

**PENGEMBANGAN MEDIA PEMBELAJARAN *VIRTUAL REALITY* (VR)
BERORIENTASI BUDAYA LOKAL *LAWAR* SEBAGAI PENGUATAN
PEMBELAJARAN MENDALAM KELAS XI SMA**

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ABSTRAK

Penelitian ini bertujuan untuk mengembangkan media pembelajaran *Virtual Reality* (VR) berorientasi budaya lokal *lawar* sebagai penguatan pembelajaran mendalam pada materi sistem imunitas kelas XI SMA, serta menganalisis validitas dan kepraktisan media yang dikembangkan. Penelitian ini menggunakan model pengembangan ADDIE yang meliputi tahap *analyze*, *design*, *development*, *implementation*, dan *evaluation*. Produk yang dikembangkan berupa media LARAS-VR (*Local Authentic Reality for Active Science-learning in Virtual reality*) berbasis MilleaLab yang memuat visualisasi 3D sistem imun, audio narasi, video 360°, kuis evaluasi, refleksi pembelajaran, dan integrasi budaya lokal *lawar* Bali. Subjek penelitian terdiri atas dua ahli materi, dua ahli media, dua guru Biologi, dan 26 murid kelas XI SMA Negeri 1 Sawan. Data dikumpulkan melalui wawancara, angket validasi, dan angket kepraktisan, kemudian dianalisis secara deskriptif kuantitatif menggunakan skala Likert. Hasil penelitian menunjukkan bahwa media LARAS-VR memperoleh kategori sangat valid berdasarkan penilaian ahli materi sebesar 96,87% dan ahli media sebesar 96,01%, yang didukung oleh kesesuaian materi, keakuratan konsep, integrasi konteks budaya lokal, kualitas visual, interaktivitas, dan navigasi media yang baik. Hasil uji kepraktisan menunjukkan kategori sangat praktis dengan persentase sebesar 95,55% berdasarkan penilaian guru dan 81,46% berdasarkan penilaian murid, yang didukung oleh kemudahan penggunaan, penyajian materi yang sistematis, serta pengalaman belajar yang interaktif dan imersif. Dengan demikian, media LARAS-VR relevan digunakan sebagai alternatif media pembelajaran berbasis *virtual reality* untuk mendukung penguatan pembelajaran mendalam pada materi sistem imunitas kelas XI SMA.

Kata kunci: Budaya Lokal *Lawar*, Media Pembelajaran, Pembelajaran Mendalam, Sistem Imunitas, *Virtual Reality*.

**DEVELOPMENT OF VIRTUAL REALITY (VR) LEARNING MEDIA
ORIENTED ON LOCAL LAWAR CULTURE AS A REINFORCEMENT OF
DEEP LEARNING FOR GRADE XI SENIOR HIGH SCHOOL STUDENTS**

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ABSTRACT

This study aimed to develop a Virtual reality (VR)-based learning media oriented toward the local culture of lawar to strengthen deep learning in the human immune system topic for Grade XI senior high school students, as well as to examine the validity and practicality of the developed media. The study employed the ADDIE development model, consisting of the analysis, design, development, implementation, and evaluation stages. The product developed was LARAS-VR (Local Authentic Reality for Active Science-learning in Virtual reality), a MilleaLab-based VR learning media featuring 3D visualizations of the immune system, audio narration, 360° videos, evaluation quizzes, learning reflection activities, and the integration of Balinese lawar local culture. The participants included two subject-matter experts, two media experts, two biology teachers, and 26 Grade XI students from SMA Negeri 1 Sawan. Data were collected through interviews, validation questionnaires, and practicality questionnaires, and were analyzed descriptively using a Likert scale. The results indicated that LARAS-VR achieved a very high validity category, with scores of 96.87% from subject-matter experts and 96.01% from media experts. These results were supported by the appropriateness of the content, conceptual accuracy, integration of local cultural contexts, visual quality, interactivity, and effective navigation design. The practicality test also showed that the media was highly practical, with percentages of 95.55% based on teachers' evaluations and 81.46% based on students' evaluations. These findings were supported by the ease of use, systematic content presentation, and the interactive and immersive learning experience provided by the media. Therefore, LARAS-VR is considered a relevant alternative VR-based learning media for strengthening deep learning in the immune system topic for Grade XI senior high school students.

Keywords: Local Lawar Culture, Learning Media, Deep Learning, Immune System, Virtual Reality.