Title of Study: Utilizing Learning Analytics: Exploring the success of student course achievement on graduation

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Number of undergraduate students who were subjects of your study: 3,032

Number of graduate students who were subjects of your study: 0

Executive Summary:

The purpose of this study was to examine if enrollment in SPH-R 110 or SPH-R 142 led students to select Recreation Park and Tourism Studies (RPTS) majors. In addition, this study also examined students’ academic accomplishments in the two classes on achieving successful and timely graduation. The study subjects were 3,032 students who took SPH-R 110 or SPH-R 142 between Fall 2010 and Spring 2014 semesters. The data collected over the eight-semester period was obtained from the Bloomington Assessment and Research office. The data set was analyzed utilizing descriptive statistics, chi-square independence test, and binary logistic regression analysis. Upon conclusion of this study it was determined there was adequate evidence that: 1) enrollment in SPH-R 110 and SPH-R 142 can lead students to choose RPTS majors, and 2) academic achievements in the two courses can be perceived to contribute to successful graduation rates.

Narrative:

Summary of the Learning Analytics in RPTS

Research Questions: 1) Does enrollment in SPH-R 110 or SPH-R 142 lead students to choose RPTS majors? 2) Does students’ academic accomplishments in SPH-R110 or SPH-R142 as general education courses contribute to achieving successful and timely graduation rates for those students?
Methods: The study subjects were 3,032 students who took SPH-R 110 or SPH-R 142 between Fall 2010 and Spring 2014 semesters. The data collected over the eight-semester period was obtained from the Bloomington Assessment and Research office. The data set was analyzed utilizing descriptive statistics, chi-square independence test, and binary logistic regression analysis. For data analysis, the computer statistical software package SPSS 23 was used. To address the question of whether course enrollment led students to pursue a RPTS major, a comparison was made of students’ majors at the time of course with their majors after one year of taking either course. Whether high achievement in these courses contributed to successful and timely graduation rates was determined by conducting a binary logistic regression using course grades as the independent variable and award of degree (i.e., failure or success) as the dependent variable.

Results: Among the students who were still enrolled at Indiana University one year after taking one or both courses, 116 students (11%) out of 1,061 students changed their non-RPTS major to an RPTS major while only 55 students (5%) out of 1,004 students changed their RPTS major at the time of the course to a non-RPTS major. The significance of the numerical difference between the two kinds of major changers was supported by the results of chi-square independence test with large effect size (P<.001; contingency coefficient = .641, Cramer’s V = .836). In the results of binary logistic regression analysis, the students’ academic achievements/course grades in the two courses could be used as a predictor of their successful graduation/degree award (P<.001); academic achievements could be used to explain 19% of variance of successful graduation. Students who had 1.0 point higher grades in SPH-R110 or SPH-R142 had 1.256 times greater possibility of successfully earning their degrees {Exp(B) = 1.256}. For example, a student with a grade of A had 1.256 times greater possibility of earning his/her degree than another student with a grade of B (i.e., 1.0 point of grade difference).

Conclusions: There was enough evidence supporting claims that: 1) enrollment in SPH-R 110 and SPH-R 142 can lead students to choose RPTS majors, and 2) academic achievements in the two courses can be perceived to contribute to achievement of successful graduation rates.

Reflection

This research project has been a valuable introduction to the world of student learning analytics. The authors had not worked with learning analytics prior to this study and have enjoyed the exposure to the discipline. Even though our project was a basic, introductory look at
the use of learning analytics, it has instilled within each of us a desire to further pursue this form of research. We have learned from our challenges (primarily data acquisition and statistical analysis) and are excited to continue to explore the power this form of research can have on teaching and instruction.

Moving forward, we will continue to analyze our present dataset to help determine the role various demographics and academic performance play in terms of major selection and graduation among students within the RPTS department. In addition, we are preparing to disseminate the results of this study at a presentation of the Academy of Leisure Sciences Teaching Institute. We also plan to prepare a manuscript for publication.