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Recruiting on the Outside: Action-Oriented Research Solutions to External Student Recruitment in Collegiate Aviation Education

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RECRUITING ON THE OUTSIDE: ACTION-ORIENTED RESEARCH SOLUTIONS TO EXTERNAL STUDENT RECRUITMENT IN COLLEGIATE AVIATION EDUCATION

Brent Bowen, Larry Carstenson, Duane Boyle

The authors present a case on various methods of recruiting external students that can be applied to any academic program. An example case study is provided to compare the most efficient practices used by a particular university dealing with strategies of aviation collegiate recruitment. In this paper the authors use the action research method to explore the different types and strategies of collegiate recruitment and discuss the process which must be followed to make it successful. They establish that student recruitment must be an active and ongoing commitment of each aviation academic unit. Related literature is examined and reported to theoretical and applied frameworks. The supporting research tools of focus groups and delphi are implemented in a triangulation discovery process which provides substantive results. Correlation analysis (Pearson’s “r”) confirms the relationship of the variables. The results convey a system that maximizes student recruitment and concludes with a plan that can be generalized to most collegiate aviation programs. Discussion of results includes both a call for action and an introduction to a vital next step, retention.

RECRUITING ON THE OUTSIDE

Everywhere in the aviation industry today, college faculty and administrators are being told that the need for pilots, managers and other aviation specialists is increasing. According to the Collegiate Aviation News (Airline pilot hiring, 1998), the number of professional pilots hired in 1997 was higher than in any other year in the last decade. The need for additional professionals should be realized by an increase of enrollments on our aviation college campuses. Many believe that collegiate aviation education is now recovering from a declining enrollment trend. Forecasts by the Federal Aviation Administration (FAA) and the industry document renewed growth and demand for aviation employment. (Federal Aviation Administration, 1997). However, long-standing practice suggests that marketing (in this case, student recruitment) should not only be practiced in “the worst of times,” but should be accelerated “in the best of times.” According to Lenz (1980), it is a mistake to assume students will automatically show up for a course if a classroom and instructor are provided. There are too many opportunities available to them.

Collegiate aviation education provides one of the most challenging, yet rewarding, career fields in academia. Unfortunately, it appears in many circumstances to have been kept a secret by the colleges and universities that offer such programs. In fact, aviation institutions are sometimes overlooked by prospective students who were never informed of such schools. This is a direct result of collegiate aviation institutions being unable to spread the word nationally and the inability to recruit externally. The authors enforce the idea that it is time to promote collegiate aviation education and continue to increase our aviation majors. There is no question that the aviation industry is increasing in size (Federal Aviation Administration, 1997) which, by itself, should increase the need for aviation majors.

The next question should be, “Where are the leaders of tomorrow’s aviation force coming from?” And more importantly, “How do we attract and recruit the nation’s most prospective students to our institution?” The authors answer this question by explaining in a case study what has been done by one university.

New conventional wisdom has college training replacing the old minimum of a high school diploma for workers (Grove, 1992). That certainly is true in aviation. Today, getting a job with one of the major airlines is virtually impossible for a pilot without a four-year college degree. In recent years, several reports have indicated that more than 96% of
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successful job applicants hired by major airlines have a college degree.

Framing the Case for External Recruitment in Collegiate Aviation Education

The primary focus in increasing college enrollments is placed on external recruiting. External recruitment differs from internal recruitment in that it is completed across the world and competes against other aviation institutions. Internal recruitment competes against other, non-aviation, departments at the same collegiate institution.

The first step in recruiting external students should be to inform the targeted groups of our programs by answering the four basic questions- what it is, what it can do for them, for whom is it appropriate, and where it can be found (Snyder, 1971).

As with any realistic and achievable goal, a plan must be developed (Lay & Endo, 1987). The plan must be realistic and must be designed for use by the one who will actually implement it. Nothing is more useless than a very attractive, nicely prepared plan that is never used. That is why the authors of this paper have chosen the action research method for their suggested solution to aviation student recruitment. Next, the programs must be prioritized, and the budget and financial commitments made in the order of importance, remembering to include a certain degree of flexibility to anticipate unforeseen future changes. Lastly, the plan must receive widespread institutional support involving key administrators, faculty and student leaders, admission officers, alumni, and academic units. The plan proposed in this paper will: (a) develop goals and objectives, (b) design marketing strategies and programs, and (c) include a budget which allocates financial resources to various marketing programs.

**Why Study Student Recruitment?**

The purpose of this paper is to identify the need for additional aviation students; to explain how to reach the external target market; and to offer suggestions on how to attract that prospective student to become an aviation major at your institution. It is also the purpose of this paper to convince aviation educators that marketing is not an onerous and unworthy idea; marketing techniques need to be used to attract new aviation majors. Aviation faculties need to be persuaded that potential aviation students are potential clients, or “customers”. It is the purpose of this paper to dispel some of these archaic notions and to convince college aviation faculties that marketing will work for them.

Marketing alone cannot turn a poor program into a winner. However, a marginal program that has something of value to offer but has not yet found its audience can often be given just the extra push it needs through a sound marketing campaign (Lenz, 1980). “Successful marketing of continuing education involves, essentially, two things: (1) that marketing not be confused with selling—marketing is a philosophy, selling is an activity; and (2) that continuing educators keep their sights firmly fixed on the interests and concerns of the people they serve” (Lenz, 1980, p. 38).

“Successful marketing...rests on the ability of enrollment managers to develop a set of integrated, systematic marketing activities” (Hossler, Bean, & Associates, 1990, p. 100). In education institutions, “successful marketing is not an event or a specific activity. Rather, it is a process ensuring that an organization reaches its goals and objectives by exchanging its products, services, and knowledge for program registrations” (Simerly, 1989, p. 445). Hossler, Bean, and Associates (1990) say that key marketing strategies commonly used by marketing-oriented colleges have been organized into eight broad categories: publications, network marketing, direct mail, electronic media, telemarketing, marketing in the field, on-campus programming and activities, and pricing and aid strategies. Hossler says that the use of publications will depend on the target audience. For example, local newspapers may be effective in reaching potential non traditional adult students but may not be effective in reaching high ability traditional age residential students.

Network marketing uses high school counselors and teachers as well as alumni, parents and others. But here one must recognize that many studies show that high school counselors and teachers do not exert a strong influence on where most students attend college. “Targeted peer recruitment can be one of the most effective means of marketing. Its success can be attributed to the fact that current students are current consumers, are close in age to the prospective students, and usually “tell it like it is” when discussing the college. They are one of the best sources about a school. (Hossler et al, 1990).

Marketing strategies show the path for reaching the objectives. Strategies should include brief statements, not highly detailed, that highlight the route you will take to reach your marketing objectives and generate the most customers. Foundation of your strategies should include knowledge of the industry, customers, competition, your uniqueness, and the
Finally, rank, in order of most effectiveness, the strategies used. Tracking will allow you to assess the results of each method. Tracking will enable you to assess ways of advertising and recruiting efforts and see which effort is giving you the most success.

The marketing planning for a college must include a central administrator who is trained in marketing and given the necessary resources to accomplish his/her directive. This director of marketing should be responsible for providing marketing guidance and services to university officers, school deans, department chairmen, and other agents of the university. Too often, recruiting efforts are shared by numerous personnel with no one being able to accept full responsibility for failure or success. Indeed, input should come from a variety of directions or people, but final decisions should be accomplished by a director of marketing.

Recruitment is the result of all efforts and activities (both planned and unplanned) which together affect an individual’s personal decision to participate in a learning experience (Snyder, 1971). College recruiting publications include, but are not limited to: handbooks/view books, university catalogs, brochures/fact sheets, newsletters, scholarship materials, and are necessary tools for increasing enrollment numbers. When creating an external recruitment plan, consider the following:

1. Who are you trying to target? Are you targeting a certain gender or age group?
2. Where is their location in regards to the location of...
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3. What class of students are you trying to recruit?
4. What type of periodicals do they read?
5. How can they purchase your type of service?
6. What are their interests? Or what do they have in common?
7. What will motivate them to come to your institution instead of others?

Introduction of the Action Research Method

As social scientists, collegiate aviation educators should embrace scientific inquiry to resolve questions using applications of logical validity and empirical validation. This structured procedure is commonly defined as the research process (Frankfort-Nachmias & Nachmias, 1996). Numerous tools have emerged that may be applied through accepted principles of scientific inquiry. Most readily acceptable have been tools that provide quantitative data. However, qualitative research tools are rising to a new level of acceptance to address the complex issues facing us today. These complex, difficult issues lend example to the use of emerging alternative tools. An operational definition of action research could be defined as a research process which involves the researchers in the process of acquiring knowledge during an ongoing process in which they are involved. Action research emphasizes the solution of problems rather than the acquisition of scientific knowledge. There are no methodological differences between action research and other research methods (Borg, 1963). The action research process is summarized in Figure 1.

Figure 1. The Action Research Process

| Look          | - gather relevant information/data
|               | - describe the situation
| Think         | - explore and analyze
|               | - interpret and explain
| Act           | - plan
|               | - implement
|               | - evaluate

(Stringer, 1996, p. 16)

Framing Action Research for Student Recruitment

The research method termed “Action Research” has been in active use for decades and emerged primarily grounded in the field of education. First criticized as not adhering to the rigid procedures of the scientific method (Borg, 1963), a review of research literature indicates that action research has now come to the forefront of acceptance. An explanation of this is most likely attributed to the widespread use of qualitative research paradigm tools to solve new, complex, and difficult to quantify problems.

Quantitative research remains a very important research paradigm for hypothesis testing and explanatory knowledge, but is limited in its ability to respond to the many rapidly changing variables in this study. Qualitative research, however, is more interpretive in nature, but has limitations in the ability to measure specific relationships between variables. The ability of the action research model to provide an iterative process of action and feedback is well suited to the changes which occur in student recruitment. Action research is often utilized in applied research settings, and most commonly to explore an educational research issue. Often, administrators focus on problems or issues using research methods/tools in an action research framework. Action research is frequently carried out in a collaborative or team setting, but is well suited for individual use, as in the teacher-researcher or administrator-researcher model (McMillan, 1996).

“Action research is focused on immediate application, not on the development of theory or on general application. It has placed its emphasis on a problem here and now in a local setting. Its findings are to be evaluated in terms of local applicability, not universal validity” (Best, 1993, p. 24). This purpose can be applied to improving practice while combining research procedures, critical thinking, teamwork, and reason for study (Best, 1993). Approaching the crucial issue of student recruitment through an action research model provides a synergistic structure to study, evaluate, and initiate change to an ongoing complex problem.
Using action research as a conceptual model framework does not prohibit use of other research tools or procedures, such as triangulation to zero-in on the information needed. When actively engaged in an administrative process such as student recruitment, the evaluation of effectiveness of the process, return on budgetary investment, and maximization of human resource investment in the process are key points of ongoing action-oriented research. Perhaps these procedures are often considered a routine administrative task. Framing the process as an ongoing research endeavor will provide structure for continuous improvement. Although action research does not portend to have a generalization basis to other settings, it can provide an example of best practice which can be viewed as a case-like example.

**Action Research Applied to Aviation Student Recruitment**

The application of action research to the student recruitment process provides the methodological basis for approaching this vital and necessary endeavor. A 1993 report by Cornell University acknowledges that a “means to review on an ongoing basis the effectiveness of our recruitment efforts” is necessary (Briggs, et al., 1993, p. 18). The action research model is applied to the single case scenario of one aviation academic program that organized an ad hoc committee on student recruitment and retention (see Figure 2). This model was developed upon discovery of the crucial nature of the recruitment issue as identified through a focus group method. Focus groups generally consist of a small number of individuals brought together by a moderator as a discussion and resource group to focus on a limited topic. Focus groups can be used in qualitative studies to provide a rich source of cumulative and elaborative data in a flexible setting (Denzin & Lincoln, 1994).

The group in this study concurred that immediate action was warranted. The focus group used the action research model to effectively implement, monitor, modify, and evaluate progress toward a goal of modest program growth. Following the model provided by Stringer in Figure 1, focus group members were assigned elements of the action research process for each stage of the student recruitment process. While working independently, team members effect assigned tasks. Through regular meetings, traditional and on-line, a delphi approach consensus toward a comprehensive outcome is generally reached one task at a time.

**Action Research Model**

**Figure 2. Use of Stinger’s Model for Recruitment**

<table>
<thead>
<tr>
<th>Stinger’s Model</th>
<th>Recruitment Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Look</strong></td>
<td>Literature, campus/department resources</td>
</tr>
<tr>
<td>- Gather relevant info/data</td>
<td>- Define goals for recruitment</td>
</tr>
<tr>
<td>- Describe the situation</td>
<td></td>
</tr>
<tr>
<td><strong>Think</strong></td>
<td>Brainstorm recruitment problem</td>
</tr>
<tr>
<td>- Explore and analyze</td>
<td>Convene committee as focus group</td>
</tr>
<tr>
<td>- Interpret and explain</td>
<td></td>
</tr>
<tr>
<td><strong>Act</strong></td>
<td>Use Delphi approach to formulate a plan</td>
</tr>
<tr>
<td>- Plan</td>
<td></td>
</tr>
<tr>
<td>- Implement</td>
<td>Action oriented solutions</td>
</tr>
</tbody>
</table>

**Additional Research Tools Applied to the Action Research Model**

Data reported as information outcomes of the action research process were derived from the utilization of several research tools. These tools have been used to derive a triangulation-like approach to target the needed information outcome. Triangulation is used in qualitative research to determine if separate data sources and research tools lead to the same conclusions (Greenfield, 1996). Conceptually, this project can be viewed as a single case example, albeit not generalizable; however, it can provide an example of best practice that can be implemented by other programs.

Survey research was used to gather data from prospects inquiring about the aviation program. Expert opinion and observational research tools were used to make key decisions based on a five-year involvement in the process. A focus group and unstructured delphi approach were utilized to formulate a consensus on which elements of the program are most effective to target until further evidence emerges to mandate program change. The delphi technique is an iterative process of obtaining expert convergent opinions through the use of successive questionnaires and feedback. The experts do not meet face-to-face, thus allowing all persons to objectively defend their own positions. Each iteration seeks a refinement of the group opinions until a general consensus is reached. The delphi technique “is a rapid and efficient way to gain objective information from a group of experts” (Babbie, 1998, p. 364). Correlation analysis conducted on the focus
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Group and survey generated data will confirm the variable relationship.

Results

Table 1 outlines the results of the one case scenario of external recruiting, providing strategies selected for implementation and a perceived scale of effectiveness as derived from the focus group's delphi process. The findings compare the different types of marketing strategies that were utilized to produce the most inquiries over a two year period. The most successful strategies are listed in order of importance for future decisions on marketing techniques.

Table 1

Case Example's External Recruitment Plan

<table>
<thead>
<tr>
<th>Strategies Utilized</th>
<th>Scale of Effectiveness (5 being highest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Sites</td>
<td>5</td>
</tr>
<tr>
<td>Personal Referrals/Word of Mouth</td>
<td>5</td>
</tr>
<tr>
<td>National Aviation Magazine Ads</td>
<td>5</td>
</tr>
<tr>
<td>College Career Fairs</td>
<td>4</td>
</tr>
<tr>
<td>High Schools/High School Papers</td>
<td>4</td>
</tr>
<tr>
<td>Radio Ads</td>
<td>3</td>
</tr>
<tr>
<td>Phone Book</td>
<td>3</td>
</tr>
<tr>
<td>Career Information Guides</td>
<td>3</td>
</tr>
<tr>
<td>Air Shows</td>
<td>3</td>
</tr>
<tr>
<td>Aviation Organization Referrals</td>
<td>2</td>
</tr>
<tr>
<td>Newspaper Ads</td>
<td>2</td>
</tr>
<tr>
<td>Electronic Billboard Ads</td>
<td>1</td>
</tr>
</tbody>
</table>

Tracking sources of inquiry is fundamental to maximizing effectiveness. Each inquiry about the program is surveyed on key questions in order to categorize and follow-up. One key question asks for the marketing source of each inquiry. The results of these replies are outlined in Table 2.

Table 2

Sources of External Inquiries

<table>
<thead>
<tr>
<th>Strategies Used for External Marketing</th>
<th>Number of Inquiries 96-97</th>
<th>Percentage of Inquiries 96-97</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Aviation Magazine Ads</td>
<td>212</td>
<td>19.0%</td>
</tr>
<tr>
<td>College Career Fairs</td>
<td>196</td>
<td>17.6%</td>
</tr>
<tr>
<td>High Schools/High School Papers</td>
<td>153</td>
<td>13.7%</td>
</tr>
<tr>
<td>Internet Sites</td>
<td>130</td>
<td>11.7%</td>
</tr>
<tr>
<td>Career Information Guides</td>
<td>99</td>
<td>8.9%</td>
</tr>
<tr>
<td>Personal Referrals/Word of Mouth</td>
<td>82</td>
<td>7.4%</td>
</tr>
<tr>
<td>Air Shows</td>
<td>70</td>
<td>6.3%</td>
</tr>
<tr>
<td>Radio Ads</td>
<td>50</td>
<td>4.5%</td>
</tr>
<tr>
<td>Phone Book</td>
<td>45</td>
<td>4.0%</td>
</tr>
<tr>
<td>Aviation Organization Referrals</td>
<td>38</td>
<td>3.4%</td>
</tr>
<tr>
<td>Newspaper Ads</td>
<td>29</td>
<td>2.6%</td>
</tr>
<tr>
<td>Electronic Billboards</td>
<td>10</td>
<td>.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1114</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The national external recruitment that was completed in the case scenario, as seen in Table 2, was primarily completed in three ways—the internet, national aviation magazines, and through word-of-mouth. As the popularity of internet grows, so will the importance of it being an integrated part of every external recruitment plan. Advertising in national aviation magazines is the old faithful in reaching thousands of aviation enthusiasts. The process of finding new recruits by word-of-mouth will be the result of satisfied students and alumni passing along the reputation of the institution through family,
friends, and co-workers in the industry. In our single case scenario, the process of retaining current students will most likely result in enhanced recruitment. This assertion is documented by the fact that personal referral is one of the leading methods providing cited inquiry results.

The most effective means of acquiring external student inquiries in the case example were accomplished by advertising in national aviation magazines. Advertising for the case example was established in the following magazines: Flight Training, Private Pilot, Flying, and Aviation Week and Space Technology.

Correlation Analysis Data Sets

Pearson’s correlation analysis provides an index of the direction of the relationship between two sets of scores. Using the formula of:

\[ r = \frac{\sum (x - \bar{x})(y - \bar{y})}{(n - 1) s_1 s_2} \]

the value of the correlation analysis can range from plus one through zero to negative one. The analysis was composed on the numbers from Table 1, scale of effectiveness of inquiries and Table 2, number of external inquiries. The numbers were then calculated by Minitab to correlate the result of Pearson’s formula. As seen in Table 3, the result falls between .70-.90, which states that we have a marked degree of direct relationship with high correlation (Senter, 1969). The correlation coefficient represents a high, positive degree of relationship between the two variables, showing that the close connection in the correlation analysis is significant. Furthermore, the relationship of total inquiry numbers and the scale of effectiveness is nearly identical in ranking. As a result, the use of any significant correlation will provide better predictions, in this case for collegiate recruitment, than could be made without its use (Senter, 1969).

Table 3

Correlation of Scale and Number

<table>
<thead>
<tr>
<th>Rank</th>
<th>Scale of Effectiveness</th>
<th>Number of Inquiries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Sites</td>
<td>5</td>
<td>130</td>
</tr>
</tbody>
</table>

Correlation of Scale and Number = 0.776

Discussion

The authors have proposed a plan involving (a) the development of goals, (b) the design of marketing strategies, © the creation of a budget, (d) evaluation, and (e) feedback to repeat the process. The multi-step process of developing the plan of action, making contact with the students, and assessing the results of the process must be implemented for an effective continuous quality improvement system to result.

There is no doubt that a significant need exists for more students in our aviation colleges and universities. The aviation industry needs these aviation graduates and is now looking, more than ever before, to the aviation educational institutions of this country to satisfy that need. The authors of this paper have propounded that external recruitment is the area from which to attract the majority of new aviation students to the aviation colleges and universities. While we have propounded
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that external recruitment is important, we also stress that internal recruitment is equally important as is retention.

The authors have explored the various methods available to colleges offering aviation majors or degrees for the external recruitment of these additional students and they have determined which methods should work best for the small, medium, and large aviation programs in United States educational institutions. Whichever methods are chosen, accurate, consistent, on-time responses to inquiries will ensure that the prospective student is receiving and reading the most up-to-date information on the institution.

The authors strongly believe that retention is essential to the continued vitality of any aviation program. It is well known that the aviation career field is notorious for losing its majors. In fact, several aviation programs, including the university involved in the case study presented in this paper, have experienced an attrition rate often exceeding 75 percent. Four-year aviation colleges expend significant effort to attract students to their programs, yet as many as 75 of every 100 students leave the program and do not graduate with an aviation degree.

The authors have discussed the process for effective student recruitment. It is a direct result of a combination of paid and non-paid advertising, positive word-of-mouth, college fairs, along with a commitment to constantly improving public awareness. External recruiting methods should not be measured solely by cost; free marketing or advertising can be just as effective as paid advertising. The “flashy ad” or “slick brochure” approach commonly associated with commercial marketing is not the only way to snare that new aviation student. It is entirely professional and, in this modern academic world, necessary to the future of our aviation programs that colleges and universities must market, not sell, their aviation programs. The astute college administrator will realize that the minimal marketing strategy used in the past, where aviation programs merely designed their curriculum and waited for students to magically appear, is no longer effective.

It is now up to the faculty and administration of the aviation colleges to become educated in the concepts of marketing for student recruitment discussed in this paper; to utilize action research (which appears to be the most proper method to operationalize this key educational research issue); to select which methods work best for them in their individual situations; and to implement those methods to attract and retain aviation students presently and in the future. The collegiate aviation department or program must acquire a student recruitment marketing orientation if it is going to excel within the institution or its discipline. The department chair or program director holds the key role. The chair will have to create the marketing initiative of the department in the same manner other departmental initiatives are established. The chair must also realize that traditional methods may centralize the marketing efforts of an institution away from the department. It therefore becomes obvious that any successful academic department in general, and an aviation department in particular, must attempt to participate in the marketing efforts of the entire institution.

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