Assessing Student Opinion on the Use of Data Mining for Student Course Selection

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In 2011, Austin Peay State University, Clarksville, TN, implemented a “Netflix approach” program called Degree Compass. The idea was formulated and subsequently implemented by the Provost and Vice President for Academic Affairs, Dr. Tristan Denley, after consideration of and employing ideas emerging from reading on preferential decisions in recent literature.

Denley (2011) described Degree Compass as a course recommendation system developed by Austin Peay State University. Inspired by recommendation systems implemented by companies such as Netflix, Amazon, and Pandora, Degree Compass successfully pairs current students with the courses that best fit their talents and program of study for upcoming semesters. The model combines hundreds of thousands of past students’ grades with each particular student’s transcript to make individualized recommendations for each student.

This system, in contrast to systems that recommend movies or books, does not depend on which classes are *liked* more than others. Instead it uses predictive analytics techniques based on grade and enrollment data to rank courses according to factors that measure how well each course might help the student progress through their program.
From the courses that apply directly to the student’s program of study, the system selects those courses that fit best with the sequence of courses in their degree and are the most central to the university curriculum as whole. That ranking is then overlaid with a model that predicts which courses the student will achieve their best grades. In this way the system most strongly recommends a course which is necessary for a student to graduate, core to the university curriculum and their major, and in which the student is expected to succeed academically.

Recently, the system has gained national attention and played a central role in Tennessee’s successful Completion Innovation Challenge application, which received a $1,000,000 award from Complete College America and the Gates Foundation to support implementing Degree Compass at three other campuses in Tennessee.

The authors of this paper will extend the idea to gauge patterns of usage and students’ perceptions of effectiveness, impact, and efficiency regarding the use of the program.