

Abstract

As technology develops, education requires a system that can recommend learning styles. Identification of learning styles can be done through questionnaires or surveys. Although reliable, the instrument has shortcomings that can hamper the identification process. These deficiencies can be in the form of not motivated students in filling out the questionnaire so that it affects the acquisition of information deemed important in the identification process. An approach that allows researchers to identify learning styles without using a questionnaire or survey is expected to reduce the potential deficiencies. In the context of modeling learning styles, student learning style models are determined based on information on behavior during the use of E-Learning. Felder-Silverman Learning Style Model is used as a basis for modeling student learning styles. The combination of Fuzzy Logic method as a classification method and Case-Based Reasoning as a decision support method can be done to classify students according to their learning styles. Similarity values were obtained using Fuzzy and Nearest-Neighbor similarity. Accuracy testing conducted for Fuzzy similarity produces 80.00% in the processing dimension, 80.00% in the perception dimension, 74.29% in the input dimension, and 62.86% in the understanding dimension. Whereas the Nearest-Neighbors similarity has different levels of accuracy in the understanding dimension with a value of 65.71%. The results show that the patterns of student behavior in E-Learning are better for use with the Nearest-Neighbor similarity function when compared to Fuzzy similarity.

Keywords: learning style, FSLSM, fuzzy logic, CBR