ABSTRACT

Nowadays, more and more digital learning materials published on the internet. It makes many active learners are difficult to get the appropriate E-learning materials to support their learning activities effectively and efficiently, since there is only limited guidance to direct learners to appropriate materials. For example, E-learning system will present the same static explanation and suggest the same next page to learners with widely differing educational goals and knowledge of the subject. Hence, this study aims to propose a new approach that combines hybrid filtering and learning style for learning material recommendation. Hybrid filtering, which combines collaborative filtering and content-based filtering, is used in recommender systems by taking into account individual competency of each learner and the similarity of learners who have learned the learning materials previously. Commonly, the similarity is taken from correlation among learners, such as rating they have given to learning materials. This study proposes a new approach which combines learner similarity and Felder-Silverman Learning Styles Model (FSLSM). The experiment conducted is quantitative in which 44 students of Telkom University are involved. It investigates the effect of Felder-Silverman learning styles model in recommending learning materials. It makes the MAE comparison among the prediction resulted from collaborative filtering, learning style similarity filtering, and combined collaborative and learning style similarity filtering. The experiment results indicate the prediction score using rating similarity is better than the prediction score using learning style similarity or the aggregation of both rating and learning style similarity.

Keywords: Recommender system, Content-based filtering, Collaborative filtering, Felder-Silverman learning style model, Learning material.