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Online Graduate Study in Education: An Examination of Tuition Costs and Faculty Salaries for Public, Private, and Proprietary Institutions of Higher Learning in Texas

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Technology plays a major role in the delivery of educational services in today's colleges and universities. Gumport and Chun (2005) stated that enrollment in for-credit distance education courses had more than doubled between 1997 and 2000. Distance education is undergoing rapid growth and expansion as colleges and universities rush to offer online courses and degrees in a variety of subject areas. Schrodtt and Turman (2005) found students often expect college instructors to incorporate some form of technology into the class design even in traditional non-distance education courses. Although many educators feel that advances in technology will positively change the way classes are taught, Gumport and Chun (2005) indicated that technological improvements do not always measure up to initial expectations. Regardless of any negative side effects, such as cost or training for faculty, technology continues to advance in society and specifically in the college classroom.

Online education is often touted as the innovation that will likely change the face of education in the United States as nothing else has previously done. Yet, online degrees are but the latest rebirth of the original distance education courses known as the Pitman Shorthand Training Program (Casey, 2008). The first exemplar of distance education came to the US via the postal service in 1840. Correspondence courses, as they were then called, were developed as an instructional delivery system for those who did not have access to a traditional learning environment (Blake, Gibson, & Blackwell, 2005). As an archetype, the Pitman model may seem much removed from what is taking place in present-day universities and colleges; however, the model played a large role in spawning the innovation, regulation, and legislation that comprise our current educational system. Since the mid-1800's courses have been offered via mail, radio, television, and video satellite. Although often parlayed as an "extension" of the university rather than the core, distance education remains an ever-present force in our educational system. Ultimately, Jones International University, established in 1993, was the first accredited institution to offer online degrees. Many other institutions have since followed suit with distance delivery spanning the ranks from simple certificate programs to doctoral education degrees.

Several studies have focused on the push for universities to add courses into a distance learning format in order to make education more widely available to everyone (Dey & Hurtado, 2005; Easton, 2003; Lane & Shelton, 2001; Smith & Ayers, 2006). Dey and Hurtado (2005) found that most of the growth in enrollments at colleges and universities was attributable to the rise of non-traditional students attending classes. Their findings showed "adults over the age of twenty-five have been a fast growing group and currently represent about 44 percent of students in higher education" (p. 320). In addition to age, other areas were identified as having changed the makeup of the typical student demographic. "A typical American college student in the twenty-first century is likely to be female: women constituted 55 percent of first-year students pursuing a baccalaureate degree in 2001, compared to 44 percent in 1961" (Dey & Hurtado, 2005, p. 321). The number of minority students has increased over the past few decades although Caucasian students still constituted the largest percentage of population. However, Dey and Hurtado predict that by 2015 "80 percent of these new students will be racial/ethnic minorities"

(p. 320).

Colleges and universities must be prepared to adjust along with the growing changes in what constitutes the “normal” student body. As discussed, the typical student is no longer fresh out of high school with responsibilities only involving going to class and completing coursework. Today’s college students are older, have different backgrounds and experiences, work full-time, and have families to support. Attending school full time is not an option for many of today’s students. Thus, today’s institutions must consider the changing demographics of students and adjust their services and course schedules to reach a different student body (Dey & Hurtado, 2005; Schwartzman, 2007b).

Universities have begun making on-campus adjustments to serve student needs such as adding childcare and reentry services to assist in the non-traditional students’ ability to attend classes (Dey & Hurtado, 2005). Many colleges justify the push for distance education courses as a result of the changing demographics of students. The result is the availability of larger numbers of distance education courses and degree programs. Now, many colleges advertise the online options and promote the fact that students can earn a degree completely online. As the demographics have changed, distance education, once viewed as the ugly stepsister of education, has been transformed into Cinderella (Larreamendy-Joerns & Leinhardt, 2006). Cost effectiveness in the midst of soaring expenses and a national recession have played a large role in this change; however, the money saved should not overshadow the growing demand of students to have courses available at their convenience. The offerings of online degrees at major, respected research institutions such as Columbia and Harvard have no doubt eased the transition into online education for many schools (Casey, 2008).

Lane and Shelton (2001) emphasized several characteristics to consider before choosing to move to an online environment: relative advantage, compatibility, complexity, trialability, and communicability. Each area represents a different aspect of why educators believe online education is the right choice for their university. These factors include how user-friendly the course management system is, if professors have an opportunity to try the software before the course begins, and how compatible the online course is with current systems used at the university. Just because an approach is new does not mean the approach will work for the university, the department, the instructor, or the students. Lane and Shelton concluded with a very clever statement concerning the move to use online course systems: “Look it’s cool technology, Let’s use it,” may well characterize CMC and other communication technology pedagogy to a large degree at present, but we can take action to modify that pedagogy to more accurately and usefully be phrased as ‘Look it’s cool technology, Let’s use it appropriately’” (p. 253-254).

One of the most important considerations when moving to an online environment is ensuring the course content is delivered in a professional manner. Schwartzman (2006) wrote of the necessity for educators to play a significant role in the development of online courses and media prepared to teach the class. Current practice often pushes an institution to transition courses to distance education. Educators are not trained or prepared for the move and mistakenly only adopt an online textbook or buy technology to serve the purpose of an online class. However, choosing the tools to teach online is just as, if not more important than, adopting a textbook for a face-to-face classroom. Students often experience limited or no interaction with their classmates and instructors and therefore rely heavily on the materials provided. The quality of the tools used for distance education must assist professors in their teaching, students in learning, and overall create a balanced classroom experience for everyone

involved. As Schwartzman (2007a) stated "The question is no longer whether to teach online, but what kinds of activities and interactions foster wiser use of the online medium" (p. 47).

Technology alone does not make the course work. As many researchers have stated, technology is simply a tool to be used (Easton, 2003; Head, Lockee, & Oliver, 2002; Shedletsky & Aitken, 2001). Head et al. (2002) stated "...technology itself does not produce instructional outcomes; it is merely one variable among many that contribute to effective learning experiences" (p. 261). The authors continued by illustrating how online education breaks down into three categories: method, media, and mode. The categories referred to the type of course design (method), the management system used (media), and how the instructors used the system to teach concepts relevant to the course (mode). Head et al. concluded by noting the responsibility of the professor to appropriately choose and implement strategies that work for the individual course.

Although both positive and negative effects exist within distance education, a major factor determining success is the willingness of the faculty to participate in online course delivery. Professors resist moving to an online environment for several reasons including lack of familiarity with technology, unwillingness to learn new techniques (Clark & Jones, 2001), and high enrollments (Easton, 2003; Schwartzman, 2007a). Reluctance to teach online may simply be the result of the instructor's preference in teaching styles. Worley and Chesebro (2002) wrote "many professors – frequently the most popular among students – refuse to 'give up face-to-face interaction' with many of them believing that 'every professor has a right to choose what teaching tools to use'" (p. 173).

Schwartzman (2007a) noted that universities often raise enrollment caps simply because the administration believes teaching online to be less work than traditional instruction. A bonus, from the administrator's standpoint, is that larger enrollments generate more revenue for the university. In addition to creating more revenue for the college the impact of higher enrollment caps also affects instructors personally. Many times an instructor's pay does not differ based on the number of students in the course. Once a sufficient number of students enroll in a specific section of a course, that class is considered to have "made." After a class has reached its enrollment capacity, administrators have the power to increase the number of students allowed in each particular course. Examples of classes having 150 to 300 students are not unheard of at many colleges; however, professors' earn the same amount of money whether they teach 30 or 150 students in a class.

After examining information regarding online education, many areas remain uncharted. Distance education programs are continually growing and evolving. According to a study conducted through the National Center for Educational Statistics (NCES) Postsecondary Education Quick Information System (PEQIS), "fifty-six percent of all 2-year and 4-year Title IV-eligible, degree-granting institutions offered distance education courses in 2000–2001, representing an estimated 2,320 institutions," (NCES, 2000). Online programs must strive to meet student demands, changing demographics, and tuition costs. While meeting the needs of the students, the needs of faculty must also be addressed. These needs include considerations such as incentives for design and delivery of online courses and training to increase technological skills for teaching online courses. If all of the components of a successful online program do not cohesively exist, the quality of education will suffer.

The purpose of the current study is to shed light on colleges and universities offering graduate education programs online (minimum of 51% of coursework completed online) to determine if any trends exist that could be possible deterrents to a successful online education. Specifically, an

examination of tuition and costs, faculty salaries, and number of graduates between traditional and online programs at public, private and proprietary institutions in the state of Texas via the extraction and analysis of segmented data from the IPEDS database will occur.

Research Questions

This study seeks to provide answers to the following research questions.

1. What is the extent of tuition costs, 9-month faculty salaries, and gender distributions at public, private, and proprietary institutions in Texas offering a graduate degree in education segmented by institution's offering at least one online program and those with no online program?
2. Do differences exist in tuition costs at public, private, and proprietary institutions in Texas offering a graduate degree in education segmented by institution's offering at least one online program and those with no online program?
3. Do differences exist in average faculty salaries at public, private, and proprietary institutions in Texas offering a graduate degree in education segmented by institution's offering at least one online program and those with no online programs?
4. What differences exist between gender of graduates at public, private, and proprietary institutions in Texas offering a graduate degree in education segmented by institution's offering at least one online program and those with no online programs?

Method of Procedure

The paper utilizes data extracted from the Integrated Post-Secondary Education Data System (IPEDS) maintained by the National Center for Education Statistics and funded by the United States Department of Education Institute of Education Sciences. All post-secondary institutions awarding federal financial aid report into the IPEDS. The data contain all the limitations traditionally associated with self-reported information.

Extractions included only Texas public institutions for the 2006 academic year and provided the number of graduate degrees conferred in the field of education by gender, average 9 month faculty salary, in-state tuition, and in-state fees. Simple manipulation of the data provided the total tuition/fee costs and the percentages of males and females awarded graduate degrees in education. The research team identified the institutions awarding graduate degrees, master's and/or doctoral, in education with 51% or more of the course work offered online by reviewing information provided by the Texas Higher Education Coordinating Board (THECB) and through examination of institutional websites or individual contact.

The study utilized the Mann-Whitney U to compare 9 month faculty salaries and total tuition/fee costs between those institutions granting an online graduate degree in education and those that do not. Homogeneity of variance could not be established for these variables hence the call for non-parametric analysis. A t-test was utilized to compare percentages by gender. The study utilized a significance level of 0.05. Findings of the analyses follow.

Findings

Research question 1 examined the extent of tuition costs, faculty 9-month salaries, and gender distributions at public, private, and proprietary institutions in Texas offering a graduate degree in education segmented by institution's offering at least one online program and those with no online program. The study included 58 institutions meeting the established criteria. Of these, 36 institutions offered an online graduate degree in education and 22 institutions did not offer an online degree. The average tuition for one year for all institutions was \$7,923. Tuition for programs offering an online graduate degree in education was \$7,286 for one year and \$8,312 per year for traditional programs. The average faculty 9-month salary for all institutions was \$61,399 with \$60,075 for those offering an online degree in education and \$62,209 for traditional programs. Gender distributions appeared relatively comparable with a total of 23.8% male and 76.2% female. Institutions offering an online degree in education had a distribution of 23.9% male and 76.1% female and traditional programs' gender distribution was 23.7% male and 76.3% female. A snapshot of the raw data is located in Appendix A.

Research question's 2 and 3 examined potential differences in tuition costs and 9-month faculty salaries at public, private, and proprietary institutions in Texas offering a graduate degree in education segmented by institution's offering at least one online program and those with no online program. The study identified no significant differences in tuition costs or 9-month faculty salary with 2-tailed significance at 0.305 or 0.619. A snapshot of the raw data is located in Appendix B.

Research question 4 examined differences in gender distributions of graduates at public, private, and proprietary institutions in Texas offering a graduate degree in education segmented by institution's offering at least one online program and those with no online programs. The Levene's test for equality of variances indicated appropriateness of the t-test which subsequently identified no statistical differences in gender distributions. A snapshot of the raw data is located in Appendix C.

Discussion

Our study showed that there was no significance in measurable differences in faculty salaries or gender distributions at public, private, and proprietary institutions within Texas between schools offering an online graduate degree in education and those that did not. Although the researchers anticipated a significant discrepancy in faculty salaries, this was not substantiated by the data. Likewise, the availability of an online degree program did not seem to impact the gender disparity amongst graduate students in education. Indeed, the only variable that showed a marked increase is that of annual tuition. Institutions not offering an online program were fourteen percent more expensive per annum than those that have an online component as defined by the state of Texas Higher Education Coordinating Board as least 51% of the course offerings available online for a graduate degree in education. Prior to the study, the opinions of the researchers were divided as to the variance of cost. The argument could be made that traditional programs are more expensive due to the physical facilities requirements. Conversely, convenience and access are offered at a premium.

However, researchers have found that it takes more time and energy to develop an online course versus a face-to-face class (Bender, Wood, & Vredevoogd, 2004). Even if instructors do not have to develop the course from scratch, the amount of time needed to deliver course materials is also increased (Bender, et al., 2004; Spector, 2005). One study in Bender et al.'s (2004) review found that approximately 50 more hours of time were required for delivery of materials in an online course when

the number of students was equal when compared to a face-to-face class. The additional time needed can be further extrapolated if the enrollment for the course is increased from 30 to 150 students. Although the cost of implementing an online degree was examined, the cost to the professors instructing the courses remains an issue. Schwartzman (2007a) discussed how universities may raise enrollment caps because of the misconception that teaching online is less work than teaching face-to-face courses. Increased enrollments equals increased revenue for the university. As mentioned, an instructor's pay may not differ despite the increased number of students enrolled in a class. Bender et al. (2004) also noted that "the role of distance education in the faculty reward system is unclear. Due to the larger workload of teaching a distance education course, investigating the position of distance education in the faculty tenure and promotion system is necessary if faculty participation is to be encouraged" (p. 111). If faculty members are pushed to move courses online, resulting in a larger workload, how much time is available to conduct and publish research, complete service requirements, or any other task required within a professor's job description?

Conclusion, Implications, & Recommendations for Future Research

There were many limitations to this research; paramount among them was the inability to glean pertinent data from IPEDS. As the THECB and IPEDS do not have a component of information that delineates online programs versus traditional for data mining, it was necessary for the researchers to pull the information from each individual institution. This creates a question of validity. Since data collection was done manually in determining the presence of an online program for each institution, there is the potential for unintentional misrepresentation.

If the trend among universities offering online degrees continues to increase at the current rate, the demands of the professor who is responsible for the implementation of the necessary courses will no doubt increase as well. According to the research findings, salaries of faculty offering online degrees is comparable to those institutions not offering degrees via distance education. Faculty members expect compensation for the increased demands of teaching courses online. Those demands include structuring courses to meet the needs of individual learners, increased student enrollment, and assurance that the quality of the course is not compromised.

Many future research questions have emerged from the current findings. For example, it is noteworthy to examine whether or not instructors receive any type of compensation for teaching online courses as research shows an increased workload for instructors who teach online courses (Bender, et al., 2004; Spector, 2005). If so, do these instructors perceive this compensation be it additional pay, course release, etc. to be adequate for the amount of time and resources needed to design, develop and implement an online course? Another recommendation for future research is to examine the perceptions of prospective employers toward the credibility of online degrees and the likelihood of hiring graduates of these programs over graduates from a more traditional graduate program. Although many online programs are from accredited institutions it would be of merit to analyze if any discrimination or bias occurred directly related to the obtainment of an online graduate degree.

In order to develop quality programs, information must be made available regarding programs providing online degrees. Underlying the need for data, is the need for accountability in online graduate programs. In order to maintain the integrity of the graduate degree in education, we must self-assess and monitor not only our graduation rates, but also the validity of our programs. The first step in this process is the documentation of the programs themselves. As such, the current method of data mining

is both cumbersome and questionable as to the validity of the data. It is requisite that departments of education within higher education serve as the authority and the model in assessing alternative course delivery methods, such as online courses; as this is our stated mission as educators.

The image of the ivory tower has changed and there is no indication of its return. Changes in student demographics, competition from entities that did not exist years ago providing degrees to individuals seeking a faster path towards a degree, and the ever changing landscape of technological innovations have assured the permanence of online education. Institutions of higher learning have long been the authority of educating the masses; however, colleges and universities have some catching up to do to retain and maintain that right. This is not an impossible task, but one that requires an adjustment to the more traditional approaches of education from faculty support to design and assessment of quality education. By doing so, institutions of higher learning can take back control from the competition of the proprietary schools and work to ensure that graduates of online programs are worthy of employment. The ivory tower has indeed changed, but with infinite possibilities.

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Appendix A

Descriptive statistics for Texas institutions offering a graduate degree in education online and those not offering a graduate degree in education online.

Category	N	Tuition Costs	Faculty Salary	Percent Male	Percent Female
Offering an online degree	36	\$8,312	\$62,209	23.7%	76.3%
Not offering an online degree	22	\$7,286	\$60,075	23.9%	76.1%
Total	58	\$7,923	\$61,399	23.8%	76.2%

Appendix B

Non-parametric examination of tuition costs and 9-month faculty salaries for Texas institutions offering

a graduate degree in education online and those not offering a graduate degree in education online.

Ranks

Examination Area	Category	N	Mean Rank	Sum of Ranks
Total Tuition Costs	Offering an online degree	22	32.409	713
	Not offering an online degree	36	27.722	998
	Total	58		
9-Month Faculty Salary	Offering an online degree	22	28.091	618
	Not offering an online degree	36	30.361	1093
	Total	58		

Test Statistic a

	Tuition Costs	9-Month Faculty Salary
Mann-Whitney U	332	365
Wilcoxon W	998	618
Z	-1.026	-0.497
Asymp. Sig. (2-tailed)	0.305	0.619

a Grouping Variable: Degree

Appendix C

Examination of gender distributions for Texas institutions offering a graduate degree in education

online and those not offering a graduate degree in education online.

Group Statistics

	Degree	N	Mean	Std. Deviation	Std. Error Mean
Percentage Male	Offering an online degree	22	0.239	0.132	0.028
	Not offering an online degree	36	0.237	0.117	0.019
Percentage Female	Offering an online degree	22	0.761	0.132	0.028
	Not offering an online degree	36	0.763	0.117	0.019

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Percentage Male	0.540	0.465	0.059	56	0.953
Percentage Female	0.539	0.466	-0.059	56	0.953

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