

**Rancang Bangun Multimedia Pembelajaran Berbasis Game *Adventure*
Menggunakan Metode *Problem Solving* untuk Meningkatkan Pemahaman
Siswa pada Materi Jaringan Komputer**

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ABSTRAK

Penelitian ini bertujuan untuk merancang-bangun multimedia pembelajaran berbasis game *adventure* menggunakan metode *problem solving* pada materi jaringan komputer, mengetahui peningkatan hasil belajar siswa terhadap mata pelajaran jaringan dasar yang dalam pelaksanaannya menerapkan multimedia pembelajaran berbasis game *adventure* menggunakan metode *problem solving*, dan mengetahui signifikan besarnya peningkatan hasil belajar siswa setelah menerapkan multimedia pembelajaran berbasis game *adventure*. Tahapan pengembangan multimedia pembelajaran ini terdiri dari tahap analisis, desain, pengembangan, implementasi, dan tahap penilaian. Multimedia pembelajaran yang telah dikembangkan kemudian diimplementasikan di SMK BPI Bandung dan data yang diolah diperoleh dari tes yang dilakukan oleh siswa setelah menggunakan multimedia pembelajaran. Sementara untuk data penilaian terhadap multimedia menggunakan kuesioner yang dirancang berdasarkan Learning Object Review Instrument (LORI) version 1.5 yang ditujukan kepada ahli materi dan ahli media, juga siswa sebagai pengguna aplikasi multimedia tersebut. Dari penelitian ini didapatkan bahwa (1) penilaian multimedia oleh ahli media terhadap multimedia pembelajaran berbasis game *adventure* menggunakan metode *problem solving* sebesar 89,57%, termasuk ke dalam kategori sangat baik, penilaian multimedia oleh ahli materi sebesar 85%, termasuk ke dalam kategori sangat baik, dan penilaian pengguna terhadap multimedia sebesar 97,69% termasuk ke dalam kategori sangat baik; (2) multimedia dapat meningkatkan hasil belajar siswa dilihat dari adanya peningkatan signifikan nilai dengan hasil $t_h(8,81) > t_t(2,42)$, gain sebesar 0,61 yang termasuk kedalam kategori sedang, dan tanggapan siswa terhadap multimedia sebesar 97,74% termasuk ke dalam kategori sangat baik.

Kata Kunci: game *adventure*, jaringan komputer, multimedia pembelajaran, *problem solving*.

Design Multimedia Learning Adventure Game Based Uses a Problem Solving Method to Know Improving Student Learning Outcomes for Materials Computer Networking

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ABSTRACT

This research aims to design Multimedia Learning adventure game based uses a problem solving method for materials computer networking, to know improving student learning outcomes of the course base networking that is in the implementation implement multimedia learning adventure game based uses a problem solving method. Moreover, it is to know how significant size the improving of student learning outcomes after applying the multimedia learning adventure game based. Multimedia development stages of this learning phase consists of the analysis, design, development, implementation and assessment phase. Multimedia learning that has been developed and then implemented in SMK BPI Bandung and the processed data obtained from tests performed by the students after using multimedia learning. As for the assessment data of multimedia used the questionnaire that was designed based on the Learning Object Review Instrument (LORI) version 1.5, which is addressed to subject matter experts and media experts, as well as the students as the multimedia application users. From this study, it was found that (1) the assessment of multimedia by media experts to multimedia learning adventure game based uses a problem solving method at 89.57%, included into the excellent category, multimedia votes by subject matter experts of 85%, including into the excellent category, and assessment of users to multimedia by 97,69% included into excellent category; (2) multimedia can improve student learning significant outcomes if it had been seen from any increase in value with a $t_h (8,81) > t_t (2,42)$, gain of 0.61 included into medium category, and reaction of students to multimedia by 97,74% included into excellent category.

Keywords: *game adventure, computer networking, multimedia learning, problem solving.*