Adaptive Course Sequencing for Personalization of Learning Path Using Neural Network

Abstract

Advancements in technology have led to a paradigm shift fromtraditional to personalized learning methods with varied implementationstrategies. Presenting an optimal personalized learning path in aneducational hypermedia system is one of the strategies that is important inorder to increase the effectiveness of a learning session for each student.However, this task requires much effort and cost particularly in definingrules for the adaptation of learning materials. This research focuses onthe adaptive course sequencing method that uses soft computingtechniques as an alternative to a rule-based adaptation for an adaptivelearning system. The ability of soft computing technique in handlinguncertainty and incompleteness of a problem is exploited in the study. Inthis paper we present recent work concerning concept-based classificationof learning object using artificial neural network (ANN). Self OrganizingMap (SOM) and Back Propagation (BP) algorithm were employed todiscover the connection between the domain concepts contained in thelearning object and the learner's learning need. The experiment resultshows that this approach is assuring in determining a suitable learningobject for a particular student in an adaptive and dynamic learningenvironment.