

What Does a Graduate Need?: Conflicts in CFO and Student Opinions

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A survey of student opinions regarding the relative importance of personal attributes is reported and compared to the findings of Collier and Wilson's survey of chief financial officers that was recently published in Financial Practice and Education. A significant difference is observed between students and the Fortune 1000 CFOs in terms of the perceived importance of several attributes as well as their relative importance. Decision making, computer and math competencies are considered to be the most important skills by students. CFOs place ethics, interpersonal and communications skills at the top. Note, however, that CFOs are likely to interact primarily with individuals who are technically competent, perhaps resulting in less emphasis on these skills. Several suggestions are given for bridging the opinion gap and preparing the students for what is expected of them upon graduation.

■ In a recent article in *Financial Practice and Education*, Collier and Wilson (1994) report the results of a survey of the chief financial officers of the Fortune 1000 companies about their attitudes toward selected academic subjects and skills. Their objective is to communicate the opinions of successful financial managers to schools of business. The article's underlying tenet is that business schools can therewith improve their offerings.

Business schools, however, are in the business of serving students. As a consequence, an at least equally important issue is that of student opinion. To the extent that student and financial manager opinions coincide, curriculum objectives are straightforward. Curriculum development is not as simple when there is a difference between student desires and CFO opinions.

This report compares the findings of Collier and Wilson to a survey of business students. Much to our surprise, there is a significant difference between Collier and Wilson's findings and our results. Students place less emphasis on virtually all personal characteristics and

especially ethical and communications dimensions. The difference presents a challenge to universities attempting to serve both the student and potential employers.

The method used to gather the sample and sample characteristics are described in the next section. The following section contrasts CFO and student opinions. Several suggestions are made for handling the observed differences in the final section.

I. Methodology

This study examines the relationship between the rankings of personal attributes by CFOs, as reported by Collier and Wilson, and students. At the time that the Collier and Wilson study was published, we were in the process of developing an assessment program. The assessment program included the opportunity for students to provide input regarding the personal attributes that they felt their college program should help them develop.

The survey was originally distributed to students taking finance classes at our university in 1995. Students were informed that the information was being gathered to improve the finance curriculum and would not be used in any way to assign grades. The survey was given at a variety of times and days, depending upon instructor convenience.

In order to examine the robustness of the findings across campus settings, students were also surveyed at

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Exhibit 1. Sample Characteristics for Students Surveyed at the University of Wisconsin-La Crosse, University of North Carolina at Charlotte, and University of Delaware

Characteristic	Division	Frequency at School		
		UWL	UNCC	UD
Gender	Male	154	60	128
	Female	104	42	70
Previous Semesters	One - Four	38	19	2
	Five or Six	74	27	102
	Seven or Eight	102	38	85
	Nine or More	44	18	9
Finance Classes to Date	One	107	64	102
	Two	54	10	17
	Three or Four	46	8	28
	Five or More	51	20	51
Major	Finance	99	35	87
	Management	42	20	30
	Marketing	36	16	20
	Accounting	28	22	48
	Graduate Degree	7	0	0
Minor	Other	46	9	13
	Finance	26	6	17
	Management	37	7	13
	Accounting	20	1	1
	Economics	10	3	32
Credits	Other	53	13	45
	None	112	72	90
	Under 10	12	6	5
	10 to 13	88	38	48
	14 to 16	130	41	123
Weekly Hours of Employment	Over 16	28	17	22
	Zero	70	22	92
	1 to 10	29	9	30
	11 to 20	73	28	54
	21 to 30	61	28	17
Over 30	25	15	5	

two additional universities during 1996. In all three instances, the business programs comprise approximately one-seventh of the total university and are accredited by the American Association of Collegiate Schools of Business (AACSB). Other descriptive data for each campus, as obtained from Dow Jones News/Retrieval in April 1996, is given below.

University of Wisconsin-La Crosse (UW-L):

8,000 undergraduates, 13% over 25 years old, 4% minorities, 83% in state, 32 states and 36 countries represented, 19:1 student-to-faculty ratio, MBA is highest business degree, located in regional center

University of North Carolina at Charlotte (UNCC):

13,000 undergraduates, 25% over 25 years old, 20% minorities, 88% in state, 47 states and 66 countries represented, 16:1 student-to-faculty ratio, MBA is highest business degree, located in urban area

University of Delaware (UD):

15,000 undergraduates, 10% over 25 years old,

10% minorities, 42% in state, 50 states and 86 countries represented, 15:1 student-to-faculty ratio, doctorate degree is highest business degree; located in small city

The original university is smaller, has a less diverse student population, and has more students per faculty member than the other two.

In addition to the student opinions, several descriptive characteristics were gathered and are presented in Exhibit 1. These descriptive data indicate that about sixty percent of the respondents were male. Most had been in college for three years and had taken at least one prior finance course. Approximately forty percent were finance majors, while nine percent had a finance minor. A majority were taking a normal, full credit load of between fourteen and sixteen credits. Meanwhile, a majority of students were employed more than ten hours per week, with one quarter working over twenty hours. Consequently, even full-time students frequently had direct exposure to employment situations and could gain an impression of what skills are needed for success after graduation.

Exhibit 2. Comparison of Average Rankings of Personal Attributes for New Graduates by CFOs and University of Wisconsin-La Crosse Students

1 = essential, 2 = useful, 3 = unimportant. Numbers in parentheses are standard deviations. The reported statistical significance is for the difference in average student and CFO rankings.

Attribute	CFOs*	All Students	All Finance Majors	Finance Major Juniors	Finance Graduating Seniors
Ethics	1.09 (0.33)	2.10*** (0.49)	2.08*** (0.46)	2.04*** (0.48)	2.13*** (0.48)
Interpersonal	1.18 (0.42)	1.90*** (0.54)	1.80*** (0.52)	1.81*** (0.53)	1.78*** (0.49)
Oral Communications	1.20 (0.41)	2.23*** (0.52)	2.14*** (0.48)	2.19*** (0.49)	1.96*** (0.45)
Written Communications	1.21 (0.42)	2.20*** (0.53)	2.15*** (0.47)	2.17*** (0.47)	1.97*** (0.49)
Decision Making	1.41 (0.63)	1.51** (0.45)	1.37 (0.38)	1.50 (0.45)	1.27 (0.45)
Computer	1.46 (0.60)	1.87*** (0.51)	1.73*** (0.46)	1.66*** (0.40)	1.47 (0.38)
Math	1.67 (0.57)	1.63 (0.47)	1.46*** (0.37)	1.57 (0.46)	1.44*** (0.37)
Social Etiquette	1.74 (0.51)	1.83** (0.44)	1.79 (0.39)	1.75 (0.37)	1.83 (0.44)
Global	—	1.93 (0.50)	1.96 (0.51)	1.91 (0.46)	1.90 (0.58)

*** Significant at 0.01 level.

** Significant at 0.05 level.

* Collier, Ben and Michael J. Wilson, What Does A Graduate Need?, 64.

II. Comparative Opinions Regarding Personal Attributes

Both absolute and relative student rankings of personal attributes are compared to those of CFOs.

A. Absolute Rankings of Attributes by Students at the University of Wisconsin-La Crosse

In their survey of Fortune 1000 CFOs, Collier and Wilson (1994) asked them to rate eight attributes according to the following scale: 1 = essential, 2 = useful, and 3 = unimportant. Our survey asked students to rate the importance of various elements of their undergraduate education; it included the eight attributes rated by the CFOs and an additional question on awareness of global issues. In almost all cases, the students rated the attributes as being less important than did the CFOs.

To further discriminate between student responses, several groupings of finance majors were studied. For instance, responses of graduating seniors were included in a special subset, as well as being included in the "All Students" and "Finance Majors" classifications in Exhibit 2.

As can be seen in the first row of Exhibit 2, ethics, with

a mean score of 1.09, was deemed almost universally by the CFOs to be an essential personal attribute for new graduates. Student mean scores ranged from 2.04 to 2.13, indicating that they felt it to be useful, but not essential. The asterisks following each student ranking value indicate that the difference between students and CFOs was significant at the 0.01 level.

Interpersonal, oral communication and written communication skills, with mean values of 1.18, 1.20 and 1.21 respectively, also were rated very highly by the executives. The student ratings of the interpersonal skills attribute ranged from 1.78 to 1.9, again placing it closer to useful than to essential. The communication skills received the lowest average rankings of the nine attributes in our survey. Most students rated these skills as useful or below (mean values of 2.14 to 2.23). Although students did not consider these skills to be essential, graduating seniors, who were enrolled in a class with a heavy emphasis on oral and written communications, did assign them more importance.

The average rankings of the next four attributes (decision making, computer literacy, mathematics/statistics, and social etiquette) were much closer for the CFO and student respondents. Both groups rated decision making approximately halfway between essential and useful and the ratings were generally not significantly

Exhibit 3. Relative Rankings of Personal Attributes by CFOs and University of Wisconsin-La Crosse Students

Attribute	CFOs ^a	All Students	All Finance Majors	Finance Major Juniors	Finance Graduating Seniors
Ethics	1	6	6	6	8
Interpersonal	2	5	5	5	4
Oral Communications	3	8	7	8	6 ^b
Written Communications	4	7	8	7	6 ^b
Decision Making	5	1	1	1	1
Computer	6	4	3	3	3
Math	7	2	2	2	2
Social Etiquette	8	3	4	4	5

^aCollier, Ben and Michael J. Wilson, *What Does a Graduate Need?*, 64.

^bOral and written communication skills had the same average importance score in this group.

different from one another. Responses to the computer literacy question were interesting in that the more experience students had in the finance program, the more importance they attached to this attribute. Graduating seniors rated computer literacy at the same level as did the CFOs, while the students taking their first finance class rated it much lower. As a group, the students in our survey placed about the same usefulness rating on math skills as the CFOs. Finance majors, especially graduating seniors, did tend to rate this as more important than did all students as a group, however, possibly because their finance classes have a more quantitative component than do classes taken by other majors. Social etiquette was also viewed similarly by both students and CFOs.

Student ratings on the global awareness attribute were remarkably consistent across all groups of students. With a mean score of 1.93, the students view this attribute as slightly more than useful.

B. Relative Rankings of Attributes by Students at the University of Wisconsin-La Crosse

The relative rankings of the various attributes, shown in Exhibit 3, also lead to some very interesting conclusions. The most important attribute according to the student survey was decision making. This is an interesting contrast to the CFO attribute rankings which places decision making in the middle of the list of desirable attributes for new graduates. As educators, we may bear some responsibility for the weight placed on this attribute. We may tend to emphasize decision

measures, without pointing out that new graduates typically are not making these decisions, but are rather gathering information, performing analysis, and reporting results. It is also possible that, because the CFOs are from large corporations, they have a support staff to perform the analysis, but the decisions are made at a higher level. Many graduates of our university find employment with small to medium-sized businesses and so may have more input into decision making.

Both graduating finance majors and CFOs rated computer skills approximately halfway between essential and useful (e.g., 1.47, 1.46), although the typical student rated it as a relatively more important attribute than did the CFOs (e.g., 3 v. 6). For the past couple of years we have been communicating to students that this attribute is one that recent graduates consistently mention as being important in their jobs. The relatively high ranking by the students may be a reflection of that emphasis.

The importance of considering both the level of attribute importance and its relative placement across attributes is exemplified by the mathematics characteristic. The average attribute value for the four student groups is 1.52, while the CFOs give math a slightly less important ranking of 1.67. The difference in opinion appears when analyzing relative rankings. Students placed math skills second from the top, while CFOs placed math skills second from the bottom. Requiring completion of multiple math courses prior to graduation may be sending a signal that mastery of algebra, calculus, and statistics is more essential than other abilities. Since quantitative skills are often emphasized in finance classes, students may be overweighting this attribute. Alternatively, CFOs may be

Exhibit 4. Comparison of Average Rankings of Personal Attributes for New Graduates by CFOs and University of Wisconsin-La Crosse, University of North Carolina and University of Delaware Students
 1 = essential, 2 = useful, 3 = unimportant. Numbers in parentheses are standard deviations. The reported statistical significance is for the difference in average student and CFO rankings.

Attribute	CFOs*	UWL	Combined Other Schools	Comparison Schools	
				UNCC	UD
Ethics	1.09 (0.33)	2.10*** (0.49)	1.93*** (0.55)	1.97*** (0.56)	1.91*** (0.54)
Interpersonal	1.18 (0.42)	1.90*** (0.54)	1.78*** (0.60)	1.94*** (0.61)	1.70*** (0.57)
Oral Communications	1.20 (0.41)	2.23*** (0.52)	1.71*** (0.56)	1.79*** (0.64)	1.67*** (0.52)
Written Communications	1.21 (0.42)	2.20*** (0.53)	1.92*** (0.58)	1.88*** (0.58)	1.94*** (0.57)
Decision Making	1.41 (0.63)	1.51** (0.45)	1.49 (0.50)	1.53 (0.51)	1.47 (0.48)
Computer	1.46 (0.60)	1.87*** (0.51)	1.58** (0.51)	1.59 (0.56)	1.58 (0.49)
Math	1.67 (0.57)	1.63 (0.47)	1.56** (0.49)	1.59 (0.51)	1.54** (0.49)
Social Etiquette	1.74 (0.51)	1.83** (0.44)	1.92*** (0.59)	1.95*** (0.62)	1.90*** (0.57)
Global	—	1.93 (0.50)	1.86 (0.54)	1.91 (0.54)	1.83 (0.54)

*** Significant at 0.01 level.

** Significant at 0.05 level.

*Collier, Ben and Michael J. Wilson, *What Does A Graduate Need?*, 64.

assuming student mastery of required mathematics skills. If recent graduates started to incorrectly do mathematical calculations, the importance of this attribute might move up in the CFO's ranking.

The most interesting aspect of this study may be the relatively low importance students attach to exposure to ethical dilemmas and development of communication skills, especially when one considers how highly the CFOs rate these attributes. One caveat here: our study was attempting to discern which skills students felt should be developed in their educational program. Therefore, this response doesn't necessarily imply that the students think ethics is unimportant. Rather, the students may be indicating that they believe they already have a good sense of ethics and do not feel they need additional education in this area.

The communication skills issue is of greater concern. Paulsen and Gentry (1995) find that unless students internalize the importance of a given skill, they will simply use surface-level information and rehearsal strategies. For the past several years our university has required that students complete speech and writing emphasis courses in order to improve these skills. It seems, however, that students do not yet fully comprehend the importance of these classes. Similarly, group work is required in many

business classes, yet the students don't seem to recognize that the interpersonal skills developed in those activities will be important in their jobs once they graduate.

C. Comparison of Student Responses Across Campus Settings

The observed differences between student responses and CFO responses tends to be robust across university settings. As shown in Exhibit 4, the differences in average ratings across campuses ranges from a low of 0.06 on the decision making attribute to a high of 0.56 on the oral communications attribute. Students at all three campuses, as well as the CFOs, consistently assigned average ratings between 1 (essential) and 2 (useful) to the attributes.

When comparing the average ranking assigned by students and CFOs, students at each of the campuses consistently understated the importance of the personal attributes. As illustrated by the asterisks in Exhibit 4, the differences between CFOs and students is most dramatic for the four attributes which CFOs considered to be the most essential: ethics; interpersonal skills; oral communication; and written communication. In all four instances, the difference of the average value assigned by CFOs and students is significant at the 0.01 level. In

three of the four instances, the range in rankings assigned by the universities is less than the difference between the highest university ranking and the CFO ranking.

All parties placed computer and math skills approximately midway between essential and useful. CFOs considered computer skills to be more essential. The 0.41 difference between the CFO's average rating on computer skill importance and rating at the authors' school was significant at the 0.01 level. Meanwhile, the 0.13 difference between the CFO's average rating of math skills and those of the students at UD was significant at the 0.05 level. The absolute rating given social etiquette skills is very similar across universities, varying by only 0.12. The difference between the CFO rating and students rating was significant at the 0.01 level at both of the comparison universities. Students at UW-L gave social etiquette a rating that was between these extremes, but still significantly different from that of CFOs. The universities were also similar in student perception of decision making skills. With a range from 1.53 (UNCC) to 1.47 (UD), the typical student felt this skill is midway between essential and useful.

Despite the different environments, all of the student populations rated having a global perspective as being useful. Furthermore, the range from 1.93 to 1.83 was very similar. Unfortunately, Collier and Wilson did not study this attribute.

The relative rankings of the personal attributes tend to be similar across educational institutions, as shown in Exhibit 5. Ethics skills and interpersonal skills, which the CFOs ranked first and second, are placed in the bottom half by students at every school. All of the students place decision making first and math skills second, although CFOs relegated these skills to the fifth and seventh position, respectively. Students also place a premium on computer skills, despite the relatively low value placed on this skill by CFOs in the Collier and Wilson study.

The range in rankings across schools is the greatest when judging the relative importance of oral communications. Students at UNCC, an urban campus, consistently place both oral and written communication skills at a higher level of importance than students at UW-L. This is perhaps a function of the greater participation in the work force by students at UNCC, which may lead to a greater appreciation of these attributes. Interestingly, students at UD, with a larger foreign population, place oral communication skills in the fourth rank and written skills at the eighth (bottom) level. Social etiquette is considered to be relatively more important at the smaller UW-L campus site, although the absolute importance scores are very similar.

III. Attempting to Close the Gap

Enrollment and placement figures are critical to budget-conscious finance departments. A graduate's success in

finding employment and employer satisfaction with new employees depends on how well those graduates are prepared. Employer satisfaction also affects the likelihood that future graduates will be hired by the same firm. These factors, in turn, influence future enrollments in a program. Thus, finance departments have a responsibility to both students and employers to bridge the gap in beliefs identified above.

Perhaps a first step is simply to identify the gap and communicate its existence to both parties. An important reading assignment is Collier and Wilson's (1994) companion article, "Fortune 1,000 Chief Financial Officers on Business School Education," for its insights to the education of America's successful financial managers. One could also read Lessard and Mattson's (1996) "An Empirical Evaluation of Intergroup Attitudes on Curricular Issues in Finance" for evidence of CFO opinions of the level of preparedness of business graduates. One limitation of these surveys may be that CFOs are likely to interact primarily with individuals who have risen to at least mid-management level and have already demonstrated technical competency. Thus, the need for technical excellence among finance graduates may be missed or underemphasized in surveys of CFOs. Additional studies should be conducted of lower level financial managers and personnel officers to find out if the ranking of personal attributes is consistent across finance department sizes, levels in the finance department and the individuals who often make first contact with potential hires.

Obviously, the more reality that can be brought into the classroom, the better will be the students' understanding of the business world. *Financial Practice and Education* has recently had articles on the usage of video tapes by Chan, Weber, and Johnson (1995) and Graham and Kocher (1995). Hofsinger (1995) uses a multimedia approach including the movie titled "Barbarians at the Gate" and several print materials from sources such as *Time* and *BusinessWeek* to study ethics, mergers and acquisitions, and social responsibility.

Among the multitude of other readings attempting to bring realism into the classroom is Jog, Kotlyar, and Tate's (1993) case study of corporate restructuring. Gaver and Gaver (1995) contrast compensation policy across firms that have multiple investment projects and those with limited opportunities, while Gilbert and Reichert (1995) identify financial management models employed by the Fortune 500 firms. Capital budgeting techniques used by Canadian corporations are reported by Jog and Srivastava (1995). Matsumoto, Shivaswamy, and Hoban (1995) investigate security analysts' views of the relative usefulness of many popular ratios. A quantitative analysis of managerial goals can be found in Cloninger (1995), while Yoon (1995) presents a spreadsheet approach to bringing reality into the classroom.

Of course, student interaction with financial managers

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Math	7	2	2	2	2
Social Etiquette	8	3	6	7	6

*Collier, Ben and Michael J. Wilson, What Does a Graduate Need?, 64

will also enhance their understanding of what is expected of graduates. Guest speakers, plant tours, and internships are means to facilitate such interactions. Lawrence (1994) provides information regarding the costs and benefits of establishing student investment funds at U.S. universities. A study of the costs and benefits of running a financial consulting firm, perhaps through a Small Business Development Center, would also be informative.

IV. Conclusion

Student perceptions of which business skills are the most

important were found to differ from those of CFOs. These findings were similar across three universities with different student demographics. This report has identified several means of bridging this gap in perceptions.

Finance departments have the ability to shape student perceptions regarding the skills they will need upon graduation. A benefit of doing so may be that when students realize certain attributes (e.g. ethics or communication skills) are important, they may put forth more time and effort learning these skills. Such effort will produce benefits both in the classroom and in the workplace. ■

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