DIVERGENCE IN LEARNING GOAL PRIORITIES BETWEEN COLLEGE STUDENTS AND THEIR FACULTY

IMPLICATIONS FOR TEACHING AND LEARNING

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Abstract. Using a sample of 751 undergraduate students and 85 of their faculty, the author examined the extent of faculty-student differences in their priorities placed on eight learning goals. The findings show that students placed significantly more importance on career preparation, scientific reasoning, personal development, and art and cultural appreciation and that faculty placed significantly more importance on critical thinking and mastery of discipline content. Students and their faculty did not differ significantly on the priorities they placed on basic academic skills, citizenship, and values. The implications of these findings are discussed in terms of curriculum development and an increasing belief that student development and learning are improved when curricula assess and incorporate students’ goals and priorities.

Keywords: faculty, goals, learning, students, teaching

There is an interesting paradox in higher education: curriculum reform and design are supposed to be in the best interest of student development and learning, but these students have little input into curriculum and teaching decisions. Although many educators advocate a student-centered environment (Barr and Tagg 1995; Stiggins 2000), the extent to which this occurs in the college classroom is limited. Three learning and educational theories—metacognition (personal), cognition, and multicultural (social)—contend that student development and learning are improved when curricula assess and incorporate students’ goals and priorities (Baxter Magolda 1992; Dillard and Blue 2000). Perhaps curriculum design is devoid of student input because research on college students’ values concerning education and learning priorities in their courses is limited. In this article, I (1) present theory and research that support the need to incorporate students and their values into curriculum reform and (2) use assessment data to measure student and faculty priorities across eight learning goals and test the extent to which students and faculty prioritize similar goals.

Rationale

Three educational theories strongly suggest that curriculum reform should incorporate student perceptions, goals, and expectations to facilitate student development and, therefore, learning. First, metacognitive theory emphasizes that both student and faculty should be aware of the student’s self-perception of his or her learning to best assist the student in that learning (Butler and Winne 1995). Education is a combination of the needs and processes of individual students and the faculty’s ability to understand these processes. By assessing student perceptions, faculty provide feedback to students to help them create their own understanding and meaning of course content. Two studies support the metacognitive model.
ourselves 'center' our personal histories in our classrooms there will be a myriad of curriculum should be a reflection of cultural diversity. Each student hails from a diverse cultural, social, and ideological background, and the design and content of curriculum should be a reflection of these diverse backgrounds. Dillard and Blue argue, “We must acknowledge that in our classrooms there will be a myriad of perspectives held by our students, some of which may be contradictory to the ones we hold. Our task is one of structuring the curriculum to help our students and ourselves ‘center’ our personal histories and experiences” (2000, 197). Further, Inglebret and Pavel (2000) contend that culturally diverse students have unique learning styles. To connect with students, a teacher must acknowledge the unique perspectives and values they bring to the classroom.

These three theories on development and learning do not discount the importance of faculty input in curriculum decisions. The theories emphasize, however, that teaching and learning should be more symmetrical and iterative by assessing and then incorporating students’ experiences, goals, and values. Current research, however, finds that the shaping of curriculum is mostly by the personal experiences and goals of individual faculty and is devoid of students’ input or research on students (Kennedy 1994). Data from six surveys (between 1968 and 1992) of more than 50,000 college faculty showed little change in faculty goals over the twenty-four-year period (Tice and Dey 1997). The need to understand the students’ goals has hastened when one considers the significant changes in the demographic profiles of college students between 1968 and 1992 (e.g., increases in the number of women, racial minorities and immigrants, nontraditional students, return students, and part-time students [Keller 2001]).

**Prior Research**

A successful student-centered curriculum requires a basic understanding of student values and the extent to which faculty and students share similar goals and perceptions. A limited line of research finds that significant disparities exist between college students and faculty. Peterson and Chinen (2000) studied 378 graduate students in business school and 321 business school professors and found that the professors’ perceptions of the rank-ordered goals of students were significantly dissimilar to the student’s own rankings in four of the eighteen categories. Almost all of the professors, however, reported that knowing their students’ goals is important to their approach to teaching, but few used explicit means to uncover their students’ goals. In a study of 224 faculty and undergraduate students, MacLellan (2001) found wide disparities between students and faculty regarding perceptions about the purpose and procedures of assessment. For example, 69 percent of faculty but only 5 percent of students reported that assessment was frequently used to motivate learning. The biggest disparity between faculty and students occurred in perceptions about what classroom activities composed the bulk of instruction. Of the nine modes (e.g., multiple choice, participation in labs), student and faculty perceptions were similar only on one. This last finding is important as it relates to the concept of met expectations in college classrooms. Met expectations refers to the degree to which students’ expectations of pedagogy and assessment align with the behaviors and practices of faculty (Kolb, Osland, and Rubin 1995). Research finds that student attrition is associated with unmet expectations (Darkenwald and Gavin 1987).

Given this limited line of research, it is not clear what factors contribute to disparities in learning goals between faculty and students. Research on the general goal orientations of college students, however, may shed light on some important factors. Research finds that learning values differ by a student’s sex, major, and class standing (Colbeck, Cabrera, and Terenzini 2001; Paulsen and Wells 1998). For faculty-student similarity in goals, major field and class standing may be very important because faculty-student contact is greater for juniors and seniors and for students majoring in the social sciences and humanities (Kuh and Hu 2001). Research also shows that student perceptions are different in lower- and upper-level courses (Colbeck et al. 2001), perhaps a reflection of the value difference by class standing. Finally, there is some evidence that faculty-student disparities may be greater for nonmajors than majors, partly because of discipline-specific knowledge and norms (Wilson 2001).

**Method**

**Sample**

The data for this analysis come from a teaching, learning, and technology center at a large northwestern public university. The center functions mainly as a support system for faculty who wish to incorporate technology into their classroom. The center also assists faculty with more general pedagogy issues and operates an assessment division that evaluates the impact, satisfaction, and effectiveness of technology that is incorporated into classrooms. The center creates and
supports various educational tools that are located online and allow students to interact asynchronously with the faculty and each other. Faculty generally use the educational tools to complement their face-to-face lectures.

Faculty who use the educational tools were asked to participate in the formative assessment process. The formative assessment process involved three surveys—two geared toward students and one aimed at faculty. Generally, the content of the questions was identical for students and faculty. A Web site address of the faculty survey was sent to all faculty using the technologies. Once the instructor completed and submitted the survey, a link for the student surveys was attached to their online space.

This article uses data from 751 undergraduate students and 85 of their faculty who completed these formative survey questionnaires in either the fall of 2000 or the spring 2001. The response rate for faculty was nearly ninety percent, but only forty percent for the students. Ancillary analyses show (results available on request) that there are no consistent patterns of nonresponse among the students. Students who responded are not from selective colleges, disciplines, or departments or differentially linked to faculty respondents. A random sample was not feasible because of the nature of the investigation. The data are from a convenience sample. Admittedly, the nonrandom sample limits the ability to generalize to the larger population of college students. Therefore, the results presented here will be most useful when compared in context to other existing studies.

**Learning Goals**

Data from a parallel question on the faculty and student surveys were used to assess the similarity in general educational and learning goals between students and their faculty. The specific wording of the question in the student survey was “How important is it to you to achieve the following from this course?”; the faculty survey said “Indicate the priority you place on each of the following learning outcomes in this course.” Faculty and students could respond with 4 = very important, 3 = somewhat important, 2 = not very important, or 1 = not important at all. The eight learning outcomes listed in both surveys were (1) critical thinking skills, (2) basic academic skills, (3) career preparation, (4) scientific reasoning, (5) personal development, (6) mastery of discipline content, (7) citizenship and values, and (8) art and cultural appreciation. These goals are a slight modification of the Teaching Goal Inventory developed by Angelo and Cross (1993). The survey’s purpose was not to address discipline- or course-specific topics but rather to assess general educational and learning goals and priorities.

### TABLE 1. Learning Outcome Priorities of Students and Their Faculty: Means, Standard Deviations, and Statistical Tests of Differences

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Faculty Mean</th>
<th>Faculty Standard Deviation</th>
<th>Students Mean</th>
<th>Students Standard Deviation</th>
<th>Difference in Priorities</th>
<th>Cohen’s <em>d</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority placed on:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical thinking</td>
<td>3.87</td>
<td>0.49</td>
<td>3.12</td>
<td>0.66</td>
<td>0.75***</td>
<td>1.29</td>
</tr>
<tr>
<td>Basic academic skills</td>
<td>3.51</td>
<td>0.78</td>
<td>3.42</td>
<td>0.66</td>
<td>0.09</td>
<td>0.12</td>
</tr>
<tr>
<td>Career preparation</td>
<td>2.75</td>
<td>0.89</td>
<td>3.33</td>
<td>0.94</td>
<td>-0.58**</td>
<td>0.63</td>
</tr>
<tr>
<td>Scientific reasoning</td>
<td>2.43</td>
<td>1.00</td>
<td>2.97</td>
<td>0.84</td>
<td>-0.54**</td>
<td>0.5</td>
</tr>
<tr>
<td>Personal development</td>
<td>3.19</td>
<td>0.86</td>
<td>3.55</td>
<td>0.75</td>
<td>-0.36**</td>
<td>0.45</td>
</tr>
<tr>
<td>Mastery of discipline content</td>
<td>3.50</td>
<td>0.81</td>
<td>3.18</td>
<td>0.74</td>
<td>0.32**</td>
<td>0.41</td>
</tr>
<tr>
<td>Citizenship and values</td>
<td>3.02</td>
<td>0.81</td>
<td>2.88</td>
<td>0.84</td>
<td>0.14</td>
<td>0.17</td>
</tr>
<tr>
<td>Art and cultural appreciation</td>
<td>2.67</td>
<td>0.91</td>
<td>3.04</td>
<td>0.88</td>
<td>-0.37**</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Note. The means and standard deviations presented in the table are unweighted and adjusted for student, faculty, and course characteristics. Statistical tests for the differences in priorities were estimated by a weighted paired *t*-test.

*p < .05  **p < .01  ***p < .001 (two-tailed)

**Additional Variables**

The surveys also contain data on the general characteristics of the students and on a limited number of characteristics of their instructor and the course in which the students were enrolled. Most of these variables receive empirical support that show they affect the educational and learning goals of students and faculty. Student characteristics include their sex and age, whether they took the course as an elective, requirement, or other (e.g., personal or professional enrichment), and their major. The only faculty characteristic is their sex. Course characteristics include whether the course comprised predominately majors, nonmajors, or both, and the level of the course (i.e., lower undergraduate, upper undergraduate). These variables are used to adjust the student and faculty learning goal means that are analyzed below.

**Results**

Table 1 presents the means and standard deviations and the results from the weighted paired *t*-tests of differences in means between faculty and student on the value they place on each learning goal. Briefly, by estimating a paired *t*-test (versus a standard *t*-test) each of the faculty’s scores was matched (i.e., paired) with the scores from the specific students in his or her course. Then, a weight adjusts for the different number of students in each class that contributes to the overall statis-
tics. Finally, all means are controlled for the aforementioned student, faculty, and course characteristics.

Looking at the mean scores for faculty and students shows that each group places high priorities on a slightly different set of learning goals. For faculty, the highest priorities are placed on critical thinking, basic academic skills, and mastery of discipline content. Students also value basic academic skills, but similarly value personal development and career preparation. These last two goals prioritized by students reveal a substantive divergence between faculty and students. Specifically, the goals prioritized by faculty pertain directly to learning and thinking progress, whereas two of the three goals prioritized by students pertain more to individual and affective progress. Surprisingly, both faculty and students placed a relatively low priority on scientific reasoning.

This theme of divergence continues when looking at the statistical differences in means. On the one hand, students and their faculty place statistically similar priorities on basic academic skills, citizenship, and values. On the other hand, faculty and students have statistically different priorities across six of the eight learning goals. Faculty place significantly more importance on critical thinking (mean = 3.87) than do students (mean = 3.12), and more importance on mastery of discipline content (mean = 3.50) than do students (mean = 3.18). Students, however, place significantly more importance on four learning goals than do faculty: career preparation (mean = 3.33 versus 2.75), scientific reasoning (mean = 2.97 versus 2.43), personal development (mean = 3.55 versus 3.19), and art and cultural appreciation (mean = 3.04 versus 2.67). All of these differences are significant at \( p < .01 \). Again, these differences have been adjusted for several relevant student, faculty, and course characteristics.

How large are these differences substantively? To determine the practical size of these differences, I calculated a Cohen’s \( d \) for each of the significant differences. Cohen (1988) defined effect sizes as “small” for a \( d \) about 0.20, “medium” for a \( d \) about 0.50, and “large” for a \( d \) 0.80 or larger. Among the learning goals valued higher by faculty, the size of the difference in means between faculty and students on critical thinking is quite large (\( d = 1.29 \)), whereas the difference in means on mastery of discipline content is close to a medium effect size (\( d = .41 \)). Among the learning goals valued higher by students—career preparation, scientific reasoning, personal development, and art and cultural appreciation—the effect sizes of the differences in means on all are of a medium effect size. These results suggest that faculty and students differ both statistically and practically on the values they place on six of the eight learning goals under study.

**Discussion and Implications**

The findings indicate faculty and students not only have a different set of learning goals that each prioritizes but that they also disagree more than they agree on the value of eight common learning goals. The patterns found in this research suggest that teaching and learning and, ultimately, student development may be affected by the different learning goals held by students and their faculty. Indeed, Dillard and Blue (2000) argue that curriculum development is a collaborative effort between teachers and students, and teachers’ interpretation of what is important to teach can be informed by understanding and knowing their students’ goals and values. According to Parkay and Hass (2000), teachers should seek the input of students about clarifying and modifying classroom learning objectives. Hass compares curriculum planning to a democratic society where students are “the major untapped resource.” Students are in the best position to explain many of the advantages and deficiencies of the present curriculum” (2000, 303). Although the goals of students and faculty do not have to be identical, they should overlap in a significant way, such that faculty and students learn together (Barr and Tagg 1995; Parkay and Hass). So, how do faculty and students become aware of each other’s goals? There are many possibilities, but three strategies are most probable: formative assessment, research on teaching and learning, and faculty-student communication.

Formative assessment is a learner-centered movement that encourages faculty to focus on the student-learning component of teaching (Angelo and Cross 1993; Huba and Freed 2000). Faculty use student feedback to understand what students do and do not understand, identify barriers to learning, and clear up any misconceptions and miscommunications. Angelo and Cross argue that faculty and students need better ways to monitor learning throughout the semester, and imagine a course where the relative goals of the instructor and students followed the patterns in this study—the instructor prioritizes critical thinking and mastery of discipline content and the students prioritize career preparation, scientific reasoning, personal development, and art and cultural appreciation. Although the effect of the different relative priorities for any one goal may be medium, the cumulative effect of instructor-student differences across all the learning goals may be quite large.

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formative assessment is one method to encourage a continuous flow of accurate information on student learning.

With educational research the focus is on faculty development—the improvement of teaching and education through the systematic study of research on teaching and learning (Cross and Steadman 1996). According to Boyer (1990), using research to inform teaching is the scholarship of application, where faculty apply what is known about teaching and learning—including learning goals—to the teaching process. Furthermore, this process is recursive: as faculty learn more about teaching, they become better teachers, which inspires them to learn more about teaching. This feedback process has tangible benefits for students as it positively affects the development of achievement, motivation, and the self (Anderson, Greene, and Loewen 1988; Ross 1992).

The third method is faculty-student communication, which is one of the seven principles of good practice in undergraduate education (Chickering and Gamson 1987). Research has shown conclusively that faculty-student communication increases faculty and student awareness of each other’s goals and, in turn, enhances student development (Astin 1993). Cabrera et al. (2002) found that student-faculty collaboration is positively associated with the development of cognitive and affective outcomes (personal development, understanding science and technology, appreciation for art, and analytical skills) and openness to diversity. Faculty-student contact can take place both in and out of the classroom and such contact increases the extent to which faculty can influence student development and increases the intrinsic value students place on learning (Terenzini et al. 1995).

Interpretation of the results and the direction of future research are guided by both the findings and limitations of this study. First, it is unclear the extent to which the low student response rate (40 percent) tempers the ability to fully generalize the findings, although this response rate is similar to or better than many large web-based surveys of college students. For example, the National Survey of Student Engagement (NSSE) is an annual survey of about 60,000 first-year and senior-year college students, where data are collected about sixty-seven college experiences (e.g., courses taken, perceptions of campus environment). The response rate for the Web-based-only mode of the 2000 NSSE was 40 percent. The 2001 Your First College Year (YFCY) survey—designed in part as a follow-up survey to the 2000 Cooperative Institutional Research Program Freshman Survey—contained an experimental survey administration to assess the effectiveness of traditional versus web-based survey methods (Sax, Gilmartin, and Bryant 2003). The response rates for the Web-only survey were between 17.1 percent and 19.8 percent, whereas the response rate for the paper-only survey was 22 percent. What are the general biases because of low response rates? Krosnick (1999) argues that low response rates do not necessarily allow bias to contaminate the findings, especially when there are no real differences between the characteristics of respondents and nonrespondents. As reported above in the Methods section, ancillary analyses found no discernable patterns of nonresponse for this current study, thus reducing the likelihood of bias. This finding is similar to that of Sax, Gilmartin, and Bryant, where gender was the only consistent predictor of nonresponse to the Web-based YFCY survey (i.e., female students were more likely to participate than male students). Further, with respect to biases because of mode of survey, Carini et al. (2003) found that after controlling for student and institutional characteristics, there are only small distinctions in patterns of responses between students who completed the NSSE in Web-based versus paper mode. Although the low response rate of this current research should not be dismissed, most evidence suggests that the response rate did not significantly bias the findings overall. Further research, however, with a higher response rate, is certainly needed.

Second, this study was conducted at a single public research university in the northwest. Although there is not an a priori reason to suggest this university is unique, future research should be conducted at private, liberal arts, historically black, and community universities and colleges to form a critical mass of findings. Third, the faculty involved in this study voluntarily used the university’s teaching and learning center’s resources. This suggests that the convenience sample of faculty may have self-selected characteristics that affected the results. Results from a university-wide random sample of faculty could be compared with the findings in this study to detect any self-selection biases. Fourth, the sample of students and faculty was predominately white. It is possible that the results would be different or shed more light on faculty-student goals if the sample were more racially, demographically, and socially diversified, similar to the diversification of universities and colleges nationwide. Fifth, this study focuses on eight specific learning goals; other patterns may be found with a different set of learning goals.

Further research should replicate and expand this study with these limitations in mind. However, the current results also point to other types of future research. Most notably, research should examine what faculty, students, and administration can do to increase the awareness and similarity of faculty-student goals and priorities, how to instruct faculty to understand their students’ goals, and the benefits that confer when the goals of faculty and students overlap. The focus of this research must be directed toward the behaviors of academic and student affairs, higher administration, individual departments and academic units, student and faculty groups, and lines of communication between faculty. One possibility is the creation of a community of inquiry, which comprises faculty, staff, students, and administrators that come together for the common purpose of discussing, assessing, and supporting techniques and outcomes of teaching and learning (Thomas 1997). Palincsar, Magnusson, and Marano (1998) describe a teaching community as that which relies on diverse expertise to contribute to the intellectual resources of the community. The benefits of creating a genuine academic community of interest ultimately extend to student development.

REFERENCES

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