

# The Selection of a Business Major: Elements Influencing Student Choice and Implications for Outcomes Assessment

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The informed selection of a particular business major will have important implications for student satisfaction in a business career and for outcomes assessment. To make informed choices regarding business majors (accounting, finance, management, marketing, MIS, etc.), students need to be aware of both institutional and business school learning goals and the expected performance standards for them. Without this knowledge, students may choose a major based on specious or anecdotal information—information that may be inaccurate or misleading (Grant, 2000; Leppel, 2001). A student may believe erroneously that he or she does not have the ability or behavioral attributes needed to complete a business major successfully (Cohen & Hanno, 1993; Nulty & Barrett, 1996) and thus may avoid enrolling in a business major that he or she actually may be well suited to complete successfully.

Helping students make informed choices in the selection of business as a major (and then selecting a particular business major) is likely to become a critical factor in the implementation of the expanded assurance of learning (outcomes assessment) requirements in the AACSB International's *Eligibility Procedures and Standards for Business Accreditation, Adopted April 25, 2003*. To implement these standards in a manner that benefits students, business

**ABSTRACT.** In this article, the authors examine the key factors that influence student choice of a business major and how business schools can help students make that choice more realistically. Investigating students at a regional university, the authors found that whereas those with better quantitative skills tended to major in accounting or finance, those with weaker quantitative skills tended to major in marketing and management. For adherence to the requirements for expanded assurance of learning (outcomes assessment) included in AACSB International's eligibility standards (2003), the authors suggest that schools of business provide their students with a clear statement of the opportunities and requirements in each business major.

schools need to develop outcomes assessment procedures through the prism of the curriculum as a whole, which includes the major program as a primary, but by no means exclusive, element in the student's progress through the curriculum. From this broader framework, students can be informed of general and program-specific learning goals and skill requirements, as well as the procedures and options available to them for successfully meeting the requirements of each business major. Such awareness, in turn, will lead to higher institutional retention rates.

In this study, we had the following two objectives:

1. To determine if there are statistically significant differences in computational and algebra skills among various business majors (finance/accounting, MIS, management, and marketing).
2. To relate the study results to the expanded outcomes assessment requirements in AACSB International's *Eligibility Procedures and Standards for Business Accreditation, Adopted April 25, 2003*.

## Literature Review

*Subjective and Objective Measures in the Selection of a Major*

Research on student choice of an academic major reveals complexity and ambiguity regarding the appropriateness of using quantitative and qualitative measures of ability and achievement as indicators of potential student success. Some studies highlight certain subjective elements as critical determinants of major selection, including students' gender role identification; perception of self; and individual interests, values, and abilities (Galotti, 1999; Giacomino & Akers, 1998; Gist, Goedde, & Ward, 1996; Simpson, 2001; Wikoff & Kafka, 1978). Also included in this literature are studies involving ethnicity, race, and parental influence in addition to institutional practices that encourage

representation of certain groups in certain majors ("pipeline theory").

In addition, social justice issues related to gender and racial stereotyping, as well as individual learning styles and cognitive ability, challenge purely quantitative assessments of ability and achievement (e.g., SAT scores) (Filbeck & Smith, 1996; Grant, 2000; Harklau, 1998; Leppel, 2001; Oswald & Harvey, 2000–2001; Roth, Bevier, Bobko, Switzer, & Tyler, 2001). Shih, Pittinsky, and Ambady (1999) called attention to the "powerful influence of sociocultural stereotypes on individual performance" (p. 82). Moreover, they remarked that "[quantitative] test performance is both malleable and surprisingly susceptible to implicit sociocultural pressures" (p. 83).

Wikoff and Kafka (1978) pointed out that objective measures such as SAT scores are limited in predicting academic success and that personality factors are important. Tyson (2002) urged admissions officers in graduate business schools to move "beyond cognitive testing" and engage applicants in behavioral interviews.

Pointing to putatively objective research, Simpson (2001) noted that the more math preparation a student receives at the high school level, the more likely he or she will be to choose a technical rather than a nontechnical degree program (the latter would include business). Moreover, she found that Asian Americans are significantly less likely than African Americans to major in business or public service programs.

The size and scope of a particular college or university also influence student choice of a major. Simpson (2001) noted that students who attend a strong research institution are more likely to choose engineering than physical science or business.

In their analysis of underlying constructs affecting the choice of accounting as a major, Cohen and Hanno (1993) pointed out that certain objective factors not necessarily under the direct control of the student bear upon the actual choice of a major. Specifically in the case of accounting majors, the workload required of accounting majors and the success in introductory courses, as well as the quantitative skills required, must be examined as factors that "facilitate or

hinder performance" (p. 219). Addressing student success in introductory accounting courses, Cohen and Hanno (1993) and Mauldin, Crain, and Mounce (2000) remarked that accounting educators can play a significant role in influencing a student's final choice of a major. Cohen and Hanno (1993) also suggested that students may avoid the major in accounting because it is perceived to be too quantitative and boring. Accordingly, these researchers strongly suggest that students be presented with positive experiences in the foundation accounting courses.

#### *Outcomes Assessment*

Decision making in the choice of a particular business major, like assessment itself, evidently is "not easy" (Stivers, Campbell, & Hermanson, 2000). Weeks (1996) suggested that institutions developing outcomes assessment procedures try to provide the best possible degree of coherence for students. He commented:

The search for relevance in general education takes us to the other characteristics of well structured majors: coherence and community. Typical distribution systems of general education are incoherent, with no, or only superficial mechanisms in place to connect courses that students take. The quest for coherence begins by asking how the courses acceptable for general education connect to one another. (p. 52)

In addition, issues of course sequencing and scheduling bear on student satisfaction (Henebry, 1997), potentially affecting the achievement of learning goals.

These observations underscore the evident complexity of assessing academic ability and achievement. Martin (1995) observed that faculty members may carry certain expectations of students, such as quantitative skill development, based on intuitive or personal experience that have no basis in educational research. Remington, Guidry, Budden, and Tanner (2000) and Galbraith and Haines (2000) offered a similar perspective, citing instances of "student negativity" that can result from poor student-faculty communication. To be effective, an outcomes assessment program must match stakeholders and their goals.

Reinerth (1999) noted that outcomes assessment must be contextualized within a framework of "teaching, tracking, and monitoring." She identified the outcomes activities of a number of institutions, noting the benefits of acquiring feedback from students, for example, and the development of a student handbook. The use of student focus groups also can be included in this category (Drexler & Kleinsorge, 2000; Hamilton, Pritchard, Welsh, Potter, & Saccucci, 2002). As a fundamental element in outcomes assessment, providing coherence in programmatic goals will require input from a broad spectrum of student affairs offices and functions. Such activities may include student out-of-class experiences and informal interactions with faculty members and staff (Apostolou, 1999).

These studies point away from a narrow "top down" view of outcomes assessment (i.e., assessment procedures that focus primarily on raw measures of student knowledge and skills at graduation) and underscore the implicit "morphology" of students, faculty members, and the administration within a dynamic and changing environment. This morphology necessitates the ongoing assessment of students as they develop within the context of a learning community.

Moreover, these observations comport fully with the recommendations outlined in the recent *A New Vision for Learning as a Nation Goes to College* panel report released by the Association of American Colleges and Universities (2002). The study specifically recommends that faculty members and administrators refocus on the basic outcomes of a liberal education. Those outcomes specifically include clear and coherent expectations for achievement; the inclusion of all groups in the mutual faculty-student undertaking of a liberal education; and a commitment to the development of informed, ethical, and responsible learners who understand global and cross-cultural relationships. The following "action steps" are among those recommended by the panel:

1. Colleges and universities should implement curricula to develop student knowledge and intellectual capacities cumulatively and sequentially, drawing

on all types of courses (general education, the major, electives) and noncourse experiences.

2. Faculty members across disciplines and departments should assume collective responsibility for the entire curriculum to ensure every student an enriching liberal education.

3. College and university faculty members should focus on important student outcomes, regularly assess student progress, base teaching on research about learning, and raise expectations of student achievement.

## Method

This study consisted of an analysis of a start-of-semester quantitative outcomes assessment conducted at a regional university. Our purpose was to determine whether differences in quantitative skills existed among students majoring in different fields of business (i.e., accounting/finance, management, marketing, and MIS).

At the start of the semester, we used the New Jersey College Basic Skills Placement Test (NJCBSPT) to assess students enrolled in Principles of Finance (Principles) and determine their competency in computational skills and basic algebra. Computational skills involve basic arithmetic operations, including whole numbers, fractions, decimals, percents, and applications using arithmetic. Basic algebra includes operations with real numbers, polynomials, algebraic functions, and square root expressions, in addition to the use of rules of exponents, solving equations, inequalities, and systems of equations. Graphs of linear equations and solving word problems also are included.

The student scores on the two tests counted for 10% (5% each) of the Principles course grade, thereby providing an incentive for students to prepare for the tests and do their best. We chose the NJCBSPT as the measurement tool primarily because it has been administered over a 20-year period to thousands of students at the university where we conducted this research. Furthermore, the test's validity and reliability have been confirmed by the Educational Testing Service (1993).

We instructed the students that they could take a retest in approximately 2 weeks if they wanted to improve their initial test scores or if they missed the first test. We also told them that the score from the second test would count as their test score for grading purposes, regardless of whether it was better or worse than their initial test score. We allowed them to use calculators. The students' grades in the computational and basic algebra tests are denoted as COMPSCORE and ALGSCORE, respectively.

The study group included 92 business majors, comprising 51 females and 41 males. Complete data were available for only 87 students. The breakdown by student major field of business study is as follows: accounting/finance, 45; management, 25; marketing, 18; and MIS, 4. Nearly all of the students were juniors. The Principles course prerequisites included the introductory financial and managerial accounting courses, macro and microeconomics, as well as introductory calculus and statistics courses.

## Results

In Table 1, we show the mean and standard deviation of student computational skills and basic algebra test scores for students majoring in different fields of business. In Figure 1, we show the relationship between students' major fields of business study and their ALGSCORE and COMPSCORE test scores. A one-way analysis of variance of the COMPSCORE scores showed a statistically significant difference by major ( $F = 4.02$ ,  $p = .01$ ). Similarly,

there was a significant difference by major for ALGSCORE scores ( $F = 3.49$ ,  $p = .019$ ). Finally, the pairwise Pearson correlation coefficient for student computational skills scores (COMPSCORE) and basic algebra scores (ALGSCORE) was .419 and significant at the .01 level.

## Discussion

Our study results indicate that, at the regional university where we conducted this study, students enrolled in Principles who were majoring in accounting/finance exhibited better computational and algebra skills than those students enrolled in management, marketing, and MIS (the number of students majoring in MIS in this study was limited, however). Apparently, students with weaker quantitative skills tended to gravitate to management, marketing, and MIS—fields that they may have perceived as less quantitatively demanding than accounting and finance. Although this might be regarded as an intuitively obvious conclusion—that certain business majors are more quantitatively intense than others who may lack the ability or motivation to pursue these majors—we consider other behavioral, personal, or cultural factors that might influence the choice of a particular business major.

Assuming that admissions criteria aim for students with the ability to complete business majors successfully and that a business school's broad learning goals encompass appropriate quantitative skill development for all business majors, then evident differences in skill attainment represent a failure in a number of

**TABLE 1. Summary Statistics for COMPSCORE and ALGSCORE, Grouped by Students' Major Field of Business**

Major	No.	COMPSCORE		ALGSCORE	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Accounting & Finance	45	94.58	4.67	82.78	13.56
Management	25	93.80	5.96	73.64	12.17
MIS	4	91.50	7.23	76.50	18.91
Marketing	18	88.50	9.98	72.50	16.35

*Note.* COMPSCORE stands for student computational skill score, and ALGSCORE stands for basic algebra scores for students majoring in different fields of business.

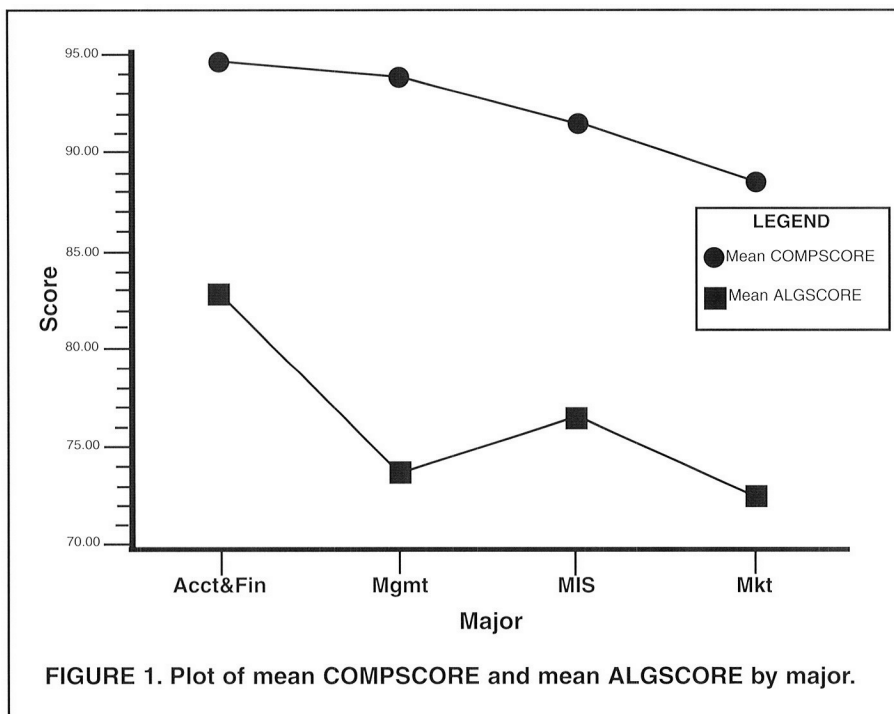


FIGURE 1. Plot of mean COMPScore and mean ALGScore by major.

possible factors: (a) counseling in pre-major core courses to ensure that students understand the expectations of majors (Wikoff & Kafka, 1978); (b) remediation of students with deficiencies before they commence work in the major (Boylan, 1999; Pritchard, Romeo, Saccucci, & Potter, 2001); or (c) providing appropriate means for students to understand the behaviors required in the various business majors (Kleine, 2002).

As we discussed in the literature review, some business students apparently find accounting to be too quantitative and therefore choose to major in business fields that they perceive as having less demanding quantitative requirements. Discounting the facile conclusion that such students are simply indolent, we might conclude that business schools actually are discouraging students from choosing certain business majors by not addressing structural, social, and psychological issues relating to critical introductory courses, background math skills, and even the image of the accounting profession itself, in this instance (Cohen & Hanno, 1993).

Cohen and Hanno (1993) found that student experiences in the introductory accounting courses have significant impact on their choices of a business major. Moreover, those researchers, together with Mauldin, Crain, and

Mounce (2000) found that the decision to major in accounting typically occurred during the first 2 years of college, whereas other majors were chosen later in the college experience.

This difference in timing with respect to the selection of accounting versus other business majors may be attributable to the fact that the two introductory accounting courses (typically 200-level courses in financial and management accounting) are usually taken in the sophomore year, before some business students select their particular business major. Furthermore, students usually take only one required course in management, marketing, finance, and MIS, and these may not be taken until the junior year. Therefore, business students frequently have twice as much exposure to accounting as they do to management, marketing, finance, or MIS. As a result, students may decide to major in finance or MIS, for example, without having taken a course in either discipline. The same may apply to marketing and management if the introductory courses in these disciplines are not offered until the junior year.

The literature suggests that students' experiences in the introductory accounting courses may provide them with a "go" or "no go" decision with respect to accounting (and perhaps finance

because students may perceive them as being related). Business majors who enjoy the introductory accounting courses may decide to major in accounting (or finance), whereas those who dislike the basic accounting courses may decide to major in another business discipline. More fundamentally, the literature also suggests that helping a student make that choice of major involves a nexus of institutional and personal factors that also need to be addressed (Giacomino & Akers, 1998; Kleine 2002; Tucker, Sojka, Barone, & MaCarthy, 2000).

Clearly, to make informed decisions regarding the choice of a particular business major, all business students need to be aware of the expectations and opportunities available to them in each business major. Our study results and the literature suggest that schools of business should assist their existing as well as potential students in selecting a business major by familiarizing them with the following factors:

1. The types of positions available and career opportunities for graduates of each business major;
2. The personal and professional attributes needed for success in each position;
3. The general (liberal arts) and management-specific knowledge and skills required of all students, both by the larger institution and, more specifically, the business school;
4. The particular knowledge and skills required for students in each business major;
5. The outcomes assessment procedures that the institution and the business school will use to assess student knowledge and skills, including a statement indicating (a) the level of proficiency that all students must attain in each area to be assessed and (b) when they will be required to demonstrate the required level of proficiency;
6. The types of professional certifications available in each field of business and an overview of the requirements for each certification; and
7. The types of graduate degree programs frequently pursued by graduates in each business major and the typical requirements for gaining admission to those graduate programs.



Providing this information requires a coordination of admissions, counseling, and business school communications (Drexler & Kleinsorge, 2000; Galotti, 1999). Such coordination is essential to ensure that students are engendering realistic attitudes toward majoring in business and selecting particular business majors, thus increasing the likelihood that they can complete their majors successfully.

AACSB International's intention that business schools specify the learning goals for key general, management-specific, and/or discipline-specific knowledge and skills could prove to be an advantage for students considering a major in business or selecting or planning to change a particular business major. If business schools provide their students with a clear statement of the required knowledge and skills, along with a statement indicating the level of proficiency that all students must attain in each, students will be aware of the expectations and can make informed choices. The more specific business schools are when communicating this information to students, the more informed their selections will be, leading to higher retention rates. Such an outcome clearly represents a fundamental step in "total quality processes" and better outcomes assessment (Drexler & Kleinsorge, 2000).

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