

DISTANCE LEARNING IN COLLEGIATE AVIATION: A SUPPLY & DEMAND ANALYSIS

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Introduction

- Distance Learning - Academic courses that can be completed via the computer and internet and entirely absent from the traditional classroom
- Fall 2003- Over 1.9 M students studying online
- Fall 2004 – 2.3 M students studying online
- Public, Private non-profit, and Private for-profit institutions are offering distance learning

Theoretical Overview

- No Significant Difference Phenomenon – Thomas Russell (2001) discovered that “an overwhelming number of studies showed that when course materials and teaching methodology were held constant, there were no significant differences between student outcomes in a distance delivery course as compared to a face to face course.”

Theoretical Overview (cont.)

- Implications of No Significant Difference Phenomenon:
 - Delivering education at a distance does no harm.
 - Simply converting a face to face course into a distance learning course does not help improve student outcomes.
 - Thus, it is not technology alone, but the application of technology that has potential to positively affect learning.

Theoretical Overview (cont.)

- No Significant Difference Phenomenon Proven True in Collegiate Aviation:
 - Lehrer and Connolly (1994) studied 70 students in different aviation classes (traditional lecture and video of lecture at a distance)
 - Study revealed no significant difference in learning (as measured by exam scores, written assignments, and class averages).

Theoretical Overview (cont.)

- Studies by Bowen et al. (2001):
 - Theorize that although technology made education more accessible, “it does not produce learning without the appropriate inputs and outputs by both the instructor and the student.”
 - Discovered 17 institutions in 2001 offering aviation courses via distance learning.
 - 77 percent of responding institutions planned to pursue distance education now or in the future.

Research Methodology

- Supply:
 - Visited the website of each of the 115 institutions in most recent UAA Collegiate Aviation Guide to determine those institutions offering aviation distance learning offerings.
- Demand:
 - Nationwide study of 200 randomly selected airport professionals.
 - Mixed mode with multiple contacts.
 - Preliminary results with 50 percent response rate.

Supply & Demand Analysis

- Supply (see Appendix A):
 - As of Spring 2006, there were 24 institutions in U.S. and Canada offering completely on-line distance learning courses in aviation.
 - Geographically well-dispersed throughout nation
 - Example courses include Airline Mgt, Airport Planning, Aviation Law, Aviation Safety, Private Pilot Ground, and Human Factors.

Supply & Demand Analysis (cont.)

- Supply (see Appendix A):
 - As of Spring 2006, there were 7 institutions offering on-line aviation academic degrees (Daniel Webster College, Delta State University, Embry Riddle Aeronautical University, Indiana State University, St. Cloud State University, University of Nebraska at Omaha, Utah Valley State College).
 - 4 institutions offer master's degrees
 - 3 offer bachelor's degrees
 - 3 offer associate degrees

Supply & Demand Analysis (cont.)

- Demand (see Appendix B):
 - 63 percent of respondents have never completed a distance learning course.
 - 37 percent have more than 15 years of airport experience
 - 84 percent occupy positions from mid or low-level management to executive management
 - 85 percent hold a bachelor's degree
 - 46 percent hold a master's degree
 - 46 percent would like to pursue either a first or additional aviation academic degree

Supply & Demand Analysis (cont.)

- Demand (see Appendix B):
 - 85 percent feel the convenience of distance learning is very superior or superior to traditional, on-campus courses.
 - Over 90 percent admit it would be difficult to attend on-campus classes considering current commitments.
 - 55 percent feel it would be relatively easy for them to participate in on-line courses.

Supply & Demand Analysis (cont.)

- Demand (see Appendix B):
 - 45 percent feel the quality of distance learning courses are inferior to traditional courses
 - 61 percent are concerned about the quality of distance learning courses.
 - 37 percent feel on-campus programs are more rigorous than distance learning programs.

Supply & Demand Analysis (cont.)

- Demand (see Appendix B):
 - Nearly 100 percent believe in the importance of continuing education.
 - 53 percent would consider pursuing an aviation degree via the internet.
 - 20 percent are unaware that some institutions offer on-line aviation degree programs.
 - 60 percent feel that more universities should offer aviation degree programs via distance learning.

Supply & Demand Analysis (cont.)

- Demand (see Appendix B):
 - Over 90 percent feel that more universities should tailor their graduate-level aviation programs to working professionals.
 - Over half feel that between 5 and 20 percent of airport professionals would enroll in an aviation distance learning program if they could financially afford to do so.
 - 31 percent agree that there is great demand among airport professionals for distance learning aviation programs.
 - 56 percent agree that distance learning is the wave of the future.

Recommendations

- More aviation programs should consider offering distance learning courses and complete degree programs online.
- More emphasis should be placed on graduate-level aviation distance learning offerings
- Programs with existing distance learning programs should market to nontraditional students, such as airport professionals.
- As the number of aviation distance learning programs increases, the CAA should consider accrediting distance learning programs to address concerns about quality.