COMPETITIVE LEARNING: BEYOND PROJECT BASED CLASSES

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ABSTRACT

The popularity of experiential education courses on university campuses has been expanding for a number of years as educators attempt to meet the needs of students, accrediting institutions and employers. Students have many goals, including finding learning experiences that teach them about communication and leadership skills, while fulfilling their personal and career needs. Marketing classes that emphasize experiential learning through project-based competitions meet both the skill development goals and the career needs of the students, while providing employers with employees who have relevant skills for the workplace and who can be productive immediately. This article investigates how these competitive project-based classes help students develop professional skills and receive excellent career opportunities from top business organizations.

INTRODUCTION

The method of “learning by doing,” popularly known as experiential learning, has been gaining support on college campuses for a number of years. The impetus for this movement comes from many disparate groups, both on and off campus.

The need to attract and retain top students to universities is an important goal of all universities. Most university, college, and department strategic plans mention retention of students as one of the major goals that drive the activities of the faculty and administration. Corporate recruiters and executives complain that students are not prepared for the “real world” because of a lack of skills, including written and oral communication effectiveness. Whatever the reasons, all parties involved recognize these problems as a stimulus for change.

The current study is a pilot study designed to measure the impact of competitive project-based classes on students’ skill development and ability to enhance career choices. Competitive project-based classes refer to classes in which external competitions, such as SIFE (Students in Free Enterprise) and AAF/NSAC (American Advertising Federation National Student Advertising Competition), are sponsored by either business organizations and/or a combination of business organizations and academic associations.

An example of a competitive project-based learning experience is a program entitled the Program Alliance for Communication and Entrepreneurship (PACE) in the marketing department at a large university in the Southwest. PACE was created from a private foundation grant that funded the operations of two nationally acclaimed student competitions – SIFE and AAF/NSAC from 1999–2002. An important goal of PACE is to incorporate experiential learning into the classroom and develop skills that students and employers find desirable, creating a mutually beneficial situation for all parties. These two competitive project-based classes are similar to work-based learning in that there are specific team and individual projects which incorporate high standards and strict deadlines. Both student competitions in this study are judged by marketing and advertising professionals from many of the Fortune 200 companies. There are no tests, except acceptance by external judges of the quality of the final product or service presented in written and oral form.

Thus, the overall research question is does the competitive learning experience in the SIFE or AAF classes provide students with stronger skills than the typical project-based class? If this occurs, does the experience result in better interview skills, increased job opportunities, and stronger affiliation with the university? Finally, do students’ perceptions of the learning experience in SIFE and AAF vary based on gender? The results of this study will be the basis for a larger study to compare graduates who participated in SIFE or AAF with graduates who did not participate in SIFE or AAF.

BACKGROUND AND LITERATURE REVIEW

Because of changes in the marketplace and increasing student diversity, traditional approaches to preparing students for the workplace may be inappropriate for some areas of business (Kuehn 1995). Brook R. Envick (1999) discusses 18 skills and attributes, including written and oral communication and creativity in problem solving, as critical skills for today’s employees. Employers actually prefer that students have some type of hands-on experi-
Experiential Learning

Experiential learning in competitive project-based classes encourages more in-depth learning, motivates students, and strengthens their skills. The following are examples of competitive project-based learning opportunities in the collegiate environment.

The National Student Advertising Competition (NSAC) is the student competition for the American Advertising Federation (AAF), which is celebrating its 100 year anniversary in 2004. With the support of over 130 corporate members, including advertisers, agencies and media companies, NSAC is the premier student advertising competition in the world. There were 210 college chapters and advertising clubs involved. Each year a competition is held with the corporate sponsor providing an assignment or case study outlining the history of its product and current advertising situation which reflects a real-world situation. Then each student team prepares a plans book and makes a presentation to top industry executives in the advertising field. There are 15 regional competitions in the United States, with the winning team from each district and one wild card team advancing to the national competition. More than 150 colleges and universities take on the NSAC challenge, winning prize money and the opportunity to gain exposure to top advertisers and industry professionals (aaf.org/college/nsac_overview.html).

Another student competition is sponsored by Students in Free Enterprise (SIFE). Founded in 1975, SIFE is active in 1600 universities in 40 countries around the world. It is a non-profit education organization whose mission is to teach the principles and values of market economics and improve the quality of life and the standard of living for all. Each spring the teams compete in regional competitions around the globe, then approximately 150 teams advance to their respective national competitions. They match the content of their outreach projects and their presentation skills in a highly competitive environment to earn large cash awards (www.sife.org).

The American Marketing Association, one of the largest professional associations for marketers with 38,000 members worldwide, also holds student competitions. The 12,000 collegiate members compete each year for a number of awards for case competitions judged by industry professionals. They also vie for other honors including best ideas, best research and best plans (www.ama.org).

Another example of a student competition is held by The Public Relations Student Society of America (PRSSA), which was founded in 1968. Its purpose is to cultivate a favorable and mutually advantageous relationship between students and professional public relations practitioners. While there are many goals and objectives listed for PRSSA, a competitive component is present in their organization. For example, each year, chapters may compete for monetary awards if they excel in their performance objectives (www.prssa.org).

In other academic fields such as engineering, the Student Design Competition has been used successfully to teach engineering students the principles of design. A single problem is announced each year requiring teams of college students to design and construct a device to fulfill some particular task. Colleges from around the country send their teams to compete first in the regional competition, then in the national competition (Baumgartner 2001).

These examples all have a significant history of competitive awards based on performance by practicing the theoretical concepts learned in the classroom. A key component of this learning experience is the advisor’s role. The greater students’ involvement in the life of the college, especially its academic life, the greater their acquisition of knowledge and development of skills. This is particularly true with regard to student contact with faculty. That engagement, both inside and outside the classroom, appears to be especially important to student development (Tinto 1987). Student contact with faculty, especially outside class, in an independent predictor of learning gain and growth (Tinto 1987).

In addition to the key role the faculty advisor plays in the students’ learning experience, another factor is, of course, the competitive nature of the experience. For example, it has been shown that verbally presenting a situation to participants as a competition affected their performance (Buskist, Barry, Morgan, and Rossi 1984; Dougherty and Cherik 1994; Guerin 1994; Jensen and Moore 1977: Lindskold, Betz, and Walters 1986). In an effort to study student achievement in public schools, comparisons were made between cooperative and competitive learning environments. Cooperative learning environments were situations in which the teacher and students jointly planned the objectives, learning opportunities and evaluation procedures. The teacher assisted students with no competitive component, and no results were publicly posted. The competitive learning approach emphasized norm or referenced test results, publicly posted test results, and measured them against previous test results. Competition in comparing one student with the other brought out the “best” in individuals, whether it was students or teachers (Marlow 2000).
Skill Development

University graduates need both theoretical training and practical skills development to become market-ready professionals (Chen 1985; Peltier, Schibrowsky, and Kleimenhagen, 1997; Ruyter and Crask, 1994; Sterngold and Hurlbert, 1998; Tassi and Schneider, 1997). There are numerous examples of successful skill development in the educational arena. In one example, four universities participated in a project to learn to work in teams and trust others when working on projects (Turner 1996). However, oral and written communication skills still rank at the top of employers’ lists of desired attributes in students (Floyd and Gordon, 1998). This is consistent with earlier research naming communication and enthusiasm as top job skills (Gaedeke and Tootelian, 1983, 1989). Additionally, employers, especially those looking for business skills such as selling, often prefer employees who view themselves as competitive. Traditionally, males have been considered more competitive than females (Lasane, Howard, Czopp, Sweigard, Bennett, and Carvalaj, 1999; Walters, Stuhlmacher, and Meyer, 1998; Tassi and Schneider, 1997; Gill, Williams, Dowd, and Beaudoin, 1996). For example, in a study of task and ego orientation in sports, 6th grade boys and girls were scored in the high/low task and high/low ego categories in sports proficiency (Getty, 1997). Interestingly, through self-reporting, the high task/high ego males considered themselves to be more competitive than the high task/high ego females, even though both were considered very proficient at their respective tasks. Experiential learning can develop and refine skills desired by employers such as communication skills and competitiveness and play a vital role in enhancing the preparation and success of undergraduates in the entry-level job market (Hultman and Hills, 2001).

Career Opportunities

In an effort to better equip teachers of advertising to prepare entry-level students for the inevitable encounters with recruiters in advertising agencies, Deckinger, Brink, Katzenstein, and Primavera (1990) looked at the points of difference between the perspectives of teachers and employers. Agency people felt that students should be persuasive and “fit in.” The candidate also needs to be able to write and “have a sense of humor.” In terms of skill development, the authors found that employers want students with excellent written and oral communication skills and a broad, global view.

In an article entitled “Ad Executives Grade New Grads: The Final Exam that Counts,” Scott and Frontczak (1996) note industry executives considered the following when hiring new graduates:

1. A college degree is essential, with a major in marketing the top choice.
2. Written communications skills are at the top of the list of course specific general knowledge preferences. Employers continue to be dissatisfied with the lack of written and oral communication skills.

Recommendations to faculty include five major areas upon which to focus:

1. Stress good communication skills by integrating more public speaking and writing requirements into courses. This includes good spelling and grammar.
2. Require more general knowledge courses, such as art and music.
3. Expand the opportunities for students to get hands-on marketing experience.
4. Integrate real-world experiences into courses so students can apply theory.
5. Encourage critical thinking.

Note that the study’s recommendations for effective skills development state there is a need for experiential learning, giving students the opportunity to apply the theories they have studied. What can make this experience especially valuable is a competition-based project that develops an appropriate skill-set for students, attracts resources to the university, and provides career opportunities for the student body.

Additionally, the process of students interacting with top corporate professionals in their particular field of interest is a compelling attraction for all parties involved. It helps keep the professors’ knowledge of their field current, allows for top-level feedback to the students, and builds important relationships between the university, external organizations, and employers. As more competitive project-based learning experiences receive attention in the business world, such as SIFE and AAF, employers begin to cherry pick people and universities who have certain skills (MacDonald, 2001).

METHODOLOGY

A questionnaire was developed based on a combined 30-year history of experience between the two advisors of SIFE and AAF. The questionnaire was pre-tested among a sample of current SIFE and AAF students and then mailed to 300 graduates who participated in either SIFE (Students in Free Enterprise) or AAF (American Advertising Federation) student competitions at a large university in the southwest United States from fall 1996 to spring 2002. Mailing addresses were obtained from the university registrar and/or from the faculty advisors themselves. Follow-up emails were sent to encourage responses. A postage-paid, return envelope was provided to encourage subjects to return the questionnaire in a timely manner. The questionnaire contained a mixture of the following types of questions: yes-no, Likert and other 5-point scales, listing, opened-ended, and demographic. The questions were intended to explore answers to the following areas:
competitive nature of students who participated in SIFE or AAF competitions; subjects’ perceptions of skills developed in project-based classes, compared to those developed in the SIFE and AAF class; the impact of SIFE or AAF on obtaining their first job after graduation; and any lasting affiliation with the university as a result of participating in SIFE or AAF. A total of 61 questionnaires were returned, resulting in a twenty percent response rate. Forty-four females and seventeen males responded to questionnaire. The data were analyzed using percentages and two-tailed T-tests, which is a type of ANOVA.

Competitive Nature of Student, Advisor, and Course

Using a 5-point scale, subjects were asked if they considered themselves to be “very competitive” to “not competitive at all.” Three additional questions, with end points of very important to very unimportant, asked subjects (1) how important the competitive nature of SIFE and AAF was in their decision to participate in the class, (2) how important the advisor was in their decision to participate, and (3) how important the previous successes of SIFE and AAF were in their decision to participate.

Comparison with Other Project-Based Courses Relative to Skill Development

Subjects were asked to compare their experience in SIFE or AAF to other project-based classes with respect to the development of six skills: oral communication, written, presentation, group dynamics, leadership, and specific knowledge in the field. Choices were “learned much more; learned about the same; or learned much less.” Subjects were also asked to list the top three personal skills they gained from participation in SIFE or AAF, as well as the top three job-related skills they learned.

Job Interviews and First Job

Subjects were also asked, using 5-point scales (e.g., very helpful to not helpful at all), how helpful their participation in SIFE or AAF was in setting them apart in job interviews and in securing their first job and any subsequent jobs after graduation. Demographic information such as gender, age, year of graduation, major, and current company and job title was also collected.

Overall Perception of the Class Experience and Resulting University Affiliation

An open-ended question asked subjects what factors made them decide to participate in SIFE or AAF, and a 5-point scale question sought to determine the overall positive or negative experience that subjects had of the SIFE or AAF class. This was followed by a Likert question (strongly agree to strongly disagree) which sought to determine if students’ involvement in SIFE or AAF made them feel more emotionally connected (e.g., affiliated) to the university.

Director or Officer

To help determine if students who were in a leadership position in the SIFE or AAF competition class, continued in leadership positions in their jobs, subjects were asked if they were an officer or director in SIFE or AAF, and if yes, what position? This information was crossed with their current business position/title.

RESULTS

Overall, ninety-eight percent of the respondents considered their experience in the SIFE or AAF competition to be positive or very positive and eighty percent felt that their experience in SIFE or AAF made them feel more emotionally connected to the university. Results in Table 1 show how SIFE and AAF students answered the questions and Table 2 shows how males and females answered the questions. Of the 300 questionnaires that were mailed out, 200 (66%) were mailed to SIFE students and 100 (33%) were mailed to AAF students; 44 percent were sent to males and 56 percent were sent to females. An almost equal percent of SIFE students (19%) and AAF students (23%) responded to the questionnaire, but only 13 percent of males returned the questionnaire compared to 26 percent for females. While an overall response rate of 21 percent is good, it is interesting that more females returned the questionnaire than males. A possible explanation may be that females traditionally are better at communication skills which might include taking the time to fill out and return a questionnaire.

Eighty-five percent of respondents considered themselves to be competitive or very competitive and males perceived themselves to be significantly more competitive (p = .03) than did females. Sixty-five percent of respondents felt that the competitive nature of SIFE or AAF was important or very important to their decision to participate. There was also a significant difference between SIFE and AAF students (p = .04) when asked how important the competitive nature of the course was to their decision to participate, with AAF students feeling it was more important. Ninety-two percent of respondents felt that the advisor’s reputation was important or very important in their decision to take the class.

When asked how SIFE or AAF compared to other project-based classes, respondents felt that they “learned much more” relative to oral communication skills (80%), presentation skills (82%), group dynamics (90%), leadership skills (82%), and specific knowledge in their field (70%). T-tests revealed a significant difference (p = .001) between SIFE and AAF students relative to specific knowledge in the field, with AAF students feeling they
### TABLE 1
SIFE/AAF COMPARISONS

<table>
<thead>
<tr>
<th>Variable</th>
<th>SIFE (n = 38)</th>
<th>AAF (n = 23)</th>
<th>t-value</th>
<th>P-value</th>
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<tbody>
<tr>
<td>Mean (Standard Dev.)</td>
<td>Mean (Standard Dev.)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Consider Self Competitive</td>
<td>1.66 (0.75)</td>
<td>1.48 (0.73)</td>
<td>0.91</td>
<td>0.36</td>
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<td>Competitive Nature of Course</td>
<td>2.32 (0.96)</td>
<td>1.78 (1.04)</td>
<td>2.03</td>
<td>0.04*</td>
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<td>Adviser’s Reputation</td>
<td>1.66 (0.78)</td>
<td>1.61 (0.66)</td>
<td>0.25</td>
<td>0.80</td>
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<tr>
<td>Previous Successes</td>
<td>2.18 (1.06)</td>
<td>1.83 (0.94)</td>
<td>1.33</td>
<td>0.18</td>
</tr>
<tr>
<td>Positive Experience</td>
<td>1.21 (0.41)</td>
<td>1.22 (0.52)</td>
<td>-0.05</td>
<td>0.95</td>
</tr>
<tr>
<td>Emotional Connection/Univer.</td>
<td>1.82 (0.95)</td>
<td>1.86 (0.78)</td>
<td>0.55</td>
<td>0.57</td>
</tr>
<tr>
<td>Better Student</td>
<td>1.89 (0.73)</td>
<td>2.22 (0.95)</td>
<td>-1.49</td>
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</tr>
<tr>
<td>Skill Development:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>1.16 (0.37)</td>
<td>1.3 (0.56)</td>
<td>-1.23</td>
<td>0.22</td>
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<tr>
<td>Written</td>
<td>1.72 (0.51)</td>
<td>1.35 (0.57)</td>
<td>2.61</td>
<td>0.01*</td>
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<td>Presentation</td>
<td>1.21 (0.41)</td>
<td>1.13 (0.34)</td>
<td>0.77</td>
<td>0.43</td>
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<tr>
<td>Group Dynamics</td>
<td>1.14 (0.35)</td>
<td>1.00 (0.00)</td>
<td>1.86</td>
<td>0.06</td>
</tr>
<tr>
<td>Leadership</td>
<td>1.22 (0.42)</td>
<td>1.09 (0.29)</td>
<td>1.30</td>
<td>0.19</td>
</tr>
<tr>
<td>Specific Knowledge</td>
<td>1.50 (0.60)</td>
<td>1.04 (0.21)</td>
<td>3.49</td>
<td>0.00*</td>
</tr>
<tr>
<td>Helpful in Setting Apart</td>
<td>1.95 (0.93)</td>
<td>1.77 (0.92)</td>
<td>0.70</td>
<td>0.48</td>
</tr>
<tr>
<td>Helpful in Securing Job</td>
<td>2.55 (1.45)</td>
<td>2.41 (1.62)</td>
<td>0.62</td>
<td>0.53</td>
</tr>
<tr>
<td>Helpful in Changing Jobs</td>
<td>3.64 (1.55)</td>
<td>4.00 (1.49)</td>
<td>0.62</td>
<td>0.53</td>
</tr>
</tbody>
</table>

*Significant at .05 level

### TABLE 2
MALE/FEMALE COMPARISONS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Males (n = 17)</th>
<th>Females (n = 44)</th>
<th>t-value</th>
<th>P-value</th>
</tr>
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<tr>
<td>Mean (Standard Dev.)</td>
<td>Mean (Standard Dev.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider Self Competitive</td>
<td>1.25 (0.58)</td>
<td>1.68 (0.74)</td>
<td>-2.10</td>
<td>0.03*</td>
</tr>
<tr>
<td>Competitive Nature of Course</td>
<td>1.81 (0.91)</td>
<td>2.20 (1.05)</td>
<td>-1.32</td>
<td>0.10</td>
</tr>
<tr>
<td>Adviser’s Reputation</td>
<td>1.75 (0.77)</td>
<td>1.61 (0.72)</td>
<td>0.63</td>
<td>0.52</td>
</tr>
<tr>
<td>Previous Successes</td>
<td>2.19 (1.05)</td>
<td>2.02 (1.02)</td>
<td>0.54</td>
<td>0.58</td>
</tr>
<tr>
<td>Positive Experience</td>
<td>1.19 (0.40)</td>
<td>1.23 (0.48)</td>
<td>-0.29</td>
<td>0.76</td>
</tr>
<tr>
<td>Emotional Connection/Univer.</td>
<td>1.94 (0.93)</td>
<td>1.72 (0.88)</td>
<td>0.82</td>
<td>0.41</td>
</tr>
<tr>
<td>Better Student</td>
<td>2.00 (0.89)</td>
<td>2.02 (0.82)</td>
<td>0.09</td>
<td>0.92</td>
</tr>
<tr>
<td>Skill Development:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>1.19 (0.40)</td>
<td>1.23 (0.48)</td>
<td>-0.29</td>
<td>0.76</td>
</tr>
<tr>
<td>Written</td>
<td>1.53 (0.52)</td>
<td>1.58 (0.59)</td>
<td>-0.28</td>
<td>0.78</td>
</tr>
<tr>
<td>Presentation</td>
<td>1.13 (0.34)</td>
<td>1.20 (0.41)</td>
<td>-0.69</td>
<td>0.49</td>
</tr>
<tr>
<td>Group Dynamics</td>
<td>1.20 (0.41)</td>
<td>1.05 (0.21)</td>
<td>1.88</td>
<td>0.06</td>
</tr>
<tr>
<td>Leadership</td>
<td>1.33 (0.49)</td>
<td>1.11 (0.32)</td>
<td>1.99</td>
<td>0.05*</td>
</tr>
<tr>
<td>Specific Knowledge</td>
<td>1.31 (0.60)</td>
<td>1.32 (0.52)</td>
<td>-0.03</td>
<td>0.97</td>
</tr>
<tr>
<td>Helpful in Setting Apart</td>
<td>2.27 (1.03)</td>
<td>1.77 (0.86)</td>
<td>1.82</td>
<td>0.07</td>
</tr>
<tr>
<td>Helpful in Securing Job</td>
<td>2.80 (1.42)</td>
<td>2.41 (1.52)</td>
<td>0.86</td>
<td>0.39</td>
</tr>
<tr>
<td>Helpful in Changing Jobs</td>
<td>3.86 (1.68)</td>
<td>3.74 (1.53)</td>
<td>0.17</td>
<td>0.86</td>
</tr>
</tbody>
</table>

* Significant at .05 level
learned much more specific knowledge compared to other project-based classes. AAF students also felt that they learned significantly more (p = .01) about written communication skills compared to other project-based classes than did SIFE students. Females felt that they learned significantly more about leadership skills (p = .05) than did males.

It is reassuring to discover that ninety-seven percent of those responding are gainfully employed in marketing or advertising related jobs. Respondents felt strongly that the skills they learned in SIFE and AAF set them apart in job interviews (72% helpful or very helpful) and helped them secure their first job (52% helpful or very helpful). When asked how their participation in SIFE or AAF helped with their job interviews, the top three answers were experience, specific skills, and involvement in the competition. The top three job-related skills that students felt they learned from their experience in SIFE or AAF were (1) teamwork, (2) presentation skills, and (3) leadership skills. Interestingly, females were more likely to list presentation skills first and males were more likely to list teamwork first.

DISCUSSION

It is clear that students who participated in these two competitions have very positive opinions about the competitions and the effects of SIFE and AAF on the development of job-related skills.

Students in the present study considered themselves to be competitive and felt strongly that they learned much more in competitive project-based classes like SIFE and AAF than they did in project-based classes that are not competitive in nature. Intuitively, one might expect less difference in competitiveness based on gender in today’s college students. Such was not the case in this study at least from a self-report basis. Males in the current study considered themselves more competitive than females which is consistent with previous findings from Getty (1997). Males, through the socialization process, are often taught to be competitive in sports and view themselves as more competitive than females, even when females are just as competitive.

Today’s college students sometimes seem overly focused on “getting a job.” Students felt strongly that these two competitions helped them develop job-related skills, such as oral communication, presentation skills, group dynamics (e.g., teamwork), leadership skills, and specific knowledge in their field that are desired by employers today. It is reassuring to discover that females feel they are learning more about leadership skills since that has been an area in business where males have traditionally been strong and females have been weaker. Another interesting finding based on gender was that females were more likely to list presentation skills first when asked to list the top three job-related skills that they learned as a result of their experience in SIFE or AAF, whereas males were more likely to list teamwork. This, too, may be due to the socialization process in which males are taught that teamwork is good (e.g., sports and the military) and females are taught that presentation skills (e.g., clearly explaining ideas and interpersonal skills) are good. However, it is reassuring to find congruence between skills employers are looking for (e.g., written and oral communication), skills that are part of the competitive project-based classes, and skills that students say they learned in SIFE and AAF. Likewise, it is good to know that students feel the skills learned in SIFE and AAF set them apart in interviews and helped them to secure their first job.

Because the AAF competition is knowledge specific (e.g., research, media, creative, and promotions), it is not surprising that former AAF students felt that they learned more specific knowledge compared to other project-based classes. All students in the AAF course are responsible for writing and re-writing sections of the final plans books whereas only select students in SIFE write the final plans books. Therefore, it would be expected that AAF students might feel they learned more writing skills in the AAF course than did SIFE students when compared to other project-based classes. It is also not unusual that the adviser’s reputation was an important factor in respondents’ decision to take the class. Advisers are often the key to successful long-term competitions such as SIFE and AAF due to the continuity they bring to the process.

Perhaps most important from the university/college/department standpoint is that almost eighty percent of respondents felt that their involvement in SIFE or AAF made them feel more emotionally connected to the university. This is important because it can build lifelong connections (e.g., donations of time or money) between students who believe they received a quality education and the university community. Equally important are the networking possibilities between students and students, students and faculty, and students and the university that result in win-win relationships.

Finally, it is clear that students in competitive project-based classes such as SIFE and AAF believe that they receive the fundamental job skills that are demanded by employers. If employers also believe this, then strong networking opportunities exist between employers and the university community whereby employers think of a particular university first when they need qualified entry-level employees and/or when they want to donate to higher education.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The study is not without limitations. Generalizability is limited since the study was conducted only with former students who participated in SIFE and AAF competitive
project-based classes and did not include students in other types of courses. The six-year period, sample size of 300 and response of twenty percent were somewhat small, particularly given the uneven response rate from males and females. Ironically, the fact that more females responded to the questionnaire may indicate that females, in general, are more prone to communicate, at least in written form, than are males. Finally, there may have been a bias among respondents to return or not return the questionnaire since the cover letter identified the two advisers who were seeking responses.

Future research should study a broad spectrum of former students; for example, those who have taken competitive project-based classes versus those who have not. Another area of interest would be to compare job titles and job performance of students from competitive project-based classes to job titles and job performance of graduates who have not participated in a competitive project-based class such as SIFE or AAF. This can be accomplished by asking former students their job titles over a longer time period (e.g., 5, 10, and 15 years). Observation over a longer time period would also be valuable in determining if students are able to make a connection between skills they learned in school (e.g., either competitive or non-competitive classes) and success in their careers. Employers should be surveyed to determine their perceptions of the job performance and skills of SIFE/AAF hires compared to other student hires. Finally, a more in depth examination of differences between male and female students regarding competitiveness and the ways in which they communicate (e.g., written vs. oral) would be of interest since these are all skills desired by employers. These types of research would provide valuable feedback to the university and faculty as they prepare students for entry-level positions.

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