
Using End-of-Course Student Survey Data to Investigate Faculty Effectiveness

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ABSTRACT: This research analyzed school of business faculty effectiveness controlling for the mode of delivery using over 50,000 student end-of-course (EOC) surveys. The surveys were collected for the year July 2011 through June 2012 from adult programs at the school of business and leadership of a private, Christian university. The findings indicate that full-time faculty members receive slightly higher ratings compared to adjunct faculty when the mode of delivery was on-site. However, adjunct faculty members were perceived as more effective than full-time faculty when the mode of delivery was online. Ratings were higher for full-time faculty on-site compared to full-time faculty online and ratings were higher for adjunct faculty on-site compared to adjunct faculty online.

INTRODUCTION

In the fall of 2011, an adjunct professor was highlighted in the various higher education journals because the adjunct had allegedly told a student with a stutter not to speak. There was an immediate article (Medina, 2011) posing the assertion: “Adjunct professors often lack training in how to handle disabilities in the classrooms, experts say.” This was a good example of the higher education community’s concern with and reaction to the increasing reliance upon adjunct or part-time faculty in higher education. Additionally and perhaps related to that increased use is the increase of Internet based (online) instruction both in K-12 and higher education since the majority of online classes are taught by adjunct faculty. Despite greater use of online course delivery, the public and many full-time faculty members remain skeptical of online learning. Selection, training, and use of adjunct faculty vary by organization and within organizations just as online approaches vary over a wide spectrum from online correspondence courses to highly interactive courses and are influenced by course/program design, learning management systems, and the quality of online faculty. While some administrators may consider the use of adjunct faculty and online course delivery as a means to provide instruction at a lower cost,

there is significant concern and sensitivity within the higher education community about their quality and effectiveness.

REVIEW OF LITERATURE

Research of adjunct effectiveness has been ongoing but with mixed outcomes, some of which could be contributed to the many variants of adjuncts and how the effectiveness was measured. Hellman (1998) found no meaningful differences between adjunct and full-time faculty using student faculty evaluations. Although he found substantial differences between the faculty members, Landrum (2009) also concluded that there were no significant differences when comparing adjunct and full-time faculty members in students’ evaluation of instruction or grade distribution. In a meta-analysis of online focused research between 1996 and 2008, Angiello (2010) determined that students taking online classes performed better, on average, than similar students taking site-based classes. However, there appears to be a growing body of conflicting evidence suggesting that there are indeed significant differences:

- Kezim, Pariseau, and Quinn (2005) conducted research concerning grade inflation. They found that

grade inflation was related to type of faculty with significant differences between mean grade point averages of students of full-time (tenured) and students of adjunct faculty. They concluded that increased use of adjuncts leads to more grade inflation in higher education, possibly because the adjuncts are trying to garner student support in order to be hired full time.

- It appears that as the ratio of part-time faculty increases at community colleges, those colleges experienced a highly significant, negative effect on graduation rates (Jacoby, 2006).
- In a study (Ronco & Cahill, 2006) that examined the relationships between three outcomes of freshman and sophomore years (retention, academic achievement, and student ratings of faculty instruction) for three types of faculty (regular full-time, adjunct, and graduate teaching assistants), it was found that
 - less exposure to adjuncts resulted in higher retention rates;
 - less exposure to adjuncts resulted in higher GPAs through the first year (an obvious contradiction to the research done by Kezim, Pariseau, and Quinn); and
 - Students were generally more satisfied with full-time faculty.
- In research conducted by Jaeger and Eagan (2011) using 15,566 students from a doctoral-extensive institution, it was determined that "... for every 10 percent increase in students' exposure to 'other' contingent faculty, their probability of being retained dropped by 4 percent, holding all other variables constant at their means" (p. 521). According to the authors, similar results were noted in master's and baccalaureate institutions.
- Using a qualitative research model, Dolan (2011) examined the experiences of 28 adjunct faculty members who worked in the same university. Dolan concluded, "The main issues of concern to adjunct faculty are (a) inadequate frequency and depth of communication, regardless of the means used, whether online or face-to-face; (b) lack of recognition of instructors' value to the institution; and (c) lack of opportunities for skill development" (abstract).
- Findings of Baldwin and Wawrzynski (2011) suggest that full-time faculty members are more likely than adjunct faculty members to employ learning-centered practices (e.g., cases, labs, and group projects) in their teaching.

Even though there appears to be wide acceptance of the value of online learning, questions persist. The A.P.L.U.

Sloan National Commission on Online Learning (2009) conducted an extensive review of attitudes and experiences of their institutions. They noted several challenges among which were persistent concerns about quality of online learning courses.

The Pew Research Center (Parker, Lenhart, & Moore) released a report on August 28, 2011, stating that college leaders felt (or perhaps hoped that) online courses were of equal quality and effectiveness and 77 percent of the institutions reported that they now offer online courses. However, by contrast, in that same study only 29 percent of 2,142 Americans polled believed that online was as effective as traditional teaching. The report also noted that 70 percent of university faculty members in the survey felt that online courses did not result in equivalent learning outcomes to site-based courses. With the rising interest in MOOCs (massive, open, online, courses) ("What You Need to Know about MOOCs," 2013) there is good reason to question this instructional modality. Clearly, there is discord between the leadership of higher education, those who teach, and those who are current or future students or even perhaps parents of students.

It is apparent that there are conflicting research results for adjunct faculty and online instruction effectiveness. This has led to persistent concerns both within the higher education community as well as the general public.

CURRENT RESEARCH

This research examined the instructional effectiveness of curriculum (online and on-site) and faculty (adjunct and full-time) using data from student end-of-course surveys from adult business courses at a large, private, Christian university. For the purpose of this research, teaching effectiveness has defined by the perceptions of students concerning how they perceived course curriculum and teaching faculty based on their responses to the questions on the end-of-course surveys. There were a variety of undergraduate and graduate degree programs (associate through doctorate) offered. The business school adult programs provided courses and programs in business, organizational leadership, and technology. These programs used a non-traditional, accelerated, sequential, integrated instructional model where students committed to a program of study and matriculated together in small cohorts (12-15 students). The adult business programs had more than 7,000 full-time students, with the majority (60 percent) being enrolled in online programs.

The curriculum was based on a theory-to-practice model that utilized full-time and adjunct faculty that not

only had the required academic credentials but also were spiritually like-minded and had practical, first-hand experience in their fields of study. This practitioner model sought to bring relevance to the programs of study and to ensure that graduates were fully prepared to be successful in their particular career fields. During the period of this research, there were approximately 20 full-time faculty members and more than 900 active practitioner (adjunct) faculty members teaching within the school of business and leadership.

Within this university, there were significant differences between full-time and adjunct faculty members in terms of selection, hiring, induction, and evaluation. Full-time faculty tended to follow the traditional higher education model where they were first screened by faculty recruiters then a faculty committee who made interview recommendations. Candidates were interviewed by the faculty committee, the appropriate administrators, the dean of chapel, and the provost. Once hired, they were usually assigned a mentor who supervised their initial teaching assignments. Full-time faculty members were generally evaluated annually by their respective dean. Adjunct candidates completed the same application as full-time faculty candidates, were also screened by faculty recruiters, but then were hired by a senior administrator. In some cases, they were assigned a mentor to assist them in their initial teaching assignment. They were not evaluated in the same manner as full-time faculty members. Both full-time and adjunct faculty members were required to successfully complete a three week instructional training course before they were allowed to teach online. There were some clear differences in how faculty members were hired, trained, and supervised.

Student cohorts were either online or on-site with only a negligible number of blended/combo courses. While there were some students who began their programs in one delivery mode and then changed to the other (for example, started as an online student but transferred to an on-site cohort), the online and on-site student populations were separate. A review of demographic data from entrance surveys revealed that the two populations were similar in the usual considerations such as age, gender, etc. Online students tended to reside near the various extension campuses but also were from outside the university's three-state region (representing almost all of the other states) and international.

Online and on-site courses in the adult business and leadership programs had similar course descriptions, learning outcomes, key assessments, and textbooks. All of the online courses and many of the on-site courses used Blackboard® for a learning management system. Online curriculum had been developed jointly by instructional designers and subject matter experts. On-site curriculum was also developed

by subject-matter expert faculty members but without the direct assistance of instructional designers. The same faculty curriculum committees were responsible for reviewing and approving both online and on-site curriculum.

In order to ensure instructional fidelity, curriculum tended to be much more prescriptive and scripted than traditional higher education courses. This was necessary since courses were integrated and sequential: what was taught and products that were developed in a course could be used in following program courses. Additionally, courses were taught in remote sites, such as hotel conference rooms and online. Courses were developed by expert faculty with the assistance of instructional designers and reviewed by faculty curriculum committees to ensure that there was a variety of instruction (such as a variety of faculty-guided learning activities, small and class discussions, and faculty-supervised group projects) that effectively met students' diverse learning needs. Online curriculum tended to be more complete and comprehensive. Regardless of the modality, faculty members were encouraged to supplement and enrich the curriculum with their knowledge and experience. This was particularly true with the spirituality aspect which was woven through the instructional programs. Also, faculty members were expected to model their faith during their interactions with students. The organizational goal was to have consistently high-quality curriculum and instruction, regardless of the classroom location, type of faculty, or modality of the course.

Adjunct faculty tended to teach primarily in one modality (online or on-site). Adjunct faculty taught predominately online while full-time faculty taught primarily on-site but also taught some online courses.

Reliance on adjunct faculty and online programs required administrators to constantly monitor program effectiveness. There have been limited previous assessments of learning performance measures (direct data), such as standardized test scores and other assessments of learning, indicating that online students appear to achieve learning objectives comparable to their on-site counterparts. However, there had not been a detailed study comparing faculty and instructional delivery models for instructional and learning effectiveness.

METHODOLOGY

This research project was based on the analysis of one year's worth of end-of-course (EOC) data (July 2011 through June 2012). It included all data from more than 50,000 student surveys. Analysis of this large database resulted in annotation of statistical differences at a very

Figure 1: CCCU-Defined Contribution Plan Types

	a. FTF OS To ADJ OS	b. FTF OL To ADJ OL	c. FTF OS To FTF OL	d. ADJ OS To ADJ OL
Number of surveys	1,896 18,760	1,027 30,167	1,896 1,027	18,760 30,167
1. The instructor was very knowledgeable about the subject.	10,766** <i>4.77</i> 10,277 <i>4.68</i>	15,435 <i>4.45</i> 15,588 <i>4.47</i>	1,561** <i>4.77</i> 1,276 <i>4.45</i>	26,483** <i>4.68</i> 23,176 <i>4.47</i>
2. The instructor modeled appropriate morals and ethics.	10,515* <i>4.76</i> 10,309 <i>4.72</i>	15,073 <i>4.51</i> 15,614* <i>4.57</i>	1,543** <i>4.76</i> 1,307 <i>4.51</i>	26,082** <i>4.72</i> 23,457 <i>4.57</i>
3. The instructor was well-prepared for the course.	10,690** <i>4.66</i> 10,283 <i>4.57</i>	15,195 <i>4.41</i> 15,587 <i>4.47</i>	1,530** <i>4.66</i> 1,330 <i>4.41</i>	25,531** <i>4.57</i> 23,751 <i>4.47</i>
4. Overall I think the instructor did a good job.	10,133 <i>4.56</i> 10,233 <i>4.56</i>	14,660 <i>4.35</i> 15,475** <i>4.45</i>	1,511** <i>4.56</i> 1,336 <i>4.35</i>	25,402** <i>4.56</i> 23,489 <i>4.45</i>
5. The instructor motivated me to learn about the subject.	10,230 <i>4.39</i> 10,332 <i>4.39</i>	15,043 <i>4.13</i> 15,595* <i>4.21</i>	1,529** <i>4.39</i> 1,335 <i>4.13</i>	26,059** <i>4.39</i> 23,431 <i>4.21</i>
6. The instructor was available to help when I needed it.	10,328 <i>4.57</i> 10,303 <i>4.55</i>	14,945 <i>4.32</i> 15,602* <i>4.40</i>	1,528** <i>4.57</i> 1,332 <i>4.32</i>	25,761** <i>4.55</i> 23,597 <i>4.40</i>
7. The instructor provided timely feedback on my work.	10,187 <i>4.41</i> 10,330 <i>4.41</i>	14,771 <i>4.23</i> 15,615** <i>4.34</i>	1,505** <i>4.41</i> 1,382 <i>4.23</i>	25,081** <i>4.41</i> 24,045 <i>4.34</i>
8. The instructor graded my work fairly.	10,147 <i>4.56</i> 10,311 <i>4.59</i>	14,612 <i>4.34</i> 15,608** <i>4.49</i>	1,514** <i>4.56</i> 1,353 <i>4.34</i>	25,379** <i>4.59</i> 23,815 <i>4.49</i>
9. The instructor treated me like an adult professional.	10,234 <i>4.71</i> 10,282 <i>4.72</i>	14,821 <i>4.50</i> 15,538** <i>4.60</i>	1,520** <i>4.71</i> 1,336 <i>4.50</i>	25,629** <i>4.72</i> 23,533 <i>4.60</i>

Bold: Mann-Whitney U, *p<0.05 **p<0.01 non-parametric test for significance

Italic: Mean Scores

granular level. The adult programs were non-term and cohort-based. EOC data were generated by students completing EOC surveys at the end of each of their courses using Class Climate© software. All surveys were digital. During this year period, students generally took anywhere from five to seven courses as they advanced through their respective programs.

The EOC questionnaire was short and concise with nine questions concerning faculty effectiveness. Data were analyzed using SPSS© and the Mann-Whitney U test since the Likert-like scales were non-parametric. As a comparison, data were also analyzed using mean scores and T-tests, which yielded similar results, although the Mann-Whitney U method tended to be more rigorous in determining statistical significance. Survey response rates varied from 60 to 95 percent with a 70 percent average response rate for all programs. Generally, online students had a higher response rate. Results were analyzed considering modality (on-site and online) and types of faculty (full-time [FT] and adjunct [ADJ]). On the EOC questionnaire, students were asked their opinion on the question/statements. Their response options ranged from “Not at All” to “AGREE (entirely)” on a five point scale.

RESULTS

Of the 51,850 student survey results, 2,923 (5.6 percent) were taught by full-time and 48,927 (94.4 percent) by adjunct faculty. Table 1 lists the results comparing full-time faculty to adjunct faculty on-site (column a) and online (column b). Also listed in Table 1 is a comparison of full-time faculty ratings on-site with full-time faculty ratings online (column c) and adjunct faculty ratings on-site with adjunct faculty ratings online (column d).

When comparing full-time faculty on-site with adjunct faculty on-site (column a), full-time faculty are rated higher on four of the nine questions (1, 2, 3, and 6), are rated the same for three of the nine questions (4, 5, and 7), and are rated lower on two of the questions (8 and 9). For questions 1, 2, and 3, there is a statistically significant difference. It should be noted that this difference is due primarily to the large sample size. For example, the statistically significant mean difference on question 2 is 0.04 (4.76 compared to 4.72). It would be difficult to argue that this is a meaningful difference. The results indicate that in an on-site teaching environment, full-time faculty are rated slightly higher than adjunct faculty.

When comparing full-time faculty online with adjunct faculty online (column b), full-time faculty are rated lower

on all nine questions. This difference is statistically significant for seven of the nine questions (2, 4, 5, 6, 7, 8, and 9). Again, it should be noted that most of these differences are small to the naked eye. The largest difference in the mean score is 0.15 for question 8 (4.34 compared to 4.49). The results indicate that in an online teaching environment, adjunct faculty are rated higher than full-time faculty.

When comparing full-time faculty on-site with full-time faculty online (column c), on-site ratings are higher than online ratings for all nine questions. This difference is also statistically significant for all nine questions. When comparing adjunct faculty on-site with adjunct faculty online (column d), on-site ratings are higher than online ratings for all nine questions, and this difference is again statistically significant for all nine questions. On-site ratings are significantly higher than online ratings for both full-time and adjunct faculty.

CONCLUSION

The research delineated clear differences between on-site and online instructional modalities and types of faculty. As compared to online, on-site scores for the instructor questions were significantly higher. This was evident regardless of type of faculty. This research was from one large, Christian university and should not be generalized to other similar institutions without careful consideration of potential internal differences.

As all research should, this project has elicited the following topics that need further study:

- All of the data used in this project were indirect student perceptions of curriculum and faculty effectiveness. This wealth of indirect data needs to be compared to direct data such as actual learning: How well did the students achieve the course learning outcomes?
- These EOC surveys also had two open-ended questions which generated hundreds of pages of textual data. This needs to be analyzed and used to enrich the analysis of the quantifiable data.
- More research needs to be accomplished in order to determine if online students begin their programs with different expectations of faculty members and curriculum and are perhaps different in other unique ways when compared to on-site students.
- Since there is conflicting research on the effects of faculty category upon grades, it would be insightful to compare grades of full-time and adjunct faculty as well as to explore the relationship between grades and EOC scores.

- It would be important to determine if assignment of full-time faculty members to courses early in student programs or “gate-keeper” courses had a positive influence on student satisfaction and possibly retention/graduation rates.
- Given the current changes in health-care requirements for part-time employees under the Affordable Health Care Act, this may present an opportunity to investigate the relationship between the treatment of adjuncts (some would call the current treatment as abuse of adjuncts) and their teaching effectiveness.

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