dan layak digunakan sebagai media pembelajaran. Uji Blackbox, ahli media, dan isi memberikan hasil sangat baik, sementara pengujian lapangan dengan instrumen UEQ menunjukkan nilai rata-rata "excellent" dalam daya tarik, kejelasan, efisiensi, ketepatan, stimulasi, dan kebaruan. Penelitian ini menyimpulkan bahwa VR efektif dalam menciptakan simulasi realistis, mempersiapkan mahasiswa menghadapi situasi nyata.

Keywords— Pembedahan minor, Virtual Reality, MDLC, simulasi medis, pendidikan kedokteran.

***VIRTUAL REALITY-BASED INSTRUCTIONAL DESIGN FOR MINOR
SURGICAL PROCEDURES IN A DIAGNOSTIC AND THERAPEUTIC SKILLS
COURSE: A CASE STUDY OF UNIVERSITAS PENDIDIKAN GANESHA
MEDICAL PROGRAM***

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ABSTRACT

Abstract—Minor surgery, a part of emergency medical procedures, requires practical skills and theoretical knowledge. Despite its benefits, such as fostering familiarity between doctors and patients, saving time and costs, and ensuring continuity of care, minor surgery also faces challenges, including insufficient training and equipment and pathological risks. To address these issues, this study developed a Virtual Reality (VR) application using the MDLC (Multimedia Development Life Cycle) model to simulate minor surgery. The application was created using Unity Engine, Blender, and the Oculus Integration Package, aiming to enhance the understanding and practical skills of medical students at Universitas Pendidikan Ganesha (Undiksha). The development stages included conceptualization, design, material collection, production, testing, and distribution.

Testing results showed that this application is valid and suitable as a learning medium. Blackbox testing, along with media and content expert reviews, provided excellent results, while field testing with the UEQ instrument showed an "excellent" average rating in attractiveness, clarity, efficiency, accuracy, stimulation, and novelty. This study concludes that VR is effective in creating realistic simulations, preparing students for real-world scenarios.

Keywords: Minor surgery, Virtual Reality, MDLC, medical simulation, medical education.