

ABSTRAK

EFEKTIVITAS MEDIA PEMBELAJARAN DENGAN *VIRTUAL REALITY NON IMERSIVE VENTILATOR LABORATORY (VENTLAB)* TERHADAP PENGETAHUAN, MOTIVASI BELAJAR, DAN *SELF-EFFICACY* MAHASISWA

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Latar belakang: Ventilator mekanik merupakan alat medis kompleks yang penting dalam keperawatan kritis, namun pembelajaran ventilator di perguruan tinggi kesehatan masih didominasi metode konvensional berupa ceramah dan buku saku tanpa praktik langsung. Keterbatasan alat, biaya tinggi, serta minimnya pengalaman praktik menyebabkan rendahnya pengetahuan, motivasi belajar, dan *self-efficacy* mahasiswa. *Virtual Reality Non Immersive Ventilator Laboratory (VentLab VR)* dikembangkan sebagai media pembelajaran inovatif untuk memberikan pengalaman belajar yang *Imersive*, interaktif, dan aman.

Tujuan: Penelitian ini adalah untuk mengetahui pengaruh VentLab VR terhadap pengetahuan, motivasi belajar dan *Self-efficacy*

Metode: Penelitian ini menggunakan pendekatan *Research and Development (R&D)* dengan model ADDIE. Desain evaluasi efektivitas menggunakan quasi-experimental dengan *pretest-posttest* control group design. Sampel terdiri dari 50 responden mahasiswa keperawatan yang dibagi menjadi kelompok intervensi (VR VentLab + buku saku) dan kelompok kontrol (buku saku). Instrumen penelitian meliputi kuesioner pengetahuan, motivasi belajar, dan *self-efficacy* yang telah diuji validitas dan reliabilitas. Analisis data menggunakan uji *paired sample t test*, uji *independent t-test* dan *effect size*.

Hasil: Hasil penelitian menunjukkan bahwa kelompok intervensi mengalami peningkatan yang signifikan pada pengetahuan, motivasi belajar, dan *self-efficacy* dibandingkan kelompok kontrol ($p < 0,001$). Hasil uji *effect size* menunjukkan bahwa intervensi VR VentLab memberikan efek sedang pada pengetahuan ($d = 0,2031$) serta efek besar pada motivasi belajar ($d = 1,8587$) dan *self-efficacy* ($d = 1,2352$) dibandingkan kelompok kontrol.

Kesimpulan: Media pembelajaran berbasis VR VentLab efektif meningkatkan pengetahuan, motivasi belajar, dan *self-efficacy* mahasiswa dalam memahami ventilator mekanik, sehingga berpotensi menjadi alternatif pembelajaran inovatif pada pendidikan keperawatan kritis.

Kata Kunci: motivasi belajar, pengetahuan, *self-efficacy*, *ventilator laboratory*, *virtual reality*.

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ABSTRACT

THE EFFECTIVENESS OF LEARNING MEDIA WITH VIRTUAL REALITY NON IMERSIVE VENTILATOR LABORATORY (VENTLAB) ON STUDENT KNOWLEDGE, LEARNING MOTIVATION, AND *SELF-EFFICACY*

Background: Mechanical ventilators are complex medical devices that are important in critical nursing, but ventilator learning in health colleges is still dominated by conventional methods in the form of lectures and handbook without hands-on practice. Limited tools, high costs, and lack of practical experience cause low knowledge, learning motivation, and *self-efficacy* of students. Virtual Reality (VR) Ventilator Laboratory (VentLab) based on 360° video was developed as an innovative learning medium to provide an immersive, interactive, and safe learning experience.

Objective: This study is to determine the effect of VentLab VR on knowledge, learning motivation and *self-efficacy*.

Methods: This study uses a Research and Development (R&D) approach with the ADDIE model. The effectiveness evaluation design used quasi-experimental with a pretest–posttest control group design. The sample consisted of 50 nursing student respondents who were divided into an intervention group (VR VentLab + handbook) and a control group (handbook). The research instruments include questionnaires of knowledge, learning motivation, and *self-efficacy* that have been tested for validity and reliability. Data analysis used paired sample t test, independent t-test and effect size test.

Results: The results showed that the intervention group experienced a significant improvement in knowledge, learning motivation, and *self-efficacy* compared to the control group ($p < 0.001$). The results of the effect size test showed that the VR VentLab intervention had a moderate effect on knowledge ($d = 0.2031$) and a large effect on learning motivation ($d = 1.8587$) and *self-efficacy* ($d = 1.2352$) compared to the control group.

Conclusion: VentLab's VR-based learning media is effective in increasing students' knowledge, learning motivation, and *self-efficacy* in understanding mechanical ventilators, so that it has the potential to be an innovative learning alternative to critical nursing education.

Keywords: knowledge, learning motivation, *self-efficacy*, ventilator laboratory, virtual reality non imersive.

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