

ABSTRACT

The implementation of Outcome-Based Education (OBE) at the Faculty of Industrial Engineering Telkom University faces challenges in managing curriculum transitions, particularly in the mapping process of Program Learning Outcomes (PLO) and courses between curricula that were previously conducted manually. This research aims to develop a web-based OBE monitoring dashboard to automate and facilitate curriculum transition management through two main modules: PLO Mapping Between Curricula and Curriculum Bridging Per Cohort.

The research methodology employs a Software Development Life Cycle (SDLC) approach using the Iterative Incremental model with two development iterations. The first iteration focuses on developing the PLO Mapping Between Curricula feature with similarity analysis algorithms to generate automatic mapping recommendations between different curricula. The second iteration develops the Curriculum Bridging Per Cohort feature for course mapping and Assignment Management for implementing mapping results to students. Technologies used include Laravel Lumen for backend, React for frontend, and PostgreSQL for database.

System testing was conducted through unit testing and User Acceptance Testing (UAT) involving academic stakeholders. Test results show a success rate of 71.4% in the first iteration and 100% in the second iteration. The main features successfully automated the PLO mapping process with accurate compatibility scores, enabled structured cohort assignment management, and provided constraint validation to prevent student assignment data conflicts.

The developed dashboard provides significant impact in improving curriculum transition management efficiency, reducing manual processes that previously required months to automated processes with consistent and measurable results, and supporting more comprehensive OBE implementation in study programs.

Keywords: Outcome-Based Education, Monitoring Dashboard, PLO Mapping, Curriculum Bridging, Curriculum Transition