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## Student Characteristics and Achievements in Online and On-Campus FCS Courses

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*With a growth in online course offering in recent years, there is much research focusing on student performance and student learning outcomes. However, research focusing on characteristics and achievement in Family and Consumer Sciences (FCS) higher education courses was not found. The purpose of this study was to compare student characteristics and achievements in online and on-campus FCS courses. The original study collected data from students enrolled in either the online or face-to-face section of the same junior-level course so variables were consistent. The study was later extended to another university using the same research set-up, but with a freshman-level course. This small, limited study provides preliminary insights that cannot be generalized, yet allow FCS faculty to distinguish student characteristics and achievements associated with on-campus and online courses. While student characteristics varied slightly, student achievement for online and on-campus students were similar. Additional studies are needed to provide more in-depth comparisons of these delivery systems. Since few FCS studies have reported this topic, the findings from this study provide baseline data for designing more in-depth comparisons of students.*

*Keywords:* online course, face-to-face, on-campus course, student characteristics, student achievement, FCS, classroom comparison, learning environment.

### Background of Problem and Purpose

Enrollments in online courses have continued to increase in recent years. According to Allen and Seaman (2013), there was just over a 9% growth in online enrollments between 2010 and 2011, and online enrollments accounted for 32% of all enrollments in institutions of higher education, with the rate of growth continuing to outpace on-campus enrollments. Kinsey (2009) noted, "Society is shifting from a face-to-face learning environment (synchronous) to an anytime online learning environment (asynchronous). Educators must rethink their delivery strategies by using new technological tools that consumers and students are demanding" (p. 67).

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Benefits attributed to incorporating online courses as part of the institution's course delivery strategy have included making the course available to students not geographically situated in the institution's area, reduced costs related to campus building operations, increased revenues due to increased enrollments, comparable student outcomes of online and on-campus courses, and flexible scheduling of instructor time (Allen & Seaman, 2013; Hollis & Madill, 2006; Meyer, 2010). For students, flexibility of time for concentrating on coursework, reduced transportation time and costs, and reduced attention to personal appearance were primary considerations for enrolling in online courses (Lei & Gupta, 2010; Mayberry, 2011).

While researchers in several fields of study have looked at various components of online and on-campus instruction, the main focus has been on student learning outcomes (e.g., Daymont & Blau, 2008; Friday, Friday-Stroud, Green, & Hill, 2006; Robinson & Doverspike, 2006; Sower, 2002; Summers, Waigandt, & Whittaker, 2005; Swan, 2003; U.S. Department of Education, 2010), and they have shown little difference in student achievements between those two formats. Reigle (2007) looked at student's overall Grade Point Averages and found that students generally received similar grades whether their courses were online or on-campus.

Online courses and programs in Family and Consumer Sciences content areas are increasing in availability (Rehm, Allison, Bencomo, & Godfrey, 2013). Due to the increasing numbers of courses and programs being delivered online, evaluation of multiple facets of those courses is appropriate and needed to determine if the rigor and quality is comparable to the courses offered on-campus. The primary author of this paper conducted a pilot study (Tripp, 2011) and found more similarities than differences when comparing student profiles and outcomes in an online and on-campus course; therefore, the purpose of this current study was to expand the pilot study to further compare student characteristics and achievements in online and on-campus FCS courses.

### **Methodology**

This original study began during the Spring 2010 semester at Sam Houston State University in Huntsville, Texas with additional data collected in Fall 2010 and Fall 2011. The students were enrolled in either the online or on-campus section of the same *Family Relationships* junior-level course so that the variables of instructor, textbook, and assignments were held constant. The study was expanded in Fall 2011 to include Stephen F. Austin State University in Nacogdoches, Texas. At that institution students were enrolled in either the online or on-campus section of the same freshman-level course, *Foundations in Human Sciences*. Although there were different instructors for the two sections, the textbooks and assignments were the same for both sections.

An original, anonymous two-page survey was developed and then administered in class to the on-campus students and electronically to the online students near the end of the semester during each of the data collection semesters. All students were requested to complete the survey which asked for demographic information, course information, course format, and course support feedback; no incentives were offered for returning the completed survey. Those who voluntarily chose to complete it needed approximately ten minutes for the checklist and short-answer items. As online and on-campus surveys were returned, a random number was assigned for coding purposes only. Final letter grades were ranked as the indicator of student achievement; students majoring in Family and Consumer Sciences Education were required to have a minimum grade of C in the course. The final grade achievement was reported as either having a C or higher and as having lower than a C. Data were compiled, and descriptive statistics were used to compare student characteristics and achievements. At Sam Houston State University, students also voluntarily completed course pretests and posttests, a comprehensive test which included two to three questions from each chapter of the text.

## Results

While there are variations from the three semesters of data collection from Sam Houston State University, the overall profile of the on-campus sections ( $n = 82$ ) was a 24-year-old female who commuted 10-50 miles to campus and was a full-time student who worked part-time. Similarly, the composite online student profile ( $n = 101$ ) was a 26-year-old female student who commuted less than 10 miles and was a full-time student who worked part-time. The majority of the online students (83%) had previously taken an online class, while just under 50% of the on-campus students had experience with online classes. The students enrolled in this class were of junior and senior standing. In total, there were 67 females and 15 males in the on-campus sections, and 83 females and 18 males in the online sections. The primary (70%) advantages revealed for taking the course on-campus were a preference to have face-to-face discussions and interactions with other students and the instructor. Those students in the online sections described the primary (89%) advantage for taking the course online was the flexibility of their schedule for school, family, and work responsibilities. The mean pretest score for the on-campus students from the three semesters was 56/100, and the posttest score was 68/100; for the online students, the mean pretest score was 53/100, and the posttest was 60/100. When final grades of A, B, and C were compared, 95% of the on-campus students and 94% of the online students met this measure. It should be noted that in these semesters students could drop the class through the last day of class.

At the collaborating institution, the on-campus ( $n = 51$ ) and online ( $n = 36$ ) sections had larger numbers for the one semester data was collected. The overall profile for the on-campus section was a 21-year-old female who lived on campus and was a full-time student who was not currently working. Conversely, the overall profile of the online students was a 26-year-old

female who commuted less than 10 miles, lived on campus, and was a full-time student also working full-time. A majority of the online students (96%) had previously taken an online course compared to 39% of the on-campus students who had previously taken an online course. It was noted that while this is a freshman-level course, 80% of the online students, and 55% of the on-campus students were classified as sophomore and higher. The primary (75%) advantage seen from those taking the course on-campus was the preference to have face-to-face discussions and interactions with other students and the instructor. Students in the online sections reported the primary (81%) advantage for taking the course online was the flexibility of the schedule for school, family, and work responsibilities. An overall comparison of final grades of A, B, and C for each section as a whole revealed a 12% difference; 97% of the on-campus students received a final grade of A, B, or C, compared to 85% of the online students. Students at this institution had a mid-semester deadline for dropping a course.

### **Conclusions and Implications for FCS**

This small, limited study provides preliminary insights that cannot be generalized, yet allow FCS faculty to better distinguish student characteristics and achievement levels associated with on-campus and online courses. While the courses being compared at the two institutions were not congruent in classification, they were both required FCS courses that were taught in both the online and on-campus formats during the same semesters. Since there is limited information specific to FCS courses on this topic, the findings from this study provide baseline data for designing more in-depth comparisons of students.

These data indicated that student ages and commute times to campus were somewhat different at the different institutions. Results also showed that achievements for online and on-campus students were different in the semesters studied. At Sam Houston State University, the on-campus and online comparison results were similar, supporting findings from studies in other fields, but at the collaborating institution, larger differences in final grades were recorded. These differences at the collaborating institution might be compounded by having different instructors with different years of experience teaching the same course since that was not a factor at the original institution. While the total number of teaching years varies by 13 years, both are certified online instructors and have over 5 years of teaching experience at the collegiate level. In addition, one instructor only teaches this course in a face-to-face format and the other only teaches the online format. Further research could investigate these possibilities further.

Suggestions for future research on FCS courses could include an investigation of level of courses to determine if lower-division and upper-division differences are evident, as well as the availability of instructor training or certification by the institution for online teaching. For further insights into teacher impact on student outcomes, researchers could study the instructor's teaching experience in the online and/or on-campus format, instructor's enthusiasm for teaching

in the particular format, and instructor's incorporation of best practices for teaching the particular subject in the online format. Additionally, student insights could be studied by investigating their readiness for being successful in an online course format with particular skill sets, reasons for taking online or on-campus courses, students' course and/or instructor ratings, students' characteristics that might impact course achievement, students' overall Grade Point Average compared with achievement in online coursework, and the amount of time students report that they dedicate to their coursework. Designing a study that would include a between-groups comparison on particular variables would be especially valuable.

Those who schedule courses should consider providing FCS courses online in order to free classroom space for those courses that could not be adapted to the online format and to better meet the needs of students who are balancing school with family and work responsibilities. With an ongoing national shortage of education professionals in FCS Cooperative Extension and in public schools, providing needed coursework in an online format could be an effective strategy for helping students complete their coursework sooner (White, Tripp, & Armstrong, 2008). National data indicate that a large majority of administrators at institutions of higher education consider learning outcomes of online courses as comparable to or higher than on-campus courses, and most also believe that growing numbers of students will take at least one online course during their program of study (Allen & Seaman, 2013).

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