

Development of an Intelligent Tutoring System for SQL SELECT Statement Practice: A Case Study of Buriram Rajabhat University

Objective

- 1) To design and develop an ITS to train SQL SELECT statement skills,
- 2) To evaluate learning outcomes and SELECT query-writing skills after using the system,
- and 3) To assess learners' satisfaction

Motivation for SQL-ITS



1. Master SQL SELECT statements



2. Personalized feedback & assessment



3. Self-paced learning anytime, anywhere



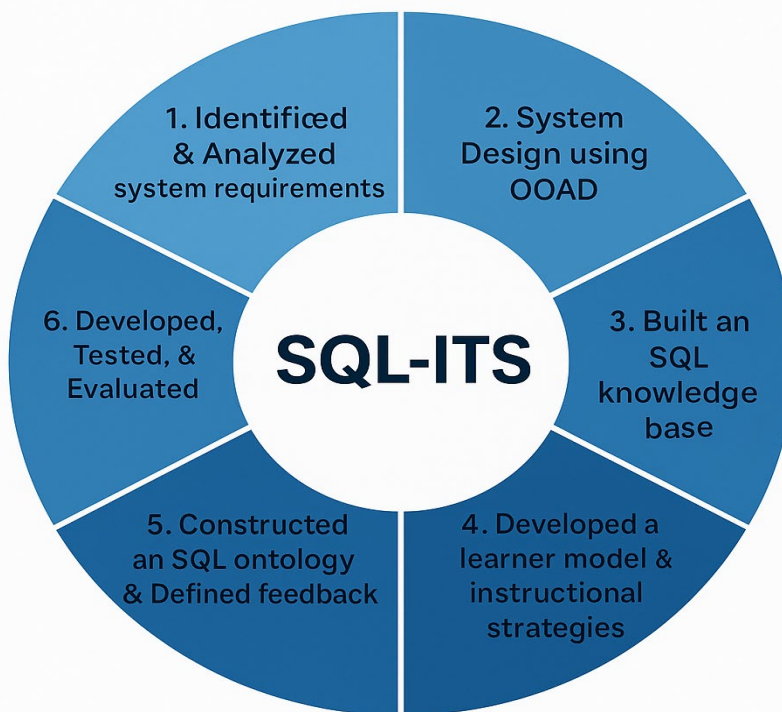
4. Web-based & ontology-driven SQL knowledge



5. Adaptive learning with SWRL-based rules

Methodology

Applied ITS design principles within the SDLC framework



Key Findings & Implication

- ✓ Comprehensive Design
- ✓ Smart Practice: Step-by-step SELECT mastery with feedback



Smart SELECT Practice
Progressive, effort-based feedback to build mastery

✓ High Satisfaction



Comprehensive Learning Design



Intuitive Interface



Pedagogical Features



SQL Knowledge Base



✓ Strong Outcomes

Strong Performance Outcomes

E1: 79.56

E2: 75.12



Effectiveness Index:
0.633
Medium N-gain

93.68%
Learners showed moderate to high progress