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Despite an emphasis in recent policy on connecting school to work, relatively little is known about how these connections are made and what they look like. In this article, we explore the relationship between community college faculty and their local labor markets. We use a unique national survey that provides the first systematic data from a large number of faculty on this issue, supplemented by case studies. We show that faculty engage in a range of relatively low-level connecting activities; stronger connections are rare. Faculty receive minimal institutional support for such efforts. There are several important barriers to improving linkages related to faculty time and institutional structures.

Community colleges are a critical part of the education and training system: They prepare millions of young Americans for direct entry into the labor market as well as transfer to 4-year colleges, help retrain and upgrade the skills of older workers, and provide basic education for adults. In an era when the job skills required for labor market success appear to be changing rapidly, community colleges play a significant role in facilitating students' school-to-work transition (Grubb, Dickinson, Giordano, & Kaplan, 1992; Murnane & Levy, 1996). This has been one of the premises of recent federal legislation, as well as other state and local reform initiatives. Community colleges have responded with a range of programs (e.g., technical-preparation, school-to-work, service learning, and cooperative education programs) that emphasize coupling classroom learning with applied experience in local business, government, or nonprofit settings. The success of these efforts depends on close links between institutions and the labor market: Instructors need high-level, up-to-date skills and must be keyed in to changing labor market priorities in order to provide students with the technical knowledge they need.

Although recent studies have collected some information on the development and effectiveness of work-connected programs in 2-year colleges (Bragg, Layton, & Hammons, 1994; Stern, Finkelstein, Stone, Latting, & Dornsife, 1994; see also Stasz & Brewer, 1998), they have not focused on the types of formal and informal linkages that exist between colleges and the workplace. Our study fills this gap in the literature by describing the ways in which faculty are linked to their local labor markets. Using our own national survey of community college instructors and institutional case studies, we find that linkages requiring a relatively low level of effort on the part of faculty are widespread but that more proactive measures are infrequent. The connections that do exist tend to be focused on career assistance, with academic faculty less likely than vocational faculty to engage in all types of linking activities. Traditional boundaries

between programs and disciplines and competing demands on faculty time emerge as critical barriers to building connections. There is little institutional support for faculty building linkages.

Background

There is strong sentiment among policymakers and practitioners that changes in the U.S. economy necessitate closer, reciprocal communication between educators and industry (i.e., labor market connectivity). Policy at federal and state levels has, to some extent, reflected this. For example, "Goals 2000" calls on educators and employers to develop skill standards together. The School to Work Opportunities Act of 1994 specifically funds the development of formal partnerships among employers, public secondary and postsecondary institutions, and labor organizations. The reauthorization of the Perkins Act in 1990 ("Perkins II") called for the integration of academic and vocational subjects at both K–12 and postsecondary levels, as well as the broadening of vocational curricula, making greater use of work experience and building a "broad career preparation system."

Community colleges have a long history of links to business and industry and to the communities they serve; in most cases, it is part of their formal mission (Dougherty, 1994). As college functions expanded, so did the opportunities for connections to the local labor market through vocational and community education (Cohen & Brawer, 1996). Many vocational programs include some element of work-based learning with a local employer and are often the major means by which students are placed into jobs (National Assessment of Vocational Education, 1994). Colleges offer an array of occupational options, including contract training (direct arrangements with a local employer for employee training, often on site), apprenticeship training, Job Training Partnership Act (JTPA) programs, and economic development services.

There is almost no formal, systematic evidence regarding the ties between colleges and the workplace. Such information is important because it can point to both the obstacles to building school-labor market connections and the conditions that facilitate institutional efforts to develop and sustain them. We define "linkages" or "connections" as activities, policies, programs, or informal relationships that connect community colleges to the local labor market, providing opportunities for exchanges of information, cooperative efforts, and so forth. Connections to the labor market are likely to exist at institutional and program levels, but it is individual faculty who have primary responsibility for providing students with the skills they need for the workplace. Our focus, therefore, is on faculty linkages.

Based on a review of the (limited) literature and discussions with community college administrators, faculty, and experts, we divided linkages into several types. First, instructors may bring aspects of the labor market into their classroom via *pedagogical and curriculum* activities. For example, they may integrate academic and vocational learning in class or develop student assignments requiring interaction with or work in the community. Second, students may receive *career assistance* from their instructors. Third, faculty may undertake various *institutional* activities such as taking the initiative in developing programs or serving on departmental or program advisory committees that include industry input.[1] While there is some overlap among these domains, they provide a convenient way of examining the wide diversity of connections.

Although many factors might explain the extent to which faculty undertake these activities, two seemed to us a priori likely to be relevant. First, an individual faculty member's professional status is expected to be important. For example, many faculty are hired as part-time lecturers and have temporary and weak connections to the institution. Community colleges employ faculty in a wide array of teaching fields. It makes a difference whether the instructor teaches automotive repair or American history. Many academic programs seem far removed from the world of work, and some vocational programs may be more employment specific than others. We would expect faculty to vary in the priorities assigned to their duties, including linking to the labor market. An instructor's teaching field will also influence the opportunities to build connections to the labor market. Most occupational programs have formal advisory committees through which faculty interact directly with local business and industry representatives.

Second, the extent to which faculty are linked is probably influenced by the institution in which they work. Individual faculty need to have the tools (including information and other resources) to engage in building links to the labor market. For example, in order to integrate labor market concerns into a curriculum, faculty need sufficient knowledge of the needs of employers. This may depend on the

type of labor market in which the college is located and the extent to which faculty cooperate with each other.

Data

We set two broad goals: to describe and quantify the types of linkages that exist between faculty and the labor market and to explain patterns of linking activity across types of faculty and institutions. We pursued a two-pronged strategy: a national survey of community college faculty to gather data on the characteristics of faculty and their linkages to the labor market and case studies of four community colleges to provide richer detail. Our goal was to gather enough information to be able to describe the types of linkages that individual faculty and colleges had established with local labor markets, the challenges faced in establishing linkages, how the institution encouraged linkages, and the perceived importance and strength of existing linkages.

In the fall of 1995, we conducted a national mail survey of community college faculty. We first obtained (with the assistance of the American Association of Community Colleges [AACC]) mailing lists of community college faculty from about 100 randomly selected institutions nationwide.[2] From these lists, we randomly selected about 3,500 instructors (including academic and vocational, tenure-track and non-tenure-track, and part-time and full-time instructors) who had instructional duties in 1994–1995. The survey was administered between October 1995 and April 1996 and included three mailings and follow-up telephone calls. The overall response rate was approximately 61%. The final sample consisted of 1,725 faculty in 92 institutions.[3] Additional institution-level data from other sources were merged into our sample from the 1994–1995 Integrated Postsecondary Education Data System and the AACC Annual Survey.

The survey instrument drew on previous National Center for Education Statistics questionnaires, advice from the AACC, and pilot testing conducted at two sites in a large urban area. All questions pertained to any individual who had at least some instructional duties during the 1994–1995 academic year. Background items covered instructors' personal characteristics (e.g., age, sex, race/ethnicity), educational background (e.g., education, degree status), work experience, and professional status (e.g., salary, full time/part time, tenure, teaching field). Other questions concerned faculty members' attitudes toward their job and institution and the nature and extent of links to their institutions, the teaching field, the labor market, and the community. In focusing on links, survey items covered the type and level of effort of the links, along with some of the supports (e.g., professional development) and barriers to constructing links.

Table 1 presents selected characteristics for all survey respondents, as well as separate values for academic and vocational faculty.[4] The table shows that community college faculty in our sample were overwhelmingly White and that about half were male. Most community college instructors' highest degree was a master's, but almost one quarter of academic faculty had a doctorate. One third of all faculty had tenure, reflecting the fact that a large number of faculty hold instructor status, and about half were part time.[5] Our sample is representative of community college faculty nationwide.[6]

Four institutional case studies supplement the survey. Case study sites were chosen as follows. First, we limited ourselves to the 92 schools in the survey sample. Second, we conducted a preliminary inspection of survey data to differentiate schools in which the faculty appeared very highly connected to the labor market and those in which faculty had little connectivity.[7] Third, institutions were selected to provide diversity in regard to urbanicity and location, local economy, institutional size, and institutional mission (transfer vs. vocational), all factors that might be expected to influence faculty members' connecting activities. Five institutions were invited to participate in our study, and four accepted. Visits were conducted during the spring and fall of 1996. Table 2 displays site characteristics and respondents.

Two researchers spent 2 days at each institution, talking with 12 to 30 different individuals—presidents, administrators, and faculty. We used semistructured interview guides with slight variations for different personnel or departments. Interviews lasted between 1 and 2 hours. We guaranteed confidentiality of both individual participants and institutions, inviting respondents to speak freely about the challenges and opportunities related to increasing linkages to local labor markets. While interviewing was the predominant means of data collection, we obtained relevant documentation as well, including course catalogs, institutional fact books, and special reports (e.g., reports of task forces, campus climate surveys, and strategic plans). During the site visits, we also observed several

TABLE 1
Values for Selected Variables, by Faculty Type: Community College Faculty Survey

Variable	All faculty	Vocational	Academic
Mean age (years) (*SD*)	47.5 (9.5)	47.3 (9.0)	47.6 (9.8)
Female (%) (*SD*)	47.2	48.4	43.4
Mean years teaching in community colleges (*SD*)	11.9 (8.9)	12.1 (8.5)	12.1 (9.4)
Mean years teaching in current institution (*SD*)	10.7 (8.6)	11.1 (8.3)	10.7 (9.0)
Hispanic (%)	2.6	2.0	3.2
Black (%)	3.6	3.3	2.9
BA (%)	1.8	28.4	8.6
MA (%)	62.4	56.5	68.8
PhD (%)	15.8	7.0	23.2
Full professor (%)	14.9	15.0	15.6
Associate professor (%)	9.4	9.5	8.9
Assistant professor (%)	7.2	6.3	7.9
Instructor (%)	30.7	33.7	27.7
Adjunct professor (%)	15.7	12.0	19.3
No rank (%)	14.1	15.6	13.6
Urban (%)	57.4	59.3	56.3
Rural (%)	13.3	15.4	10.9
Northeast (%)	16.0	16.4	16.7
North central (%)	18.9	24.5	15.2
West (%)	30.4	25.3	31.9
Single-campus college (%)	57.4	59.0	56.1
Multicampus district (%)	20.1	17.6	23.3
Total enrollment (*SD*)	10,275 (9,380)	9,408 (8,557)	10,501 (9,563)
Tenured (%)	33.5	34.6	33.8
Faculty represented by union (%)	57.4	56.9	56.7
Part time (%)	50.9	43.9	52.7
Vocational (%)	40.8		
Number of observations	1,725	703	725

Note. "Number of observations" refers to maximum number available; means may be based on a smaller sample owing to missing observations.

vocational classes, a departmental curriculum advisory committee meeting, and each college's facilities.

Nature and Extent of Labor Market Connectivity

Selected survey results are presented in Tables 3 and 4, which show the means and standard deviations for various measures of connectivity for different types of faculty. Table 3 shows the responses of faculty to the question "Approximately how many times did you engage in each of the following activities during the 1994–95 academic year?" (1 = *0 times*, 2 = *1–5 times*, 3 = *6–10 times*, 4 = *11–20 times*, 5 = *more than 20 times*). Table 4 reports responses to a similar question, this time on a 5-point scale ranging from *never* (1) to *often* (5).

Several features of these results are worth highlighting. First, there was a relationship between the extent of linkages and the level of effort needed to build them. Faculty made widespread use of business applications in their classes to illustrate concepts (Table 4), a fairly easy type of connection to make. The mean for both full- and part-time vocational faculty was above 4 on the 1–5 scale. Faculty made much less use of business case studies (Table 4), and assignments requiring students to interact with local business, government, or community organizations were relatively infrequent (M = 2.3 for all faculty), presumably because such assignments require a large degree of planning and preparation. Given the amount of work involved, very few faculty reported that they had "personally developed new internship, apprenticeship, or cooperative education programs" (Table 3).

Integration of the labor market into curriculum and pedagogical practice was shown to be uneven in both our survey results and at all four schools

TABLE 2
Overview of Case Studies

	Site 1	Site 2	Site 3	Site 4
Site characteristics				
Location	California	California	Midwest	South
Urbanicity	Suburban	Urban	Urban	Rural
Economy	Service; small business; healthy economy	Mixed; depressed economy	Industrial; healthy economy	Tourism; some industry; depressed economy
For-credit college enrollment	21,200	7,500	More than 50,000	2,400
Type of college	Comprehensive	Comprehensive	Technical	Comprehensive
Respondents				
President	1	1	1	1
Vice president	1	1	1	1
Department heads	4	7[a]	8[b]	7[b]
Faculty	4	1	10[a]	1
Student services	1	2	1	1
Community relations, community services	1 (community education and development)	0	2 (community relations, economic development)	3 (continuing education, business-industry services, community services)
Institutional research	1	1	1	1
Other	1 (dean, instructional services)	3 (special programs; special assistant dean, academy affairs)	2 (union)	2 (dean and assistant dean, instruction)
Total	14	16	26	17

[a] Some in focus group, some individually.
[b] Focus group.

we visited. To a large extent, differences were more a function of departments, disciplines, or programs than institutions. At the high end of the connectivity continuum were those vocational disciplines that require clinical experience and internships (particularly the health professions such as nursing, physical therapy, and emergency medical services, although many others also include such experiences). Overall, few faculty reported providing exposure to work settings by taking their students to visit local businesses or having guest speakers from local businesses within the previous year (Table 3).[8]

Second, the most common type of connecting activity was tied to career assistance for students: talking with students about their career concerns, finding out what skills employers are looking for in new hires, and directly placing students into jobs. Our survey evidence suggests a high degree of connectivity among vocational faculty on these dimensions, but our site visits revealed that this assistance is typically ad hoc. Faculty talked with students regularly about their work and career options (Table 4). In terms of acquiring labor market information from employers (Table 3), vocational faculty were very active. More than three quarters of full-time vocational faculty had sought such information. Almost all of the vocational faculty with whom we spoke reported periodically receiving calls from employers about job openings that they passed on to students. Many reported calling employers to

TABLE 3
Mean Ratings for Connectivity Measures by Faculty Type: Community College Faculty Survey

	All faculty	Full time/ vocational	Full time/ academic	Part time/ vocational	Part time/ academic
Provided assistance to students seeking employment	2.51 (1.30)	3.47 (1.24)	2.33 (1.07)	2.44 (1.17)	1.79 (1.03)
Shared information with a colleague on campus about job opportunities for students	2.14 (1.16)	2.92 (1.20)	1.94 (0.92)	2.07 (1.07)	1.49 (0.81)
Received information from a colleague on campus about job opportunities for students	2.04 (1.11)	2.70 (1.18)	1.98 (0.97)	1.91 (1.03)	1.49 (0.80)
Gave a presentation or training workshop to a local business, government, or community organization	1.51 (0.77)	1.72 (0.83)	1.35 (0.55)	1.56 (0.80)	1.30 (0.60)
Provided class with guest speakers from local business, government, or community organizations	1.58 (0.76)	1.94 (0.83)	1.44 (0.73)	1.59 (0.74)	1.26 (0.50)
Took a group of students to visit local business, government, or community organization work location	1.40 (0.72)	1.75 (0.90)	1.26 (0.56)	1.42 (0.76)	1.15 (0.44)
Personally developed new internship, apprentice, or cooperative education programs	1.28 (0.64)	1.49 (0.77)	1.20 (0.51)	1.22 (0.50)	1.13 (0.40)

Note. Shown are mean responses to the question "Approximately how many times did you engage in each of the following activities during the 1994–95 academic year?" (1 = 0 times, 2 = 1–5 times, 3 = 6–10 times, 4 = 11–20 times, 5 = more than 20 times). Standard deviations are shown in parentheses.

TABLE 4
Mean Ratings for Connectivity Measures by Faculty Type: Community College Faculty Survey

	All faculty	Full time/ vocational	Full time/ academic	Part time/ vocational	Part time/ academic
Talked with students about their work experiences	3.649 (1.21)	4.243 (0.99)	3.191 (1.20)	3.859 (1.09)	3.317 (1.22)
Talked with students about their career concerns	3.856 (1.16)	4.340 (0.92)	3.644 (1.14)	3.929 (1.09)	3.451 (1.22)
Used business/industry examples to illustrate concepts in class	3.757 (1.35)	4.391 (0.98)	3.256 (1.35)	4.260 (1.08)	3.287 (1.45)
Used business/industry case studies for student assignments	2.593 (1.51)	3.295 (1.46)	1.981 (1.27)	2.997 (1.46)	2.090 (1.36)
Developed assignments requiring students to interact with local business, government, or community organizations	2.252 (1.41)	2.828 (1.42)	1.951 (1.34)	2.221 (1.37)	1.859 (1.24)

Note. Shown are mean responses to the question "How often did you engage in each of the following activities during the 1994–95 academic year?" (1 = never, 3 = sometimes, 5 = often). Standard deviations are shown in parentheses.

recommend their top students. Work placements also led to job offers for many students. On each campus we visited, job placement was a major criterion for evaluating program and institutional success.

Third, our data suggest that an important connecting mechanism is input into program design and curricula. More than half of full-time vocational faculty had sought employer input during 1994–1995 (only about 15% of full-time academic faculty had done so). We asked whether an instructor's institution or department had a "curriculum development" or "program advisory" committee, whether the instructor served on the committee, and whether the committee included business or community representatives. Almost 90% of full-time vocational faculty, along with 88% of academic faculty, indicated that such a curriculum committee was convened in 1994–1995; the corresponding program advisory committee rates were 86% and 68%. Thirty-three percent of full-time vocational faculty reported that the curriculum development committee at their school had outside business or community representation, and 90% indicated that this was the case with the program advisory committee. In three of the four schools we visited, annual or biannual committee meetings were required by the state as a condition of funding for vocational programs, and committee approval was required before the state would approve curricular changes. The voting members of the advisory committees included practitioners from local workplaces; ex officio members included deans, program coordinators or department chairs, and faculty.

Across all four sites, advisory committees were the most frequent "top of mind" response to questions concerning how faculty built and maintained connections with local labor markets. However, respondents acknowledged that the quality of these committees varied widely. At best, advisory committees provide opportunities for advisors to serve as "critical friends" to stimulate program improvements. At worst, they are devoid of true content and serve as window dressing to satisfy state policymakers or institutional leaders.[9]

Explaining Faculty–Labor Market Linkages

We conducted various analyses of our case study data, the survey items noted earlier, and several additional survey items.[10] For example, we asked survey participants about possible barriers to building linkages to the labor market: "To what extent do you agree or disagree with the following statements about links to local business, government, and community organizations?" (1 = *strongly agree*, 5 = *strongly disagree*). Table 5 reports faculty perceptions of some of the possible barriers to linkages.

Four key factors emerged from our data as underlying faculty linking behavior: teaching field; time, resources, and institutional incentives; institutional governance and program boundaries; and local conditions.

Teaching Field

One critical factor explaining the connectivity of 2-year college faculty to the labor market is teaching field. Vocational faculty were more likely to report that they were connected on almost all of our linkage measures. It was clear from our site visits that vocational faculty have a strong incentive to connect to the labor market; linkages are essential to the very survival of programs because they bring enrollments and job offers for enrolled students. Faculty repeatedly pointed out that their programs are held accountable for placing students in jobs in their fields, and failure to achieve target placement rates threatens continued funding and, at minimum, ensures oversight and pressure from administrators. Similarly, faculty in programs with required internships or practicums had a strong motivation to keep work sites satisfied with the students. When site personnel express dissatisfaction with students, faculty strive to respond through changes to curriculum or pedagogy. There is an inherent incentive to listen to and actively solicit participation from business representatives both through formal departmental/program advisory committees and through informal channels.

Part-time faculty appear to be less connected to the labor market than other faculty, at least on the dimensions captured on our instrument.[11] While they may work in the labor market outside of their college teaching assignment, they have only weak connections to the rest of their college colleagues. They spend fewer hours on campus and are less likely to have an office, to have a computer linked to other faculty, or to participate in decisions about curricula. Part-time vocational faculty are still relatively highly connected to the labor market compared to many (full- and part-time) academic faculty. Our site visit conversations with administra-

TABLE 5

Mean Ratings for Barriers to Connectivity by Faculty Type: Community College Faculty Survey

	All faculty	Full time/ vocational	Full time/ academic	Part time/ vocational	Part time/ academic
I have no time to develop or maintain links	2.94 (1.25)	3.20 (1.26)	2.73 (1.19)	3.18 (1.18)	2.63 (1.27)
I don't know how to go about developing links	3.33 (1.21)	3.74 (1.05)	3.02 (1.19)	3.47 (1.08)	2.91 (1.28)
Other people in this college have responsibility for developing links	2.54 (1.19)	2.90 (1.22)	2.34 (1.17)	2.59 (1.13)	2.32 (1.14)
Employers in our community are not interested in working with our college	4.09 (0.83)	4.22 (0.78)	4.05 (0.85)	4.16 (0.72)	3.96 (0.85)
My department discourages me from building links	4.01 (0.97)	4.24 (0.91)	3.99 (0.94)	4.02 (0.94)	3.84 (1.00)
My college discourages me from building links	4.01 (0.96)	4.19 (0.96)	4.05 (0.89)	4.07 (0.87)	3.82 (1.00)
I don't see much need for stronger links	4.05 (0.94)	4.29 (0.85)	3.80 (1.05)	4.15 (0.81)	3.83 (0.98)
Vocational faculty receive more encouragement from my college than academic faculty in building links	3.04 (1.17)	3.26 (1.24)	2.55 (1.21)	3.33 (0.98)	3.01 (1.07)

Note. Shown are mean responses to the question "To what extent do you agree or disagree with the following statements about links to local business, government, and community organizations?" (1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree). Standard deviations are shown in parentheses.

tors and vocational faculty suggest that part-timers add to the quality of occupational programs by providing up-to-date skills in the classroom and direct links to local employers by virtue of their other jobs. They do, however, have less time available and less incentive to help students with career matters and job placement.

Time, Resources, and Institutional Incentives and Support

Administrators and faculty we interviewed cited numerous institutional benefits of linkages to local labor markets, including increased enrollments as a result of higher levels of community awareness and an enhanced institutional reputation, stronger academic programs, new resources, and improved placement rates for graduates. Nonetheless, institutions had very little capacity to systematically pursue the development of linkages. Building and sustaining linkages to local employers is only one item in a long list of faculty responsibilities. Our survey suggests that full-time faculty are working an extensive number of hours; the mean for academic and vocational faculty was about 46 hours a week (there was no statistical difference between the two), and about 21% of faculty claimed that they work 50 or more hours per week on average. Most vocational faculty we spoke with said they had little time for additional activities. The work of building and sustaining linkages receives a lower priority than other initiatives and goals.

All of the community colleges we visited had highly constrained resources. Most institutional resources are devoted to salaries and benefits for faculty and staff. Little is left over for operations, and even less is available for professional development. At the schools we visited, one had no means of reimbursing faculty for professional development activities; the available pool of funds in another school averaged $16 per year per faculty member; and in a third individual faculty members received well under $100 per year on average. The fourth school provided faculty with six paid "professional development days," by far the largest allocation of resources for this purpose. Similarly, although all four of our case study schools had programs for faculty to gain workplace experience by spending time (ranging from 2 weeks to a semester) working in industry, only a handful of faculty could participate each year.

This evidence is corroborated by another survey question in which we asked whether faculty had received "college support" for a range of connecting activities. We did not specify the type of support so that respondents' interpretations of this item could range from tacit approval to something more tangible. However, the results were clear: Few faculty received any institutional support for connecting activities. For example, only about 7% of all faculty (10% of full-time vocational faculty) reported receiving college support in efforts to coteach a course with business or community representatives or to convince an employer to offer a training workshop or seminar for faculty. College support was strongest for measures related to career assistance; for example, almost 55% of full-time vocational faculty received support for asking employers about new skills, and 53% received support for asking an employer about the performance of their graduates.

Overall, our survey and site visits reveal that there are few formal incentives used by institutions to encourage faculty to develop or nurture linkages. When faculty were asked whether building of linkages was rewarded in tenure and promotion decisions, the mean response was under 2 (1 = *does not describe my institution*, 5 = *very much describes my institution*), regardless of type of faculty. None of the four schools we studied appeared to consider faculty connectivity in this regard. None of these sites offered other rewards for faculty investing special effort in connecting with local employers. Beyond incentives, none of the institutions we visited had clearly articulated goals and objectives related to linkages, and none attempted to assess the levels or types of linkages that were in place. Institutional "support" for building and sustaining linkages, while frequently expressed, had not led to systemic change efforts to create the conditions that would facilitate this goal and to systematically integrate it into planning and assessment activities.

Institutional Governance and Program Boundaries

Both survey and case study data suggest that institutional governance structures may inadvertently hinder faculty from building strong connections with local labor markets. Faculty in multicampus districts tend to be less connected than faculty in other types of institutions, and they are more likely to agree that they have no time to develop links or do not know how to develop links (see Table 5). Case study evidence from one institution that was part of a multicampus district spanning a large

metropolitan area suggests that the added bureaucracy associated with a central administrative structure made all resource allocation and program decisions more burdensome.

Our survey and site visits suggest that, within colleges, boundaries among programs and teaching fields limit the extent to which faculty interact. There is departmentalization and little collaboration between faculty. These results corroborate the findings of other researchers. For example, Grubb and Kraskouskas (1992), in their study of the integration of academic and vocational curricula called for by recent federal reforms, described the community college as "an archipelago of independent islands, each serving a different mission but with limited communication among them" (p. 39). Our survey indicates that there is little information sharing about student job opportunities among faculty members themselves.

Furthermore, governance structures probably contribute to the fact that many faculty view building links as the responsibility of other people in the college (see Table 5). For example, some faculty perceived student support and administrative units (e.g., placement, outreach and admissions, community relations, and development) to carry responsibility for establishing community linkages. While staff and managers from these units frequently interact with local employers as part of their jobs, our case studies indicated they these interactions were organized around the relatively narrow needs of the particular unit rather than the broader academic enterprise. Other faculty suggested that department chairs and deans had responsibility for establishing and maintaining linkages.

In addition to differences between departments, our case studies revealed a sharp boundary between for-credit vocational programs that grant certificates and degrees and noncredit programs. Because they are often delivered under contracts with local firms, the noncredit programs within all four community colleges visited had strong linkages to local employers. They are better able to build linkages because they are relatively unencumbered by bureaucracy, can respond quickly to emerging labor market needs, and develop programs customized to the needs of particular employers. Unfortunately, however, these linkages generally do not extend beyond noncredit programs to other units within the institution, such as for-credit programs. A primary reason for this boundary is that there are disincentives for permanent faculty to teach in noncredit programs. All four schools we visited reported that the state provided less reimbursement for noncredit than for-credit courses and course enrollments. Thus, unless demand for noncredit courses is so strong that such courses can be self-supporting, colleges prefer to offer for-credit rather than noncredit courses, limiting the degree to which they can take advantage of the flexibility that noncredit courses provide.

Local Conditions

Part of the explanation for the extent of faculty–labor market connectivity is college location and characteristics of the local labor market. In our survey analyses we were able to capture such conditions only very crudely (e.g., by urbanicity and region), so the importance of location was subsumed into other factors. However, our case studies suggested the importance of a number of different aspects of locale. For example, respondents pointed out that when the local economy is weak, colleges have a difficult time building connections with the labor market because employers are not doing much recruiting, have less money to contract with the college for training programs and courses, have less time to spare for activities such as advisory committee meetings, and turn over equipment for instructional purposes less often. Community colleges in rural areas or areas dominated by a single industry or employer have fewer opportunities to build linkages. Faculty generally focus their efforts to connect on the local service area; in some locations, however, students may need to search for work well beyond the service area. Linkages are also difficult to forge and sustain in regions with a rapidly shifting, unstable, or highly diversified labor market. For example, one of the four colleges we visited is located in an area dominated by small businesses, many of which have short life spans. Faculty here stated that they were unable to keep up to date on local employers in their fields of specialization without investing considerable time and resources.

Conclusions

An implicit assumption behind the arguments for recent school-to-work reforms has been the need to strengthen the linkages between educational institutions and the labor market. Although this idea seems to make intuitive sense, there has been little attempt to develop a conceptual foundation for it and almost no evidence on how this linking actually takes place.[12] In this study, our purpose was to

examine systematically for the first time the type and extent of linkages between individual faculty in community colleges and the labor market.

Although we found many examples of linking activities, particularly among vocational faculty, these were often ad hoc and informal in nature. The work of forging connections rests largely with full-time vocational faculty who recognize that such connections are required for their programs to survive, especially in terms of placing students in jobs or in required internships. Nonetheless, faculty receive little encouragement from their institutions to build linkages. In general, faculty and administrators agree that community college linkages to local labor markets are beneficial and important, but few institutions have developed systematic strategies for developing and maintaining faculty linkages to local labor markets or for using existing linkages to improve the quality of education.

While these findings appear to be robust, their significance and implications for policy are harder to draw because we do not have any absolute basis for judging what is "connected" and what is not. Before proceeding with policy changes to improve linkages that have uncertain outcomes (and costs), it is important to empirically establish an association between linkages and effective school-to-work transitions for students. Assuming this is established, our picture of linkages as one of individual efforts by particular instructors suggests that a first step is to provide incentives for faculty, remove some of the barriers to establishing connections, and develop mechanisms to carry institutional links down into departments and classrooms. Formally rewarding faculty who develop strong employer links and expanding the number and range of opportunities for faculty to use professional development for linking purposes are two possibilities. These changes, if accompanied by efforts to free up faculty time (e.g., through release time or reduced teaching loads), may boost faculty–labor market links.

Notes

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[1]Faculty also undertake various *professional/community* activities, including membership in civic or professional organizations. We do not discuss these non–labor market activities here.

[2]About 400 randomly selected schools were contacted with a request for a list of all their faculty. We received responses from approximately half. We selected about 100 colleges from the most usable lists.

[3]Of the initial mailing, 2,159 surveys were returned (61.1%). It was determined that 337 of these were refusals or people who had changed schools, were no longer teaching, had died or retired, were undeliverable, or were ineligible. Many of the surveys failed to reach faculty owing to incorrect faculty lists and mailing addresses.

[4]"Vocational" includes faculty whose primary teaching field is education-related subjects, social work, agricultural education, business and office education, health occupations, marketing/distributive education, occupational home economics, consumer and homemaker education, communications or computing, or technology education/industrial arts/trade. "Academic" includes faculty whose primary teaching field is English, mathematics, physical sciences, biological sciences, social sciences, humanities, or foreign languages. When we refer to "all" faculty, we include vocational, academic, and those in other fields.

[5]We defined those working 35 hours per week or more as full time. Altering this cutoff did not greatly affect our results.

[6]A point of comparison is the 1992–1993 National Survey of Postsecondary Faculty (NSOPF-93), designed to produce nationally representative estimates of the characteristics of faculty (using weights supplied by the National Center for Education Statistics). Using more than 8,000 responses from public 2-year college faculty, we calculated selected mean faculty characteristics and compared them with our sample. These results reveal that our sample is remarkably similar to NSOPF-93 in terms of faculty demographics (for details, see Brewer & Gray, 1997). A recent Carnegie survey (Huber, 1998) also reported similar demographic characteristics for community college faculty (although it did not address the labor market linkage issue in any detail).

[7]See Brewer and Gray (1997) for a description of these procedures.

[8]At the colleges we visited, curricula were closely linked to business needs through noncredit and continuing education programs (e.g., by offering on-site training for large local employers). Few full-time faculty, however, teach in these programs. As a result, this form of college-community link has little impact on most faculty (see Brewer, 1999).

[9]An advisory committee meeting we observed points to some of the problems they may encounter. The meeting, held on behalf of the medical laboratory technology program, was scheduled for 1.75 hours. Attending were administrators and faculty and six community members, representing different health care organizations. The agenda covered items such as the program budget, admissions and enrollment data and curriculum review and approval. The ambitious agenda was completed within 1 hour; virtually every recommendation made by college administrators went unchallenged. Even allowing for the possible inhibiting effect of the observers, this advisory committee meeting provided little feedback, strategic direction, or information.

[10]For a detailed discussion of our methods and results, see Brewer and Gray (1997). For the survey data, we used standard univariate and multivariate statistical techniques to explore how faculty responses to items on connections to the labor market varied by individual and institutional characteristics.

[11]Field and part-time status stand in marked contrast to other individual factors such as race/ethnicity, sex, rank, and seniority, which appear to have far less consistent effects on labor market connectivity.

[12]Grubb's (1997) finding that economic returns are higher if students find employment related to their fields of study may provide a rationale for closer linkages between faculty and the workplace if this enhances the likelihood that students obtain better jobs.

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