AN ARTS & SCIENCE DEGREE: DEFINING ITS VALUE IN THE WORKPLACE

CERI Research Brief 5-2013

Andy Chan
Vice President for Personal and Career Development
Wake Forest University
Phil Gardner, Ph.D.
Director of the Collegiate Employment Research Institute
Michigan State University

Introduction and Purpose

Why do another study on the Arts and Sciences (A&S) students (often referred to as liberal arts students) when the media, politicians, and many labor market pundits have been constantly devaluing their worth? When the value of education is under close scrutiny and parents are pushing their sons and daughters toward academic majors that lead to jobs that pay well, why do a study to aid their decision making when so many minds are apparently already made up? Much of the indecision among the A&S is hampered by the traditional mindset of faculty and administrators who slow or delay moving A&S degree programs toward more relevancy in today's economy. But the indecision may only be symptomatic of a larger problem. A&S students do bring value to the work place, and A&S degree-holders can be successful in finding meaningful, rewarding, and remunerative careers. The problem stems from poor preparation for the workplace, a lack of career focus, and a package of skills that the students can demonstrate and articulate to employers seeking the best talent irrespective of academic degree.

This paper supports a broader initiative led by Wake Forest University to (1) converse and rethink what success means for A&S students so that they can confidently enter the workplace; (2) encourage [OK?] employers to recall the attributes and skills they most desire in entry-level college graduates beyond just their academic focus; and (3) identify college-based career development programs and initiatives that can lead to success.

In our research, we sought input from a group of employers who actively seek A&S students for their talent pool. Through their input we have drawn a profile of successful A&S students who are either engaged in the recruiting process or who have started their careers. We also captured obstacles that employers believe A&S students face in the recruiting process. This information can be used to build initiatives and instill in all A&S students the capacity to engage in a meaningful career after graduation.

Method

We constructed a short survey for employers around four key questions about A&S students: (1) What positions are they assigned for their first position? (2) What work attitudes and behaviors do they bring to the workplace? (3) How well prepared are A&S students compared to non-A&S students on a selected set of skills and competencies? (4) Are A&S students ready for the recruitment process? The scales were drawn from recently released national reports (see Hotzeman and Kraft, 2011; AAC&U, 2007, 2008, and 2010; The Conference Board, 2006; and Brumm, Hanneman, and Mickelson, 2006) or research studies currently underway at CERI (see Gardner, 1999; Hanneman and Gardner, 2010; Michigan State University, 2005; and Boise State University, 2013).

We invited employer representatives who participated in CERI's *Recruiting Trends*, *2011-2012* to complete the survey if they have recruited or are actively recruiting A&S students as part of their talent acquisition. About 4,000 received email solicitations (about 60% were estimated to have recruited A&S students) to participate. Wake Forest University and several of the institutions attending the Rethinking Success (for the Arts & Sciences) Conference also sent invitations to their employers. Employers received only one invitation; no reminder probes were sent. We used this approach to capture a convenience sample of employers around these issues.

Profile of Responding Organizations

Approximately 815 employer representatives (most involved in college recruiting or human resource roles within their organizations) responded to our survey invitation. The responses came from the following organizations: for-profit (66%); small, with fewer than 500 employees (66%), and professional and scientific services (20%). These organizations were seeking talent from a variety of disciplines: Humanities (46%), Social Sciences (56%), Physical Sciences (60%), Biological Sciences (31%), and Communication and Media Studies (57%).

The following profile highlights the respondent characteristics used in comparisons at various points throughout the paper.

Table 1. Characteristics of Organizations Responding to the Rethinking Career Success in the Arts & Sciences Survey	
Organizational Size	
9 or fewer employees	11%
10 to 100 employees	32%
101 to 500 employees	23%
501 to 4,000 employees	18%
4,001 and more employees	16%
Type of Organization	
For-profit company or corporation	66%
Non-profit organization	17%
Government agency or office	9%
Educational institution	6%
Health service provider	2%
Economic Sector (Top 8 based on NAIC code)	
Professional & Scientific Services	20%
Manufacturing	12%
Financial & Insurance Services	10%
Other Sectors[a]	10%
Educational Services	10%
Non-profit Organizations	10%
Government	7%
Information Services	6%
A&S Composition of Organization's Workforce	
1% to 25% of workforce	35%
26% to 55% of workforce	32%
56% to 100% of workforce	33%
Note: a. Other sectors are comprised of Agriculture, Mining & Oil, Utilities, Construction, Transportation, and Wholesale	

What Assignments Are New A&S Hires Given in an Organization?

Unlike engineers and accountants, arts and sciences graduates seldom transition to positions defined specifically by their academic major. Positions designated for A&S students may not require the specific disciplinary content that often accompanies positions for non-A&S graduates (engineering, business, nursing, architecture, etc.); they may allow for less direct work experience; or they may require people skills or soft skills commonly associated with A&S students. Little aggregate data exists that captures the types of positions A&S students are typically slotted into upon joining an organization. Respondents were given 27 position categories commonly recognized throughout the workplace. For example, the customer services category includes customer support specialist, customer relations, and bilingual customer services positions. Respondents were asked to check the categories to which they assigned A&S graduates.

Respondents selected all 27 categories. Some categories yielded only a small number of responses: security and public safety (4%) and insurance (4%). Ten percent or more of the respondents selected fifteen sectors (see table 2).

Table 2. Assignments Generally Designated for New A&S Graduates	
Administrative Services	41%
Customer Services	34%
Business Services	28%
Marketing	26%
Media & Communication	25%
Information Management	24%
Human Resources	20%
Computer Services	20%
Design Services	19%
Sales	19%
Internet Services	18%
Marketing Research	16%
Financial Services	14%
Consulting Services	11%
Management Training Program	11%
Purchasing & Inventory	10%
Volunteer Management	10%

Some readers scanning this list may surmise that the top three categories are uninspiring roles and question if a college degree is required for these jobs and careers. However, this conclusion may be inaccurate. As several employers elaborated, many of these positions require individuals who can quickly grasp the organization as a whole; pull together diverse information and make it meaningful to upper management or clients; quickly solve problems; and interact effectively with diverse colleagues and functional units. These positions offer someone who does not have much work experience an opportunity to gain experience quickly and identify areas where they can add value to the organization as well as embark on a meaningful career. For many A&S graduates these positions are stepping stones and accelerators into an organization and a career. Those who are not in positions that offer these opportunities or cannot personally leverage the connections made possible through these positions may travel a more difficult and uncertain path toward career direction and growth.

An important conclusion from these data is that one does not have to have a business degree to enter positions often assumed the domain of business departments. Employers actively recruit A&S students for marketing, sales, and human resource positions, as well as finance and purchasing/inventory (supply chain) functions. Some social science programs offer a concentration in human resources, building on faculty expertise in industrial organization (IO) psychology, sociology, and social anthropology, for example, that facilitates transition into the workplace. Marketing and sales positions require personnel with excellent interpersonal skills, an understanding of cultural diversity, and the capacity to work in teams — all are attributes commonly associated with A&S students.

A&S students with technical aptitude (which could have been learned in class and/or extracurricular activities, internships, or personal interest) appear to have a number of opportunities from computer support services to design services to Internet services.

One common denominator that runs through many of these positions is a foundation in information management. Tasks could include basic functions like data entry; however, most employers are looking for people who can analyze data, process information, prepare and distribute information, and lead research initiatives. Employers expect A&S students to be quantitatively competent in the sense that they can handle basic to advanced statistics and utilize them appropriately depending on the context of the problem. While few organizations use the statistical packages employed by faculty (SAS and SPSS, for example), most employers expect new graduates to be proficient in a spreadsheet program such as Excel as well as a data management program such as Access.

Our comparison of positions across organizational size found that the top six positions were similar for all categories: administrative services, customer services, business services, marketing and media and communications. While one-third of organizations with 501 or more employees slotted A&S graduates into administrative service positions, nearly 50% of organizations with 500 or fewer employees offered these positions. Information management positions were selected by 25% of organizations in each category; the exception occurred in fast-growth organizations (10 to 100 employees) where the percentage slipped below 20%. Several subtle yet unique findings emerged:

- Design services (media and graphic, for example) and Internet services (design, development, e-commerce, for example) were more likely to be found in organizations with fewer than 500 employees.
- Media and communication services (journalism, PR, event planning, broadcasting, for example) were more likely to be found in organizations with 500 or fewer employees.
- Financial service positions were more likely to be found in organizations with 501 or more employees.
- Human resources positions were more likely to be found in organizations with more than 101 employees. Small organizations probably do not have dedicated human resource functions.
- Entrepreneurial positions were concentrated in very small organizations while management training positions were concentrated in large organizations.
- Marketing research and volunteer management positions were more likely to be found in organizations with 100 or fewer employees.

The composition of the organization's workforce frames the assignment of A&S graduates. Organizations with 55% or more (High Composition) of their workforce drawn from A&S disciplines tend to have A&S graduates filling a wide range of functions, as one would reasonably expect. Organizations with less than 25% (Low Composition) of their workforce drawn from A&S disciplines tend to concentrate these students in more generalist positions. For example, they are less likely to use A&S in finance and purchasing positions, and nearly all the positions requiring computer and technical skills (though these functions still make the top 10 position list as shown below). Interestingly, Low Composition organizations still assign A&S students to marketing and sales positions in comparable numbers to organizations with more A&S students in their organization. Table 3 shows the top ten positions by composition category with percentage figures for comparison.

Table 3. Common Positions Filled by A&S Graduates by Composition of the Workforce					
Low Composition (25% or less A&S)	%	Medium Composition (26% - 54% A&S)	%	High Composition (55% or more A&S)	%
Administrative Services	38	Administrative Services	45	Administrative Services	43
Customer Services	28	Customer Services	38	Customer Services	37
Business Services	27	Marketing	30	Media & Communication	32
Marketing	24	Business Services	29	Marketing	30
Human Resources	20	Media & Communication	28	Information Management	30
Media & Communication	18	Information Management	25	Business Services	29
Information Management	18	Sales	25	Design Services	28
Sales	16	Human Resources	23	Computer Services	25
Computer Services	15	Computer Services	23	Internet Services	24
Design Services	14	Internet Services	20	Marketing Research	21

Work Attitudes & Behaviors

Young adults matriculating into the workplace for the first time have historically drawn criticism from managers and CEOs who frequently see little in these new professionals that resemble their own attitudes and behaviors about work. Much of this angst is unfounded: young professionals soon learn the ropes (expectations and strategies to engage work) and become productive members of their organizations. Yet, young adults do at times shift certain normative aspects of the workplace. With regard to attitudes (how young adults feel about and approach work) and behaviors (how young adults get their work done), their importance may vary among organizations, as well as how organizations perceive young adults demonstrate certain attitudes and behaviors.

We asked respondents a two-part question to tap into employer perceptions of A&S students work attitudes and behaviors. The first part asked employers to rate the level of importance these attitudes and behaviors contribute to early career success in their organizations. From research and media coverage, we knew that all 17 specific attitudes and behaviors were considered important. We did not anticipate much separation in the level of importance assigned by the rating choices offered (high, moderate, and low). (A forced comparison may have led to wider separations among these variables). The second part asked the respondent to draw upon their observations of A&S students through their recruiting activities and of new A&S professionals in their organizations. We asked them to rate the extent to which A&S students demonstrate these behaviors and attitudes in the workplace. The rating scale ranged from 1 (great extent) to 5 (hardly at all). All the attitudes and behaviors were framed positively; that is, the A&S student "holds realistic expectations" rather than "holds unrealistic expectations." Observers may want to note this wording when comparing to other reports on young adult work attitudes.

All 17 attitudes and behaviors were rated moderately to highly important with 11 attitudes and behaviors clustered at the highly important end and the remaining six closer to the midpoint between moderately important and highly important. Table 4 lists the attitudes and behaviors from highest to lowest.

Work Attitude or Behavior	Importance to Organization (mean)	Extent Demonstrate: Great & Considerable (%)	Extent Demonstrate: Moderate (%)	Extent Demonstrate: Some & Hardly at all (%)	Extent (mean)
Table 4. Work Attitudes and Behaviors: Importance to Organization and Degree Demonstrated by A&S Graduates.					
Demonstrates a strong work ethic	High (1.07)	60	23	17	2.31
Takes responsibility/ accountability for work & behavior	High (1.14)	65	25	10	2.21
Completes assignments & other commitments punctually	High (1.15)	72	22	6	2.09
Cooperates with co-workers in respectful, sincere manner	High (1.17)	83	15	2	1.80
Functions effectively in an ever changing environment	High (1.22)	63	26	11	2.28
Works with limited direction	High (1.26)	47	35	18	2.61
Approaches challenges using a systematic approach	Moderate to High (1.30)	51	35	14	2.46
Displays sound judgment & controls expression of emotions in work situations	Moderate to High (1.34)	59	30	11	2.36
Presents oneself professionally through appropriate language & appearance	Moderate to High (1.36)	62	27	11	2.29
Demonstrates ability to function in a complex environment	Moderate to High (1.37)	47	35	18	2.57
Conveys passion for work and career	Moderate (1.45)	58	31	11	2.30
Demonstrates interest that leads to inquiry	Moderate (1.55)	58	31	11	2.34
Minimizes disruptions from social media sources or other distraction	Moderate (1.56)	38	27	35	2.93
Holds realistic expectations for the workplace	Moderate (1.58)	41	29	30	2.81
Envisions creative ways to approach work & to advance their work or organization	Moderate (1.59)	49	33	18	2.56
Embraces challenges that embrace risk	Moderate (1.62)	45	36	19	2.64
Accurately aware of one's skills and competencies	Moderate (1.64)	42	36	22	2.74

Table 4 also presents the ratings of the extent to which A&S students demonstrate these attitudes and behaviors. In general A&S students are demonstrating positive work attitudes and behaviors from a moderate to considerable extent. For four of the top attitudes and behaviors the students were rated the highest. However, for work ethic (the top in importance) students and recent graduates are only rated as demonstrating this behavior to a moderate extent. Nearly 20% of employers expressed their perception that A&S students demonstrated little or no work ethic.

As one scans down the list, the ratings of the extent to which the attitudes or behaviors are demonstrated in the workplace tend to move toward moderate as the level of importance declines toward moderately important. One area where A&S students appear to struggle (probably no differently than non-A&S students) involves minimizing disruptions from social media sources or other distractions in the workplace. Taken in a broader context, distraction from social media devices seems to be an issue, not just for new or less-experienced employees, but all workers, including managers. Holding realistic expectations for the workplace, being accurately aware of one's skills and competencies, being innovative and creative, managing complexity, and engaging in work with minimal supervision are five additional areas where it appears A&S students can stumble.

Work attitudes and behavioral issues are not confined solely to A&S students. Employer perceptions captured in more general surveys where academic major is not specified communicate similar themes. Students from professional majors in business, computer science, and engineering are similarly criticized.

We compared responses across organizational characteristics and found few significant rating differences among importance of these work attitudes and behaviors within the organizations. The same five items were listed at the top across all the size categories. Only two attitudes and behaviors were rated significantly different: curiosity and self-direction were more important for organizations with fewer than 100 employees compared to larger organizations. Comparisons of the composition of the organization's workforce only produced four significant rating differences; in each case organizations with the highest composition of A&S employees rated curiosity, self-awareness, creativity, and cooperation higher in importance.

The type of organization triggered a number of significant differences in how the work attitudes and behaviors were rated by level of importance. Several findings are notable:

- Government agencies rated self-direction lower than for-profit and non-profits.

- Health Services rated adaptability considerably higher than all other groups.

- Education and non-profits rated self-awareness higher than government and for-profits.

- Non-profits rated creativity higher than for-profits and government.

- Government and education rated maturity higher than for-profits.

- Non-profits and health services rated passion higher than government and for-profits.

- Health services and education rated cooperation higher than for-profits.

When we compared the extent to which A&S students demonstrate these attitudes and behaviors, we found no differences based on organizational size. Only one significant difference was found on workforce composition: organizations with more than 25% of their workforce drawn from A&S disciplines indicated that their A&S students demonstrated more passion for their work and career than organizations with less than 25% of A&S employees.

A Skill & Competency Comparison: A&S and non-A&S Graduates

Several recent reports have dealt with how well college graduates are prepared to enter the workforce (Hanneman and Gardner, and AAC&U). Most of these reports reveal an existing skills gap or one beginning to widen due to the changes within organizations as they realign work assignments and widen their use of technology. Rather than repeat those studies, we asked respondents to compare the preparedness of A&S students to non-Arts & Science students (from engineering, business, computer science, and other pre-professional programs). A&S students could be scored better or much better than non-A&S students, or non-A&S students could be rated better to much better prepared than A&S students. Respondents could also use the option to score preparedness about the same between the two groups. This exercise simply compared the students' preparedness with each other. The scores did not capture whether the students were prepared to the level that employers expect. We parcel out from these ratings where A&S students may have advantages over non-A&S students. A&S career offices may consider how to properly leverage these ratings, communicate with potential employers, and advise students to effectively articulate during the recruiting process.

Based simply on the distribution of the responses, these respondents indicated that A&S performed better than non-A&S students in communication, diversity, and innovation (see table 5). Non-A&S students performed better in information management, analyzing, evaluating and interpreting data, planning a project, and utilizing software.

Table 5. Comparison between A&S students and non-A&S students on Skills and Competencies			
Skills and Competencies	**A&S Students Better or Much Better Prepared (%)**	**A&S and non-A&S Students Prepared the Same (%)**	**Non-A&S Students Better or Much Better Prepared (%)**
Communicate effectively through writing	65	32	3
Communicate effectively orally	60	35	5
Work in a diverse environment	42	53	5
Create original ideas and innovations	40	52	8
Use persuasion and justification in order to provide direction for the organization	36	57	7
Think critically	34	46	20
Engage in continuous lifelong learning	34	59	7
Understand impact of organization's practices in a global (economic, societal environmental) setting	33	58	9
Navigate boundaries (collaborate with others inside and outside the organization)	33	61	5
Build & sustain working professional relationships	32	61	7
Acquire knowledge	31	58	11
Develop further professional competencies quickly	30	54	16
Embrace change	30	64	6
Contribute to a team	29	67	3
Take the initiative	26	64	10
Manage and synthesize different sources of information	26	60	14
Solve problems	23	57	20
Demonstrate mastery of their academic discipline	21	57	22
Balance work and life	21	73	6
Analyze, evaluate, and interpret data and information	20	43	37
Plan and manage a project	18	61	22
Utilize computer software and related technologies	17	53	29
Manage time and priorities	16	69	15
Perform with integrity	14	85	1

Comparisons by organizational size revealed no significant differences. Both workforce composition and type of organization, however, produced several significant differences: 21 competencies were statistically different from comparisons by workforce composition; and 16 competencies were statistically different from comparisons by the type of organization. In general the mean scores clustered around the midpoint of the scale (3 = prepared about the same). Individual ratings favored the A&S students in most cases.

Among workforce composition groups, High Composition organizations tended to score A&S students better prepared across all skills than the other two groups. At the other end, Low Composition organizations felt the two groups of students were prepared about the same on some competencies or leaned toward non-A&S students as being better prepared.

- A&S students were better prepared among Low Composition organizations for oral communication (mean = 2.27) and written communication (mean = 2.32).

- A&S students were best prepared among organizations in which the students represented 26% to 55% of the workforce for oral communication (mean = 2.26), written communication (mean = 2.15), and working in diverse environments (mean = 2.53).

- A&S students were best prepared among High Composition organizations for oral communication (mean = 2.49), written communication (mean = 2.24), innovation (mean = 2.45), acquiring knowledge, navigating boundaries, and lifelong learning (all means = 2.52).

- Non-A&S students were better prepared among Low Composition organizations for planning and managing a project (mean = 3.29), software utilization (mean = 3.35), analyzing, evaluating, and interpreting information (mean = 3.38), solving problems (mean = 3.18), and mastery of major (mean = 3.32).

- Non-A&S students were better prepared among organizations in which the students represented 26% to 55% of the workforce for analyzing, evaluating, and interpreting data (mean = 3.18) and software utilization (mean = 3.13).

- Non-A&S students were prepared the same or slightly better among **High Composition** organizations for analyzing, evaluating, and interpreting data (mean = 3.00).

Across institutional type, for-profit organizations' ratings clustered around the midpoint or slightly favored non-A&S students. The largest shift toward non-A&S students included analyzing, evaluating, and interpreting data and planning and managing a project. Government agencies' scores tilted toward A&S students except for planning and managing a project. Health services, education, and, especially, non-profits tended to rate A&S students better prepared than the non-A&S students they recruited.

A&S Students and the Job Search

Our final set of questions probed employers' perceptions on how well prepared A&S students are for the job search process. In other words, even though A&S students may possess skills valued by organizations recruiting them, could A&S students relate their personal story in such a manner as to convey that they understood how they could contribute to the organization? Did A&S students acquire appropriate pre-professional experiences through internships, paid employment, or other vehicles appropriate for their academic major to meet employer expectations? To answer these questions, we gave employers eight statements on different aspects of the recruiting process that could possibly trigger a red flag and derail a candidate from consideration for an open position. They were asked to indicate how frequently the A&S students they encountered in the recruiting process met their expectations on each of these possible triggers (1 = Always meets expectations to 5 = Never meets expectations).

In general A&S students *occasionally meet* employers' expectations on six of the eight statements. Where A&S students appear to consistently meet expectations is in the package of well-rounded skills that attract an employer's attention and in the positive image students projected during the interview. The number of students that *usually* to *always* meet expectations shrinks as one proceeds down the list found in table 6.

A&S students begin to stumble when describing their skills and competencies, demonstrating preparedness for the recruiting process, and substantiating the "technical" skills valued by the organization. The trouble lies in these three areas:

- expressing clearly their career interests (an idea of where they want to go);

- having appropriate (and sufficient) pre-professional experiences (understand the context of the workplace); and

- expressing realistic expectations for their first job.

Table 6. Employer Expectations During the Recruiting Process				
	Mean	Usually to Always Meets Expectations (%)	Occasionally Meets Expectations (%)	Rarely to Never Meets Expectations (%)
Projecting a positive image in the interview	2.15	80	19	1
Possessing well-rounded skills that are valuable to our organization	2.29	69	26	5
Describing confidently their skills and experiences	2.42	59	34	7
Being prepared for the recruiting process	2.59	50	37	13
Possessing technical skills that our organization values	2.59	50	37	13
Expressing clearly their career interests	2.64	46	40	14
Having appropriate pre-professional experiences	2.67	44	42	14
Expressing realistic expectations for first job	2.83	38	41	21

Comparisons of organizational size revealed no significant differences, but composition of the workforce and type of organization did. The latter characteristic is further examined by looking at scores across the economic sector.

Organizations that drew 56% or more of their workforce from A&S graduates generally viewed the eight statements more favorably. On the other hand, organizations with 25% or less A&S students in their workforce reported that A&S students were not likely to meet their expectations (rarely to occasionally). For six of the eight statements the differences in ratings were significant: projecting a positive image and prepared for the recruiting process had very similar ratings. Two statements stand out with respect to the magnitude of the F statistic and significance level. First, organizations sharply differed on *having appropriate experiences in the workplace*: organizations with less than 25% reported a mean of 2.90 compared to 2.64 for 26% to 55%, and 2.43 for more than 56% ($F=22.503$. $p=.000$). Second, organizations with less than 25% felt students were less likely to meet expectations on *possessing well-rounded skills* (mean = 2.46) than the other two groups (2.25 for 26% to 55% and 2.16 for more than 56%) ($F = 11.532$, $p = .000$).

Type of organization produced more striking differences; non-profits and educational organizations viewed A&S students more favorably compared to for-profit companies and government agencies. Table 7 presents the means for each type of organization.

Table 7. Comparison of Organizational Type and A&S Student Preparedness						
	Non-profits	Educational	Health Services	Government Agencies and Offices	For-Profits	ANOVA Statistics
Projecting a positive image in the interview	2.02	2.12	2.07	2.16	2.18	
Possessing well-rounded skills that are valuable to our organization	2.06	2.21	2.20	2.25	2.37	F= 5.127 p = .000
Describing confidently their skills and experiences	2.24	2.35	2.13	2.44	2.48	F= 3.174 p = 0.13
Being prepared for the recruiting process	2.40	2.48	2.60	2.52	2.66	F= 2.938 p =.020
Possessing technical skills that our organization values	2.34	2.31	2.40	2.44	2.70	F= 6.589 p = .000
Expressing clearly their career interests	2.43	2.30	2.40	2.66	2.73	F= 5.846 p = .000
Having appropriate pre-professional experiences	2.33	2.36	2.40	2.49	2.81	F= 3.223 p = .000
Expressing realistic expectations for first job	2.55	2.64	2.93	2.97	2.89	F= 4.666 p = .001

We found few significant differences in the comparison among economic sectors. Manufacturing indicated that A&S students were less likely to meet their expectations. For example, the rating for pre-professional experiences differed noticeably (F= 6.847, p=.000) with manufacturing score of 3.09 (occasionally) compared to a non-profit score of 2.19 and an education score of 2.40. Findings were similar for possessing well-rounded skills and expressing career interests. These findings should not be unexpected. Most manufacturing companies recruit technical students from engineering and computer science, as well as various business disciplines. Their recruiters expect candidates to have a defined career path (even if the time frame is short) and possess specific skills of immediate value to their organizations. Thus, the bar appears to be set higher at manufacturing companies for A&S candidates.

One interesting comparison concerned candidates' expectations for their first job. Health services organizations, not manufacturing, felt that candidates tended to hold rather unrealistic expectations for their first job, reporting a mean of 3.11. This sector receives attention as a growth sector for employment, and young adults are crowding into academic majors that will lend to these positions; however, they appear to have a false set of expectations about the workplace environment for health services and their early roles in this field.

How can colleges and universities increase the value of A&S students or better prepare them to be successfully recruited into your organization and achieve success?

In an open-ended question, we asked respondents to suggest how to enhance the value of A&S students for the workplace. Respondents offered nearly 425 suggestions. These suggestions were grouped according to eleven themes. The most frequently mentioned strategies to increase A&S value included gaining relevant work or pre-professional experience, curriculum adjustments, and ensuring development in non-disciplinary-based skills (team work, leadership, initiative) and appropriate work behaviors (patience, persistence, accountability). The following key categories were extracted from the suggestions and listed from most to least frequently mentioned. Some categories may overlap, such as curriculum and analytical/technology or professionalism and entitlement.

Pre-professional experience (18%)

Simply, these representatives from business, non-profits, education, and government strongly believe that all A&S students should be required, if not strongly encouraged, to gain as much pre-professional experience as possible. The most common experience identified was the internship. Yet, they recognize that other pre-professional experiences exist and provide the necessary practice in and familiarity with the real world: . A sampling of their comments follows:

- *"Emphasize and promote the need for aspiring professionals to comprehend that the classroom is not the real world and that although text-book and course work is important, it's a foundation for gaining real-time work experience."*

- *"As an A&S graduate, I always wished during my undergraduate studies that more emphasis was placed on preparing us for the workforce."*

- *"Require more out of classroom experiences, especially internships."*

- *"I suggest aggressive early career interventions (career planning from freshman year) coupled with internships."*

- *"Three months (minimum) or more of practical experience in an internship."*

- *"Arts and Sciences tend to be all over the place. It is so competitive today that kids who don't do internships and get experience prior to graduating will not be selected for jobs."*

Curriculum (16%)

A&S students need a hook or leverage to gain access to the jobs they desire. Some respondents challenged traditional liberal arts curriculum by suggesting that students shift to business, engineering, technology, or sciences if they want to be employable. Fortunately these observations were few. However, most respondents recognized the need to link A&S students with basic knowledge of business (by far the most called for action), engineering, or technology. Respondents pondered why all liberal arts students could not gain a basic understanding of business principles as part of their education. To be employable, in other words, A&S students have to have a hook — a technical acumen — in business, engineering, technology, or information management (see below). Of all the suggestions made in this section, the curriculum suggestions do challenge prevailing institutional practices and could present the biggest obstacles for implementation. Some thoughts shared by respondents follow:

- *"Enhance the inter-disciplinary approach that creates a curious, creative, and articulate individual who will stretch organizations."*

- *"Allow liberal arts students to gain an understanding of business and or engineering."*

- *"Rigorous economics and computer programming."*

- *"Great appreciation for business principles and more realistic approaches to problem solving. Art students fail to see how their art IS the business, and they just scoff at what we do because it isn't their thing. Yet, business is business, and they do not appreciate the fact that there is a bottom line."*

- *"Learn how to INTEGRATE all their learning to solve problems."*

Skills and Competencies (13%)

Even though the results of this study have shown that one advantage of the A&S degree is the students' ability to demonstrate "transferable or soft" skills, respondents were concerned that many A&S students did not possess these skills or were poorly prepared and suggested that institutions needed to diligently pursue efforts to enhance skill development. Another angle to this issue is the students' inability to express their skills meaningfully or connect them to activities in the work place. Too often, the students are very superficial in their articulation of their abilities. Several comments highlight employer suggestions:

- *"Prepare students to describe their education and leadership experiences in terms of preparation for the business world. When I interview leaders from clubs or Greek organizations, I expect them to discuss how they were elected, why, and how these experiences taught them about time management, leadership, and critical thinking. Too often I hear more about the popularity behind the work as opposed to the skills they developed."*

- *"Being able to figure out answers themselves is important."*

- *"Help students recognize their skills they developed in their studies that are transferable and appreciated; encourage them to take leadership positions and roles that provide real world experiences (pre-professional club) that can leverage transferable skills."*

Mindset (10%)

This group of suggestions focuses on the mindset of A&S students (also present in several other categories). Specifically, the respondents were concerned about the students' lack of career direction and unfocused (if not hazy) view of the world of work. Unlike engineers and accountants, A&S students do not hold a mindset that makes the linkage from college to work a primary concern until it is absolutely necessary. This is a huge problem for A&S students presenting themselves to prospective employers. The solution would require A&S students to be aligned from the outset of their college experience with career planning and eventual exit into the workplace (graduate school only delays the transition for so long). The challenge, however, may be deeper in that these students come into college with a total lack of insight or connection to work. In fact, for some their college experience further affirms this mindset. Opinions vary widely here as these comments reflect:

- *"One difference I tend to note for more general liberal arts students is that they tend to have less of a career goal in mind than, for example, an engineering student. As a result, I often see graduates going into fields completely unrelated to their degree, as they fall into the trap of needing experience to get a job they want but have to settle for getting experience."*

- *"The biggest thing a college grad needs to understand is that their education provides them with a foundation but not everything. Context plays a huge role in the implementation of scholastic principles. The theories studied in college may or may not be applicable in some real-world situations."*

- *"A&S students are not even aware of what's out there, even beyond graduate school, in terms of the thousand of different positions, job titles, career paths."*

- *"My director accompanied me to a career fair recently where he asked a student about the classes he took, why he took these classes, and what did he expect to do with the knowledge he gained in his classes. The student said, "Make money." The director continued to probe the student with questions about his career plans. The student was taken aback by the questions; clearly, the student was not prepared to be "interrogated" at the career fair. Even if the student wasn't there to interview, he should be prepared to discuss his education and career plans. This is a common occurrence."*

- *"I find students graduating come out clueless as to how the work world works. They want their hand held during projects and they do not know how to plan a project and execute."*

- *"I am looking for them to be able to explain how their major can translate into an effective communicator in business and someone who can evaluate nuances in communication and audience needs and communicate more effectively as a result. This lack of translation of their educational background into tangible skills that can be applied in the working world is where I see the most liberal arts educated students struggle."*

- *"We don't know what they bring to the table."*

Communication (8%)

While communication is the star asset of A&S students, employers still expressed concern about the level of communication abilities for all A&S students. If communication is a perceived strength, the cachet it brings to these students cannot be undermined through lack of attention or the opportunity will be wasted. These comments suggest we need to continue to improve students' communication skills:

- *"Verbal and written communication is poor. Students today communicate via digital means. They have difficulty having conversations orally and written. They live in a world of short messages, not even conversations. It is hard for them to grasp and explain complicated subjects."*

- *"They often can write great papers in an academic style, not in "quick bullets" needed in business. I had a great teacher at Wake Forest that made us write out criticisms of film in one page or less and taught me more about writing succinctly than many of my favorite professors."*

- *"It is essential A&S students develop a higher level of competency in writing grammatically correct materials and learning to speak well. Unfortunately, many candidates, even from top universities and colleges, do not have this ability."*

Professionalism (Expectations) (8%)

The gulf between campus and the workplace is enormous. Students have a poor understanding of what is expected of them on the other side. What is a professional? What are appropriate expectations for this stage in one's career? How do you handle yourself in different situations? In other words, how a student socializes into the workplace upon entry depends in some respects on their understanding of the roles they will be playing as a professional. Taking time early in college to present students with the concept of professionalism and allowing them to develop professional attitudes, behaviors, and expectations through their co-curricular activities are clearly what respondents desired:

- *"Increase students understanding of entry level roles, expectations, opportunities, and realities of the work environment."*

- *"Prepare students better for the REALITIES of the work force."*

- *"Be prepared to speak about how their experience and education relates to the work that the employer does, and specifically how they can use their knowledge, skills, and abilities to contribute to the success of the enterprise, team, and community."*

- *"Focus on preparing students for their first job in terms of what to expect, how to talk to the boss about where the company is going, for example, how to deal with discrimination, how to deal with the change in lifestyle, and being confident. These are more important that job search skills."*

Job Search (8%)

This group of comments raised frustration and concerns; nearly every college or university career center spends an enormous amount of time working with students in workshops or one-on-one with resume preparation, interview practice, and all the other aspects of the job search process. These comments suggest a number of students fail to take advantage of their campus resources to prepare for job searches, career fairs, or interviews. The result is far from positive. Improvement in this area will likely receive a lot of attention — that is what the career center is for, is it not? However, these efforts will likely result in only marginal changes. Big gains in job search preparation will only come if the mindset and curriculum issues discussed above are addressed concurrently. A sampling of comments from respondents follows:

- *"Students often need to do more research on the organization before applying/interviews (they should know what the organization does, what the jobs are all about, etc.). Also, students should be able to highlight their specific skills, experiences, and interests, even if they are not directly relevant to our organization."*

- *"About 90 out of 100 resumes we get are poorly written. Sometimes we are lucky enough to get a cover letter that is more than 2 sentences in an email. Students need to clean up their Facebook pages and post a professional profile on LinkedIn. Colleges need to spend more time helping kids with the basics."*

- *"They should be coached on proper behavior for interviews, clothing suitable for the job, respect – standing up when the interviewer comes in, eye contact, etc."*

Critical Thinking (6%)

Respondents acknowledged that A&S are critical thinkers (for the most part) but have a difficult time thinking critically outside the academic environment. This issue coincides with the pre-professional practice where critical thinking may be extended to different situations, tested against other norms, and ambiguities can be dealt with before a job is on the line. The following comments underscore another A&S asset in need of constant improvement (or else we risk complacency by believing "we are doing that"):

- *"Liberal arts education teaches individuals to critically think about problems and solve them without the parameters and measurements that a typical business does."*

- *"A&S students are good thinkers, but they don't adapt to the work environment well."*

- *"Teach them to think critically and without preconceived ideas; teach them to accept critical evaluations from a perspective of learning; provide a variety of perspectives. Allow them to have assignments that a requirement to succeed or fail, and to face failure with an attitude of getting back up and trying again."*

Analytical & Technology (6%)

The bottom line is simple — A&S students need more practice in data analytics. The level of expertise runs from simple data collection and collation to advanced statistical methods. More and more attention is being paid to analytical abilities in the workplace. Information management is often required for the positions assigned to new A&S graduates. Unfortunately a student has few places to hide from the quantitative components in their job. Respondents suggested areas for improvement:

- *"With so much focus on data-driven decision making, business, and technical skills liberal arts students would benefit from more analytical acumen and familiarity with technology."*

- *"Better data collection and analysis skills."*

Specific Skills (5%)

Employers need students to know that Microsoft Office is a standard software package in their organizations. Students need to be proficient in Word, Excel, PowerPoint, Access and Outlook. Employers made it clear that Excel or similar software was their analytical program of choice. SPSS and Qualtrics, for example, are used in few organizations (at the entry level). Familiarity with only these tools will limit appeal to a large number of employers who do not use them. Students also need to be proficient in the software related to their job. For example, proficiency with Dreamweaver or WordPress is required for work on web page design and content. One respondent suggested:

- *"A&S students should take some pre-professional curriculum in "office" tools they would not likely be as familiar with like Excel or PowerPoint. Excel should be focused on analyzing data not just using basic Excel functionality — I have never had an intern or new hire I DIDN'T want to analyze data and I have never had one that was prepared enough for the task."*

Entitlement (Attitude) (4%)

Probably no single aspect of today's youth riles employers more than their sense of entitlement. Some employers are totally honest and know that the root of entitlement rests at home and in the culture (entitlement is not restricted to youth, by the way). But employers would like colleges and universities to do something about it. These comments suggest how detrimental entitlement can be when students try to make the transition to the workplace:

- *"Biggest challenge is that students expect us to cater to them — give them immediate fabulous, engaging assignments despite having no experience. Immediate gratification is high. Would help a great deal if students learned the difference between assertive, aggressive as well as when to sit back, absorb, listen and learn."*

- *"That they know they are not entitled to anything."*

- *Many A&S students come into the work place with high self-esteem, diverse interests, and an awareness of how things are connected throughout the world but when they enter the workforce at an entry level they feel above the work. If they are over prepared for the work, I expect them to excel at it and take the work place to another level. Unfortunately, I see a pattern of underperformance at the entry level jobs. They behave as if they are waiting for a job worth their time."*

- *"All students (not just A&S) need to instill greater personal accountability for accuracy and completion of work assignments. Most new hires seem to believe the team will take up the slack. Most new hires seem to be of a mindset that tries to determine what the minimum passing grade will be rather than showing devotion and striving from excellence."*

- *"College degree may open doors but does not guarantee anything. Many students come in with a false sense of what to succeed and expect that everyone should get a trophy for showing up."*

Other Suggestions

The final group of suggestions had more to do with the structure and mindset of higher education institutions than directly with the students. Several respondents stressed that students needed to make better use of career services and that career services should be better integrated into the student's life from the first year. Career services did have a few detractors who felt that career services spends too much time on the mechanics of how to get a job and not enough on how to do a job. In other words, tension arises between those who argue for more job search preparation and those who want more attention paid to professionalism and workplace socialization. Actually a solution (or solutions) does exist. For example, sophomores can be encouraged to take a "What is a professional?" seminar that covers all aspects of being a professional (expectations, skills and competencies, behaviors) and learn the skills required of a professional (resume, cover letter, interview). Sophomores will need this background in their pursuit of internships or other pre-professional practice opportunities. The tools will not have to be retaught later, allowing career services to do other things that employers, administrators, and even students think important.

The real criticism is directed toward institutions and faculty who fail to keep pace with the changing world outside of the academy, except if it pertains to their research. Failure to keep abreast of change places students at a disadvantage. The present economic recession generated many problems for successful transition from the education institution to the workplace. But the recession also unmasked how far behind some institutions or segments of institutions were in knowing the importance of internships and pre-professional practice, the range of skills and competencies required for jobs, and the level of preparedness necessary to transition successfully. These comments should come as no surprise:

- *"The business world is changing faster than colleges can keep up. From freshman year to senior the business world has changed considerably and many colleges are a few years behind in a student's freshman year. Colleges to us only show the student has the ability to learn. Most of the actual work knowledge is done by us. It seems the professors are not keeping up with the changes in the business world."*

- *"More courses taught by individuals who are or have been active members of the non-academic workforce."*

- *"Stop assuming a college's job is simply to educate and instill a love of learning. YES, that is part of it, but not all. You need to get academic institutions aligned around the notion, in order to change the system, that their mission is a holistic and integrated approach to education and organizational readiness."*

What do you think will happen if colleges and universities fail to address the value proposition to the viability of the arts and sciences education?

We were surprised by the passionate responses to this open-ended question. Some respondents felt that this question was the best one in the survey. Emotions played out in some form: a number of contributors emphasized that they received a degree in A&S and felt committed to the survival of these majors. More respondents appeared to approach this question positively, assuming the higher education institutions will respond and increase the value proposition of the liberal arts.

Not everyone is so sure. While it is hard to categorize some responses, one segment clearly felt that A&S is in decline and probably cannot recover from this latest economic downturn when choice of major is combined with the issues of college costs and return on investment. The respondent wrote: *"I believe more and more students will have to do a cost/benefit analysis of the costs of a degree versus the salary of jobs within the first 5 years of graduation."* These calculations will not be favorable for some degree programs, resulting in the elimination of programs that do not meet the test. Other factors squeezing the liberal arts are reflected in the following responses:

- *"Better options in high schools and improved, responsive community colleges will replace some four year liberal arts schools."*

- *"A&S education will suffer as long as pop culture is allowed to dominate media and a consumptive economy. Political leadership that equates profit with success of life fails the test to grow and preserve the quality of life."*

- *"I believe that the liberal arts education that currently exists will not be valuable in the future. The world has changed so much over the past three decades and I see the liberal arts very much stuck on tradition and old mantra of teaching students how to think. Thinking is just not enough. I am looking for problem solving and enough depth in a complex discipline that some model of*

mastery is there to draw upon and further develop. From my point of view, there is just not enough complexity in many typical liberal arts disciplines."

- *"Economic pressures have and will continue to cause many people to choose strictly scientific and business educations despite the option of an A&S degree simply because of the immediate need to fill a job."*

And then there are those who are just fed up with non-progressive institutions and recalcitrant faculty. It will be extremely difficult to sway them to believe A&S has merit. One response is compelling:

- *"I think it is an antiquated degree. We recruit in 25 countries around the world. Those that stand out have a very strong understanding and interest in technology. The closer you can prepare kids for the real world jobs, the better they are. A general degree is just that, "general." Have kids get a technical certificate in school. Get their Project Management Professional certification. Prepare kids for real world jobs, not just theoretical textbook teaching that they never use. Too many professors are out of touch with how the real world operates because they have been in academia too long. We hear repeatedly how bad professors are these days and just pass kids through with As because it makes them look better to keep tenure."*

Another group had strong positive feelings for A&S programs but recognize the economic reality that not all these programs can survive, especially at public institutions where state budget adjustments over the past decade have severely cut support for higher education. Some campuses have or will have to make choices, none of them pleasant. (Read any recent issue of *The Chronicle of Higher Education*.) A sampling of comments follows:

- *Arts and Sciences encompasses so many disciplines that all cannot survive. I think some will loss popularity while other increase in popularity. Adjustments will have to be made.*

- *I believe the sciences, like chemistry, biology, and physics, etc, will always have a demand within the economy. The social sciences, such as psychology and economics, will have demand in the government and healthcare industries. These will remain viable and as the economic situation improves will have greater value and viability. Other arts and sciences, such as music, history, English, languages, and philosophy as examples, will be stagnant and have limited viability or growth outside of academia.*

More respondents expressed a degree of confidence in the future of the Arts and Sciences but qualified their confidence with a very big "if." The "if" required institutions to respond by making their A&S programs more relevant to the workplace and incorporating some, if not all, of the suggestions listed above. A sampling of comments follows:

- *An A&S degree should indicate a high degree of reading comprehension and the ability to effectively communicate verbally and through the written word. Combined with the capacity to critically think across a wide variety of subjects, this should make for a strong base to build a career. If the standards are kept high, the A&S education should continue to be valuable to organizations in the future.*

- *Arts and Sciences students, in my opinion, have the most to offer. They are creative, inquisitive, and value learning for the sake of learning. When they first graduate, they are not highly specialized or pigeon-holed into one career path, and have skill sets that can be applied to a number of different tasks and responsibilities. By providing more internships, shaping*

appropriate professional expectations and behaviors, and adding more career preparation (be able to tell their story), an A&S education would truly be invaluable.

- *Having work experiences throughout the academic semester demonstrates commitment/dedication, good time management skills, and strong work ethic. Students who have actually worked are much better prepared for the modern work world which requires the ability to meet short deadlines.*

- *The liberal arts areas (humanities, sociology, history, etc.) could be more relevant by developing more interdisciplinary classes and activities at the upper division level that stress their contributions to current problems or issues.*

- *I think the Liberal Arts vs. non-Liberal Arts and the associated popularity may not really be the right focus. Industry (at least what I've seen) doesn't pay much attention to this — it's not an important part of our decision making process. We want candidates who will do well in the job, and we've had them come from many different places. You need to keep what you teach relevant to the real world and make sure your graduates are both academically and mentally prepared to really transition from and academic environment to a day to day career. I can tell you anecdotally that, although we are in a period of high unemployment, we have entry level positions that we are unable to fill. Many of my colleagues at other companies have the same problem, so it seems as though something is out of synch.*

- *It's at an inflection point. Some schools (such as Columbia University) have mastered how to get people an undergraduate degree in A&S, but get them great problem solving skills, internships, etc., and they are really the total package. That said, I have never met an A&S grad from that school (in a professional context) who doesn't know at least one programming language and have a solid stats background … including English majors … everyone needs these skills now and I think most schools are doing a lousy job in comparison. If schools can up their game in these areas, an A&S degree will become more valuable in the future as innovation and creative thinking are becoming more and more necessary. However, if they don't give their grads the ability to compete successfully they will be left in the dust by the engineering/business types who understand how to get things done.*

Finally, a solid number of these employer representatives believe in the future of the liberal arts. Their reasons varied. One perspective was that the stampede to business degrees and a lesser shift to engineering and technology will have a backlash. A global company representative commented that soon in the U.S. a business degree would not be enough to distinguish a graduate from the horde of business graduates from institutions around the world. As the global business talent pool expands, employers can cheaply pick up talent with basically the same academic preparation (with some international grads having a stronger work ethic and deeper analytical skills than U.S. business majors). What will separate the U.S. business students of the future is a strong grounding in the liberal arts or liberal arts students having a strong grounding in business. As one respondent stated:

- *I think it is invaluable to learn more than business as an undergraduate. I think we will swing heavy to business degrees being required for a few more years and then we'll start to realize a well rounded student in math, science, art, music, writing, etc, will make for a stronger employee. Didn't Steve Jobs say his best college class was calligraphy.*

Another respondent was more pragmatic, suggesting that many young people are not suited to the rigors of engineering and the sciences. Many high school students will continue to have trouble meeting educational standards and need the liberal arts to progress through college. As one respondent wrote:

- *I think arts and sciences will continue to be offered in part to attempt to make up for what did not happen in kids' high school curriculum. However, in the arts and sciences area, it's less the education and more the personality of the student that will result in success. Some kids are more talented in math, science and technical areas and the need for this will grow as will the pay for those able to compete in this area.*

Finally, some respondents are strong believers in the Arts and Sciences and expressed confidence that these programs will prosper. A sampling of comments follows:

- *A broad education in the arts and sciences was always valued providing a well-rounded perspective for all students that prepared them for the future; it afforded one with an appreciation for a diverse menu of interests that served one well in both one's personal, social and professional life. In short, a future composer may appreciate the relevance of astrophysics, while an astrophysicist may appreciate the beautiful rhythm of Brahms. There is no reason why an education in the arts and sciences now more than ever in this fast-moving technological age, should not prove to prepare individuals for the future in a world that is interconnected through such advances. It will help us understand each other better, appreciate others cultures, their histories, contributions to the arts and sciences, and make us realize that we are more alike than we might have imagined.*

- *A formal education is a reflection of choices and nothing more. What graduates bring to the table will speak for itself in time. If they continually add value to organizations a positive correlation to their formal education will be drawn. If they continually do not add value to organizations a negative correlation will be drawn. The student that has a focused goal and aligns their college career with that goal will see fruits from their education. The student that does not have a goal or cannot align their college career with the direction of their life will have a harder time justifying their education. It is my opinion that many graduates do not understand that a degree is not a free ride.*

In summary, the future for the arts and sciences looks murky through today's economic, political, and pop culture lenses. But the future could be brighter if faculty and administrators move boldly ahead to realign A&S with today's realities. The final outcome rests in the faculty's hands as this final, guarded comment from a parent and employer avers:

- *I have three college aged kids and much of the liberal arts program is either stuffing them with forgettable detailed facts (this is across disciplines) that they are supposed to regurgitate on tests or having them do group projects where they are the only ones who do any work — and, contrary to a real life situation, there are no immediate consequences for the loafers and spongers. I would like them to learn how to get and understand information, both from the Internet and from academic and medical research. I would like them to learn to read statistics books and government regulations and figure them out or find out how to figure them out. I would like to have them learn specific skills that are in demand and hard to replace. Internships can be good, but often involve low level work that is not what a new grad would be expected to do. I would also like my kids to participate in regular talks by people who work in different jobs that feature a presentation on daily life, attributes needed, culture, and flexibility in terms of*

future paths and also have a chance to ask questions. I would like them to understand what personality attributes contribute to success in different fields — e.g. how sociable do you need to be. Also what types of career paths there are in a given career — can you spend time with your family and still succeed etc. Right now I think that all three of my kids, with a prestigious liberal arts degree in the sciences or social sciences, will be poorly prepared for jobs and life in many ways. In terms of a general response to what I think will happen to the popularity I don't know. But given the exorbitant cost of liberal arts education I think it should be providing a lot more. I think the faculty themselves generally don't know much about the real world of non-higher education work and are ill prepared to advise students or recognize what students need to know. And I think many of the faculty are irresponsible towards students anyway and are there for other reasons than preparing students.

Conclusion

At the end of the college recruiting season, two Fortune 200 companies held wrap-up sessions that demonstrated how the working world views today's job candidates. One company provided a list of hires by position with academic major. For over half the supply chain specialist positions, the majors were from outside the domain of the business school. The lead talent manager emphasized that a number of different majors qualified for these traditional business positions because these positions are defined by skill sets, not by degrees. At the other company, the head of talent acquisition in summarizing the year listed as his biggest complaint the constant inquiries from liberal arts colleges who wanted their economics majors considered for finance positions. An internal audit demonstrated that economic majors performed poorly in these positions. They no longer will entertain inquiries from small private schools for most of their positions. This tale of two corporations illustrates the current environment for A&S majors: either you are loved or you are damned! Through media and political lenses, the message has apparently taken the less desirable route with degrees from the humanities, social sciences, and some biological sciences being perceived as having little enduring value in this economy.

We want to avoid a potential trap by advancing the value of the liberal arts solely on the basis of their communication abilities. While communication acumen is closely associated with liberal arts training, liberal arts (A&S) students can bring much more to the table. As the employers in this study have indicated A&S students can contribute in many ways, ranging from finding creative solutions for problems to managing different streams of information. Their ability to contribute comes with a big IF, however. They must (1) have a technical focus to leverage their liberal arts education and (2) demonstrate their abilities through pre-professional experiences outside the classroom.

Two weaknesses make it difficult for many A&S students to make the transition to the workplace: the lack of quantitative abilities to analyze, evaluate, and interpret data and the inability to plan and manage a project. We need to admit that some students do pursue a course of study in the liberal arts to avoid mathematics courses. However, the liberal arts are replete with academic disciplines grounded in statistical methods. Liberal arts students are also engaged in multiple projects crafted around advancing their insights into particular theoretical issues or pressing societal problems. Their inability to extract these competencies from their academic confines and articulate them in the context of the world of work not only is their Achilles heel but also offers a stronger voice to those who hold negative views of the liberal arts.

Expedient solutions, such as adding experiential activities or providing certificates or other documentation on the attainment of business acumen, may stop the bleeding. But to successfully revive

the liberal arts and redefine its success in the 21st century economy requires a realignment of the intellectual dimensions of liberal arts education with the career and practical aspects of applying learning to the workplace. For this to occur, the professional preparation activities and the staff that lead them must be integrated into the developmental process from the beginning of a student's course of study, not relegated to eight or nine months prior to graduation or whenever the student or alum decides to show up.

A few colleagues hope that by waving a magic wand that the situation will return to "normal." Unfortunately the new normal requires colleges and universities to demonstrate the value proposition of the various degrees they offer or face the consequences of declining enrollments throughout the institution or within those disciplines that fail to meet some prescribed test of accountability. Even if a strong case can be made for a liberal arts education, the naysayers will still be there. Not all organizations embrace or will embrace a liberal arts candidate for a position. Others will. What the liberal arts need at the moment are several charismatic evangelists from outside the ivory towers who can strongly articulate the promise of the liberal arts (and counter the STEM evangelists). Sam Palmisano, the recently retired CEO of IBM, has stepped into that role along with several other leading corporate executives who believe that balanced (technical and liberal arts) education has much to offer. To make these evangelists' words ring true, the faculty in A&S disciplines need to be proactive in advancing an environment that will instill in all their students the capacity to succeed in the 21st century economy.

So what now? This is not the only study that has been undertaken in the last several years in an attempt to make a case for the A&S student in the workplace. The results may not be as eloquent as other studies; however, they do convey the perceptions and beliefs of the folks on the front line who interact almost daily with both liberal arts and pre-professional students —college recruiters, line managers, and human resource staff responsible for hiring the organization's talent. They paint a promising, yet guarded picture, of the possible future for the liberal arts. For the liberal arts to gain traction in the hiring process and find success in early career, these are the individuals that need to see and will be the first to see the results from actions taken on campus to redefine the success of the liberal arts.

References

Association of American Colleges and Universities. 2007. How Should Colleges Prepare Students to Succeed in Today's Global Economy? Washington, DC: Peter D. Hart Associates.

Association of American Colleges and Universities. 2008. How Should Colleges Assess and Improve Student Learning? Employers Views on the Accountability Challenge. Washington. DC: Peter D. Hart Associates.

Association of American Colleges and Universities. 2010. Raising the Bar: Employers' Views on College Learning in the Wake of the Economic Downturn. Washington, DC: Hart Associates.

Boise State University. 2013. Employer Feedback and Talent Needs and Preparation. Collegiate Employment and Readiness Report Part II. Boise: Office of Research and Economic Development and Career Center, Office of Student Affairs.

Brumm, T.J., Hanneman, L.F., and Mickelson, S.K. 2006. *Necessary and Developing Program Outcomes through Workplace Competencies.* International Journal of Engineering Education. Vol. 22 No. 1 pp123-129.

Gardner, P.D. 1998. *Are College Seniors Ready to Work?* In The Senior Year Experience, eds. Gardner, J. and Van de Veer, G. Hoboken, NJ: Jossey-Bass.

Hanneman, L. F. and Gardner, P.D. 2010. Under the Economic Turmoil a Skill Gap Simmers. CERI Research Brief 1-2010. Collegiate Employment Research Institute. East Lansing, MI: Michigan State University.

Horzeman, D.M. and Kraft, E.M. 2011. *Skills Needed in the 21st Century Workplace: A Comparison of Feedback from Undergraduate Business Alumni and employers with a National Study*. Business Education & Administration. Vol. 3 No. 1 pp 61-76.

Michigan State University. 2005. 12 Essentials for Success. East Lansing, MI: Michigan State University.

The Conference Board. 2006. Are They Really Ready to Work? Retrieved from
http://www.p21.0rg/storage/documents/Final_Report_PDF09_29_06.prf