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Faculty Teaching Practices as Predictors of Student Satisfaction with a General Education Curriculum

Molly R. Hall, Steven M. Culver,
and Penny L. Burge

General education requirements are a cornerstone of the U.S. system of higher education, making up approximately 30 percent of the average undergraduate degree program (Brint, Proctor, Murphy, Turk-Bicakci, & Hanneman, 2009). Although multiple definitions for general education exist in the research literature, the leading advocate for liberal education in the United States—the Association of American Colleges and Universities (AAC&U)—defines general education as “the part of the curriculum shared by all students” (2005, p. 2). General education strives “to develop and integrate a student’s knowledge, attitudes, skills and experiences in order to enable the student to engage in life-long inquiry and decision making. A general education should provide a more satisfying life and a more effective citizen for society” (Nolte, 1991, pp. 18–19). General education courses should also prepare students to succeed in today’s knowledge economy and global workforce (AAC&U, 2008). While there appears to be a consensus among U.S. educators and employers that general education is a valuable component of undergraduate education (AAC&U, 2008), little information is currently available regarding how students themselves view general education curricula.

One university that has demonstrated an interest in learning more about its students’ aspirations for general education and how the general education

curriculum impacts the undergraduate student experience is Virginia Tech. Undergraduate students at Virginia Tech are required to complete courses in seven different thematic areas in order to fulfill general education requirements. The general education component of the undergraduate curriculum is referred to as the Curriculum for Liberal Education (CLE), and it constitutes approximately 25–30 percent of undergraduate degree requirements. Virginia Tech is a land-grant, research-extensive university that offers a total of sixty-five undergraduate majors in seven academic colleges. The university currently enrolls more than thirty thousand students and employs approximately 1,350 full-time instructional faculty.

During the 2009–10 academic year, the two undergraduate student members of the University Curriculum Committee for Liberal Education worked with their faculty mentor and the committee chair to develop and administer a student survey aimed at gathering student perceptions of the CLE. This voluntary survey, known as the Student Perceptions of the CLE Survey, was developed in consultation with Virginia Tech's Office of Academic Assessment and was administered during the Student Government Association's electronic voting process during the spring 2010 semester. Although results from the CLE Survey were utilized within the Virginia Tech community to guide the development of the CLE, for the present study we conducted additional analysis on this data set. This article examines student perceptions of the AAC&U's four essential learning outcomes and potential relationships between faculty teaching practices and student satisfaction regarding the extent to which the CLE has helped them to acquire a broad general education.

Literature Review

In the United States, higher education strives to provide students with a knowledge base that is both broad and deep. While the general education portion of university curricula tends to be closely associated with breadth requirements (Bourke, Bray, & Horton, 2009; Brint et al., 2009), courses in a student's academic major typically provide depth. In the early part of the twentieth century, general education frequently took the form of a core curriculum in which all students attending a particular academic institution were required to complete the same set of courses (Bourke et al., 2009). However, by the middle of the twentieth century, a system of distribution requirements had replaced the core curriculum model as the most popular method for delivering general education content (Bourke et al., 2009; Brint et al., 2009). Distribution requirements enabled students to select courses from a wide variety of disciplines, providing students and faculty members with more choices in terms of courses to take and

to teach. A study published by Bourke et al. in 2009 found that the majority of research institutions and liberal arts colleges ranked in the top twenty-five in their respective categories by the *U.S. News and World Report* 2004 rankings still use distribution requirements to organize the general education portion of their curricula.

However, although the distribution requirement model of general education is widespread, many problems associated with this system have been documented in the research literature. For example, general education programs that utilize distribution requirements frequently lack coherence; students do not always see how traditional liberal arts content is relevant to their future careers and consequently display a lack of interest and motivation in liberal arts courses; and faculty are often not interested in connecting course content to other courses and disciplines (Association of American Colleges, 1994). A study of employer perceptions conducted in 2006 and 2007 found that employers were dissatisfied with the skills of new college graduates (AAC&U, 2008), indicating that general education curricula were not achieving desired outcomes. In response to these issues, a diverse group of colleges and universities across the country have started to shift their focus away from distribution requirements to student learning outcomes (AAC&U, 2011; White, 1999).

This proposed modern-day shift in U.S. general education curricula is being championed by organizations such as the AAC&U and the Lumina Foundation with the dissemination of the AAC&U's four "essential learning outcomes." These outcomes represent the knowledge and skills that faculty and employers most want students to gain during their college years. The four essential learning outcomes are

- knowledge of human cultures and the physical and natural world (e.g., through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts),
- intellectual and practical skills (e.g., inquiry and analysis, critical and creative thinking, written and oral communication, quantitative literacy, information literacy, and teamwork and problem solving),
- personal and social responsibility (e.g., civic knowledge and engagement, intercultural knowledge and competence, ethical reasoning and action, and foundations and skills for lifelong learning), and
- integrative learning (e.g., synthesis and advanced accomplishment across general and specialized studies).

In addition to championing the essential learning outcomes, the AAC&U has also been working to promote a set of educational practices that researchers have identified as especially effective at fostering student learning and promoting

positive outcomes such as student engagement and retention (Kuh, 2008). These “high-impact educational practices” include

- first-year seminars and experiences,
- common intellectual experiences (e.g., a common core of classes required by all students),
- learning communities,
- writing-intensive courses,
- collaborative assignments and projects,
- undergraduate research,
- diversity/global learning (including study abroad experiences),
- service learning/community-based learning,
- internships, and
- capstone courses and projects.

Reasons given for the effectiveness of these practices are that they usually demand a high level of interaction with both faculty and peers, they require a substantial investment of students’ time and energy, and they often provide students with exposure to people different from themselves. These practices have proved to be especially beneficial for students from underrepresented groups such as African American students and first-generation college students (Kuh, 2008).

The high-impact educational practices described above are based on many of the same principles outlined in Chickering and Gamson’s (1987) *Seven Principles for Good Practice in Undergraduate Education*. These principles “distilled findings from decades of research on the undergraduate experience” (Chickering & Ehrmann, 1996, p. 3), and subsequent research has confirmed their importance in promoting student learning and effective teaching (e.g., Astin, 1992; Pascarella & Terenzini, 2005). The “seven principles for good practice” are

- encourage contact between students and faculty,
- develop reciprocity and cooperation among students,
- encourage active learning,
- give prompt feedback,
- emphasize time on task,
- communicate high expectations, and
- respect diverse talents and ways of learning.

While these seven principles are noted as best practices across the board, recent studies have begun to shed light on faculty teaching practices specifically in relation to general education courses (Nelson Laird & Garver, 2010;

Nelson Laird, Niskodé-Dossett, & Kuh, 2009). Nelson Laird, Niskodé-Dossett, and Kuh (2009) compared faculty teaching practices in general education courses with teaching practices in non-general education courses (i.e., major courses). These authors found that faculty teaching general education courses tended to place a greater emphasis on intellectual skills (e.g., writing and speaking skills) and individual and social responsibility than their colleagues teaching non-general education courses. In contrast, faculty teaching non-general education courses tended to place more emphasis on practical skills such as working with others and using information technology than their counterparts teaching general education courses. This study also found that faculty teaching non-general education courses interacted with students more frequently than faculty who taught general education courses. Thus, different teaching techniques appear to be utilized in different types of courses. Similar to high-impact educational practices, faculty-student interaction has been linked to a wide range of positive educational outcomes (Pascarella & Terenzini, 2005).

While the research literature yields interesting insights into what students may be gaining from the general education component of the undergraduate curriculum, there are some noticeable gaps. For example, little is known about the degree to which college students value the aims of general education. Although the AAC&U led a series of eight focus groups on general education in 2004 and 2005 with high school and college students from different regions of the country, the AAC&U study appears to be the only qualitative study available on this topic, and we are not aware of any quantitative studies in the research literature. Students who participated in the AAC&U focus groups had mixed views regarding the value of general education curricula (Humphreys & Davenport, 2005). While some participants described general education as a critical component of their undergraduate degree that greatly contributed to their knowledge base and personal development, other students viewed general education coursework as a distraction or worse yet, a waste of time. The overall consensus from the focus groups was that “the learning outcomes business, civic, and academic leaders consider the most important either are not understood by, or are low priorities for, today’s students” (Humphreys & Davenport, 2005, p. 36).

Research Questions

While a growing body of research focuses on general education outcomes and demonstrates that general education curricula can successfully promote student learning outcomes such as effective critical-thinking and writing skills (Astin, 1992; Nelson Laird et al., 2009), the research does not appear to have extended to assessing students’ perceptions of general education. As many colleges and universities across the country are either contemplating or working toward implementing

general education curricula that focus on student learning outcomes, this may be important information. For example, if a university serves a large proportion of students who do not value general education courses and/or the desired outcomes, the general education sequence may benefit from including activities designed to highlight the importance of general education outcomes rather than diving immediately into discipline-specific subject matter. From a student development perspective, students progress further when they are met where they currently are, rather than where educators would like them to be (Kegan, 1994). Knowing how students perceive this important piece of the U.S. undergraduate curriculum could help college and university faculty, administrators, and staff to structure educational opportunities for maximum student benefit.

Potential relationships between faculty teaching practices in general education courses and student satisfaction have also not been explored. Given that general education requirements make up roughly a third of a student's undergraduate degree requirements, that the majority of students complete most of their general education courses during their first two years of college, and the influential nature of faculty teaching practices on other student outcomes, general education courses have the potential to set the stage (both positively and negatively) for a student's undergraduate experience. Using data from Virginia Tech's Student Perceptions of the CLE Survey, this study is designed to explore the following research questions:

1. How important do students believe it is for their undergraduate education to provide them with the opportunity to develop the AAC&U's four essential learning outcomes?
2. How satisfied are students that their general education curriculum has provided them with the opportunity to develop the AAC&U's four essential learning outcomes?
3. Do selected faculty teaching practices in general education courses predict the level of student satisfaction with how the general education curriculum has helped them to acquire a broad general education?

We received approval from Virginia Tech's Institutional Review Board prior to conducting this research.

Method

Survey Instrument

The Student Perceptions of the CLE Survey was designed to obtain student perceptions of Virginia Tech's general education curriculum. The survey utilized the AAC&U's four essential learning outcomes and high-impact educational practices as underlying frameworks and included new questions as well as some questions

from Virginia Tech's Senior Survey. The final survey instrument consisted of ninety-one close-ended items and eight open-ended items. This voluntary survey was administered electronically during the spring 2010 semester as part of the Student Government Association's (SGA's) electronic voting process. All students who participated in the SGA election were also invited to participate in the CLE Survey, with 1,215 of the 2,300 students who voted in the SGA election submitting the CLE Survey, for a response rate of 52.8 percent.

Participants

All survey respondents were undergraduate students enrolled at Virginia Tech during the spring 2010 semester. After deleting cases in which data were missing for key variables of interest, the final sample consisted of 853 respondents, for a usable response rate of 37.1 percent. Approximately 34 percent of respondents were first-year students, 29 percent were sophomores, 25 percent were juniors, and 12 percent were seniors, indicating that the majority of survey respondents had likely completed most of their general education requirements prior to completing the survey. Slightly more than 62 percent of study participants were female; and approximately 80 percent were white, 7 percent were Asian/Pacific Islander, 3 percent were multiracial, 2 percent were Hispanic/Latino, 2 percent were African American, less than 1 percent were Native American, and 5 percent selected either "prefer not to answer" or "none of the categories listed." Since the total percentage of female undergraduate students at Virginia Tech during the 2009–10 academic year was 43 percent, the figure above (62 percent) indicates that females were overrepresented in the study population. Enrollment figures for the 2009–10 academic year also indicate that white students were overrepresented in the study sample, with approximately 74 percent of all undergraduate students at Virginia Tech identifying themselves as white versus 80 percent of survey respondents.

However, student respondents represented more than sixty different majors and all seven of Virginia Tech's academic colleges that award undergraduate degrees. More specifically, 29.1 percent of students were affiliated with the College of Science, 20.5 percent with the College of Liberal Arts and Human Sciences, 16.9 percent with the College of Engineering, 11.8 percent with the College of Business, 11.1 percent with the College of Agriculture and Life Sciences, 5.3 percent with the College of Architecture and Urban Studies, and 1.8 percent with the College of Natural Resources and Environment. An additional 3.5 percent of students indicated that they had not yet declared an academic major.

Data Analysis

To answer the first two research questions, descriptive statistics such as frequencies and means were analyzed for the following two survey items: (1) how *important* students believe it is for their undergraduate education to provide them with the opportunity to develop the AAC&U's four essential learning outcomes (Research Question 1) and (2) how *satisfied* students are that their general education curriculum has provided them with the opportunity to develop the AAC&U's four essential learning outcomes (Research Question 2). In order to answer Research Question 3, we conducted a hierarchical multiple regression analysis. Four different faculty teaching practices commonly cited as best practices in undergraduate education were utilized as predictor variables. These variables were (1) "set high standards for my learning" (Chickering & Gamson, 1987), (2) "encouraged me to search for commonalities and make connections between CLE courses or between CLE courses and courses in my major" (AAC&U, 2005), (3) "provided opportunities for students to learn cooperatively" (Astin, 1992; Chickering & Gamson, 1997), and (4) "were concerned about student learning and development" (Astin, 1992; Pascarella & Terenzini, 2005). Each of these items utilized a four-point Likert scale with the following response options: 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. In addition to these four predictor variables, potential interactions between each pairing of these variables were analyzed for a total of ten predictor variables.

The criterion variable in the regression analysis was the level of student satisfaction related to how Virginia Tech's CLE helped each respondent to acquire a broad general education. Although student satisfaction is a different measure than student learning or achievement, Lo (2010) argues that "strong student satisfaction implies that appropriately challenging instructional methods are serving to trigger students' thinking and learning" (p. 48). The criterion variable utilized a four-point Likert scale where 1 = not at all satisfied, 2 = somewhat satisfied, 3 = satisfied, and 4 = very satisfied. Predictor variables were entered into the regression analysis in order of predicted importance from most important to least important based on the correlations between the criterion variable and each of the first four predictor variables. "Set high standards for my learning" ($r = 0.546$) was entered into Block 1, "encouraged me to search for commonalities and make connections between CLE courses or between CLE courses and courses in my major" ($r = 0.494$) was entered into Block 2, "provided opportunities for students to learn cooperatively" ($r = 0.480$) was entered into Block 3, "were concerned about student learning and development" ($r = 0.479$) was entered into Block 4, and the six potential interactions among the first four predictor variables were entered into Block 5.

Results

Research Question 1

In response to the four survey questions that followed the format of “Based on your academic and professional goals, how IMPORTANT is it that your undergraduate education at Virginia Tech provide you with the opportunity to develop [insert one of the four essential learning outcomes]?” survey participants responded as follows: 75 percent indicated that the first essential learning outcome—knowledge of human cultures and the physical and natural world—was either important or very important to develop; 91 percent indicated that the second essential learning outcome—intellectual and practical skills—was either important or very important to develop; 85 percent indicated that the third essential learning outcome—personal and social responsibility—was either important or very important to develop; and 86 percent indicated that the fourth essential learning outcome—integrative learning—was either important or very important to develop. Additional details regarding how students perceived the importance of the four essential learning outcomes are provided in Table 1.

TABLE 1 Descriptive statistics for Research Question 1: How important do students believe it is for their undergraduate education to provide them with the opportunity to develop the Association of American Colleges and Universities’ four essential learning outcomes?

Essential Learning Outcome	Not Important at All (%)	Somewhat Important (%)	Important (%)	Very Important (%)	Mean	S.D.
1. Knowledge of human cultures and the physical and natural world	4.6	20.6	42.8	32.0	3.02	0.84
2. Intellectual and practical skills	1.4	7.7	40.8	50.1	3.40	0.69
3. Personal and social responsibility	2.8	12.7	41.0	43.5	3.25	0.78
4. Integrative learning	2.5	11.6	45.7	40.2	3.24	0.75

NOTE: Student responses utilized the following scale: 1 = not important at all, 2 = somewhat important, 3 = important, and 4 = very important; $n = 853$ respondents for each essential learning outcome.

Research Question 2

In response to the four survey questions that followed the format of “Based on your experiences thus far, how SATISFIED are you that Virginia Tech’s CLE has provided you with the opportunity to develop [insert one of the four essential learning outcomes]?” survey participants responded as follows: 63 percent indicated that they were either satisfied or very satisfied with their opportunities to develop the first essential learning outcome—knowledge of human cultures and the physical and natural world; 65 percent indicated that they were either satisfied or very satisfied with their opportunities to develop the second essential learning outcome—intellectual and practical skills; 61 percent indicated that they were either satisfied or very satisfied with their opportunities to develop the third essential learning outcome—personal and social responsibility; and 63 percent indicated that they were either satisfied or very satisfied with opportunities to develop the fourth essential learning outcome—integrative learning. Additional details related to student satisfaction with opportunities to develop the four essential learning outcomes are provided in Table 2.

TABLE 2 Descriptive statistics for Research Question 2: How satisfied are students that their general education curriculum has provided them with the opportunity to develop the Association of American Colleges and Universities’ four essential learning outcomes?

Essential Learning Outcome	Not at All Satisfied (%)	Somewhat Satisfied (%)	Satisfied (%)	Very Satisfied (%)	Mean	S.D.
1. Knowledge of human cultures and the physical and natural world	7.7	29.1	52.2	11.0	2.66	0.77
2. Intellectual and practical skills	7.4	27.2	51.1	14.3	2.72	0.80
3. Personal and social responsibility	10.0	29.3	48.1	12.7	2.63	0.83
4. Integrative learning	8.9	28.6	51.7	10.8	2.64	0.79

NOTE: Student responses utilized the following scale: 1 = not at all satisfied, 2 = somewhat satisfied, 3 = satisfied, and 4 = very satisfied; $n = 853$ respondents for each essential learning outcome.

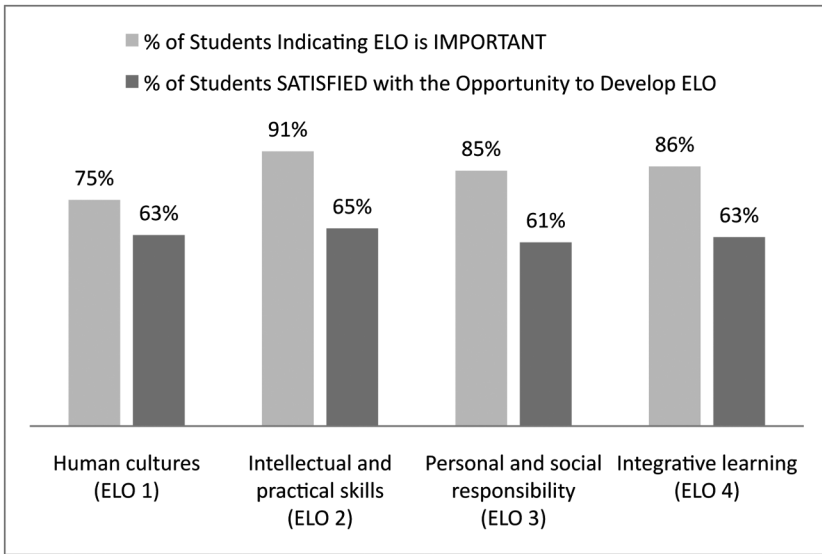


FIGURE 1: Differences in student perceptions related to the Association of American Colleges and Universities’ four essential learning outcomes. ELO 1 = the first essential learning outcome; ELO 2 = the second essential learning outcome; ELO 3 = the third essential learning outcome; ELO 4 = the fourth essential learning outcome.

Data from Table 1 and Table 2 demonstrate that there are differences between (1) how *important* students believe it is for their undergraduate education to provide them with the opportunity to develop the AAC&U’s four essential learning outcomes and (2) how *satisfied* students are that their general education curriculum has provided them with the opportunity to develop the AAC&U’s four essential learning outcomes (see Figure 1). For the first essential learning outcome, the gap between the percentage of students who indicated that developing this learning outcome was either important or very important and the percentage of students who indicated that they were either satisfied or very satisfied with their opportunities to develop this outcome was 12 percent; for the second essential learning outcome, the gap was 26 percent; for the third essential learning outcome, 24 percent; and for the fourth essential learning outcome, 23 percent.

Research Question 3

Results from the hierarchical regression analysis show that the predictor variable entered into the model in Block 1, “set high standards for my learning,” was a statistically significant predictor ($F_{1,835} = 355.485, p = .000$) that explained 29.9 percent ($R^2 = 0.299$) of the variation in student satisfaction regarding the extent

to which Virginia Tech's general education curriculum has helped students to acquire a broad general education. The predictor variable entered into the regression in Block 2, "encouraged me to seek commonalities and make connections between CLE courses or between CLE courses and courses in my major," was also a statistically significant predictor ($F_{\text{change1,834}} = 86.392, p = .000$) that explained an additional 6.6 percent ($\Delta R^2 = 0.066$) of the variation in student satisfaction. When the third predictor variable, "provided opportunities for students to learn cooperatively," was entered into Block 3, an additional 0.9 percent of the variance was explained ($\Delta R^2 = 0.009$). This third predictor variable also accounted for a statistically significant proportion of the variance in student satisfaction ($F_{\text{change1,833}} = 12.010, p = .001$). The fourth predictor variable entered into Block 4, "were concerned about student learning and development," was also a statistically significant predictor ($F_{\text{change1,832}} = 19.314, p = .000$) that explained an additional 1.4 percent of the variance in the criterion variable ($\Delta R^2 = 0.014$). None of the six variable pairs entered into Block 5 were statistically significant predictors when $\alpha = 0.05$. Overall, the total amount of variance in student satisfaction explained by the first four predictor variables was 38.8 percent. Further results from the hierarchical regression analysis are provided in Table 3.

TABLE 3 Hierarchical regression coefficients for the ten predictor variables

Predictor Variable	<i>B</i>	<i>t</i>	<i>p</i>
Block 1			
Set high standards**	0.594	18.854	.000
Block 2			
Encouraged search for commonalities**	0.296	9.295	.000
Block 3			
Opportunities to learn cooperatively*	0.148	3.466	.001
Block 4			
Concerned about student learning**	0.178	4.395	.000
Block 5			
Standards × commonalities	-0.052	-0.951	.342
Standards × student learning	0.023	0.420	.675
Standards × cooperative learning	0.095	1.833	.067
Commonalities × student learning	-0.013	-0.240	.810
Commonalities × cooperative learning	0.046	0.840	.401
Student learning × cooperative learning	-0.115	-1.795	.073

NOTE: $n = 837$ respondents.

* $p = .001$; ** $p < .001$.

Limitations

This study includes several limitations that readers should take into account. One limitation of this study is that the 853 participants who completed the survey instrument were a convenience sample and cannot be considered representative of the undergraduate student population at Virginia Tech. Only students who chose to participate in the SGA's electronic voting process during the spring 2010 semester had the opportunity to complete the CLE Survey. Another important limitation is that efforts to examine the reliability and validity of the CLE Survey instrument have been limited to date. Thus, it is possible that findings based on the survey data do not accurately reflect students' actual views and experiences. Similarly, the CLE Survey is a self-report instrument. If students were not honest in their responses to the survey items due to social desirability and/or did not understand the information requested of them, the survey data may not accurately reflect students' perceptions. However, Kuh (2004) argues that "a good deal of evidence shows that students are accurate, credible reporters of their activities and how much they have benefited from their college experience" when completing self-report instruments if students possess the information needed to accurately answer the survey questions and the survey items are easy to understand (p. 4).

Another limitation of the present study is that the criterion variable was a single survey item, which restricts the amount of variance. Future studies may benefit from utilizing composite variables that combine responses to multiple items in order to increase the amount of variance. An additional limitation is that while the CLE Survey provided both quantitative and qualitative data, this study focused solely on the quantitative data. Analyzing the qualitative survey data along with data collected through methods such as interviews and focus groups could be critical in learning more about the reasons behind student satisfaction and dissatisfaction related to the AAC&U's four essential learning outcomes and general education curricula. Despite these limitations, the present study provides insight into an area in which little is currently known.

Discussion and Implications

While the AAC&U's four essential learning outcomes "resonate with what educators, alumni, and business leaders believe students need to function effectively in a rapidly changing world" (Nelson Laird et al., 2009, p. 65), the results of this study show that the four essential learning outcomes also resonated with the vast majority of the undergraduate students at Virginia Tech who participated in the CLE Survey. These results are in stark contrast to findings from the AAC&U student focus groups that suggest that "there is a serious disconnect

between what students value and the vision of liberal education championed by the AAC&U community” (Humphreys & Davenport, 2005, p. 41). Although the CLE Survey findings are positive news for educators and employers, study results suggest that instead of a disconnect between what students think and educators/employers think, there may be a disconnect between how *important* students feel it is to have the opportunity to develop the four essential learning outcomes and how *satisfied* they are with the opportunities they have had to develop these outcomes.

Similar to the many employers surveyed by the AAC&U who indicated that they would like colleges and universities to place a greater emphasis on skills such as critical thinking and solving complex problems—skills that are important components of the essential learning outcomes (AAC&U, 2008)—a considerable minority of students (35–39 percent) who participated in the CLE Survey indicated that they were dissatisfied with the opportunities they had received to develop the essential learning outcomes. This suggests that in addition to many employers wanting more from the undergraduate experience in terms of providing students with a well-rounded education (AAC&U, 2008), so might a substantial proportion of students.

This then leads to the question of what is behind this gap. The results from the hierarchical multiple regression analysis conducted for the study sample demonstrate that nearly 39 percent of the variance in student satisfaction with how the general education curriculum has helped students to acquire a broad general education can be explained by the following four faculty teaching practices: (1) set high standards for my learning, (2) encouraged me to search for commonalities and make connections between CLE courses or between CLE courses and courses in my major, (3) provided opportunities for students to learn cooperatively, and (4) were concerned about student learning and development. More specifically, approximately 30 percent of the variance in student satisfaction was explained by the faculty teaching practice of setting high standards for student learning. This suggests not only that setting high standards is a best practice for undergraduate education in general but that it may be extremely important in general education courses.

Similarly, students in the study sample were also more satisfied that the general education curriculum helped them to acquire a broad general education when the faculty members teaching their general education courses encouraged them to search for commonalities and make connections either between CLE courses or between CLE courses and courses in their academic major. This second faculty teaching practice explained an additional 6.6 percent of the variance in student satisfaction. Together, these results indicate that two faculty teaching practices in particular—setting high standards for student learning and

encouraging commonalities between courses—may lead to increased student satisfaction with how the general education curriculum has helped them to acquire a broad general education.

Conclusion

While some faculty members may not be excited about teaching general education courses (often introductory-level courses that enroll nonmajors), the results from the CLE Survey suggest that in order to maximize student experiences in general education curricula and provide students with a broad general education, it is important for faculty members teaching general education courses to set high standards for student learning and to encourage students to make connections between courses. Although students may not be excited about taking specific general education courses either, prior research suggests that students generally “do what is asked of them and benefit accordingly” (Nelson Laird et al., 2009, p. 82). Encouraging students to search for commonalities among general education courses, or among general education courses and courses in their academic major, could be critical to creating a sense of coherence in undergraduate curricula. A lack of coherence among the various components of general education curricula is currently a major issue in the widespread distribution requirement model of general education (Association of American Colleges, 1994).

Given that the results from the CLE Survey differed from the AAC&U’s student focus group findings, data collection efforts that obtain perceptions from a variety of undergraduate student populations are needed. Since the present study is limited in that it only examined four different faculty teaching practices, investigating potential relationships between other faculty teaching practices and student satisfaction with general education curricula is another area in which more research is needed. It would also be useful to gain more insight into how faculty teaching practices in general education courses may predict or influence student learning outcomes in these courses. Of course, approximately 61 percent of the variance in student satisfaction was not explained by the four faculty teaching practices used as the primary predictor variables in this study. Thus, we welcome future research that seeks to shed light on this remaining 61 percent.

NOTE

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of the Student Government Association, for their work creating, administering, and disseminating the results of Virginia Tech's Student Perceptions of the Curriculum for Liberal Education Survey upon which this secondary analysis is based. Their work was highlighted in a presentation at the 2011 General Education and Assessment conference of the Association of American Colleges and Universities. We would also like to thank Kathryn Drezek McConnell, assistant director, Office of Assessment and Evaluation, for her contributions to this work.

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