Post-secondary Aviation Education:
Preparing Students to Manage Airports of the 21st Century

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Author Note

Abstract

Preparing for a successful career in airport management is a goal of many, but the dynamics of this industry are introducing complexities into aviation education. This article presents findings on the viewpoints of airport managers nationwide regarding the most appropriate fields of study, academic degrees, and aviation courses. Utilizing the <u>1996-97 AAAE Membership Directory and Yellow Pages of Corporate Members</u> (American Association of Airport Executives, 1997), a written mail survey was sent to a nationwide random sample of 200 airport managers in January 1998. Results, which are presented using percentage distribution tables and descriptive statistics, show that the majority of airport managers view their career as challenging and interesting, consider management the most appropriate major field of study, consider airport administration and airport finance the most important aviation academic courses, and feel that a Bachelor's degree, when combined with experience, is the highest-level academic degree preferred by employers.

Introduction

The aviation industry is in a constant state of change. To describe the industry as dynamic may, in fact, be an understatement. Airports, which are one aspect of this industry, are maturing, but at the same time being forced to quickly adapt to the evolving environment in which they operate. Substantial measures are being taken in areas such as airport security, capacity, and funding on a nationwide and even international basis. Airport managers are at the helm of "professionally managed enterprises that are the engines of local and regional economies" (National Civil Aviation Review Commission, 1997, p. II-5).

This is not to say, however, that U.S. airports exist as domestic islands. More so today than ever before, the airport business is truly global. Airports that exist thousands of miles apart are becoming interconnected, simply due to expanding route systems and passengers that are

demanding to stay in touch with the world. These demands are having serious effects on the world's air transportation system. Reported in the 1997 World Development Survey, in fact, the world's air travelers are expected to double from one billion to more than two billion over the next twenty years. This increase in demand must be accommodated, and airport managers will be forced to effectively utilize their facilities in managing this growth (National Civil Aviation Review Commission, 1997). In reacting to these demands, airport managers are required to be knowledgeable in many areas. Continuing education for current airport managers occurs nationwide on a daily basis. In addition, students aspiring to enter the field should seek formal post-secondary training in aviation. Through this education, students will understand the past and more fully appreciate the complexities of the future, thus being better equipped to manage airports of the 21st century.

The late 1960s marked the beginning of a new era in commercial aviation, with the arrival of the Boeing 747 jumbo jet in 1969. Coincidentally, this time period also seemed to mark a new generation for America's universities. During this time, a number of programs in aviation were founded at many of the nation's largest universities. In fact, more aviation programs leading to a Baccalaureate major were established in one year, 1968, than in all years combined since 1950. Seven aviation programs leading to a Baccalaureate major were established by U.S. universities in 1968. Further, this year marked the record high for the number of aviation programs established leading to an Associate degree. Students witnessed 11 Associate degree aviation programs begin that year. In sum, taking into account all aviation programs ever established by U.S. educational institutions, 1968 accounted for 11 percent of the Baccalaureate major aviation programs and 12 percent of the Associate degree aviation programs (University Aviation Association, 1994).

Due to the growth in the number and types of aviation programs during this time, much disparity existed among programs. For example, some programs offered certificates, rather than four-year degrees. The University Aviation Association (UAA), which was founded in 1947, decided to address this lack of uniformity and assist students in pursuing an appropriate aviation program. In 1976, the UAA published the College Aviation Accreditation Guidelines for the purpose of establishing nationwide standards regarding curricula, courses, and credits for Associate, Baccalaureate, and Master's aviation programs (University Aviation Association, 1976).

These nationwide standards further strengthened aviation programs by providing stability during one of many growth spurts in the aviation industry. Ironically, indirect assistance was also received as a result of a nationwide strike by approximately 10,800 air traffic controllers in August 1981. The majority of these Professional Air Traffic Controllers Organization (PATCO) members, who ignored President Reagan's order to return to work, were subsequently fired. Because of this, the Federal Aviation Administration (FAA) saw a need to train replacement controllers. As a result, the FAA and Administrator Lynn Helms gathered a task force of educators in 1982 to design a Baccalaureate curriculum to provide the FAA with future technical managers. The program, Airway Science, was soon implemented at several universities. As of December 1996, there were 56 institutions offering Baccalaureate Airway Science degrees and 6 offering Associate degrees in this major (Kiteley, 1996).

Further, in 1992, the UAA incorporated the Council on Aviation Accreditation (CAA) for the purpose of granting specialized accreditation to aviation programs. This specialized accreditation may be in addition to institutional accreditation obtained by the institution. As of July 1998, there were 13 universities nationwide with accredited aviation programs through the

CAA. Additionally, there were six universities offering programs which were candidates for CAA accreditation. Of the 13 accredited schools, there are a total 48 accredited programs being offered. However, of these 48 programs, only 7 are a Bachelor's degree in Aviation Management/Administration. Only one program, which is offered by the University of North Dakota, specifically has an airport title, that of Bachelor of Business Administration in Airport Management (Council on Aviation Accreditation, 1998).

In addition to aviation programs being accredited by the CAA, individuals in the airport management profession may become accredited through the American Association of Airport Executives (AAAE). This organization was founded in 1928 to represent airport management throughout the U.S. The AAAE Board of Directors formally adopted the Accreditation process in 1954. To apply for consideration to the Accreditation program, applicants must meet the following qualifications: be at least 21 years of age, posses a four year degree or eight years of public use airport experience, have at least one year of management experience at a public use airport, and be a current affiliate member of the AAAE. Prior to obtaining the A.A.E. designation, qualified candidates must successfully complete a written examination, a management research paper, an oral examination, and obtain three years of experience at a public use airport. Once accredited, these executives must complete 55 Continuing Education Units (CEUs) every 2 years to remain active. According to Will James, AAAE, of the 4,000 AAAE members, approximately 600 are active Accredited Airport Executives (personal communication, October 28, 1997).

Purpose

This paper specifically focuses on preparing students to manage the airports of the 21st century. For this to be effectively accomplished, both universities and their aviation management students should be aware of the perceptions of airport managers regarding four important areas: (a) descriptive words applicable to the airport management career, (b) major fields of study, (c) academic degrees, and (d) aviation academic courses.

Methodology

Participants

In selecting participants for this study, the 1996-97 AAAE Membership Directory and Yellow Pages of Corporate Members (American Association of Airport Executives, 1997) was utilized, as this directory contains a comprehensive listing of airport managers nationwide. In fact, the AAAE has members at the primary air carrier airports, which enplane 99 percent of the airline passengers throughout the nation, as well as at many smaller airports. Each individual member airport was counted to arrive at a total population of 690 airports. Out of this total, the goal was to receive 150 (n) usable surveys; therefore, assuming a response rate of 75 percent (p), the selected sample size was 200 (N) [n/p = N]. Each airport in the Directory was numbered alphabetically and a random numbers table was used to arrive at 200 randomly selected numbers

(Alreck and Settle, 1995). These numbers were then matched to the corresponding airports to arrive at a random sample of 200 airports. The recipient selected was the person known as Airport Manager or by similar title at each of the 200 airports. In addition to the simplified random nature of the design, the sample was chosen without replacement. In sum, each participant had an equal probability of being selected, and once selected, would not be chosen again.

Survey Instrument

Since perceptions were the main end product desired in this study, it was decided that a survey instrument would be utilized (see Appendix A). As a result, the author designed a four-page survey instrument specifically for this study. All questions were closed-ended to allow for easier coding of data. Further, many questions were scaled on a five point Likert scale. This was used to "obtain people's position on certain issues or conclusions" (Alreck & Settle, 1995, p. 116).

To reduce a misunderstanding among survey participants, the researcher decided to begin the survey with a definition of Airport Manager, which was defined as "the individual managing all facets of the day-to-day activities of the airport and known by such titles as Executive Director and Director of Aviation." This definition was included to reduce any misunderstanding that may arise when this term was encountered in the survey. The survey then moved into Section A, which was composed of an adjective checklist. This section allowed some exploratory research into how airport managers feel about airport management as a career. This type of question was included for the benefit of current students who may be interested to know the percentage of survey respondents considering the career stressful or political, for example.

Two sections of the survey instrument directly related to this study focused on (a) academic fields as a major area of study and (b) aviation academic courses. Both sections were scaled on a Likert scale to allow for opinions of airport managers to be gauged on this five-point scale. Choices included 0 (Don't know), 1 (extremely unimportant), 2 (unimportant), 3 (neutral), 4 (important), and 5 (extremely important). Participants were instructed to circle the number that most closely corresponded to their perception about each item.

The section focusing on academic fields of study presented 17 major fields of study ranging from Accounting to Speech Communication. These fields of study are identical (with the exception of the field airport management being added) to those used by Fuller and Truitt (1997) in gauging opinions of airport consultants.

The next section focuses on aviation academic courses that are available through many undergraduate aviation programs. Course offerings through several undergraduate aviation programs were consulted to arrive at a listing of 16 aviation courses ranging alphabetically from Air Cargo and Logistics to Private Pilot Ground. In this way, listed courses are generic to many aviation programs, rather than being specific to one university. Several of these courses are identical to those used by Kaps and Widick (1995) in gauging the perceptions of 25 airport managers at the nation's largest airports.

The section focusing on the descriptive words stated, "Which of the following words describe your airport management career?" Participants were instructed to place a check in any and all boxes that applied. Regarding major fields of study, participants were asked, "In preparing students for a successful career as an airport manager, how important do you feel each

of the following academic fields is as a major area of study?" Regarding academic degrees, participants were asked, "What do you feel is the highest-level academic degree preferred by employers, when combined with experience

to attain a position of airport manager?" Lastly, regarding courses, participants were asked, "In preparing students for a successful career as an airport manager, how important do you feel each of the following academic courses is?"

Procedure

In the cover letter accompanying each survey, participants were instructed on the reason for the research, how they were chosen, the importance of their participation, the estimated time required to complete the survey, and the fact that participation was voluntary. Further, they were told to skip any questions they did not want to answer.

Two hundred surveys were mailed on December 30, 1997. As of January 12, 1998, a response rate of 43 percent (86 surveys) had been received. Following the advice of Fowler (1993), a reminder postcard to all non-respondents was mailed emphasizing the importance of the study and the benefit of a high rate of response. One hundred and three postcards were mailed to all nonrespondents on January 15, 1998. This reminder mailing gave recipients the opportunity to receive another survey by fax, but only one recipient made such a request. This second mailing resulted in a total survey response rate of 66 percent, with 132 usable surveys being returned by the established deadline.

Data Analysis

Once the surveys were returned, a statistical analysis program, SPSS for Windows, was utilized to analyze the survey results. Descriptive statistics were produced, including frequencies, means, and standard deviations. The results are reproduced in this article in a tabular format to allow for easy comparison among categories. The intent was to analyze the results in a manner similar to Fuller and Truitt (1997), so as to allow comparison among viewpoints of airport managers and airport consultants. The Fuller and Truitt study was somewhat more technical in evaluation, and considers such topics as software programs used by consultants. Further, their study of academic courses was specific to those offered by the Master of Public Administration degree at Southern Illinois University. However, the evaluations of fields of study are almost identical, and some of the courses they evaluated may also be compared to the results presented in this study.

Results

Demographics

Because of the 34 percent (68) of survey recipients who did not respond, one may ask if this introduced nonresponse bias into the results. The respondents of this survey very closely match the AAAE membership at large. In fact, AAAE membership is composed of non-hub, other commercial service, and general aviation airports (75 percent), large hub (5 percent), medium hub (8 percent), and small hub (12 percent) [Susan Lausch, AAAE, personal fax, February 20,

1998]. The survey respondents were composed of non-hub, other commercial service, and general aviation (72 percent), large hub (7 percent), medium hub (9 percent), and small hub (13 percent).

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The respondents were 88 percent male and 12 percent female. Thirty-nine percent of participants were more than 50 years of age, with 34 percent and 23 percent being between 41 and 50 years of age and 30 to 40 years of age, respectively (see Figure 1). Further, 45 percent of respondents are known as Airport Manager, with 20 percent being known as Airport Director.
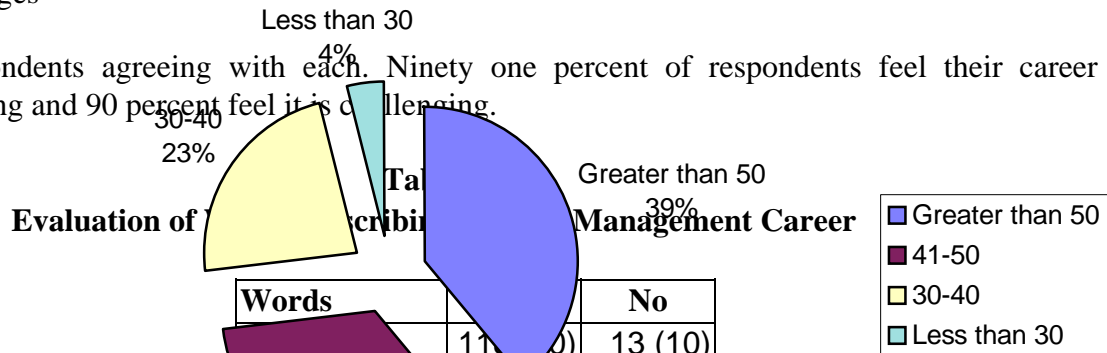
Descriptive Words

Figure 1
Ages of Respondents (in years)

The first section of the survey listed 15 adjectives to allow airport managers to describe their airport management career. The data in Table 1 show those words and the numbers and percentages of respondents agreeing with each. Ninety one percent of respondents feel their career is interesting and 90 percent feel it is challenging.

Less than 30
4%

30-40
23%

Greater than 50
39%

41-50
34%

Greater than 50
41-50
30-40
Less than 30

Table 1

Evaluation of Words Describing Airport Management Career

Words	Yes	No
	11 (8 0)	13 (10)
	53 (41)	78 (60)
Dangerous	6 (05)	125 (95)
Disappointing	12 (09)	119 (91)
Easy	6 (05)	125 (95)
Enjoyable	89 (68)	42 (32)
Exciting	76 (58)	55 (42)
Fulfilling	72 (55)	59 (45)
Important	88 (67)	43 (33)
Interesting	119 (91)	12 (09)
Low-Paying	23 (18)	108 (82)
Political	91 (70)	40 (31)

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Rewarding	90 (69)	41 (31)
Secure	18 (14)	113 (86)
Stressful	83 (63)	48 (37)

Note 1: Number in parentheses represents percentages.
Note 2: Row percentages may not total 100 percent due to rounding.
Note 3: Words are listed in alphabetical order as they appeared on survey instrument.
Note 4: N = 131 for all cases.

These two words claimed the majority; however, respondents also identified the following words as describing their airport management career: political (70 percent), rewarding (69 percent), enjoyable (68 percent), important (67 percent), stressful (63 percent), exciting (58 percent), and fulfilling (55 percent). Words receiving very little agreement are dangerous (5 percent) and easy (5 percent).

Table 2
Evaluation of Words Describing Airport Management Career
Ranking of Mean Ratings

Words	M	SD
Interesting	1.092	0.290
Challenging	1.099	0.300
Political	1.305	0.462
Rewarding	1.313	0.465
Enjoyable	1.321	0.469
Important	1.328	0.471
Stressful	1.366	0.484
Exciting	1.420	0.495
Fulfilling	1.450	0.499
Competitive	1.595	0.493
Low-paying	1.824	0.382
Secure	1.863	0.346
Disappointing	1.908	0.290
Dangerous	1.954	0.210
Easy	1.954	0.210

Note 1: Rating system utilized as follows:
        1 = Yes (Agreed)
        2 = No (Disagreed)
Note 2: Words are listed by ascending value of mean.
Note 3: M = mean; SD = standard deviation

       The data in Table 2 show a listing of the descriptive statistics related to each word. Words are listed in ascending order by value of mean. The lowest mean equates to the highest level of agreement. The means simply confirm the findings presented in the percentage distribution table (Table 1).

Table 3
Evaluation of Fields of Study

Field of Study	Extremely Un-Important	Un-important	Neutral	Important	Extremely Important	
	1	2	3	4	5	*n*
Accounting	4 (03)	7 (06)	35 (28)	64 (50)	17 (13)	127
Aviation Management	0 (00)	1 (01)	13 (10)	61 (48)	53 (41)	128
Applied Science/Technology	5 (04)	19 (16)	61 (50)	35 (29)	1 (01)	121
Computer Science	1 (01)	12 (09)	44 (34)	57 (44)	15 (12)	129
Economics	1 (01)	15 (12)	39 (30)	59 (46)	15 (12)	129
Engineering	4 (03)	14 (11)	54 (42)	52 (40)	5 (04)	129
Finance	0 (00)	4 (03)	16 (13)	73 (57)	35 (27)	128
Foreign Language	32 (28)	36 (31)	41 (35)	7 (06)	9 (00)	116
Geography	21 (17)	31 (25)	58 (47)	12 (10)	1 (01)	123
International Relations/Business	16 (14)	23 (20)	49 (42)	24 (21)	5 (04)	117
Law	6 (05)	12 (10)	34 (27)	63 (50)	11 (09)	126
Management	0 (00)	0 (00)	0 (00)	63 (49)	66 (51)	129
Marketing	0 (00)	3 (02)	17 (13)	74 (57)	36 (28)	130
Political Science	2 (02)	20 (16)	49 (39)	45 (36)	10 (08)	126
Psychology	7 (06)	21 (17)	58 (47)	31 (25)	6 (05)	123
Public Administration	0 (00)	2 (02)	17 (13)	60 (47)	50 (39)	129
Speech Communication	1 (01)	4 (03)	18 (14)	58 (45)	47 (37)	128

Note 1: Number in parentheses represents percentages.
Note 2: Row percentages may not total 100 percent due to rounding.
Note 3: *n* reflects all valid cases, excepting "Don't Know" responses and nonresponses.

Fields of Study

Tables 3 and 4 show the level of importance placed on certain fields of study by airport managers. The top five fields (rated <u>important</u> and <u>extremely important</u>) are as follows: Management (100 percent), Aviation Management (89 percent), Public Administration (86 percent), Marketing (85 percent), and Finance (84 percent). In contrast, airport consultants viewed the above fields in the following manner: Management (62 percent), Public Administration (73 percent), Marketing (9 percent), and Finance (9 percent) [Fuller and Truitt,

1997, p. 72].

Table 4
Evaluation of Fields of Study
Ranking of Mean Ratings

Fields of Study	M	SD
Management	4.512	0.502
Aviation Management	4.297	0.680
Public Administration	4.225	0.731
Speech Communication	4.141	0.830
Marketing	4.100	0.703
Finance	4.086	0.721
Accounting	3.654	0.894
Computer Science	3.566	0.846
Economics	3.558	0.874
Law	3.484	0.953
Political Science	3.325	0.893
Applied Science/Technology	3.314	0.838
Engineering	3.310	0.837
Psychology	3.065	0.921
International Relations/Business	2.821	1.047
Geography	2.520	0.917
Foreign Language	2.198	0.916

Note 1: Rating system provided for evaluators was as follows:

       0 = Don't Know

       1 = Extremely Unimportant

       2 = Unimportant

       3 = Neutral

       4 = Important

       5 = Extremely Important

Note 2: Only responses 1-5 were used in calculating statistics.

Note 3: M = mean; SD = standard deviation

Academic Degrees

Regarding academic degrees, 50 percent of respondents have completed a Bachelor's degree and 32 percent have completed a Master's (see Truitt, Hamman, & Palinkas, 1994). For those students aiming to attain a Master's, it should be noted that 67 percent of respondents feel that a Bachelor's degree is the highest degree preferred by employers. Only 29 percent feel a Master's is preferred. The law of diminishing returns only truly comes into play when one contemplates a Doctorate degree. Zero percent of respondents feel employers prefer this degree. The reader must remember that this question focused on the preferred degree, *when combined with experience*, to attain a position of airport manager.

Table 5
Evaluation of Academic Courses

Course in Curriculum	Extremely Un-Important	Un-important	Neutral	Important	Extremely Important	
	1	2	3	4	5	*n*
Air Cargo and Logistics	2 (02)	13 (11)	58 (48)	43 (36)	5 (04)	121
Air Traffic Administration	3 (02)	21 (17)	58 (47)	38 (31)	4 (03)	124
Air Transportation	0 (00)	7 (06)	36 (29)	65 (52)	16 (13)	124
Airport Administration	0 (00)	1 (01)	5 (04)	43 (33)	81 (62)	130
Applied Meteorology	10 (08)	31 (25)	56 (44)	28 (22)	1 (01)	126
Airport Finance	0 (00)	1 (01)	11 (09)	55 (42)	63 (49)	130
Aviation Insurance	7 (06)	14 (11)	41 (32)	54 (43)	11 (09)	127
Aviation Labor Relations	1 (01)	9 (07)	52 (41)	52 (41)	12 (10)	126
Aviation Law and Regulation	1 (01)	0 (00)	20 (15)	74 (57)	35 (27)	130
Aviation Marketing	1 (01)	1 (01)	17 (13)	74 (57)	37 (29)	130
Aviation Safety	0 (00)	2 (02)	14 (11)	59 (45)	55 (42)	130
Aviation Policy and Planning	1 (01)	1 (01)	15 (12)	70 (54)	42 (33)	129
Aviation Communication	2 (02)	7 (06)	34 (27)	64 (51)	19 (15)	126
International Aviation	7 (06)	20 (17)	62 (53)	26 (22)	1 (01)	116
Principles of Transportation	3 (02)	14 (11)	52 (41)	46 (36)	12 (09)	127
Private Pilot Ground	12 (09)	20 (16)	39 (31)	37 (29)	19 (15)	127

Note 1: Number in parentheses represents percentages.
Note 2: Row percentages may not total 100 percent due to rounding.
Note 3: Courses are listed in alpabetical order as appeared on survey instrument.
Note 4: *n* reflects all cases excepting "Don't Know" responses and nonresponses.

Academic Courses

  Many undergraduate aviation programs have a few core courses that one must take and then electives from which the student must choose. To assist students in this task, sixteen aviation courses were listed for respondents to rate (see Tables 5 and 6). Two courses which received above 90 percent (combining <u>important</u> and <u>extremely important</u> categories) are Airport Administration (95 percent) and Airport Finance (91 percent). These two picks are in line with the major fields of study discussed earlier. Other courses which received high marks of importance are: Aviation Policy and Planning (87 percent), Aviation Safety (87 percent), Aviation Marketing (86 percent), Aviation Law and Regulation (84 percent), Aviation Communication (66 percent), Air Transportation (65 percent), Aviation Insurance (52 percent), and Aviation Labor Relations (51 percent). The following courses were not rated as highly: International Aviation (23 percent), Principles of Transportation (45 percent), and Private Pilot Ground (44 percent). This latter one, Private Pilot Ground, was rated <u>neutral</u> by 31 percent and a combination of <u>unimportant</u> and <u>extremely unimportant</u> by 25 percent of respondents. In contrast to this study, of the 10 aviation courses included in the 1995 study by Kaps and Widick, the following 3 were ranked highest in the "top ten preferred courses" category: airport operations/management (83 percent), airport planning (67 percent), and aviation regulation (56 percent). The "top ten preferred courses" category included all courses (general, aviation, and management) recommended by the 1979 University Aviation Association's "typical aviation management curricula" (Kaps and Widick, 1995, p. 158).

Table 6
Evaluation of Academic Courses
Ranking of Mean Ratings

Academic Courses	M	SD
Airport Administration	4.569	0.609
Airport Finance	4.385	0.675
Aviation Safety	4.285	0.718
Aviation Policy & Planning	4.171	0.719
Aviation Marketing	4.115	0.711
Aviation Law & Regulation	4.092	0.698
Air Transportation	3.726	0.758
Aviation Communication	3.722	0.845
Aviation Labor Relations	3.516	0.797
Principles of Transportation	3.394	0.892
Aviation Insurance	3.378	0.983
Air Cargo & Logistics	3.298	0.782
Private Pilot Ground	3.244	1.173
Air Traffic Administration	3.153	0.827
International Aviation	2.948	0.822
Applied Meteorology	2.833	0.892

Note 1: Rating system provided for evaluators was as follows:

        0 = Don't Know
        1 = Extremely Unimportant
        2 = Unimportant
        3 = Neutral
        4 = Important
        5 = Extremely Important

Note 2: Only responses 1-5 were used in calculating statistics.
Note 3: M = mean; SD = standard deviation

Conclusion and Recommendations

The 66 percent response rate for this survey is quite high and simply shows that many airport managers are dedicated to this issue and feel this research is a worthwhile endeavor. In comparison, Alreck and Settle report that "[m]ail surveys with response rates over 30 percent are rare. Response rates are often only about 5 or 10 percent" (1995, p. 35).

Regarding gender, it appears that females are disproportionately under-represented in airport management. While this may be true, the 12 percent of responding females is somewhat higher than 6 percent of responding females in a 1994 study by Truitt, Hamman, and Palinkas. Actually, this equates to a 100 percent increase in the number of females involved in the airport management profession during the past 4 years. Therefore, it appears that females are being recognized for their knowledge of airport management and thus, contributing to the diversity of the profession.

As stated earlier, the fields of study presented in this paper are identical (with the exception of the field "airport management" being added) to those used by Fuller and Truitt (1997) in gauging opinions of airport consultants. It would be desirable for this same continuity to exist in studies involving all aviation majors so those viewpoints from the respective professionals in each field could be gauged. This information could then be utilized by universities in most adequately preparing students for careers in aviation.

The descriptive words were included in this survey to mostly assist students who are contemplating careers in airport management. As we all know, it is easy for students to become comfortable in the academic environment, yet not truly understand the implications for their career choice. By studying the results, one realizes that, according to the airport managers surveyed, the field is interesting and challenging. For students admiring these characteristics, airport management may be a reasonable choice. However, these students should also realize that the field is political, stressful, and not very easy, according to the survey results.

Although the fields of study reported are probably similar to widely accepted views about the profession, universities must be careful in interpreting this information. Although aviation management is rated highly as a preferred field of study, so too are management, marketing, finance, public administration, and speech communication. As a result, it is quite conceivable that there are many more students aspiring to be airport managers than we think currently exists. Students and universities alike must not assume, therefore, that only aviation programs are producing future airport managers.

As stated earlier, this study corresponds somewhat to that carried out by Fuller and Truitt (1997) on gauging the perceptions of airport consultants. The fields of study is the one area where both research efforts are identical, with the exception of aviation management as a major being added in this study. In comparing the results from these two studies in this area, one discovers that the field of public administration was rated highly in both cases. Forty-three percent of airport consultants rated public administration extremely important. Similarly, 39 percent of airport managers rated this field extremely important. Due to the involvement of " . . . money, people, and politics . . . " in the airport industry, public administration appears to be a logical field of study for prospective airport managers (Fuller and Truitt, 1997, p.71).

In times of competition, increased productivity and knowledge become mandatory for individuals seeking employment security in any industry. Bachelor's degrees are no longer

appearing solely on the resumes of the privileged few. Four-year degrees are quite common and many are seeking master's degrees to maintain that edge. Therefore, institutions of higher learning may be perplexed as to why 67 percent of respondents feel that a Bachelor's degree is the highest degree preferred by employers to obtain a position of airport manager. The author believes that a Master's degree would certainly assist a qualified candidate in obtaining a position of airport manager. However, the finding can be read as 67 percent of respondents feel that a Bachelor's degree is the highest-level degree needed to satisfy the educational requirement of an airport manager position. In contrast to the Fuller and Truitt (1997) study, 13 percent of airport consultants feel that a Master's degree is necessary, while 29 percent of airport managers feel a Master's degree is preferred.

A similar area of research involving this and the study by Fuller and Truitt (1997) is that of academic courses. Although the survey choices were quite different between the two, one major finding was uncovered in each case. Thirty percent of airport consultants rated Airport Administration as being extremely relevant. Sixty-two percent of airport managers agreed with this finding and rated the course extremely important. Although quite a substantial difference exists between these two percentages, this finding was the most similar of all the choices provided by the two studies. It must be remembered that the courses presented in the Fuller and Truitt (1997) study are specific to those offered by the aviation administration concentration in the Master of Public Administration program at Southern Illinois University. The courses presented in the survey by this researcher, however, were quite generic. Again, the intent was to allow for further studies to be conducted in the future with these same generic courses so as to allow for comparison of findings among the differing aviation industry positions, such as pilots, air traffic controllers, etc.

The most surprising finding regarding the aviation courses particular to this research effort was the fact that private pilot ground was rated <u>neutral</u> by 31 percent of respondents and a combination of <u>unimportant</u> and <u>extremely unimportant</u> by 25 percent of respondents. This combined neutral and unfavorable rating of 56 percent seems large considering that many airport manager positions advertised in AAAE's nationwide newsletter, <u>Airport Report</u>, prefer a private pilot certificate. This matter should not be taken lightly due to the approximately $4,000 one must currently spend to obtain this specialized training.

In addition to similarities with Fuller and Truitt (1997), this research effort also corresponds somewhat with that of Kaps and Widick (1995). Although their study, involving 25 "large airport" managers, focused on courses in three educational areas (general, aviation, and management), some comparisons may be drawn. Specifically, of the three highest-rated aviation courses, only airport operations/management (83 percent) corresponds to the 95 percent received by airport administration in the study carried out by this researcher. Kaps and Widick, due to utilizing the recommended aviation management coursework by the UAA for their study, did not include Airport Finance as a choice in their survey. Financial management, however, was included. This course, a management rather than aviation course, was ranked first in the 1995 study (95 percent). Similarly, Airport Finance was ranked second in the 1998 study (91 percent) Lastly, of the 10 aviation courses in the 1995 study, zero respondents rated a pilot certificate as top 10. This seems to follow the finding of low importance in the 1998 study in which the subject received a combined neutral and unfavorable rating of 56 percent.

To summarize the findings of this research effort, the following recommendations are presented:

Aviation management students

1. Review Tables 1 and 2 to determine if an airport career is truly desired.
2. Review Tables 3 and 4 to determine how applicable your academic major is to the field of airport management.
3. Review Tables 5 and 6 to evaluate the most appropriate aviation courses for your academic career.

Universities

1. Increase marketing efforts toward aviation students.
2. Research the possibility of offering a Master's degree in Aviation to further educate students about the future complexities of this industry.
3. Seek program accreditation through the Council on Aviation Accreditation.
4. Do not assume that aviation programs alone are producing future airport managers.

These recommendations summarize the main findings of this survey research. They are based mainly on the viewpoints of 132 airport managers who are members of the American Association of Airport Executives. Even so, these viewpoints represent expert opinions in the airport industry and should not be taken lightly. Those parties desiring to enter the field, instruct the field, and advance the field would be well advised to heed these recommendations. Responding to the increasing educational challenges of the aviation industry is the first step in improving the air transportation system of the next millennium.

References

Alreck, P. L., & Settle, R. B. (1995). The survey research handbook: Guidelines and strategies for conducting a survey (2nd ed.). Chicago: Irwin Professional Publishing.

American Association of Airport Executives. (1997). 1996-97 Membership directory and yellow pages of corporate members. Alexandria, VA: Author.

Council on Aviation Accreditation. (1998). [On-line]. Available: http://cid.unomaha.edu/~unoai/caa117.html.

Fowler, F. J., Jr. (1993). Survey research methods (2nd ed.). Newbury Park: SAGE publications.

Fuller, M., & Truitt, L. J. (1997). Aviation education: Perceptions of airport consultants. Journal of Air Transportation World Wide, 2 (1), 64-80.

Kaps, R. W. & Widick, L. L. (1995). Educational requirements for a career in airport management: An industry perspective. Journal of Studies in Technical Careers, XV (3), 153-61.

Kiteley, G. W. (1996, December 16). Collegiate aviation programs in the United States. (Available from the University Aviation Association, 3410 Skyway Drive, Auburn, AL 36830-6444. Email: uaamail@auburn.campus.mci.net).

National Civil Aviation Review Commission. (1997). Avoiding aviation gridlock & reducing

the accident rate: A consensus for change. (Available: http://www.faa.gov/ncarc) Washington, DC: U.S. Government Printing Office.

Truitt, L. J., Hamman, J. A., & Palinkas, K. G. (1994, Winter). Graduate education in airport administration: Preparing airport managers for the 21st century. Journal of Aviation/Aerospace Education and Research 4 (2), 9-16.

University Aviation Association. (1976). College Aviation Accreditation Guidelines. (Available from the University Aviation Association, 3410 Skyway Drive, Auburn, AL 36830-6444. Email: uaamail@auburn.campus.mci.net).

University Aviation Association. (1994) Collegiate Aviation Guide. (Available from the University Aviation Association, 3410 Skyway Drive, Auburn, AL 36830-6444. Email: uaamail@auburn.campus.mci.net).

University Aviation Association. (1995). Bylaws of the University Aviation Association. (Available from the University Aviation Association, 3410 Skyway Drive, Auburn, AL 36830-6444. Email: uaamail@auburn.campus.mci.net).

Appendix A

Airport Manager Survey

*Note: The entire survey provides data on more subjects than were discussed in this paper.

Sections A, C, D, and E are of particular interest to the readers of this paper.