

## **Industry Members Evaluate the Strengths and Weaknesses of Aviation Management Graduates**

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### **ABSTRACT**

This study sought to identify the strengths and weaknesses that members of the aviation industry have observed in recent aviation management graduates. A review of aviation education and business literature indicated that prior research in this area has been limited to asking members of industry to identify (1) skills and knowledge desired, and (2) what types of courses would be most beneficial. No known previous research has asked industry members how aviation management graduates are actually performing.

The University Aviation Association (UAA) organized the first meeting of an Aviation Management Committee during the UAA Fall Education Conference in Toronto, Canada on October 7, 2004. The committee suggested conducting a study that identified what individuals in the aviation industry thought were the strengths and weaknesses of aviation management graduates. That suggestion served as the impetus for this study. One hundred seventy-one respondents provided 170 usable comments representing 33 UAA member institutions. Comments were categorized according to four prevailing themes 1) business knowledge and experience 2) personal behavior 3) computer and technical skills and 4) communication and interpersonal skills. Survey findings are examined, interpreted and discussed. Suggestions are provided that could improve a graduate's ability to meet the expectations of industry. Recommendations for additional research are also provided.

### **INTRODUCTION**

#### **Background**

The primary mission and purpose of collegiate aviation management departments is to prepare students for a position in the aviation industry (Phillips, 2004). This article is a report of the methods used and results discovered by surveying members of industry to determine the strengths and weaknesses of aviation management graduates. The purpose of the research is to provide information that may be used by aviation management departments to evaluate and, as necessary, modify course offerings. A successful aspect of any business is periodic critique of progress toward goals (Blake & Mouton, 1985). In absence of any known similar effort, it is timely to question how successful a job is now being done to prepare students for industry success.

The University Aviation Association (UAA) organized the first meeting of an Aviation Management Committee during the UAA Fall Education Conference in Toronto, October 7, 2004 under the chairmanship of

Triant Flouris. One item discussed was the desirability of determining what individuals in the aviation industry thought were the strengths and weaknesses of aviation management graduates. In pedagogical terms, a timely needs assessment seemed appropriate. The answers may be used to guide decisions about curricula content and teaching methods of UAA member institutions offering aviation management degree programs. Two of the authors were in attendance at this formative meeting and accepted the challenge of initiating a research project. An overview of this project was included in Research Roundtable during the UAA Fall Education Conference in Champaign, September 30, 2005.

#### **Research**

The perspective of this research is from the view of members of an aviation management department who wish to determine if their existing course offerings are meeting industry needs. Prior research in this area has asked members of industry to identify (1) skills and knowledge desired and (2) the what types of

courses would be most beneficial. No known research has asked industry members how students are actually performing. It is anticipated that comments made regarding actual strengths and weaknesses will validate – or not – the skills and knowledge previously identified. This background leads to a three pronged research agenda:

1. Review of aviation management literature regarding desired skills and knowledge.
2. Review of general business literature regarding desired skills and knowledge.
3. A survey of members of the aviation industry regarding strengths and weaknesses among aviation management graduates.

## **SKILLS AND KNOWLEDGE RESEARCH FINDINGS**

### **Aviation Management Literature**

Attempting to ensure aviation management courses properly equip graduates is a sporadic but two decade long effort. Two approaches have been used, one is to determine what subject matter industry desires be taught in course offerings. The other is to determine what skills and knowledge (or traits and abilities) that industry desires with the intent that academia can determine what courses are needed to offer those capabilities. Either line of questioning offers useful information to those designing requirements for an aviation major and the various syllabi for the included classes.

In 1987, Fairbain encouraged a “...broad based organized effort to identify appropriate content for aviation management courses” (p. 2). He added that, “The University Aviation Association (UAA) seems to be the most logical choice to organize efforts aimed to this direction” (p. 22).

In 1995, Kaps and Widick surveyed airport managers to rank 26 courses for students seeking a career in airport management. Comparison was made among 1976 UAA curriculum guidelines, a 1989 study of Illinois airport managers and their study. Neither study of airport managers supported the UAA guidelines. The two studies found that the ten most valuable courses are: (1) financial management, (2) airport operations/management, (3) aviation

regulations, (4) introduction to management, (5) airport planning, (6) personnel management, (7) speech and (8) technical writing (Kaps & Widick, 1995).

A 1997 article specifically addressed what airline presidents want in a curriculum for aviation management graduates. Courses valued by the airline executives include (1) finance, (2) law, (3) airline operations and (4) the global environment (Kaps & Ruiz, 1997). In the same year results were published indicating the *skills and knowledge* aviation consultants believed important for students in aviation related Masters of Public Administration programs (Fuller & Truitt, 1997). The emphasis of the consultants on airport planning influences the top five ranking of these *skills and knowledge* characteristics: (1) structure and operations of state/local government, (2) operations research, (3) written communication, (4) oral communication, and (5) emergency management services.

Kutz (2000) addressed the *skills and knowledge* required of those who face leadership challenges in low to mid-level positions. These are the types of positions aviation management graduates are likely to reach early in their careers. (*Early* here is used within the concept of an anticipated 40 or more year working career.) Kurtz sought input from existing aviation leaders within the State of Oklahoma. Recommended courses include: (1) communication skills, (2) decision making and critical thinking skills, (3) courses in marketing, (4) management, and (5) aspects of finance. Phillips (2004), writing from the perspective of a managerial career with a legacy airline, discusses aviation management course offerings and the apparent lack of courses in fields such as (1) marketing, (2) information technology and (3) onboard planning.

A consistent voice in the effort to identify needed *skills and knowledge* and the courses to supply those skills and knowledge is Stephen Quilty's. Quilty is perhaps continuing the work he references in H. R. Lehrer's 1985 unpublished Doctoral Dissertation entitled *A study of college level academic courses for airport management personnel* (Quilty, 2005a).

In 1996, Quilty used the term *skills and capabilities* (Quilty, 1996, p. 51) when

discussing cognitive learning styles of aviation students. In 2003 he received the Sorenson Best Paper Award for his article reviewing the importance of education and training for airports, both for individual employees and the organization. In that paper he discussed employee *skills, knowledge and abilities and motivation*. The importance of a needs assessment is also discussed (Quilty, 2003). He uses the requirements listed in job announcements to identify important *skills and knowledge* desired of candidates for jobs in airport management positions. He indicates that “Airport management and operations employees must...have effective team, interpersonal, communication, and decision-making skills...” and other operational knowledge and capabilities (Quilty, 2004, p. 57).

Quilty surveyed airport managers to identify key *skills and traits* desired of employees (2005a). He presents the 14 skills and values for aviation graduates identified by the Council on Aviation Accreditation (CAA) which in mid-2006 became the Aviation Accreditation Board International (AABI). He indicates the list is too broad to be of specific assistance to those planning training and education of airport managers and uses a survey which identified 28 *skills and traits*. The top eight are considered important for airport managers. They are: (1) communicate well with others, (2) know what is or is not a hazard to safety, (3) have strong work ethic and internal work standards, (4) take personal initiative, (5) be ethical, (6) manage time well, (7) plan and organize daily activities and info, and (8) think independently. The requirements for an entry-level airfield operations position at the airfield, versus terminal or landside of an airport, is the subject of another 2005 article (Quilty, 2005b). The top five most important *knowledge variables* identified are (1) ground vehicle operation, (2) self inspection, (3) lighting, (4) airport emergency plan and (5) notices to airmen (NOTAMS).

This mix of aviation management skills and knowledge does not lend itself to a concise summary. However, all comments appear to fall into three categories:

1. *Specific industry knowledge*. The preponderance of comments address specific industry related knowledge. Examples are finance, airport operations and management, emergency management services, onboard planning, ground vehicle operation, and marketing.
2. *Communication*. Communication, which includes technical writing, speaking and interpersonal communication, is mentioned in at least four studies but does not have nearly the emphasis given to industry knowledge.
3. *Personal behavior*. Behavior characteristics such as work ethic and initiative are primarily referenced in a single article.

A comment on terminology may be beneficial before proceeding. A variety of terms are used to describe what it is that industry expects of aviation management graduates. These include: *skills, knowledge, abilities, motivation, traits, and knowledge variables*. Plus, at the 2005 UAA Fall Education Conference Research Roundtable Quilty referred to the UAA Aviation Management’s committee interest in curriculum issues and discussed *knowledge, skill, and ability* using the acronym KSA (Quilty, 2005c). Consistent use of the same terms here is not an important issue. What is important is the theme through the research that indicates academia recognizes an individual entering into the work place must not only *have knowledge* (appropriate concepts, data and skills), but be *able* to – and *desire* to – use that knowledge to help his or her new organization achieve its goals! It’s like a three legged stool, take away either of three legs - knowledge, skill or ability – and the stool is of limited value.

### **General Business Literature**

The literature discussed above points to the business nature of the field of aviation management. A review of literature describing the skills and knowledge desired for generic business students (both undergraduate business programs and Master of Business {MBA} programs) has potential to apply to the field of aviation management. To augment and validate findings from the general business literature review, personal interviews were conducted with

seven career professionals in the hiring/placement field, four are employment specialists, one selects and coordinates internships and two are director level career placement specialists. Each has a minimum of two years experience. Each of the seven represents a major organization. They were selected both because of their extensive background and by the convenience that each is involved in the job opportunity/career placement efforts on the campus where the authors reside.

A review of literature, university career web pages, and the interviews all emphasize that new-hires possess *soft-skills*. *Soft-skills* refer to “the cluster of personality traits, social graces, facility with language, personal habits, friendliness, and optimism that mark each of us” (“*Soft Skills a Key*,” 2002, 2). Their importance is described by Hill (2004), “it is the *soft stuff* that differentiates the winners from the losers”

among managers (p. 124).

The six key skills, described in literature and in the surveys, are described in Table 1.

The National Association of Colleges and Employers (NACE), annually publishes their *Job Outlook* report, which summarizes the results of surveys completed by hundreds of employers across the United States regarding the most desired skills in recent graduates of bachelor’s programs. In their 2005 survey (“*Job Outlook 2005*,” n.d., Figure 7), the top skills and qualities identified are: (1) communication skills, (2) honesty/integrity, (3) interpersonal skills, (4) strong work ethic, and (5) teamwork skills. These five skills are a repeat of the same five identified in the 2002 NACE survey (Coplin, 2003).

A detailed explanation of the six soft-skills is provided in the following section.

Table 1. *The Most Desired Skills/Knowledge of Recent Graduates of Business Programs*

	<b>Skill/Knowledge</b>	<b>Example/Illustration</b>
1	Communication skills	Articulates ideas clearly in writing without grammatical or spelling errors
2	Interpersonal skills	Relates well to a diverse group of people
3	Teamwork	Works well with multiple cross-functional teams
4	Leadership skills/potential	Starts projects on own and carries them out without supervision
5	Personal ethics/integrity	Does what is promised
6	Positive attitude	Shows a willingness to learn

1. Communication skills. In four surveys conducted between 2002 and 2005 (Alsop, 2004; Alsop, n.d.; Coplin, 2003, p. 3; “*Job Outlook 2005*,” n.d., Figure 7), employers cited skillfulness in communication as the most important characteristic sought in recent graduates. This includes the gamut of communication abilities—verbal, written, and non-verbal skills. Recruiters look for graduates who articulate ideas clearly and concisely, orally and in writing (J. Fernandez, personal communication, March 22, 2005). Writing

ability includes producing reports, memos, and e-mails without grammatical errors or spelling mistakes (Dillon, 2004). Ideal candidates know when to use “standard forms and in what tone to use them” (“*Soft Skills a Key*,” 2002, 11).

Recruiters and managers state that ideal job candidates should be comfortable when presenting information in formal settings, and often times more importantly, in informal, impromptu situations. This includes the ability to give a “quick synopsis” of an issue “in a moment’s notice” (D. Margolis, personal

communication, February 28, 2005). Employers also look for those who effectively communicate “in diverse settings, with a diverse group of people” (C. Jenkins, personal communication, March 7, 2005). Listening skills are also important. Holton (1998) states, “experienced subordinates learn to listen attentively to their boss and are more effective because they are able to respond precisely to questions or requests” (p. 167).

2. Interpersonal Skills. Another area receiving much importance as a hiring criterion is interpersonal skills (often referred to as “people skills”). Alsop (2004), reporting in *The Wall Street Journal*, describes a survey in which recruiters rated 20 attributes of students and their respective business schools in terms of the characteristics most desired in students transitioning to the workforce. The top attribute is a combination of communication and interpersonal skills. This demonstrates that these skills are linked, but the line between them is often blurry—one cannot have strong interpersonal skills without also possessing strong communication skills. Other studies also place interpersonal skills as one of the top attributes sought by companies in recent graduates (Alsop, n.d.; Coplin, 2004; Coplin, 2003; “Job Outlook 2005,” n.d.).

Businesses are complex organizations. Add the human element and this complexity grows exponentially. For this reason, employers want to hire those with strong interpersonal skills. Interpersonal skills are described as the “capacity individuals possess of relating to others” (Vernon, 2002, p. 156). In a job description for the position of an entry-level administrative assistant at an aviation consulting firm, the competency expectation for interpersonal savvy is described as:

Relates well to all kinds of people, up, down, and sideways, inside and outside the organization; builds appropriate rapport; builds constructive and effective relationships; uses diplomacy and tact; can defuse even high-tension situations comfortably (M. Wilkins, personal communication, July 27, 2005).

Individuals with good interpersonal skills

have the ability to “read” people and act accordingly. Employers value recent graduates with sharp interpersonal skills because they provide for a positive, efficient, and effective work environment (Coplin, 2003). And if disagreements do arise between individuals at the workplace, which invariably happens, employees with excellent people skills will overcome differences without offending or alienating their colleagues.

3. Teamwork. Next, since “good teamwork is the law of most high-functioning organizations” (Coplin, 2003, p. 57), employers covet recent graduates who have honed their teamwork skills (Alsop, 2004; Coplin, 2003; Job Outlook 2005, n.d.; J. Fernandez, personal communication, March 22, 2005; J. Ott, personal communication, March 31, 2005). Having good teamwork skills means communicating ideas effectively, sharing knowledge, and providing motivation and support to teammates. Coplin (2003) adds, “Perhaps the most important skill set you need for teamwork is patience and tolerance for the process” (p. 56). Recruiters want their new-hires to work effectively not only with a single team, but also simultaneously with multiple, cross-functional teams (D. Margolis, personal communication, February 28, 2005). And just as communication skills are closely related to interpersonal skills, so too are teamwork skills directly tied to both interpersonal and communication skills.

4. Leadership. Recruiters state that ideal job candidates have leadership skills—or, at the very least, exhibit leadership potential. *Leadership skills* is cited as a top quality desired in recent graduates in various studies surveying recruiters and managers (Alsop, n.d.; Alsop, 2004; Coplin, 2003, p. 3). For some recruiters, leadership is the *most* desired skill (J. Fernandez, personal communication, March 22, 2005). New-hires with strong leadership skills are not afraid to take on challenges and see them through their completion (C. Jenkins, personal communication, March 7, 2005). Recruiters want new-hires to take the initiative to start projects when they see a need to do so (C. Jenkins, personal communication, March 7, 2005). Having leadership skills also translates to

remaining actively involved in projects and the company on the whole (J. Fernandez, personal communication, March 22, 2005).

5. Ethics. Being ethical and possessing integrity are personal characteristics repeatedly mentioned by recruiters as key hiring criteria (Alsop, 2004; Coplin, 2003; “Job Outlook 2005,” n.d.). The recent scandals that have shaken corporate America place ethics in the spotlight, especially in MBA curricula (Alsop, n.d.). Recruiters look for new-hires who are “honest in their dealings with co-workers and clients and who take responsibility for their actions” (Coplin, p. 13). In this category, ideal job candidates “do what they say they will do” (C. Jenkins, personal communication, March 7, 2005).

6. Attitude. Recruiters and managers desire graduates who have a positive attitude (D. Margolis, personal communication, February 28, 2005; J. Madsen, personnel communication, March 22, 2005). Again, this is a personal quality more than a skill, but it is an important hiring criterion nonetheless. Employers like recent graduates with an “I can do it” mentality or a “get-it-done” attitude, where they are willing to jump right into a project with an open mind and an eagerness to learn. As Holton (1998) stated, most managers are willing to give opportunities to new employees who demonstrate that they have the right attitude and are willing to work extra hard. It is effort and dedication to working hard that stand out to managers and earns you their respect early on (p. 44).

To recruiters, involvement in volunteer activities reflects a positive attitude, since it shows the candidate takes the initiative to do something on their own (D. Margolis, personal communication, February 28, 2005). On the other hand, new-hires with poor attitudes might “watch the clock” or weigh “their effort against what they’re paid” (Holton, p. 45).

To summarize, the skills and knowledge recruiters and managers most desire in recent graduates are six soft-skills; the “best” job candidate possesses a variety of these skills. Absent from this discussion is the expectation of specific functional knowledge and skills. It seems reasonable that industry expects an

accounting major from a business school to possess basic desired knowledge of accounting concepts and regulation and the skills to perform basic functions such as auditing. The absence of comments to the contrary makes this type of assumption logical. Students must realize that they not only need expertise in *soft skills*, but also in their specific functional field.

## RESEARCH METHODOLOGY

The research instrument was designed to gather feedback on the strengths and weaknesses of recent aviation management graduates as perceived by aviation industry advisory board members. The advisory boards are designed to provide feedback to academic departments regarding timely industry processes and how best to prepare students to negotiate industry challenges. Membership typically includes representatives in aviation management positions, as well as members who are primarily associated with piloting or aircraft maintenance. Instead of determining which universities had such boards, the authors contacted the chairperson of all UAA institutional members and asked the chairperson to request their advisory board members “or other alumni” to participate in the survey. Multiple attempts were made to contact and encourage UAA institutional members to participate in the study. One-hundred seventy responses representing 33 UAA member institutions were collected.

UAA Aviation Management Committee members and SIUC Aviation Industry Advisory Committee members provided input and suggestions that led to the development of the research instrument which was an on-line survey composed of eight questions. The instrument was also approved for use by the SIUC Human Subjects Committee. The first five questions were developed to collect respondent demographic data. The last three questions were open-ended, and asked respondents to remark on the observed strengths and weaknesses of recent aviation management graduates.

All narrative comments were reviewed and categorized by central theme. Four prevailing categories emerged from the analysis, a) business knowledge and experience b) personal behavior c) computer and technical skills d) communication and interpersonal skills. Several

comments were not used because of vagueness, or the statement appeared contradictory to the category. General comments were analyzed to identify words such as *more* (i.e. “students need more”) which indicated a weakness, and *impressed* (i.e. “I’ve been impressed”) which was interpreted to indicate a strength. Similar comments were included in the tally of strengths or weaknesses. The number of responses associated with each category is shown in Table 2.

## DISCUSSION

The review of literature indicates that previous research has focused on identifying what subject matter and skill/knowledge sets are considered most desirable by different segments of industry. Aviation related literature reveals that job skill and knowledge are characteristics most highly regarded in new entrants to industry. In contrast, the business literature appears to place greater value on the possession of *soft skills*, i.e. communication skills, interpersonal skills and teamwork skills, in recent graduates.

This study sought to identify the strengths and weaknesses that members of the aviation industry have observed in recent graduates. One hundred seventy-one respondents provided 170 usable comments. Comments were categorized according to four prevailing themes 1) business knowledge and experience 2) personal behavior 3) computer and technical skills and 4) communication and interpersonal skills.

### Business Knowledge and Experience

Respondents identified *business knowledge and experience* as a recent graduate's greatest strength (33 comments) and greatest weakness (56 comments). Fifty-two percent of the collected responses were related to this theme. The following statements are typical of the comments received.

#### Strengths

1) [Graduates have an] "Overall knowledge of aviation in general and specific knowledge of current issues in the aviation community."

2) [Graduates have a] "Basic familiarity with industry situations and trends. This helps to define the context of our business strategy and

helps the new employee understand what is important about his/her work for the organization."

3) "Their aviation knowledge is excellent. This is their greatest strength."

#### Weaknesses

1) [Graduates lack an] "Understanding of "real world" business practices."

2) "Instead of doing hypothetical problems, have the students go to aviation businesses and work on real issues so that they can build their resumes with practical experience."

3) "Internships should be a necessity. You can tell those that have spent 4-5 months in the airline environment prior to their first official day at an airline."

Comments suggest that graduates must possess a greater knowledge of the aviation industry and its business practices. In addition, experiential learning opportunities, i.e. externships, internships, cooperatives, play a significant role in bridging the "real world" experience gap.

### Personal Behavior

Respondents reported that a recent graduate's *personal behavior* is also an area of concern. This topic received 23% of the comments received. Twenty-seven of the responses were interpreted as strengths and 11 comments as weaknesses. What follows is a sampling of the comments received.

#### Strengths

1) "Attitude.....This is probably one of the most important factors in getting hired with a commercial airline."

2) "They seem very dedicated to succeeding in launching an aviation career, willing to put forth the necessary effort."

3) "It is a delight to work with a genuinely motivated person."

#### Weaknesses

1) [This] "graduate was not a self starter, was not motivated, and lacked the knowledge to work in aviation administration at almost any level."

2) "Poor attitude, poor work ethic"

3) "Lacking motivation"

Respondents indicate that technical expertise alone does not ensure success in the aviation industry. Comments suggest that personal characteristics, e.g. enthusiasm, motivation, and confidence not only aid in projecting a positive image, but also assist in promoting a productive and cooperative workplace.

### Computer and Technical Skills

*Computer and technical skills* was the only category that did not draw a negative response. However, there were several respondents who remarked that they would like to see graduates enter the workplace with a greater knowledge of

software applications. Twenty-two comments, 13% of responses received, reflected the view that a graduate's computer and technical skills were a strength. The following statements are characteristic of the responses received.

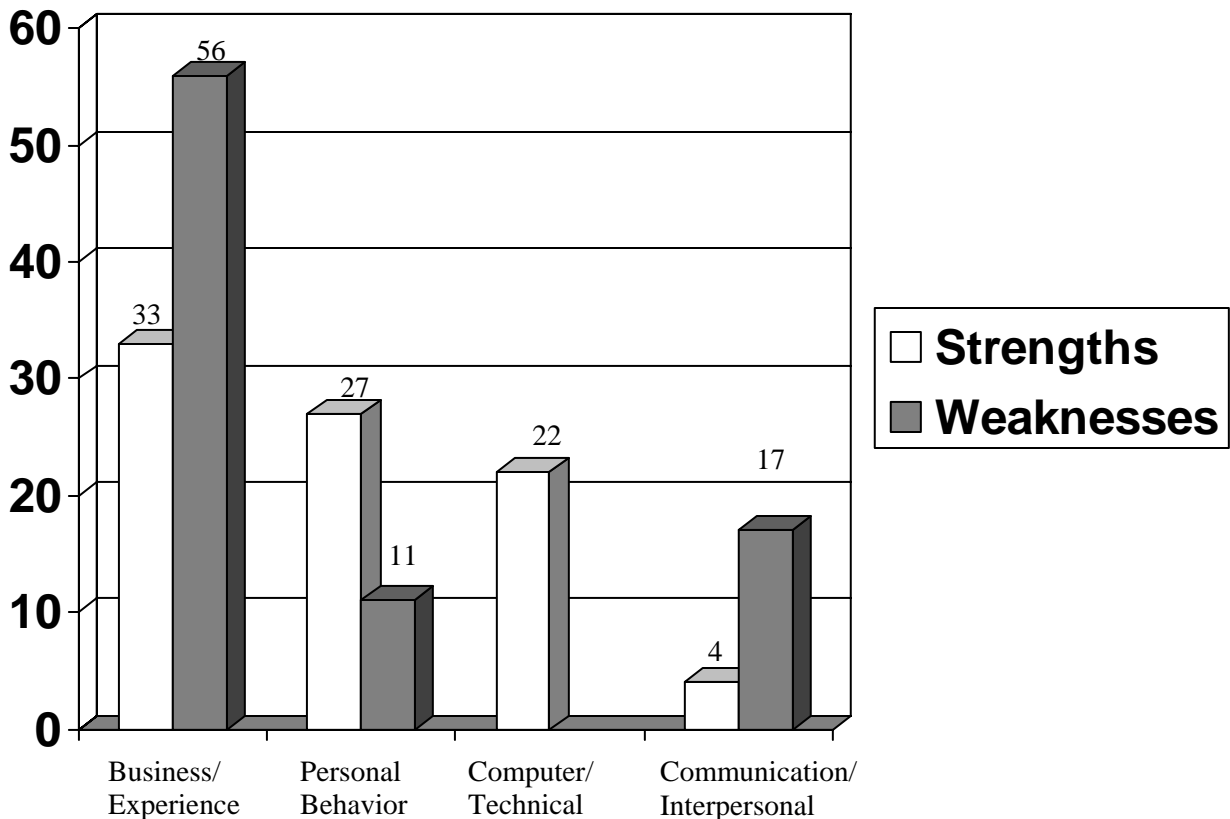
#### Strengths

1) "Most have strong computer skills and are fairly well versed in current events in aviation."

2) "I have found that more of our graduates have a better knowledge of technology, such as computers, than graduates of the past."

3) "They are technologically savvy."

Table 2. Summary of Strengths and Weaknesses Reported By Industry





Respondents report that recent graduates are proficient in computer related activities and associated technologies. The following statement eloquently captures the perception that many respondents communicated in their comments. "One strength common to all recent graduates is their ability to accept new technology and learn its functions. They not only accept technology - but embrace it."

### **Communication and Interpersonal Skills**

Twenty-one respondents (12%) indicate that a recent graduate's *Communication and Interpersonal Skills* are areas that warrant increased attention. Four of the responses were cataloged as strengths and 17 were categorized as weaknesses. The following is a sampling of the comments received.

#### Strengths

1) "All around strong in interpersonal skills. The graduates I've been involved with carry themselves well, are well versed professionals, who can carry on intelligent conversations with fortune 500 CEO's one minute and can rub elbows with blue collar guys at a biker bar the next."

2) "They are strong in technical skills and have good communication (written and oral) skills along with a desire to learn and advance quickly."

3) "The strengths that I have observed include superior skills in written and verbal communications, math, and superior skills in other technical applications."

#### Weaknesses

1) "The weaknesses I've found have been in people skills - interacting with fellow employees - teamwork."

2) "Overall written communication skills needed work to prepare written reports and other communications efforts for writing documents."

3) "Aviation graduates need to improve their written communications skills. Written English (even in the form of an email) is still the prime method of conveying ideas and an individual who cannot construct a simple sentence or spell correctly quickly loses credibility."

Respondents indicated that recent graduates are lacking basic communication skills and do

not interact well with fellow employees. Writing intensive programs, e.g. "Writing Across the Curriculum", are methods of addressing basic writing deficiencies before students enter the workplace. Oral communication exercises, e.g. oral presentations and other public speaking activities would assist in offsetting the oral communication shortcomings noted by respondents.

Emphasizing the need for teamwork and cooperation in the workplace, as a component of curriculum, would assist graduates in transitioning to that arena with greater ease. In addition, experiential learning activities would allow students the opportunity to observe and practice interpersonal skills as members of the workforce.

### **CONCLUSION**

#### **Self-Critique**

Some readers may see limitations of this study due to the number of respondents. One hundred seventy voices do not represent the millions who work in the aviation industry. The 33 schools represented are less than half of the UAA member institutions approached for comment. In addition, the results are general and do not permit a specific institution to know how its graduates are doing, i.e. are their graduates receiving praise for their strengths or criticism for weaknesses? Some may determine that these characteristics make the study of questionable value.

A contrary view is that the responses represent all geographic areas of the country and all major functional areas of aviation (airports, airlines, etc.), and that the comments fall into a clear pattern. There were no unusual issues mentioned which did not fit into one of the four categories. This meets the validity test for naturalistic inquiry (Lincoln & Guba, 1985). A faculty member or department can use this data in decision making regarding course content and teaching approach plus respond to the emphasis given to internships and other on-the-job exposure opportunities.

At the minimum, the data may support existing decisions and actions. In addition, for perhaps the first time, academia has patterned comment about the strengths and weaknesses of

graduates. In sum, the study has value. Which view prevails is left to the reader.

### **How Are We Doing?**

The “we” in this question is academia, those individuals who produce and graduate aviation management majors. Based on this survey, aviation education institutions would be advised to examine the course content of their curricula, and modify as necessary, to reflect the expectations of industry. We must do a better job of preparing graduates for their transition to the workforce by emphasizing industry knowledge and communication skills.

We must also provide experiential learning opportunities for student to ease their transition to the workforce. It would be presumptuous to assume that a graduate's personal characteristics (i.e. work ethic, attitude, etc.) are solely influenced by a post-secondary aviation education. However, as educators, we have a responsibility to advise and counsel our students on the perceived importance of these personal attributes in the workplace. By doing so, we facilitate their success in the industry.

The consistent positive comments referring to a graduate's technological ability and computer proficiency are a bit perplexing. While aviation management faculty may directly or indirectly require students to be proficient in text processing, use of spreadsheets, Power Point, etc. it's not something taught as a special class (Phillips, 2004). One possibility may simply be an age gap between the alumni who did not grow-up with computers to the extent today's students have. The students know more than the old-timer and therefore the old-timer views it as a strength. The real answer is unclear. The message for current faculty is to keep demanding that students demonstrate these skills.

An unstated message must be considered. Among the hundreds of individual comments analyzed in this study not one indicated that academia was failing, “missing the boat,” “didn't have a clue,” or other such statements that indicated failure. We choose to believe that this means all-in-all, academia is generally working in the right direction to provide graduates with adequate skills and knowledge. But, we can and need to do better.

### **Future Research**

There are many options for future study. Two practical possibilities include:

1. Conduct a strength and weakness study for graduates within two aspects of industry, for example just the airline management and airport operations management. Compare and contrast the results.
2. Collaborating with faculty members from two or more institutions, complete a strengths and weakness study for graduates from each institution and compare the results.

We (the authors) hope that one or more of the readers consider these ideas or others and accept the challenge to further this line of research. Without such “real world” feedback, academia is only guessing on the quality and or success of our efforts. We look forward to benefiting from your future efforts.

## REFERENCES

- Alsop, R. (2004, September 22). How to get hired. *The Wall Street Journal*, p. R8.
- Alsop, R. (n.d.). Top schools struggle to teach 'soft skills'. *The College Journal*. Retrieved May 16, 2005, from <http://www.collegejournal.com/bschool03/articles/20020909-alsop-softskills.html>
- An interview with Henry Mintzberg [Electronic version]. (2001, November 2). *The Economist Global Executive*. Retrieved February 13, 2005, from [http://economist.com/globalExecutive/education/MBA/printerFriendly.cfm?story\\_id=850703](http://economist.com/globalExecutive/education/MBA/printerFriendly.cfm?story_id=850703)
- Blake, R., & Mouton, J. (1985). *The managerial grid III. The key to leadership excellence*. Houston: Gulf.
- Bickerstaffe, G. (2003). *Which MBA?* (15<sup>th</sup> ed.). London: Economist Intelligence Unit.
- Coplin, B. (2004, June 10). For new graduates, 'soft skills' are the secret weapon in job hunt. *USA Today*, p. A15.
- Coplin, W. (2003). *Ten things employers want you to learn in college*. Berkeley: Ten Speed Press.
- Dotinga, R. (2004, November 2). US business schools reinvent the MBA [Electronic version]. *The Christian Science Monitor*. Retrieved February 13, 2005, from <http://www.csmonitor.com/2004/1102/p11s02-legn.html>
- Dillon, S. (2004, December 7). What corporate America can't build: A sentence. *New York Times*. Retrieved December 8, 2004, from <http://www.nytimes.com>
- Fairbairn, G. R. (1987). Development of aviation management coursework. *1987 Proceedings of the University Aviation Association Fall Education Conference, October 1987*
- Fuller, M., & Truitt, L. J. (1997). Aviation education: perceptions of airport consultants. *Journal of Air Transportation World Wide*, 2(1). 64 -80
- Hill, L. (2004, August). New manager development for the 21<sup>st</sup> century [Electronic version]. *Academy of Management Executive*, 18(3), 121-126.
- Holton, E. (1998). *The Ultimate New Employee Survival Guide*. Princeton: Peterson's.
- Job outlook 2005. (n.d.). Retrieved May 23, 2005, from <http://www.naceweb.org/products/jo2005report.htm>
- Job outlook 2005 - good news for college graduates. (n.d.). Retrieved May 23, 2005, from <http://www.jobweb.com/joboutlook/2005outlook/3a.htm>
- Kaps, R. W., & Ruiz, J. R. (1997). Educational requirements for a career in airline management: an industry perspective. *Collegiate Aviation Review*, 43 – 57.
- 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 – 162.
- Kurtz, M. N. (2000). Developing future aviation leaders: advice from today's leaders! *Journal of Aviation/Aerospace Education & Research*, 9(3), 21 – 32.
- Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Merritt, J., & Chambers, E. (2004, October 18). Special report: The best B-schools. *Business Week*, 62-76.
- Middleton, D. (2004, October 18). Is the focus too fine? *Business Week*, 92.
- Mintzberg, H. (2004). *Managers not MBAs*. San Francisco: Berrett-Koehler.
- Mintzberg, H. (2004, June). The MBA menace [Electronic version]. *Fast Company*, 83, 31. Retrieved May 25, 2005, from <http://www.fastcompany.com/magazine/83/MBAm menace.html>

- Phillips, E. D. (2004, October). A critique of aviation management programs. *Collegiate Aviation Review*, 22(1), 39-47.
- Quilty, S. M. (2005a). Skill and trait identification for entry-level airport operations and management personnel. *International Journal of Applied Aviation Studies*, 5(1), 183-194.
- Quilty, S. M. (2005b). Study results on knowledge requirements for entry-level airport operations and management personnel. *Journal of Air Transportation*, 10(3), 100-122.
- Quilty, S. M. (2005c). Report on research identifying KSA requirements for entry level airport operations and management positions. *Fall 2005 Proceedings of the University Aviation Association, September 28 – October 1, 2005, Champaign, Illinois*.
- Quilty, S. M. (2004). Airport management program and curriculum issues at 2- and 4-year aviation colleges and universities. *Collegiate Aviation Review*, 22(1) 57-70.
- Quilty, S. M. (2003). Achieving recognition as a world class airport through education and training. *Journal of Air Transportation*, 8(1), 3-14.
- Quilty, S. M. (1996). Cognitive learning bias of college students in an aviation program. *Journal of Air Transportation World Wide*, 1(1), 51 – 62.
- Soft skills' a key to employment today. (n.d.). *Career Opportunities News*, October 2002, 20(2). Retrieved May 25, 2005, from <http://www.cco.purdue.edu/Articles/Article-SoftSkills.shtml>
- Watson, T. (2004, October 25-November 7). Lessons learned [Electronic version]. *Canadian Business*, 77(21), 94-98.
- Vernon, M. (2002). *Business: The key concepts*. New York: Routledge.