



The Power of the Education-Industry Partnership

Fostering Innovation in Collaboration Between Community Colleges and Businesses

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Introduction and summary

Business and postsecondary education have found common cause in recent decades in the preparation of a highly skilled workforce to preserve the nation's competitiveness and economic opportunity in response to rapid technological change and increasing global competition. The Obama administration has recognized this economic imperative and set aggressive goals for postsecondary attainment in the United States and emphasized the unique role that community colleges can in play achieving them.

Community colleges' scale and adaptability make them a strong choice as a driver of postsecondary education. Community colleges are the institutions that stand closest to the crossroads of higher education and the real world, where Americans need to apply a mix of technical knowledge, business acumen, and creativity to add value in firms whose imperative is to compete on innovation.¹ This complex talent mix requires knowledge and skills gleaned from both academic education and vocational training.

The only way to develop curriculum and instruction models that deliver this skill set to large numbers of Americans is for business and education leaders to build collaborations that leverage their combined knowledge of labor markets, skills, pedagogy, and students. This integration of vocation and employment-oriented goals in academic educational programs has been termed the "new vocationalism" movement.² New vocationalism seeks to create a more well-rounded education that satisfies both the demand for skilled employees and the need for a knowledgeable and engaged

citizenry by integrating the three historic missions of community colleges: university transfer education, vocational education, and developmental education.

One of new vocationalism's central tenets is the need for institutional innovations to identify new models of community college education as a way to better prepare individuals for high-wage, high-skill jobs. Partnerships between community colleges and businesses are one such institutional innovation.

The purpose of these partnerships is most often to enhance the community colleges' historic mission of providing alternate pathways to postsecondary credentials that have labor market value for individuals who are not on a traditional college track.³ This may include youth and adults with low-literacy levels, dislocated workers, and English-language learners. Strong partnerships tend to develop around local and regional economic and workforce development needs and can take many different forms from joint-investment in facilities to industrial-sector partnerships. Businesses, colleges, unions, public agencies, and community-based organizations come together in these partnerships to find solutions to jointly identified educational challenges and use combined resources to implement them.⁴

Existing collaborations include many promising "good practices" for helping the populations they target obtain a postsecondary credential including: systemic institutional alignment and improvement, curricular and instructional transformation, academic and social support; professional development, and shared resources and sustainability.⁵ Yet we need further research and analysis to understand and establish best practices that can bring these programs to scale.⁶

Integrating the community college mission

Community colleges serve an estimated 12 million for-credit and noncredit students; they dwarf other postsecondary education providers, including four-year schools and workforce training programs, in terms of access to education and cost of services.⁷ Yet many community college students' education, work, and life make them the least likely to complete a postsecondary degree. Community colleges have an average degree-completion rate of about 22 percent for full-time students and 15 percent for part-time students.⁸

The challenge is designing education experiences that make sense given the students' life realities and what they want out of a community college education. Community college students often pursue work and learning simultaneously,

and most seek to build skills with labor market value. Many need some remedial education to participate in college-level work.⁹

Current community college instructional models and curricula are not designed to facilitate integrated vocational and academic skill development or support the complex life-work-education balance, but rather to deliver instruction in narrow silos. Community colleges offer academic, occupational, and developmental education programs.¹⁰ Each of these silos supports one of the often-cited missions of community colleges: university transfer, vocational preparation, or developmental education.

Community colleges have historically operated these as separate entities within their governance and business models that have separate operations, staff, and funding mechanisms. Federal- and state-level funding and regulation reinforces this siloed structure, which makes innovation across missions difficult.¹¹

New vocationalism focuses on integrated skill sets and innovative instructional models, and provides a framework to address community college students' needs by challenging the existing instruction silos. It envisions the possibility of enriching classroom learning with real world content and values offering applied and work-based learning experiences, while focusing on generating benefits for students, community colleges, and businesses. This is an outward-looking focus with an eye toward value creation for the economy and society.

Community colleges have the scale and pedagogical diversity to improve post-secondary attainment for many Americans. But they must find ways to integrate their three missions in order to accomplish that goal. Collaboration between community colleges and business is a new vocationalism innovation that holds the promise of leveraging these assets and combining them with partners to promote institutional innovations that yield better results in terms of relevant knowledge and skills, and degree attainment.

Building effective partnerships with businesses

It is difficult to find a definition of what exactly it means to have a community college and business partnership, but there are two core bodies of literature that provide some guidance: emerging research on labor-market-responsive community colleges and evolving, but established, research on career pathways as alternatives to traditional postsecondary education.¹²

Each body of literature is an offshoot of the new vocationalism movement. They understand the complexity of the community college education, yet seek to challenge the status quo with institutional innovations. These strands of thought allow us to develop the following definition:

A Community College and Industry Partnership is a collaboration between a community college and an individual business, group of firms, chamber of commerce, industry association, or sector partnership with the purpose of using the combined resources to create alternative college education programs that are tightly linked to regional economic development and labor force needs for non-traditional students—both younger workforce entrants and older ones in need of skills and education upgrades.

Partners can contribute human resources, finances, facilities and equipment, and leadership to help accomplish the agreed upon goals and outcomes.

The expectation is that students who complete these partnership programs and obtain postsecondary credentials will have skills that meet the needs of area business, improve regional or national competitiveness, help them earn a family-sustaining wage, and prepare them for further learning. Postsecondary credentials can include occupational licenses, technical certification, and associates and bachelors degrees.

Success factors

Partnerships between community colleges and businesses have the potential to truly transform community college missions and instructional practices, yet can run up against the opposition that arises when diverse groups engage in something as complex as postsecondary education. Business partners often do not understand the community college governing models and get frustrated with the slowness of change. Community college faculty and administrators can at the same time resist change to institutional practice if they believe outside actors are influencing it. Partnerships must therefore be based on a solid foundation of mutual understanding.

Carrie B. Kisker and Rozanna Carducci enumerate five success factors for partnership success in the *UCLA Community College Review*. These success factors are:

1. Recognize a local/regional economic development challenge that calls for collaborative attention
2. Establish a shared mission and goals
3. Ensure that value is achieved for all partners (including students)
4. Have strong executive leadership from both the college and industry participants
5. Develop a governance and accountability mechanisms¹³

These guidelines are simple enough, but agreement on these fundamental issues can often either make or break a potential partnership. These initial discussions also help community college and industry leaders come to an understanding about what they have to gain from the partnership implementation. Getting success factors right is so critical that it has created a new organizational type—the “intermediary.”

The intermediary provides a neutral platform that allows community college and industry leaders to discuss their mutual interest and engage other regional partners with whom they have common cause. These can include: community-based organizations, labor unions and apprenticeship committees, other colleges, workforce-development agencies, human-service agencies, and economic-development agencies.

Best practices

Partnerships are diverse and address concerns unique to different regions and the assets available to different stakeholders. But a set of “good practices” is taking hold in developing alternative education programs for nontraditional students within the community college context. These practices use partnership resources, relationships, and activities to build alternatives to the semester-based, full-time attendance model associated with traditional college students. These best practices, developed from field research by the League of Innovation in Community Colleges, include:¹⁴

- **Curriculum and instructional transformation:** Partnerships can cause meaningful changes to traditional curriculum and instructional practices. New models include: contextualized, modularized, and competency-based curriculum; accelerated degree completion; workplace-based learning; and learn-and-earn models. Employers play a key role in curriculum development and credential validation.

- **Academic and social support:** Partnerships can create sustained academic and career navigation supports for students. These can include forming small learning communities or funding a career center that provides financial aid, and academic and career advising.
- **Professional development:** Partnerships can provide resources for community college faculty and staff to develop skills needed to design new curricula, teach integrated remedial occupational and academic course work, and better track student progress and employer needs.
- **Shared resources for sustainability:** Partnerships can contribute to sustaining newly developed educational programs over time as well as create a foundation for new partnerships by cultivating board level leadership for partnerships, for example, to co-investing in facilities and equipment.
- **Systemic institutional alignment and improvement:** Partnerships can generate institution-wide changes in a community college's mission, strategic planning and resource allocation. They can simplify enrollment for nontraditional students, integrate funding across missions, and use data-driven program accountability and articulation of credit for learning.

Case studies of effective partnerships

The following narrative case studies highlight active partnerships that have created alternative education models for nontraditional students and exemplify the key activities above.

Metropolitan College and UPS in Louisville, Kentucky

The Metropolitan College program in Louisville, Kentucky is an example of what can result from a community college-industry partnership when an individual employer has a need with broad economic implications.

UPS is the largest employer in the state of Kentucky and the state therefore has a vested interest in keeping UPS from moving its headquarters out of state. The state also has an interest in educating a larger portion of its population. UPS identified workforce development needs in 1996 that gave Kentucky an opportunity to meet

both of these interests. UPS was having trouble staffing its part-time Next Day Air night shift, and the company was going to have to move its hub from Louisville unless there was a drastic change in its recruitment.

Kentucky was faced with the prospect of losing UPS to another state and stepped in to help craft a plan to alleviate UPS's concerns. The state's innovative solution was to provide educational benefits to workers in the Next Day Air operation. The result of this collaboration is Metropolitan College, a partnership among UPS, Jefferson Community and Technical College, and University of Louisville. UPS provides part-time employment for students in the program; it also pays half the cost of tuition and provides reimbursement for textbooks. The state and local governments pay the other half of the tuition and provide students with access to JCTC and University of Louisville.

Students who participate in Metropolitan College work part-time on the Next Day Air night shift with full-time benefits while attending college during the day. These student-employees receive deferred tuition for any major, as well as bonuses and reimbursements for textbooks. The students are responsible for paying fees such as parking and student activity fees. Students must participate in workforce preparation activities, including financial literacy, career exploration, resume preparation, and a mock interview.

The Metropolitan College Program has been extremely successful. Only 8 percent of UPS workers had a postsecondary degree at the start of the program in 1998, but 2,372 Metropolitan College students—approximately 45 percent of the UPS workforce—had earned some kind of postsecondary credential by the spring of 2009.

The retention rate of Metropolitan College participants at Jefferson Community and Technical College was more than 50 percent in 2007. UPS also enjoyed an increase in job retention as the annual turnover rate for new hires went from 100 percent in 1998 to 20 percent, which created a 600 percent return on investment in its students. The program serves students from all over Kentucky, and it has helped to support the local labor market. Two additional Kentucky companies have joined the Metropolitan College Program—Humana and Community Alternatives Kentucky—and UPS Chicago has initiated its own Metropolitan College model to serve its business region.

Why it works

The strong, sustained financial commitment from UPS and state and local government has helped Metropolitan College be successful. Funding sources include \$2 million from the state government, \$625,000 from the city of Louisville, \$100,000 from Greater Louisville, Inc., and about \$6.5 million from UPS. The per-student cost for Metropolitan College was \$2,853 from UPS and \$1,991 from all other sources during the 2007-2008 academic year.

The financial support for students is also a significant component of the Metropolitan College model. UPS provides part-time employment with full-time benefits. This learn-and-earn nature gives both a financial incentive and financial support that students need to continue with the program.

The academic and social support components built into Metropolitan College's model have also helped the program thrive. Metropolitan College ensures that students receive guidance and career building skills in addition to academic preparation.

As Metropolitan College grows to include more employer partners such as Humana and Community Alternatives Kentucky, the program becomes more than simply an add-on to the existing educational services provided at JCTC and University of Louisville. Metropolitan College may be part of a systemic change in the way Kentucky looks at allocating resources toward higher education.

Northrop Grumman's apprentice and coop programs in Newport News, Virginia

Employees at Northrop Grumman Corporation's facilities in Newport News, Virginia design, build, overhaul, and repair cutting-edge naval ships, including nuclear aircraft carriers and submarines. This work requires a highly-skilled workforce with low turnover. Northrop Grumman has therefore developed two innovative workplace-based postsecondary-education programs in Newport News by partnering with community colleges, apprenticeship groups, and cooperative education programs or co-ops.

Northrop Grumman has been training workers in its Apprentice School of Shipbuilding since 1919, but its partnerships with community colleges give the company the flexibility to provide promising apprentices with a path to an associate's degree and career advancement. Community colleges such as Thomas Nelson Community College and Tidewater Community College in the Hampton Roads

area of Virginia also benefit from Northrop Grumman's expertise in curriculum development and the company's job placement opportunities.

The Apprentice School of Shipbuilding is often praised for its approach to supporting apprentices with classroom learning, mentoring, and student services. Apprentices receive paid, on-the-job training in one of 19 registered apprenticeship programs with full benefits for four to five years. They also take a fundamental, world-class shipbuilder curriculum and classes related to their trades. The apprentice school maintains articulation agreements with area two- and four-year colleges to ensure that credits earned in the apprentice programs are transferable.

Students who show particular aptitude and academic achievement during the first years of the apprenticeship program may be chosen to pursue further education at Thomas Nelson and Tidewater Community Colleges. These students may pursue an associate's degree in business administration, engineering, marine engineering, or electrical engineering technology, paid for by Northrop Grumman.

Tidewater and Thomas Nelson Community Colleges also partner with Northrop Grumman to provide co-op experiences for community college students interested in computer-assisted design. Northrop Grumman provides qualified students at these community colleges full tuition for an associate's degree in computer-aided drafting and design technology or mechanical engineering technology as well as a paid co-op experience. Northrop Grumman employs students after graduation and provides them with an average starting salary of \$31,200. Northrop Grumman also provides tuition reimbursement to those students who continue toward a bachelor's degree.

Northrop Grumman's education-conscious apprenticeships and partnerships with community colleges have been very successful. More than 2,500 apprentice school graduates still work at Northrop Grumman, and more than 32 percent of a recent graduating class of apprentices had earned an associate's degree as part of their training. The program serves the colleges' and company's shared goals of filling a void in the workforce and ensuring that students have employment opportunities after graduation.

Why it works

The Northrop Grumman partnerships work because they integrate the needs of both the students and employers. Northrop Grumman doesn't just train frontline employees and hire mid-level workers who earned credentials elsewhere. NGNN makes investments in its apprentice and co-op students that go beyond what is nec-

essary for an entry-level position. These investments include mentoring, counseling, opportunities for further academic engagement, and career advancement pathways. The resources necessary to achieve such a program are no small matter; NGNN estimates that it spends about \$100,000 per student in the Apprenticeship School. This kind of sustained support has paid off for the company in the long term.

Another possible reason for the success of the NGNN partnerships is that Northrop Grumman takes on the responsibility for providing the developmental and remedial education that many students need to be successful in educational programs. NGNN estimates that 40 percent of its new apprentices receive remedial training, ranging from a one week to an 11-week course. By providing these educational services in the apprentice program, it alleviates the burden on the community college system and sets its students up for success in pursuing further education.

Columbia Gorge Community College and the wind-energy industry in Dalles, Oregon

Many community college-industry partnerships begin with a workforce need expressed by an individual employer; this is certainly the case in the UPS and Northrop Grumman examples. Other partnerships begin with a community college that recognizes a regional economic sector challenge and calls upon businesses to help it meet the challenge. These sector initiatives can be hugely beneficial to both the college and the industry, but it takes initiative on the part of the community college to recognize a change in the workforce and act upon it.

The chief academic officer at Columbia Gorge Community College in Dalles, Oregon took such initiative in 2006, noting the emergence of a wind energy industry around the college. As windmills went up, turbine companies needed a local workforce to service them. CGCC saw an opportunity to fulfill a workforce need while also working with existing resources at the college to create a postsecondary credential in the wind energy field.

CGCC, with help from workforce development representatives, identified an immediate need for more than 300 wind turbine technicians in the area—and increased that estimate to 700 by 2010. The community college partnered with industry and workforce development representatives, including Acciona Energy North America, Black and Veatch, Intel, and the Army Corps of Engineers, to develop a pilot curriculum for a renewable energy technology program. These

partnerships included input from industry representatives as well as professional development opportunities. CGCC faculty spent time visiting wind turbine sites and learning firsthand the skills that they would need to impart in students.

CGCC relied upon donations from industry, but it also drew upon the college's existing resources to shape its new Renewable Energy Technology Program. The college built on existing courses in hydropower and the expertise of its faculty rather than starting anew. The college now offers one- and two-year programs that prepare students to work in wind-generation, hydro-generation, automated manufacturing, and engineering technician work. Employers in the area provide support for the programs, and the program has grown significantly since its inception in 2007.

The RET program at CGCC is still young, but it has already been a success. The program is filled to capacity, with approximately 106 students enrolled each year. It has produced 66 one-year certificates and 23 Associate of Applied Science degrees since 2007. The college reports that 80 percent of completers who want to work in a wind plant are hired.

Why it works

CGCC has been successful in part because community college officials recognized the growth in the wind turbine sector earlier than other colleges; many other community colleges caught on to the trend much later. The program has also benefited from significant investment on the part of industry and workforce development representatives. The wind turbine industry donated expertise in curriculum development, an opportunity for professors to observe the wind turbine industry firsthand, equipment for use in classes, and \$4.9 million in cash grants. The Department of Labor also provided grant funding for the program that enabled its expansion. The cost per student for the RET program is not known, and unlike the UPS and Northrop Grumman examples, individual students bear the tuition costs.

Another element to the program's success is the fact that it built upon existing resources. CGCC created the RET program by drawing on courses that prepared students for hydropower jobs as well as a defunct program aimed at training students for the computer chip manufacturing field. This interdisciplinary beginning helps RET prepare students for a number of energy generation fields, which makes its graduates more employable.

Outcomes from related programs and initiatives

There is great deal of experimentation going on as community colleges and their industry partners grapple with the challenges of aligning nontraditional students' learning, work, and life responsibilities. One thing we notice is that many of these partnerships are still small, working with students in groups of hundreds or low thousands. The reality is that there is still much to learn about the prevalence, common structures, and outcomes of these partnerships. We still know relatively little about the effectiveness of most of these innovations, and rigorous evaluation evidence remains scarce.¹⁵ It is therefore difficult to create an exact typology of community college-industry partnerships.

The Bill and Melinda Gates Foundation has recognized this need and taken a keen interest in alternative postsecondary education programs. It announced a three-year, \$5,000,000 multistudy research project in May 2009 to build a rigorous base of research knowledge on strategies for accelerating progression and increasing success among low-income young adults attending community colleges. The foundation funded this work because it found that the existing research was inadequate.

Accepting the scarcity of data, we can still look to related programs and initiatives that engage in some of the key activities involved in partnerships between community colleges and industry. There is evidence of success in the literature about business and community partnerships that work closely with community colleges and form around local and regional workforce training needs—sometimes called sector initiatives.

An April 2007 report by the Aspen Institute's Workforce Strategies Initiative conducted field research into sector initiatives around the country in which community colleges participated and found that these programs increased program completers' average monthly income by an estimated \$1,500.¹⁶ Another Aspen Institute survey of graduates of six sector-initiative programs found that working participants' earnings rose an average of \$8,580 during the program, \$14,040 the year following, and \$17,752 in the second year after completion.¹⁷

An MDRC Opening Doors demonstration project also shows some promising results from programs that engage in activities similar to those in community college-industry partnerships.¹⁸ The project, which works with community colleges in five states, emphasizes the importance of building learning communities to promote student success. Results show modestly improved retention and credit completion for learning community students who receive academic and career supports.¹⁹

There is some data gleaned from field research on partnerships between community colleges and businesses, as well as literature on sector initiatives and career pathways, which provides a broad range for the costs of such programs. Programs that incorporate many of the key partnership activities can cost anywhere from \$5,000 to \$100,000 per student.²⁰

Recommendations

It is clear from the case studies and lack of a strong outcomes data set for analysis that much work needs to be done by practitioners and policymakers to understand how these partnerships actually help students and change community colleges at the institutional level.

The key success factors and activities do provide a foundation for both systematic innovation around “good practice” and continued research to identify “best practice.” Business, institutional, and public policy leaders can use this foundation to bring more rigor to partnership development and analysis, as well as provide an early warning system to identify potential challenges.

Policymakers should promote systematic innovation by reviewing federal, state, and local finance and regulation to facilitate the “good practice” innovations. Federal and state policy makers can:

- Ensure that formula funding streams and regulations do not stifle good practice when partners are building an alternative education program
- Use competitive grant funds to promote partnerships that emphasize sustainable, systemic change
- Continue to emphasize desired student outcomes to keep community colleges and partners focused on innovation

Policymakers should also look at what tools and information we need to really measure the value of good practice and gather the data needed to make it an evidence-based best practice. Initial research questions should include:

- How can we develop a typology of partnerships between community college and businesses that fosters systematic research and innovation?
- Do community colleges have the requisite data systems to track outcomes of partnership participants?

- What are the demographics of students who participate in these partnerships?
- How can we calculate the return on investment from the partnership for students, businesses, and community colleges?

Conclusion

Partnerships with businesses have the potential to become an institution-transforming catalyst in the community college system. But they cannot be viewed primarily as an outgrowth of the vocational training function of the community college. This would plant these innovations firmly as a servant of one of the historical missions of the institution rather than as a piece of a larger “new vocationalism” puzzle.

Community college-industry partnerships should push a transformation in higher education. Community colleges are well positioned to improve postsecondary attainment for many Americans. But they must find ways to integrate their three missions of academic transfer, occupational education, and developmental education in order to accomplish that goal.

Endnotes

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- 2 "New Directions for Community Colleges," Special Issue: The New Vocationalism in Community College 2001, (115) (2001): 73–80.
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- 6 Belkis S. DeCastro and Melinda M. Karp, "A Typology of Community College Based Partnership Activities" (New York: Community College Research Center for Office of Vocational and Adult Education, 2009).
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- 8 National Center for Education Statistics, "Enrollment in Postsecondary Institutions, 2007: First Look NCES" (2009), 155, table 5, p.11; U.S. Department of Education, NCES, "Beginning Postsecondary Students Longitudinal Study, First Followup" (2003-2004).
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- 10 Developmental or remedial education includes: adult basic education and English as a Second Language instruction.
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- 13 Carrie B. Kisker and Rozana Carducci, "Community College Partnerships with the Private Sector – Organizational contexts and Models for Successful Collaboration," UCLA Community College Review, Volume 31,(3) (2003).
- 14 Jim Jacobs and others, "Career Pathways as A Systemic Framework: Rethinking Education for Student Success in College and Careers."
- 15 Harry Holzer and Demetra Nightingale, "Strong Students, Strong Workers: Models for Student Success through Workforce Development and Community College Partnerships."
- 16 Capital IDEA, Austin, Texas, in The Aspen Institute Workforce Strategy Initiative, "Sector Initiatives and Community Colleges: Working Together to Provide Education for Low-Wage Working Adults" (2007).
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- 18 MDRC, "Opening Doors," available at http://www.mdrc.org/project_31_2.html.
- 19 Susan Scrivener and Michael J. Weiss, "More Guidance, Better Results? Three Year Effects of an Enhanced Student Services Program at Two Community Colleges" (New York, MDRC, 2009).
- 20 For example: Metropolitan College cost \$5,000 per student in program year 2007-08 and Project Quest a long-standing sector initiative in the Southwest United states costs \$10,000 per student and YearUp a highly intensive classroom and workplace based learning program costs \$24,000 per student.