

Stakeholder Perceptions of Specialized Accreditation by the Aviation Accreditation Board International: Part Two – Aviation Students and Industry Employers

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ABSTRACT

In an effort to understand the current status of specialized accreditation in collegiate aviation and the reasons why so few aviation programs are accredited by the Aviation Accreditation Board International (AABI), a comprehensive study was undertaken to determine the perceptions held by the following four stakeholders of collegiate aviation regarding specialized accreditation by AABI: administrators of both AABI accredited and non-AABI accredited aviation programs, collegiate aviation program students, and aviation industry employers. This article is the second in a series of three reporting the results of this nationwide study, and presents the perceptions of collegiate aviation students and aviation industry employers. Recommendations specific to part two of this nationwide study include: (a) Collegiate aviation students should become better informed about AABI and the current accreditation status of the program they attend; and (b) Aviation industry employers should be willing to collaborate with AABI on developing quality aviation graduates via the AABI Industry-Educator Forum and consider placing an emphasis on hiring graduates of AABI accredited programs.

INTRODUCTION

Today, three types of accreditation exist. First, the eight regional accreditation agencies in six regions together accredit approximately 3,000 institutions enrolling close to 14 million students. National accreditation is usually sought by trade, business, and technical schools in the for-profit sector. Eleven national agencies collectively accredit approximately 3,500 institutions enrolling 4.75 million students. The third type of accreditation is specialized. The specialized agencies accredit individual schools or programs within larger colleges and universities. This form of accreditation has today grown into 48 specialized accrediting organizations recognized by the Council for Higher Education Accreditation (Council for Higher Education Accreditation [CHEA], 2007). Generally, specialized accreditors require the program or school to be part of a regionally or nationally accredited institution. In that sense, specialized accreditation of specific academic programs serves as an added sense of prestige for an already accredited institution (CHEA, 2006; Wellman, 2003).

The field of specialized accreditation in the U.S. is quite diverse. For instance, the Council for Higher Education Accreditation recognizes 48 specialized accrediting organizations that accredit programs in at least 43 different

academic fields, including audiology, aviation, computer science, forestry, nursing, social work education, and veterinary medicine.

Interestingly, although most of these academic fields only have one specialized accrediting organization (similar to aviation), several fields (such as business, nursing, and teacher education) are covered by two organizations. This may be understandable, as these academic fields are quite popular and contain the number of programs that can support additional specialized accrediting organizations (CHEA, 2006).

Although formal specialized accreditation has been in existence in the U.S. for over 100 years, specialized accreditation in the field of collegiate aviation is a relatively recent phenomenon. Since the first four non-engineering aviation programs were accredited by the Council on Aviation Accreditation (CAA) in 1992, a larger number of aviation programs have sought and obtained specialized accreditation through the newly renamed Aviation Accreditation Board International (AABI). However, even though there are currently 78 AABI accredited programs at 26 institutions of higher learning, only 26 percent of UAA member institutions have AABI accredited programs. Considering that there are at least 13 non-engineering collegiate aviation

programs in the U.S. that are not institutional members of the UAA and many more worldwide, the actual percentage of institutions worldwide with AABI accredited programs is less than 26 percent.

This paper, second in a series of three, presents abbreviated findings of a nationwide study that investigated stakeholder perceptions of AABI and AABI accreditation. Although the first article in this series presented a thorough literature review of the topic and examined the perceptions of AABI among collegiate aviation administrators, this article examines the perceptions of collegiate aviation students and industry employers. Understanding these perceptions will likely assist the Aviation Accreditation Board International in strategically planning for the future by implementing measures to better meet the needs of collegiate aviation programs worldwide.

METHODOLOGY

Research Design

This study utilized a non-experimental, mixed method research design, with both quantitative and qualitative attributes. The research design is a “mixed method” design in that both qualitative and quantitative data were gathered via cross-sectional surveys. Quantitative and qualitative data were collected via close-ended items and open-ended items on each questionnaire. In essence, this study is considered a descriptive study with data collection via cross-sectional surveys. Plainly, a “descriptive study simply describes a phenomenon” (McMillan (2004, p. 176). [For further detail regarding the research design, the reader is encouraged to review *Stakeholder Perceptions of Specialized Accreditation by the Aviation Accreditation Board International: Part One - Collegiate Aviation Administrators.*]

INSTRUMENT DESIGN

Survey of Aviation Program Students on AABI Issues

To understand the role AABI accreditation plays in decisions made by students regarding the institution they choose to attend and in their general awareness of AABI, a questionnaire entitled “Survey of Aviation Program Students

on AABI Issues” was developed. This questionnaire was quite brief, containing only 10 items. The first item contained a checklist with 12 categories. Four items contained Likert scales, three items had several categories from which to choose, one item was a ten-point scale, and one was open-ended.

Survey of Aviation Industry Employers on AABI Issues

A questionnaire entitled “Survey of Aviation Industry Employers on AABI Issues” was designed to gather perceptions from aviation industry employers on their level of awareness of AABI and the manner of emphasis they place on hiring graduates of AABI accredited programs. The brief questionnaire contained nine items, of which five were Likert-scale items, one was a 10 point scale, two had several categories from which to choose, and one was open-ended.

Validity and Reliability of Measurement

As explained by Alreck and Settle (1995, p. 58), “a measurement of any kind is valid to the degree it measures all of that and only that which it’s supposed to measure.” Face validity of the questionnaires was enhanced by informally allowing persons not involved in the study to review the questionnaires for accuracy and ease of completion, resulting in several revisions to the questionnaires. Content validity was enhanced by allowing a group of experts to review each of the questionnaires (Gay & Airasian, 2000). This group of experts consisted of one member of the University Aviation Association (UAA), one member of the Aviation Accreditation Board International (AABI), and the researcher’s supervisory committee chair. This jury was presented with an overview of the study and the purpose of the questionnaires. In adapting Litwack’s (1986) method, each juror was asked to rate each question on a three-point scale of importance: 1-‘important’; 2-‘important but requires revision’; 3-‘not important’. Items rated by two out of three jurors as ‘important’ or ‘important but requires revision’, were included in the questionnaire. In addition to the ranking of items on a scale of importance, constructive comments were also received, resulting in additional questionnaire refinement.

In addition to a focus on validity, reliability was also addressed. Reliability, as explained by Alreck and Settle (1995, p. 58), means “freedom from random error.” A fundamental test of reliability is that of repeatability (Alreck & Settle, 1995). This survey was administered only once, as lack of resources and time did not allow for extensive test-retest methodology. However, McMillan (2004) explains that reliability of an instrument can be measured in terms of internal consistency via the Cronbach alpha, appropriate for instruments in which there is no right or wrong answer to each item. As seen in Table 1, the Cronbach’s reliability coefficients for the two questionnaires were 0.479 and 0.855. As McMillan (2004) states, reliability coefficients of 0.65 are acceptable for measuring noncognitive traits, whereas studies of groups can tolerate a lower reliability, sometimes as low as 0.50 in exploratory research. Further, as suggested by McMillan, additional efforts were implemented to minimize the lower than desired internal consistency of this questionnaire. First, with each of these questionnaires, there were standard conditions of data collection, in which each of the four groups were provided the same directions. Also, the instruments were appropriate in reading level and language of the subjects. Lastly, the questionnaires were brief, thus not experiencing the problems associated with lengthy questionnaires.

Table 1. *Questionnaire Reliability*

Instrument	Cronbach Alpha
Survey of Aviation Program Students on AABI Issues	0.479
Survey of Aviation Industry Employers on AABI Issues	0.855

In a final effort to address issues of validity and reliability, as well as pre-test the operation of each questionnaire, a pilot study was conducted. A main goal of this pilot study was to determine if the questionnaires were easily understood and could be completed within a reasonable time period. The pilot study consisted of five members randomly selected from each of the sample populations. Responses received from each group closely matched

responses collected from each group during the full study.

STUDY POPULATIONS

Aviation Program Students

The questionnaire aimed at aviation students was designed to determine, specifically, what effect AABI accreditation had on the decision made by the student as to which aviation program and institution to attend. The survey population for this questionnaire consisted of the total number of aviation students enrolled at all of the 112 institutions offering non-engineering aviation academic programs nationwide (UAA, 2003). Determining the sample frame for this large survey population was not very feasible. The sample frame, therefore, consisted of the student membership list of the UAA, and the sample included each of these 98 students. Due to the broad aviation focus of this organization, the membership list contains students from many of the institutions with aviation programs and contains a good cross-section of various aviation majors. Although it cannot be precisely specified, coverage error, unfortunately, was relatively high with this approach. Due to the size of the population and the lack of a comprehensive list which included each of the population units, there was little way to provide for each unit in the population of having a known, non-zero chance of being included in the sample. That said, however, coverage error was reduced by ensuring that the UAA student membership list did not contain non-members of the population. Per UAA objectives, the student membership is composed of current aviation students. Further, the decision was made that an amount of coverage error was acceptable, as no feasible alternatives for surveying this population existed. Lastly, sampling error was also high due to the ability to only collect information from the subset of aviation students who are also UAA student members. Although all UAA student members were surveyed, this was only a small fraction of current aviation students nationwide. As the total population size of collegiate aviation students is unknown, the actual sampling error could not be calculated with any precision. Any sampling error was

minimized due to the broad cross-section of students and institutions represented by the UAA student membership list.

Aviation Industry Employers

Clearly, the group of aviation industry employers is another extremely large survey population. The various segments of the aviation industry hiring recent aviation graduates include national and regional airlines, cargo carriers, government agencies, airports, fixed base operators, and consulting firms. Surveying the entire survey population would have been prohibitive. Thus, the sample frame consisted of the membership lists of the following aviation industry trade groups: American Association of Airport Executives (720 airport members and 591 corporate members), Air Transport Association (18 airline members), National Air Transportation Association (2,000 associate members), and the National Business Aviation Association (6,000 corporate and associate members). A simple random sample of members from each of these groups was contacted. Although a suggested sample size for each of these groups would normally range from 20 to 907 (depending on the membership size), limited resources prevented the selection of such a large sample size. Further, it was decided not to use a modified stratified sampling approach, as the percentage of members of these organizations do not necessarily represent a higher percentage of companies hiring aviation graduates. Thus, a simpler method involved randomly selecting 40 corporate members from each of these four organizations (with the exception of the entire 18 Air Transportation Association members), resulting in a total sample size of 138 industry employers. The questionnaire was then directed to the Director of Human Resources (or central hiring office) of each organization. Although it cannot be precisely specified, coverage error was high with this approach, simply because of the large size of the survey population. However, a cross-section of groups representing the major aspects of the aviation industry was sampled, thus minimizing coverage error to the extent possible. As with any survey in which a subset of the population is surveyed, sampling error also resulted with this survey of aviation industry

employers. However, as the total size of the population is not known, sampling error could not be precisely specified. Yet, efforts such as selecting a range of aviation industry trade groups and use of random sampling from each of these groups was used to minimize sampling error to the extent possible.

SURVEY PROCEDURES

The implementation of the questionnaires designed for this survey project closely adhered to Dillman's (2000) Tailored Design Method. Specifically, three contacts were made via first-class mail, while the fourth and fifth contacts were made via e-mail and fax, respectively. Each of these five contacts was utilized for the purpose of increasing survey response rate. As Dillman (2000, p. 149) explains, "Multiple contacts have been shown to be more effective than any other technique for increasing response to surveys by mail." The first contact was made with recipients on June 22, 2007, and the final contact was made on July 30, 2007.

DATA ANALYSIS

As detailed in part one of this study, both quantitative and qualitative data were collected as a result of implementing the non-experimental mixed method research design. The majority of quantitative data collected during this research study involved nominal and ordinal data. As a result, non-parametric statistical analyses were heavily relied upon in analyzing this quantitative data. SPSS version 15.0 and Microsoft Excel were the statistical analysis software used to analyze quantitative data collected during this study. Specifically, the chi-square test for goodness of fit was utilized to analyze nominal data. The Likert-scale ordinal data were analyzed using simple frequency distributions.

To analyze the qualitative data collected during this study, content analysis via a manual coding effort was employed. After comments were separated into the theme categories based on their general intent, the number of responses in each theme category was then counted numerically to allow general conclusions to be drawn from the qualitative data.

FINDINGS

Although the nationwide study included 11 research questions, part two of this study presents the abbreviated findings of only two research questions. It is these questions that could only be addressed by aviation students and industry employers.

Research Question 8: Does a preference exist among students regarding the factors considered influential on a student’s decision as to which institution and aviation program to attend?

To collect data associated with this research question, a 12-item categorical scale was developed and incorporated into the “Survey of Aviation Program Students on AABI Issues.” The scale resulted in nominal data being collected. Therefore, the chi-square goodness of fit test was appropriate in analyzing if preferences existed among students regarding the factors considered influential as to which institution and aviation program to attend. The null hypothesis was stated as follows:

H₀: No preference exists among students regarding the factors considered influential on a student’s decision as to which institution and aviation program to attend.

Upon analysis of the data, the students showed significant preferences among the 12 items when selecting which institution and aviation program to attend, $\chi^2(10, n = 149) = 58.819, p < 0.05$. With a critical region beginning at 18.31 at the 95 percent confidence interval, the decision was made to reject H₀. Therefore, at the 0.05 level of significance, the data provide sufficient evidence to conclude that there is a significant preference among students regarding the items they considered when selecting which institution and aviation program to attend. It should be noted that although 35 students answered the question, they could select as many of the 12 categories as they desired, thus the total observed n = 149.

Based on frequency of responses, students most considered location (65.7 percent), cost (62.9 percent), reputation of the institution or aviation program (60 percent), financial aid/scholarships (57.1 percent), and aviation

training facilities (57.1 percent). Only three respondents indicated that AABI accreditation status played a role in their decision making process.

Table 2. *Chi square Frequency Data*

	Observed frequencies	Expected frequencies
Aviation training facilities	20	13.5
AABI accreditation status	3	13.5
Cost	22	13.5
Family member’s alma mater	1	13.5
Financial aid/scholarships	20	13.5
Friends attending	6	13.5
Institutional accreditation status	15	13.5
Location	23	13.5
Particular professor	1	13.5
Reputation of institution or aviation program	21	13.5
Specific academic program	17	13.5

Additionally, qualitative data that addressed this research question was collected by presenting students with the following open-ended item: “Please share any further thoughts you may have on the AABI and the role of AABI accreditation in your education and future career opportunities. A total of 15 responses were received, which were analyzed using content analysis. This resulted in the responses being categorized into five theme categories (see Table 3).

Table 3. *Number of Responses by Students*

Theme	Number of Responses
Lack of awareness	7
Appreciative of higher standards	4
Positive effect on career opportunities	2
No effect on career opportunities	2
Higher quality program	2

As shown, the category with the most responses can be titled, “Lack of awareness of AABI.” As one student expressed, “When I was a high school student looking at colleges, AABI certification wasn’t even something I thought of. When I was applying and interviewing for positions the topic never came up either.” Thus, the qualitative data seems to support the quantitative data in this regard.

Research Question 9: Among aviation industry employers, what beliefs are most widely held regarding AABI accreditation?

In an effort to answer this research question, four closed-ended items and one open-ended item were developed and included on the “Survey of Aviation Industry Employers on AABI Issues.” As the four Likert-scale items obtained ordinal data from one group, the number of responses was analyzed. Participants were asked to indicate their level of agreement or disagreement with each of the four following statements.

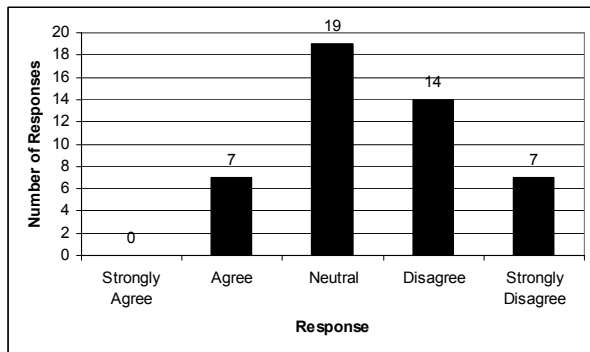


Figure 1. The AABI Should Better Market Itself to our Industry

As indicated, respondents tended to disagree with this statement. Although 14.9 percent agreed with the statement, 40.4 percent were neutral.

When presented with the statement, “Our organization prefers to hire graduates of AABI accredited programs,” 63.8 percent of respondents were neutral, indicating neither agreement nor disagreement. Almost 30 percent disagreed with this statement.

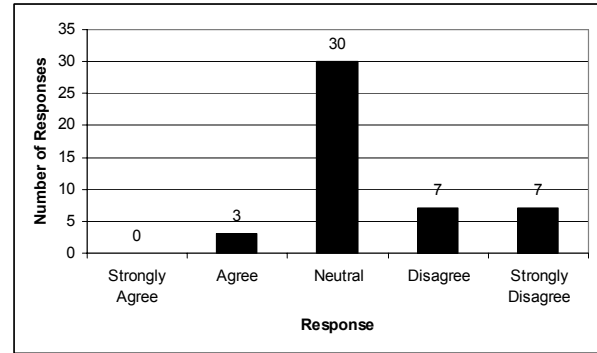


Figure 2. Our Organization Prefers to Hire Graduates of AABI Accredited Programs

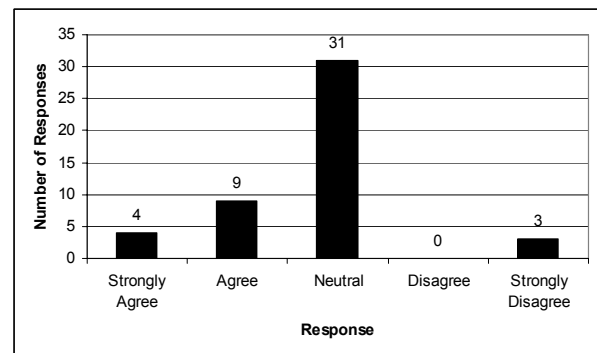


Figure 3. It would be beneficial to our industry if more Collegiate Aviation Programs became accredited by the AABI

Similar to the item above, this item also garnered a high proportion of neutral responses. Indeed, 66 percent of respondents indicated a position of neutrality on this statement. However, almost 30 percent tended to agree that it would be beneficial if more collegiate aviation programs became accredited by the AABI.

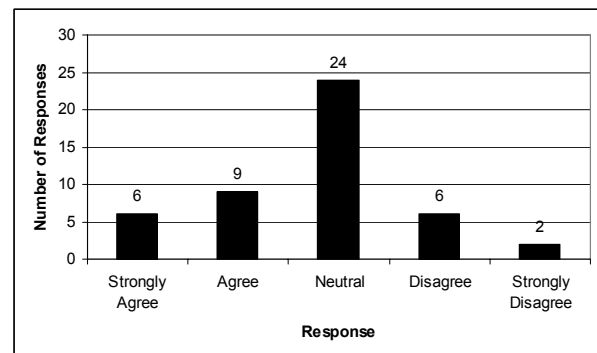


Figure 4. Our Industry does not realize any Direct or Indirect Benefits from the AABI and its Efforts

This last item aimed at discovering whether industry perceived any benefits from the AABI and its efforts. As with the items previously discussed, the majority of responses to this item were neutral. However, there was also some agreement (32 percent) and disagreement (17.1 percent) with this statement.

Additionally, employers were invited to respond to the following statement: “Please share any additional thoughts you may have on AABI accreditation and the hiring of recent college graduates by the aviation industry.” A total of 17 responses were received, which were then analyzed using content analysis. These responses were then categorized into five general themes. The number of responses in each of the theme categories is shown in Table 4.

Table 4. *Number of Responses by Industry*

Theme	Number of Responses
Lack of awareness	8
No benefits to industry	2
Positive benefits to industry	1
More industry contact needed	1
Better marketing needed	1

The themed category with the most responses refers to lack of awareness of AABI. Apparently, aviation industry employers did not widely hold beliefs about AABI, as they generally knew very little about the organization and its impact on their industry.

DISCUSSION

The findings reveal that the majority of current aviation students responding to the survey are not even aware of AABI, don’t know whether or not the program they currently attend is accredited by AABI, and share that the AABI accreditation status of aviation programs had no effect on their decision making process of which institution to attend. Indeed, only three student respondents indicated that AABI accreditation status played a role in their decision making process as to which institution to attend. Furthermore, students do not consider the AABI accreditation status of a program in deciding

which institution to attend. Is this because of a lack of awareness of AABI? Quite possibly, as 60 percent of responding students indicate a lack of awareness of AABI. Additionally, of the qualitative responses received by students, the theme category with the most responses is entitled, “Lack of awareness.” These findings seem to support statements made by administrators of non-AABI accredited programs regarding the fact that neither students nor parents have ever asked if their program was accredited. However, these findings challenge assumptions previously made by academia and AABI. For instance, administrators of AABI accredited programs point to their AABI accreditation status as important in marketing and attracting high quality students.

Another significant finding of this study involves aviation industry employers. In particular, the vast majority of aviation industry employers are not aware of AABI, do not consider the AABI accreditation status of a program when hiring graduates of collegiate aviation programs, and see little benefit in AABI’s efforts. As a result, previous assumptions held by academia and AABI that industry not only realizes the value of AABI accreditation, but prefers graduates of AABI accredited programs, are not accurate. Interestingly, however, some level of industry is aware of the benefits of specialized accreditation in general, and of AABI accreditation in particular. Thus, it would seem that if AABI better marketed itself to industry (a point that 45 percent of AABI accredited programs and 37.2 percent of non-AABI accredited programs agreed with), industry would begin to see the benefits of AABI accreditation, subsequently improving industry’s perceived value of AABI accreditation.

CONCLUSION

This study was designed to investigate why so few collegiate aviation programs were accredited by AABI, considering the perspectives of both students of these programs and potential employers of the graduates of these programs. As a result, and in light of the findings of this study, recommendations are

presented in the context of these two groups of stakeholders, as well as AABI.

Collegiate Aviation Students

1. Educate yourself about the purpose of specialized accreditation and the role of AABI, in order to decide if attending an accredited program is beneficial to your education and future career.

Aviation Industry Employers

1. Acquire an increased awareness of the purpose of specialized accreditation and the role of AABI, in order to decide if an emphasis should be placed by your company on hiring graduates of AABI accredited programs.
2. For those employers placing an emphasis on AABI accreditation, consider industry's role in providing input to collegiate aviation education via the AABI Industry/Educator Forum.

Aviation Accreditation Board International (AABI)

1. Develop a comprehensive marketing program aimed toward the stakeholders of collegiate aviation, with specific emphasis on aviation industry employers, as well as future and current collegiate aviation students.
2. Consider whether the Industry-Educator Forum has sufficient industry support and adequately reflects industry concerns.

It is likely that the findings highlighted in this paper are somewhat surprising to AABI and administrators of AABI accredited programs. Since AABI accreditation (and any accreditation, for that matter) is a voluntary process, programs must see benefits that outweigh the costs of pursuing such accreditation. The cost-benefit equation may now be cast in a different light as a result of these findings. Indeed, if aviation students know little about AABI and do not consider AABI accreditation when choosing which institution to attend, and aviation industry employers are unaware of AABI and don't prefer hiring graduates of AABI accredited programs, the demand for AABI accredited programs likely only springs from within academia. Although

this is not detrimental, it does raise additional questions regarding the real benefits of AABI accreditation. After all, if students don't care about it, and industry doesn't prefer it, why would non-AABI accredited programs feel the need to pursue AABI accreditation?

It is believed that students and industry benefit from specialized accreditation in collegiate aviation, whether they realize it or not. However, AABI must consider these findings as they endeavor to accredit more programs in the years to come. For if the benefits of AABI accreditation are called into question, it will make it difficult for AABI to maintain success in the specialized accreditation arena within collegiate aviation throughout the world.

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