

**PENGEMBANGAN MULTIMEDIA PEMBELAJARAN
ROLE-PLAYING GAME MENGGUNAKAN ALGORITMA
Q-LEARNING BERBASIS *INQUIRY TRAINING MODEL*
UNTUK MATA PELAJARAN BASIS DATA SQL DI SMK**

ABSTRAK

Tujuan penelitian ini adalah mengembangkan multimedia pembelajaran Role-Playing Game (RPG) berbasis Inquiry Training Model (ITM) dengan algoritma Q-Learning untuk mata pelajaran Structured Query Language (SQL) pada SMK jurusan RPL. Desain penelitian dilakukan dengan tahap analisis, desain, pengembangan, implementasi dan penilaian. Pada tahap analisis dilakukan studi literatur, lapangan dan perolehan informasi mengenai kurikulum dan silabus yang berlaku. Hasil analisis digunakan untuk merancang materi, flowchart, dan storyboard multimedia. Pembelajaran pada multimedia mengacu pada fase ITM. Unsur permainan berupa RPG digunakan sebagai pendekatan bagi multimedia pembelajaran. Algoritma Q-Learning ditambahkan pada multimedia untuk memberikan saran interaksi pengguna dalam RPG. Untuk memperoleh penilaian multimedia pembelajaran dalam konteks pengembangan, dilakukan validasi kepada Ahli Media dan Ahli Materi. Tahap penilaian selanjutnya adalah ujicoba terbatas yang dilakukan dalam satu kali unit pembelajaran dimana siswa mengakses multimedia secara berkelompok. Responden penilai dipilih sebanyak 14 orang kelas XI SMKN 11 Bandung. Hasil penelitian menunjukkan nilai pada rentang “Sangat Baik” menurut Ahli Materi, Ahli Media dan Siswa.

Kata Kunci : Multimedia Pembelajaran, Role-Playing Game, Inquiry Training Model, Algoritma Q-Learning, Structured Query Language

**DEVELOPMENT OF INQUIRY TRAINING MODEL BASED
ROLE-PLAYING GAME LEARNING MULTIMEDIA
WITH USE OF Q-LEARNING ALGORITHM
IN SQL DATABASE SUBJECT ON VOCATIONAL SCHOOL**

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ABSTRACT

The objective of this research is to develop an Inquiry Training Model (ITM)-based Role-Playing Game (RPG) learning multimedia with Q-Learning algorithm using on Structured Query Learning (SQL) Database subject for Software Engineering Vocational School (SMK RPL). The research design was done by several phases included : Analysis, Design, Development, Implementation and Evaluation. In phase of Analysis, researcher was carried out study of literature, field, and curriculum applied. The data obtained from previous phase used for designing the material, flowchart and storyboard of multimedia. The learning multimedia was made refer to ITM phases. It also used gaming as a learning approach, through RPG. Moreover, Q-Learning algorithm used to provide interaction advice in RPG using. To obtain valuation of the multimedia in development context, the validation was done through Media Expert from practitioner and lecturer, and Material Expert from Database subject teacher. The trial of learning multimedia was done on a learning unit where student accessed the multimedia in groups. The number of research respondents are 14 person choosed by researcher, the 11th grade SMKN 11 Bandung software engineering students. The result of the study shown on range of "Very Well" based on Likert scale by Material Expert, Media Expert and Students' valuation.

Keywords : Learning Multimedia, Role-Playing Game, Inquiry Training Model, Q-Learning Algorithm, Structured Query Language

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