Comparing Delivery and Academic Achievement:
An Overview of Achievement in Online and On-campus Courses

The process of intentional and systematic learning design is well established (Morrison, Ross, Kalman, & Kempt, 2011; Reigeluth, 1999) and may be particularly important for online courses (Ali, 2003). Roughly 32% of undergraduate students took an online course in 2012 (U.S. Department of Education, 2014). Conversely, the remaining 68% would have taken traditional on-campus courses. On-campus courses are taught in familiar spaces with understanding of expected behavior. With an increasing amount of students enrolling in online courses, there is need for the exploration of comparisons between online and on-campus courses and how grading and retention has been measured.

The existing research offers mixed results when comparing delivery and academic achievement. Some researchers have found that students enrolled in on-campus (Bearden, Robinson, & Deis, 2002) and hybrid (Davis, 2007) courses perform better than those enrolled in online courses. Driscoll, Hunt, and Thompson (2012) reported that online and on-campus courses are equally effective if the online course provides comparable interaction as that of an on-campus course. Espey (2008) suggests that flexibility in the physical classroom for on-campus courses is important for student collaboration but this importance did not significantly influence grades. These findings may suggest that overall design of on-campus and online courses may contribute to academic achievement.

This study will investigate academic achievement for students in on-campus and online courses within higher education. The purpose of this study is to survey the current academic environment of both on-campus and online courses to see what grading trends are appearing and if course delivery relates to academic achievement and retention. Research questions will be
pursued within the theoretical context of social cognitive theory. Social cognitive theory (Bandura, 1991) provides a theoretical framework that accounts for environmental factors (online course design and physical classroom design), personal factors (self-efficacy and beliefs about past experiences), and behavioral factors (course activity and classroom engagement).

Our research will be guided by the two primary questions: 1) Does course delivery play a role in student retention? 2) Does course delivery influence instructor grading practices? While our proposed research project will not definitively answer our initial questions, we believe this will provide a sound basis as we begin to explore the influence of delivery and design of online and on-campus courses. Our second question is equally as nuanced, but the existence of a grading discrepancy based on course delivery may suggest that course delivery influences grading practices. The results of our comparative analysis will inform us if further exploration of these questions is warranted. Given the importance of both online and physical classroom design, we hypothesize that a difference may exist in academic achievement and retention in online and on-campus courses.

Method

The convenient sample is comprised of students ($n = 770$) enrolled in both online and on-campus courses at the University of Kentucky in the Summer of 2015. In order to gather a representative sample, participants were selected who were enrolled in a section of one of the following courses: Introduction to Statistical Reasoning (STA 210), Statistical Methods (STA 291), Introduction to Sociology (SOC 101), Elementary Calculus and Its Applications (MA 123), Calculus I (MA 113), College Algebra (MA 109), or General Chemistry I (CHE 105). Course delivery is the independent variable and academic achievement is the dependent variable. Online and on-campus sections of each course are taught by different instructors, which introduces a
confounding variable that may need to be accounted for but represents a limitation in this study. Academic achievement will be determined by a Pass/Fail perspective. Passing students received an A, B, C, or Pass. Failing students received a D, E, or Fail. Students who withdrew from the course were not included in the Pass/Fail perspective. This Pass/Fail perspective is being adopted due to the format of the data collected and in order to allow students to remain completely anonymous. A survey of overall retention rates in regards to course delivery will also be investigated. Retention is determined by first-time students who take an 8-week summer course and matriculate to the fall. Differences in academic achievement for on-campus and online courses may be attributed to either delivery, course design, or grading practices. For this reason, we plan to compare student academic achievement overall for all on-campus courses and online courses in addition to individually comparing grade frequencies within different sections of the same courses.
References


