

Abstract:

There is a limit on the amount of time a faculty member may devote to each student. As a consequence, a faculty member must quickly determine which student needs more attention than others throughout a semester. One of the most demanding courses in the CS curriculum is a data structures course. This course has a tendency for high drop rates at our university. A pre-assessment exam is developed for the data structures class in order to provide feedback to both faculty and students. This exam helps students determine how well prepared they are for the course. In order to determine a student's chance of success in this course, a Genetic Program-based experiment is constructed based upon the pre-assessment exam. The result is a model that produces an average accuracy of 79 percent.

Citation:

Boetticher, G., Ding, W., Moen, C. and Yue K., Using a Pre-Assessment Exam to Construct an Effective Concept-Based Grade Predicting Genetic Program, Proceedings of the 2005 ACM SIGCSE Technical Symposium of Computer Science Education, St. Louis, Missouri, pp 500-504, February 23-25, 2005.