General Education Courses and the Promotion of Essential Learning Outcomes

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Abstract

Using data from 11,000 faculty members at 109 colleges and universities, this study examines how faculty structure general education courses (GECs) and non-general education courses (non-GECs). Findings show that faculty teaching GECs place greater emphasis on developing intellectual skills and personal and social responsibility compared to their colleagues teaching non-GECs. In addition, deep approaches to learning and diverse interactions are more common to GECs compared to non-GECs. However, non-GECs emphasize practical skills and tend to promote greater levels of student-faculty interaction than non-GECs.

General Education Courses and the Promotion of Essential Learning Outcomes

Consensus is emerging as to the essential learning outcomes of higher education for the 21st century. Labeled variously as general education, liberal educations, or liberal arts outcomes, many observers agree that to function effectively in a rapidly changing world, college graduates need the following:

- Broad knowledge of human cultures and the natural and physical world, including social sciences, science and mathematics, humanities, histories and the arts;
- Intellectual and practical skills, including effective writing, inquiry, quantitative and information literacy, and team work and problem solving;
- Individual and social responsibilities, including civic knowledge, intercultural knowledge and competence, ethical reasoning and action, and life-long learning skills, and
- Integrative learning, including the capacity to adapt knowledge, skills and responsibilities to new settings and questions (Association of American Colleges and Universities [AAC&U], 2006).

Although all of these skills, competencies and dispositions cannot be addressed in the required general education component of undergraduate study, general education courses (GECs) are widely presumed to provide the foundation on which these essential learning outcomes will be developed. According to Stanley N. Katz (2005), director of Princeton University's Center for Arts and Cultural Policy Studies and president emeritus of the American Council of Learned Societies, "[m]any of the attempts to package liberal education in the modern university have centered on 'general education'" (p. B6). Given the increasing focus on specialization and career preparation, GECs introduce students to a variety of topics (history, culture, science, and mathematics) thought to be necessary to become liberally educated citizens (Ratcliff, Johnson, La Nasa, & Graff, 2001). They also are intended to help students develop such valuable skills as integrative thinking, communication, quantitative reasoning, and critical thinking that will serve as life-long tools. While non-GECs may also contribute to some of these outcomes, their ultimate

purpose is to foster students' understanding of a specific content area as opposed to developing students holistically.

To understand the distinctive place of general education courses and liberal education outcomes in undergraduate education, it is helpful to review widely accepted definitions of the two terms. According to AAC&U (2005b), liberal education is:

> A philosophy of education that empowers individuals, liberates the mind from ignorance, and cultivates social responsibility. Characterized by challenging encounters with important issues, and more a way of studying than specific content, liberal education can occur at all types of colleges and universities (p.2).

In contrast, AAC&U considers general education to be "[t]he part of the curriculum shared by all students. It provides broad exposure to multiple disciplines and forms the basis for developing important intellectual and civic capacities" (p.2). Thus while liberal education refers more to learning outcomes, general education is more appropriately used to describe a core set of required courses (or categories) in which students must enroll (Fong, 2004).

Desired student learning and personal development outcomes are not the sole province of classrooms, laboratories, and studios. What happens outside the classroom also can make meaningful contributions (Kuh, 1993, 1995; Pascarella & Terenzini, 2005). Nonetheless, ultimately "[r]esponsibility rests with the faculty to assure that the general education program is strong, that it reflects the best contemporary thinking, and that it meets the particular educational goals of the institution" (Gaff, 1999, p. 13). For example, faculty members attempt to hone students' intellectual skills by assigning activities that require students to engage in critical, analytical thinking and to produce clear and effective writing. Opportunities to take individual

and social responsibility can be presented in assignments and class discussions that lead students to a deeper understanding of people from different racial and ethnic backgrounds.

Students at institutions where faculty members emphasize and more frequently employ good practices in undergraduate education appear to benefit more in terms of these desired outcomes than students at colleges and universities where these practices are used less frequently (Kuh, Nelson Laird, & Umbach, 2004; Pascarella & Terenzini, 2005). Yet, surprisingly little is known about the degree to which GECs contribute to essential outcomes and even less about what faculty teaching GECs do to promote these outcomes. Given the major role that faculty members play in determining the purposes and character of the curriculum, it is important to understand if and how they are trying to meet such goals. The purpose of this study is to examine whether faculty who teach GECs structure their courses differently than their counterparts who teach non-GECs.

Liberal Education Outcomes

Liberal education remains the primary organizing framework for undergraduate education in most American institutions of higher education (AAC&U, 2006). This tradition is rooted in the long-standing expectation that baccalaureate study reinforces the values of liberal democracies, fosters enlightened thought, and cultivates social responsibility (AAC&U, 1995). Liberal education is also thought to encourage integrative learning across disparate fields, such as the sciences and humanities, and promote high levels of critical thinking and discernment. These outcomes are more relevant to students' lives than ever before; citizens of the 21st century must be able to actively engage in the larger world community, work effectively in both collaborative and competitive environments with people from different backgrounds, and deal with messy, complex problems (AAC&U, 2006). Successfully navigating this challenging terrain

calls for a commitment from colleges and universities to prepare students with a rigorous, challenging liberal education.

At the same time, most students are unfamiliar with or see little value in the purposes of liberal education. According to Zinser (2004), many students regard "the liberal arts and sciences as a luxury--important sources of knowledge, yes, but not the right preparation for those who seek employment after graduation" (p. 38). Employers have a different view, demanding students who are prepared to respond to a complex, changing world (AAC&U, 2006). Gaff (2005) explains that it is vital for educated persons to have the ability to recognize the similarities and differences among people and be able to bring them together to address problems in the workplace. This call is based on four basic assertions:

- "knowledge is the key to the future";
- to succeed and be effective in this dynamic world, "all students will need the kind of intellectual skills and capacities";
- in a diverse world and democracy, "every participant needs to develop an informed concern for the larger good"; and
- since the pace of change is unyielding, students need an understanding of "what is most worth doing" (AAC&U, 2006, p.10).

From their study of students' liberal arts experiences, Wolniak, Seifert, and Blaich (2004) found that stronger exposure to liberal types of education resulted in such positive outcomes as greater reading comprehension, critical thinking, science reasoning, writing skills, openness to diversity/challenge, learning for self-understanding, sense of responsibility for one's own academic success, preference for deep and difficult intellectual work, and positive attitude toward literacy. Moreover, students at schools that strongly emphasized liberal arts enjoyed

greater gains in reading comprehension, critical thinking, science reasoning, writing skills, and openness to diversity/challenge. In addition, "the liberal arts experience of a student and the liberal arts emphasis of an institution are particularly beneficial for students from underrepresented groups and for those who have less developed academic ability" (p. 4-5).

As noted earlier, most institutions rely on their general education offerings to emphasize liberal education skills and competencies. Thus is it important to understand the development of general education and how faculty members perceive their teaching roles in GECs. The following section provides a basis for examining why faculty who teach GECs may structure their courses differently than their counterparts who teach non-GECs.

The Development of General Education

The purposes and structure of general education have evolved over time to keep pace with the growth in the number, size and functions of American colleges and universities. The key role of general education was first featured at Cornell University by its first president, Andrew D. White, who believed that special (professional) education, which provided students with practical skills, should be complemented with a general education that could help students better understand who they were. What White advocated in 1860s later developed into the general education movement. By the early 1900s, general education became synonymous with developing well-rounded students. By the 1920s, general education was also seen as a way to alleviate some of the confusion many students experienced when choosing electives. The goals of general education were further clarified "during and after World War I, when a consciousness of Western values and national problems found expression in courses designed to orient students to their cultural inheritance and their responsibilities as citizens" (Rudolph, 1977, p.236-237). While this movement promoted adoption of a "common core," the next fifty years emphasized

the need to balance the depth of study in the major with breadth of exposure to foundational areas of understanding. Even though many faculty members understood the value of general education and liberal learning, they were not always supportive or committed to promoting its outcomes. According to Rudolph (1977), general education curricula were the

> hobby horses of new president, ambitious deans, and well-meaning humanists of the sort who were elected to curriculum committees by colleagues as a gesture of token support for the idea of liberal learning. When that gesture collided with the interests of department and the major field, only occasionally did the general prevail over the special (p. 253).

Reflecting the social trends of the 1960s, institutions seemed to relax their requirements in order for students to have more freedom of choice (Gaff, 1991). Gaff (1991) explains that the 1970s brought economic challenges, which sent students toward more practical fields, such as business and journalism, and away from "less useful" courses in the liberal arts. In 1977, general education was called a "disaster area" by the Carnegie Foundation for the Advancement of Teaching, which further concluded that faculty members were generally dissatisfied with the general education component of the curriculum (Kanter, Gamson, & London, 1997). In the past two decades, however, interest has been rekindled in the role and potentially important contributions of general education. Influential philanthropic organizations and federal agencies called for efforts to examine and strengthen general education (Kanter et al., 1997). Higher education organizations responded in kind by hosting conferences and producing reports about the value of liberal learning, asking *what should every educated person know?* (Kanter et al., 1997). For example, AAC&U refocused its mission in 1976, to be the voice of liberal learning. Thirty years later, AAC&U continues to produce guiding documents and research studies

supporting general education, including *The Art & Science of Assessing General Education Outcomes* and *Contemporary Understandings of Liberal Education* (AAC&U, 2005b) and its recently announced ten year initiative, *Liberal Education and America's Promise* (AAC&U, 2006), which while not focused specifically on general education calls attention to the curricular levers that promote desired liberal learning outcomes including general education. And very recently, Harvard University, which, for better and worse, is seen as a bellwether of sorts for general education, announced a plan to revamp its core curriculum. Sounding similar to AAC&U, the goal of the revamping at Harvard is to teach students how "the ideas, facts, and perspectives they are learning come to life in real-world scenarios" (Wilson, 2006).

Promoting Liberal Education Outcomes throughout the Curriculum

While GECs are by "default" the traditional vehicle for promoting liberal education outcomes, AAC&U argues that institutions need to emphasize these outcomes throughout the entire curriculum (2006). Because the number of general education courses required for a baccalaureate is small, the general education component by itself is almost certainly insufficient for realizing the complex outcomes associated with a liberally educated person (AAC&U, 2005a, 2006). Thus liberal education should not be addressed only within general education courses. Instead, liberal education entails "any study that inculcates the abilities to communicate effectively; think knowledgeably, insightfully, and critically; work cooperatively; and behave ethically and responsibility" (Fong, 2004, p.10). The imbedded assertion is that any subject or course can be taught in a way that emphasizes liberal education outcomes. If this is the case, it is important to examine the ways in which faculty structure their courses, both those that are considered part of the general education component as well as other courses. Despite the need to imbed in all courses learning experiences that lead to liberal education outcomes, many faculty

members believe that those outcomes should be the purview of GECs. Some faculty may be unaware that "liberal learning is just as much the business of the major and just as essential to a baccalaureate level of mastery in a field as it is to general education" (AAC&U, 1998, p.16).

How faculty members structure their class time when teaching GECs may be influenced by what they believe to be the purpose of GECs. For example, Stark, Lowther et al., (1990) found that 20% of faculty arranged content based on how they knew students learned and only 15% based it on the way relationships take place in the real world. However less than 10% of faculty prepared their course in a way that would help students use the knowledge in career, social, or personal settings. The largest percentage of faculty, 41%, arranged their content based on how major concepts and relationships are organized (Stark & Lattuca, 1997). These findings suggest that faculty may decide on their approach to teaching based less on a goal to promote liberal education and more on other criteria, such as concept organization.

So, how do faculty members structure their courses? To answer this basic question, this study examines whether faculty who teach GECs structure their courses differently than their counterparts who teach non-GECs. In particular, we compare the degree to which instructors of GECs emphasize essential learning outcomes with that of instructors of non-GECs, and whether faculty practices vary between GECs and non-GECs. The findings promise to help us better understand whether GECs are organized and implemented consistent with what is known about effective educational practices and the extent to which essential learning outcomes are fostered in non-GEC courses. Finally, the results may point to instructional approaches that could be modified to increase the likelihood that students will benefit in the desired ways from these learning opportunities.

Methods

Data Source

The data for this study come from the 2005 administration of the Faculty Survey of Student Engagement (FSSE), an annual survey of faculty members at four-year colleges and universities designed to be a companion to the National Survey of Student Engagement (NSSE). Faculty respondents answer questions about their expectations for students as well as how they structure classroom activities and course assignments to encourage certain student behaviors and desired outcomes. The survey also collects information about how faculty members spend their time on activities such as teaching, advising, research, and service and the kinds of learning experiences their institutions emphasize.

Institutions that participate in NSSE can choose to participate in FSSE and select their own sample of faculty to survey. Since the focus of the survey is on undergraduate teaching, institutions are encouraged to submit samples consisting of faculty members who teach undergraduates. In 2005, the vast majority of the 109 institutions that participated in FSSE surveyed all undergraduate teaching faculty or all faculty members on their campus.

Although not representative of all U.S. four-year institutions, a wide cross-section of colleges and universities used FSSE in 2005. For example, 21% are doctoral, 46% are master's level, 8% are liberal arts, 17% are baccalaureate general, and 7% are other types of institutions. In addition, public and private institutions are almost equally represented among the 109 colleges and universities (52% and 48%, respectively).

In 2005, as in every year, FSSE respondents completed the survey online. The instrument is relatively short (most faculty members finished the questionnaire in around 15 minutes). A campus representative, such as the chief academic officer, often sent a message promoting

participation prior to the survey opening on a campus. Also, faculty responses were anonymous. These are among the reasons faculty responded in relatively high numbers. Calculating exact response rates is difficult since the faculty responded anonymously. However, the average institutional response rate for 2005 was estimated to be close to 50%.

Measures

The survey asked faculty members to answer a series of questions in the context of a particular course they taught during the 2004-05 academic year. After choosing a course, each faculty member provided some information about the course, including whether or not the course met a general education requirement and whether the course was lower (primarily first-year students and sophomores) or upper (primarily juniors and seniors) division. In addition, faculty respondents indicated how much they structured their courses so that students learn and develop in areas such as writing clearly and effectively, working effectively with others, understanding people of other racial and ethnic backgrounds, and developing a personal code of values and ethics. Responses to these items were measured using a four-point scale ranging from "Very little" to "Very much." From these items, we derived scales that represent three of the categories of liberal arts outcomes identified by AAC&U (2005a, 2006): intellectual skills (alpha = 0.63), practical skills (alpha = 0.65), and individual and social responsibility (alpha = 0.80). Table 1 presents a list of the scales and their associated items, as well as scale and item means and standard deviations for GECs and non-GECs.

Other variables used in this study include faculty demographics (e.g., gender, race, and years teaching), course characteristics (e.g., course size and disciplinary area), and indicators of faculty emphasis on good educational practices (e.g., emphasis on deep learning, active

classroom practices, student-faculty interaction, and diverse interactions). See Table 2 for a complete list of these additional variables.

Sample

After deletion for missing data, usable responses were available from 5,231 faculty members (3,111 lower division and 2,120 upper division) who based their responses on a GEC; 5,666 faculty members (1,214 lower division and 4,452 upper division) responded based on a non-GEC. About 43% were women, nearly 85% were White, and almost 90% were full-time. The average faculty respondent had 16 years teaching experience and had a five-course teaching load in the current year. The average course size for lower and upper division courses were about 53 and 34 students, respectively. The disciplinary breakdown depended on the course level. For faculty teaching lower division courses, well over half came from three disciplinary areas (arts and humanities, 35%; physical sciences, 18%; and social sciences, 13%). Faculty members teaching upper division courses were more evenly spread across disciplinary areas (for example, only 44% came from the arts and humanities, physical sciences, and social sciences combined).

Analyses

To determine essential learning outcomes, mean comparisons were calculated to determine differences between how faculty structured GECs and non-GECs to promote intellectual skills, practical skills, and individual and social responsibility. Since course structures and approaches can differ by course level, these analyses were run separately for faculty teaching upper division and lower division courses. Mean scores for each type of course (GEC and non-GEC) were compared. To determine differences in the use of effective educational practices between GECs and non-GECs, means were compared for the four

indicators of effective educational practice similar to those used in previous studies (Kuh et al., 2004; Nelson Laird, Schwarz, Shoup, & Kuh, 2006).

Effect sizes (standardized mean differences) were calculated both with and without controls at each course level. Control variables included gender, race, full-time/part-time status, years teaching, number of courses taught in the current year, course size, and disciplinary area. The effect size without controls represents the difference in structure and emphasis experienced by the students in these courses. That is, for a student in a typical GEC, the effect size without controls represents the magnitude of the difference in the emphasis placed on the respective essential learning outcome or effective educational practice compared with the typical non-GEC. The effect size with controls represents how much of the difference is due to the fact that the course is a GEC and not to other characteristics of the course (e.g., its associated discipline or field), or characteristics of the faculty instructor (e.g., gender).

Limitations

This study is limited in three ways. First, institutions choose to use the FSSE and determine which faculty members are invited to participate. This self-selection limits the claims we can make about the representativeness of the sample. However, we know participating institutions represent a wide variety of colleges and universities, even if in general there is a slightly greater proportion doctoral, master's, and public institutions relative to four-year institutions nationally. Moreover, the types of colleges and universities slightly overrepresented in the sample enroll a disproportionately large number of undergraduates. In addition, the faculty members who participated mirror the national population of faculty at four-year institutions along several characteristics (e.g., gender and disciplinary area).

Second, GECs at the institutions were not sampled. Rather, faculty members chose the courses about which they responded. This approach, while it produced roughly equal numbers of GECs and non-GECs, makes it impossible to determine whether the courses in the study are representative of all courses at participating institutions. As a result of these limitations, caution is needed in generalizing beyond the institutions and courses covered in the study.

Finally, the items that measure the extent to which courses are structured to emphasize essential learning outcomes were not designed intentionally to tap these constructs. It is, in fact, coincidental that the item set used to examine essential learning outcomes contains three factors that mirror categories identified by AAC&U (2005a, 2006). Scale development should be a component of future work in this area.

Results

Table 3 shows the means calculated by course level and general education designation for the categories of essential learning outcomes. These results indicate that the average faculty member places the most emphasis on promoting intellectual skills ("quite a bit"), less emphasis on practical skill acquisition (between "some" and "quite a bit"), and even less emphasis on cultivating individual and social responsibility ("some"). Because the scale scores are placed on the original scale of the component items, a mean close to 2 suggests that the average faculty member promotes the outcome to "some" degree while a mean close to 3 suggests that the average faculty member promotes the outcome "quite a bit." The means in Table 3 also suggest that faculty members teaching upper division courses emphasize all of the outcomes to a greater degree in their courses than their counterparts do in lower division courses.

The effect sizes reported in Table 3 indicate that the faculty members teaching a GEC generally structure their courses to emphasize intellectual skills and individual and social responsibility to a greater extent than their counterparts who were teaching non-GECs. For intellectual skills, the effect sizes without controls are modest in size: 0.21 for lower division courses and 0.20 for upper division courses ($p < 0.001$ in both instances). For example, 39% of faculty teaching GECs indicated that their courses "very much" emphasized writing clearly and effectively, while only 31% of faculty teaching non-GECs said this. For individual and social responsibility, the effect sizes without controls are larger: 0.30 for lower division courses and 0.32 for upper division courses ($p < 0.001$ in both instances). Illustrative of this difference is the fact that 48% of GEC faculty, compared to 35% of non-GEC faculty, indicated their course was substantially (quite a bit or very much) structured to increase students understanding of people of other racial and ethnic backgrounds. For both outcomes and for both lower and upper division courses, introducing controls reduces the effect sizes slightly, but they remained of comparable magnitude and significance.

The faculty teaching GECs tended to place less emphasis on acquisition of practical skills compared to their colleagues teaching non-GECs. In addition, this difference appears to be greater at the lower division level as reflected in effect sizes without controls of -0.30 and -0.12 for lower and upper division, respectively ($p < 0.001$ for both). Indeed, after the introduction of controls, the effect size at the upper division level becomes quite small (0.04, $p > 0.05$). The differences in this area are driven by faculty responses to how much their courses are structured to promote acquiring job or work-related knowledge and skills. While 29% of GEC faculty indicated they do so "very much," nearly half of non-GEC faculty (48%) indicated the same.

Given that GECs emphasize intellectual skills and individual and social responsibility to a greater degree than non-GECs, it is reasonable to expect that GECs would emphasize deep approaches to learning and diverse interactions to a greater extent than non-GECs. As indicated in Table 4, this is exactly what we found. For emphasis on deep learning, the effect sizes are modest to small (effect sizes range from 0.11 to 0.19, $p < 0.001$ for all), with slightly larger effect sizes at the lower division level (0.19 without controls and 0.16 with controls, $p < 0.001$ for both). For diverse interactions, the effect sizes were relatively small, but there were no appreciable differences in magnitude between lower (0.14 without controls, $p < 0.001$, and 0.12 with controls, $p < 0.01$) and upper division (0.14 without controls and 0.11 with controls, $p < 0.01$ for both) courses.

Active and collaborative learning in the form of small group activities and activities where the instructor and students share the responsibility are viewed as an effective means to achieve most outcomes, including intellectual skills, practical skills, and individual and social responsibility. Thus, one might expect (or hope) that no differences would be found between GECs and non-GECs. Table 4 shows that instructors of GECs use active classroom practices to a slightly greater degree than non-GECs (effect sizes range from 0.06 to 0.08). However, the size of the effect is relatively trivial and, in one case, not significant (the effect size without controls at the lower division level equaled 0.06, $p > 0.05$).

Similar to active teaching practices, a substantial body of research shows that student-faculty interaction is linked to a wide range of student outcomes (see Pascarella & Terenzini, 1991, 2005). Faculty teaching non-GECs report more interaction with students than faculty teaching GECs (effect sizes for GECs range from -0.11 to -0.23, $p < 0.001$ for all) and the magnitude of the effect, while quite modest, appears to be greater at the lower division level

(effect sizes without controls of -0.23 and -0.16 for lower and upper division courses, respectively).

Discussion and Implications

Those arguing that more emphasis be given to cultivating essential learning outcomes across the curriculum (see AAC&U, 2006) may be disappointed in the degree to which faculty in this study emphasize these outcomes, especially cultivating dispositions for individual and social responsibility. While certainly more attention to these areas would be welcome, it is also the case that faculty teaching the GECs in this study place more emphasis on a variety of essential learning outcomes than their counterparts teaching non-GECs. That is, compared with non-GECs, GECs are structured to a greater extent to promote intellectual skills (writing and speaking clearly and effectively, thinking critically, and learning effectively on one's own) and individual and social responsibility (understanding oneself, understanding people of other racial and ethnic backgrounds, developing a personal code of values and ethics, and developing a deepened sense of spirituality). Also, faculty teaching GECs emphasize deep approaches to learning to a greater extent and report more diverse interactions in their courses that faculty teaching non-GECs. These findings hold even after controlling for differences in faculty and course characteristics. Taken together, these findings suggest that the faculty teaching GECs understand, at some level, that they are responsible for emphasizing these skills and competencies that are critical for success in advanced coursework in the major as well as in students' lives after college and that the practices used in their courses must reflect their goals for students.

A different pattern of results characterizes the practical skills domain of essential learning outcomes (i.e., using technology, working effectively with others, solving complex real-world problems, and acquiring job or work-related skills). Instructors of non-GECs focus on this outcome to a greater extent than GECs. Practical skills may be an area where faculty recognize the value of these outcomes, but defer to courses in the major to build the requisite knowledge and skills. In order to more effectively promote the acquisition of essential learning outcomes, faculty members may have to more clearly delineate which practical skills can be fostered in both general and major-specific components of the curriculum and how to most effectively realize these outcomes. Alternatively, practical skills, while valued, may simply have less priority to faculty members who are already trying to achieve a lot in their courses. Sorting out the possible explanations of the pattern of differences found between GECs and non-GECs in this study is likely to be a fruitful area of future research with implications for promoting these outcomes as faculty members as well as external stakeholders.

Non-GEC faculty reported greater student-faculty interaction such as via email and discussing grades and career plans. What is it about the structure of GECs that limits student-faculty contact? While we controlled for some of these characteristics such as class size and discipline, are there other factors, such as use of teaching assistants, that might help explain the differences? One factor may be that GECs tend to disproportionately attract lower-division students who are younger, at a dualistic stage of cognitive and intellectual development, and are intimidated by the prospect of talking with faculty members about substantive matters.

One encouraging finding is that the differences were quite small between GECs and non-GECs in frequency of use of active and collaborative learning activities. This suggests that small group work, discussion, and in-class writing have found their way, to a similar extent, across the

curriculum. While proponents of these practices may prefer more frequent use of such approaches and less reliance on lecturing, our results suggest that many courses are using these practices to some degree.

This study was largely exploratory in nature. While some differences between GECs and non-GECs were found, the proximal causes of these differences are not well understood. Understanding why such differences exist and the inconsistencies in the results are important areas for future research. Such inquiries could be instructive for efforts at various levels (e.g., national dialogues as well as for particular classrooms) to improve teaching and learning and the acquisition of skills, competencies and responsibilities considered essential to an educated and civic-minded citizenry.

Conclusion

Decades ago, the typical undergraduate student lived on campus and had numerous opportunities to interact frequently with faculty members who lived nearby and to test and integrate the ideas presented in class readings and discussions in the company of peers. These experiences in part fostered students' development as whole persons and added a measure of liberal learning. Today, less than a fifth of undergraduates live in campus housing; many are part-time and do not partake of the many enriching educational activities institutions provide to expose them to a wide range of human differences. As a result, what happens in the classroom becomes all the more important because it is the one venue all students have in common.

As other research shows (Pace, 1990; Pascarella & Terenzini, 2005), students learn what they study. Moreover, students report doing what faculty members emphasize (Kuh et al., 2004). That is, when faculty members require more writing, students report writing more and gaining

more in their ability to write clearly and persuasively. When faculty members emphasize higher order mental activities such as synthesis and analysis, students say they enlarge their capacity to think critically and analytically and are better able to solve complex problems. When faculty members present diverse perspectives in their courses, students report having more experiences with diversity and appreciating human diversity to a greater degree. In short, students do what is asked of them and benefit accordingly.

If we value liberal learning outcomes, more students will be more likely to realize them if they systematically encounter learning opportunities throughout the curriculum that are linked with these desired skills, competencies and sensibilities. As the results of this study indicate, faculty members in different disciplines who teach lower or upper division courses designated as a general education offering or a major field class more or less emphasize learning experiences associated with the constellation of abilities needed to survive and thrive in the 21st century. Perhaps if faculty members were more intentional about emphasizing these key areas, more students would benefit in desired ways.

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Table1.
Scales and Component Items Representing the Extent to which Faculty Structure Their Courses to Promote Student Outcomes

	General Education		Non-General Education	
Scales and Items	Mean	SD	Mean	SD
Intellectual Skills (alpha = 0.63)	3.04	0.62	3.00	0.59
Writing clearly and effectively	2.91	1.05	2.79	1.03
Speaking clearly and effectively	2.50	1.06	2.50	1.03
Thinking critically and analytically	3.54	0.67	3.54	0.64
Learning effectively on their own	3.22	0.72	3.16	0.74
Practical Skills (alpha = 0.65)	2.58	0.73	2.79	0.69
Using computing and information technology	2.27	1.04	2.39	1.07
Working effectively with others	2.58	1.04	2.73	1.02
Solving complex real-world problems	2.75	1.00	2.87	0.99
Acquiring job or work-related knowledge and skills	2.72	1.04	3.17	0.95
Individual and Social Responsibility (alpha = 0.80)	2.33	0.83	2.13	0.80
Understanding themselves	2.70	1.08	2.47	1.10
Understanding people of other racial and ethnic backgrounds	2.48	1.16	2.15	1.11
Developing a personal code of values and ethics	2.52	1.06	2.47	1.05
Developing a deepened sense of spirituality	1.60	0.91	1.42	0.77

Notes: Faculty responded to all items on a scale where 1 = Very little, 2 =Some, 3 = Quite a bit, and 4 =Very much. Scale scores are means of faculty responses to the component items.

Table2.
Measures Used in Analyses

Measures	Description
Faculty demographics	
Gender	0 = men, 1 = women
Race/ethnicity[a]	African American/Black, Asian/Asian American, Hispanic, Other, White (reference)
Employment status	0 = part-time, 1 = full-time
Years teaching	Continuous
Number of courses taught this academic year	Continuous
Course characteristics	
General education course	0 = non-GEC, 1 = GEC
Course level	0 = lower division, 1 = upper division
Disciplinary area[a]	Arts & humanities, biological sciences, business, education, engineering, physical sciences, professional, social sciences, other (reference)
Course size	Continuous
Effective educational practices	
Emphasis on deep learning	12-item scale, alpha = 0.85
Use of active classroom practices	5-item scale, alpha = 0.73
Student-faculty interaction	3-item scale, alpha = 0.76
Diverse interactions	2-item scale, alpha = 0.87

[a] Dichotomous coding for each category used in analyses. The reference group is indicated.

Table 3.
Mean Comparisons of the Amount General Education and Non-General Education Courses are Structured to Promote Essential Learning Outcomes by Course Level

Learning Outcome and Course Level	General Education		Non-General Education		Mean Difference	Effect Size[a]	Effect Size with Controls[b]
	Mean	SD	Mean	SD			
Intellectual Skills							
Lower Division	2.97	0.64	2.83	0.61	0.14	0.21***	0.16***
Upper Division	3.16	0.59	3.04	0.58	0.12	0.20***	0.14***
Practical Skills							
Lower Division	2.48	0.70	2.68	0.67	-0.20	-0.30***	-0.09***
Upper Division	2.73	0.74	2.82	0.70	-0.09	-0.12***	-0.04
Individual and Social Responsibility							
Lower Division	2.27	0.83	2.02	0.79	0.25	0.30***	0.28***
Upper Division	2.42	0.83	2.16	0.80	0.26	0.32***	0.27***

* p<.05 **p<.01 ***p<.001
Sample sizes: lower division, GEC = 3203, lower division, non-GEC = 1262, upper division, GEC = 2182, and upper division, non-GEC = 4563.
[a] The effect size is the mean difference divided by the pooled standard deviation
[b] Effect size with controls is the unstandardized regression coefficient for general education courses from analyses where all non-dichotomous variables were standardized. Controls include gender, race, employment status, number of years teaching, disciplinary area, and number of courses taught in the current academic year.

Table 4.
Mean Comparisons of the Amount General Education and Non-General Education Courses Use Effective Educational Practices by Course Level

Effective Educational Practice and Course Level	General Education		Non-General Education		Mean Difference	Effect Size[a]	Effect Size with Controls[b]
	Mean	SD	Mean	SD			
Emphasis on deep learning							
Lower Division	2.86	0.61	2.74	0.62	0.12	0.19***	0.16***
Upper Division	3.09	0.55	3.02	0.55	0.07	0.13***	0.11***
Use of active classroom practices							
Lower Division	2.56	1.20	2.50	1.11	0.06	0.06	0.07*
Upper Division	2.76	1.23	2.66	1.14	0.10	0.08**	0.06*
Student-faculty interaction							
Lower Division	2.65	0.77	2.83	0.84	-0.18	-0.23***	-0.15***
Upper Division	2.94	0.87	3.08	0.91	0.14	-0.16***	-0.11***
Diverse interactions							
Lower Division	2.18	0.86	2.06	0.87	0.12	0.14***	0.12**
Upper Division	2.33	0.92	2.21	0.86	0.12	0.14***	0.11***

* p<.05 **p<.01 ***p<.001
Sample sizes: lower division, GEC = 3,111, lower division, non-GEC = 1,214, upper division, GEC = 2,120, and upper division, non-GEC = 4,452.
[a] The effect size is the mean difference divided by the pooled standard deviation
[b] Effect size with controls is the unstandardized regression coefficient for general education courses from analyses where all non-dichotomous variables were standardized. Controls include gender, race, employment status, number of years teaching, number of courses taught in the current academic year, course size and disciplinary area.