

Improving Part-Time Instructors' Academic Outcomes with Gamification

Authors : Jared R. Chapman

Abstract : This study introduces a type of motivational information system called an educational engagement information system (EEIS). An EEIS draws on principles of behavioral economics, motivation theory, and learning cognition theory to design information systems that help students want to improve their performance. This study compares academic outcomes for course sections taught by part- and full-time instructors both with and without an EEIS. Without an EEIS, students in the part-time instructor's course sections demonstrated significantly higher failure rates (a 143.8% increase) and dropout rates (a 110.4% increase) with significantly fewer students scoring a B- or higher (39.8% decrease) when compared to students in the course sections taught by a full-time instructor. It is concerning that students in the part-time instructor's course without an EEIS had significantly lower academic outcomes, suggesting less understanding of the course content. This could impact retention and continuation in a major. With an EEIS, when comparing part- and full-time instructors, there was no significant difference in failure and dropout rates or in the number of students scoring a B- or higher in the course. In fact, with an EEIS, the failure and dropout rates were statistically identical for part- and full-time instructor courses. When using an EEIS (compared with not using an EEIS), the part-time instructor showed a 62.1% decrease in failures, a 61.4% decrease in dropouts, and a 41.7% increase in the number of students scoring a B- or higher in the course. We are unaware of other interventions that yield such large improvements in academic performance. This suggests that using an EEIS such as Delphinium may compensate for part-time instructors' limitations of expertise, time, or rewards that can have a negative impact on students' academic outcomes. The EEIS had only a minimal impact on failure rates (7.7% decrease) and dropout rates (18.8% decrease) for the full-time instructor. This suggests there is a ceiling effect for the improvements that an EEIS can make in student performance. This may be because experienced instructors are already doing the kinds of things that an EEIS does, such as motivating students, tracking grades, and providing feedback about progress. Additionally, full-time instructors have more time to dedicate to students outside of class than part-time instructors and more rewards for doing so. Using adjunct and other types of part-time instructors will likely remain a prevalent practice in higher education management courses. Given that using part-time instructors can have a negative impact on student graduation and persistence in a field of study, it is important to identify ways we can augment part-time instructors' performance. We demonstrated that when part-time instructors use an EEIS, it can result in significantly lower students' failure and dropout rates and an increase in the rate of students earning a B- or above; and bring their students' performance to parity with the performance of students taught by a full-time instructor.

Keywords : gamification, engagement, motivation, academic outcomes

Conference Title : ICEGGBL 2022 : International Conference on Educational Games and Game-Based Learning

Conference Location : New York, United States

Conference Dates : April 25-26, 2022