

## Abstract

Current advancement of technology makes self-learning possible. web-based e-Learning commonly used for self-learning and self-assessment can easily be found with lots of variety. However, analysis of current situation shows that common methods are still far off from aimed target. Majority of web-based learning are still assuming that all participants have the same objective, same knowledge, and same capability. In reality, these kind of educational media have far wider audience - each one of them have different goal, knowledge, preference, and learning capabilities.

In this final project, Open Learner Model (Judy Kay and Susan Bull) and a recommendation method based on Learner Preference Pattern (Tzone I Wang *et al.*) are integrated on an Adaptive Educational Hypermedia to help learners doing their self-learning. Learner Preference Pattern works behind the scene on recognizing learner's tendency towards certain type of learning objects and their cognitive skills on a certain concept, and makes the system adapt around those parameters. Open Learner Model provides a guideline to intuitively visualize a cognitively-oriented model suited for this needs, and making sure informations provided by the systems are perceived by learner without fail.

Results of a usability testing based on "Software Usability Measurement Inventory" (Portman *et al.*) involving 20 Telkom University Students shows that integration of Open Learner Model and Learner Preference Pattern to the system are capable to help learners doing a self-assessment, and capable to adapt on feedbacks and changes learners made, then give them learning object recommendations tailored to their current preference and cognitive skill with average of 58.66% respondent grade the system really good, 38.66% acceptable, and 2.68% grades the system poor.

**Keywords:** Adaptive Educational Hypermedia, Learner Model,  
Personalized Recommendation