



Redesigning Community Colleges for Completion: Lessons from Research on High-Performance Organizations

Davis Jenkins

January 2011

CCRC Working Paper No. 24

A WORKING PAPER IN THE CCRC ASSESSMENT OF EVIDENCE SERIES

Across the first year of a major grant from the Bill & Melinda Gates Foundation, with supplemental funding from Lumina Foundation for Education, CCRC has gathered and synthesized a large body of research evidence regarding strategies that may improve the success of students who attend community college. Working papers in the *Assessment of Evidence Series* use the research literature to draw conclusions and provide evidence-based recommendations in eight major topic areas: developmental assessment, developmental acceleration, developmental mathematics pedagogy, contextualization of basic skills instruction, online learning, non-academic support, institutional and program structure, and organizational improvement. All the papers in the series are made available on CCRC's website (<http://ccrc.tc.columbia.edu>) as they are released.

Address correspondence to:

Davis Jenkins
Senior Research Associate, Community College Research Center
Teachers College, Columbia University
525 West 120th Street, Box 174
New York, NY 10027
Email: davisjenkins@gmail.com

This research was funded by the Bill & Melinda Gates Foundation. The author would like to thank Thomas Bailey, Anthony Bryk, Pamela Burdman, James Jacobs, Shanna Jaggars, Denise Rousseau, and Judith Scott-Clayton for helpful comments on drafts of this paper. Thanks also to Rachel Rosen for her excellent research assistance and Amy Mazzariello for indispensable help with editing.

Abstract

This paper examines the research from within and outside of higher education on the practices of high-performance organizations. It assesses the extent to which community colleges generally are following these practices and evaluates current reform efforts in light of models of organizational effectiveness that emerge from the research literature. It then reviews research on strategies for engaging faculty and staff in organizational innovation and describes particular challenges community colleges face on this front. The concluding section recommends concrete steps community college leaders can take to redesign how they manage programs and services to increase rates of student completion on a scale needed to help meet national goals for college attainment.

Table of Contents

1. Introduction.....	1
2. Practices of High-Performance Organizations	2
2.1 Sources of Research on Effective Organizations.....	3
2.2 High-Performance Practices	6
2.3 Complementary Effects of High-Performance Practices.....	10
3. Community Colleges and High-Performance Practices.....	13
3.1 Community College Norms and High-Performance Models Compared.....	13
3.2 Community College Reform Models.....	16
4. Engaging Faculty and Staff in Building a High-Performance College	19
4.1 The Importance of Employee Involvement for Organizational Innovation	19
4.2 Overcoming Barriers to Engaging Community College Faculty and Staff	22
4.3 Incentives for Colleges to Change	26
5. Steps for Redesigning Community Colleges for Completion.....	29
5.1 Recommendations for Community College Reformers.....	31
5.2 A Continuous Improvement Process	38
6. What Incentives Are There for Colleges to Change?	41
References.....	44

1. Introduction

Community colleges enroll over 40% of undergraduates in the United States. Thanks to their “open-door” admissions policy and relatively low cost, they have helped to broaden access to postsecondary education for students who in the past might not have gone to college. In part because of these uniquely American institutions, college access in the United States has expanded dramatically over the past 50 years. However, college completion rates have not kept pace with enrollment rates, and gaps in achievement persist among students grouped by race/ethnicity and family income. In response to lagging success rates, policymakers, including President Obama and a number of state governors, and private foundations, including the Bill & Melinda Gates Foundation and Lumina Foundation for Education, have set ambitious goals for improving the rate at which Americans earn college credentials. Because of their broad accessibility, community colleges have a key role to play in meeting national goals for increased postsecondary attainment.

Between 1997 and 2007, the number of certificates and associate degrees awarded by community colleges increased by more than 25%, while enrollment grew by 18%.¹ However, to help meet the ambitious goals for future increases in postsecondary attainment set by policymakers and private funders, community colleges will have to increase both the number of students served and the rate at which they graduate by even greater amounts over the next decade.

Compared to other public higher education institutions, community colleges have fewer resources to spend on education and related services.² Recent state budget cuts and skyrocketing enrollments have further reduced per-student funding for colleges across the country. Thus, community colleges will not be able to count on increased funding to help them meet national college attainment goals. Instead, they will need to achieve

¹ Figures on the increase in community college awards were taken from U.S. Department of Education (2009). The percentage increase in community college enrollment was calculated from information on trends in fall enrollment at postsecondary institutions in the following table on the website for the U.S. Department of Education’s *Condition of Education*: http://nces.ed.gov/programs/digest/d09/tables/dt09_190.asp?referrer=list.

² According to the Delta Project on Postsecondary Education Costs, Productivity and Accountability, average education and related expenditures per FTE student in 2008 were \$10,396 at community colleges compared with \$12,185 at public master’s degree institutions (Desrochers, Lenihan, & Wellman, 2010). <http://www.deltacostproject.org/resources/pdf/Trends-in-College-Spending-98-08.pdf>

substantial improvements in productivity—that is, they will have to graduate more students with the same or even less funding. Community college efforts to increase completion rates typically involve small programs or pilots that serve relatively few students and often rely on temporary outside funding. Increasingly, reformers are seeking more fundamental, systemic changes in the way community colleges operate.

This paper examines the research from within and outside of higher education on the practices of high-performance organizations. It assesses the extent to which community colleges generally are following these practices and evaluates current reform efforts in light of models of organizational effectiveness that emerge from the research literature. It then reviews research on strategies for engaging faculty and staff in organizational innovation and describes particular challenges community colleges face on this front. The concluding sections recommend concrete steps community college leaders can take to redesign how they manage programs and services to increase rates of student completion on a scale needed to help meet national goals for college attainment.

2. Practices of High-Performance Organizations

Because the literature on organizational effectiveness in higher education is limited, this review also included relevant studies from K-12 schools and organizations outside of education. There is remarkable agreement among studies of effective K-12 schools and private sector firms about the specific practices of organizations that produce superior outcomes and improve their performance over time. Higher education studies identify some of the same practices in effective undergraduate institutions but place less emphasis on other practices shown to be critical by research in the other two sectors. Research in all three sectors confirms that innovative organizational practices have the greatest effect on performance when they are implemented in concert with one another and are well aligned to achieve organizational goals. Thus, improving organizational performance requires systemic changes in practice.

2.1 Sources of Research on Effective Organizations

To begin, this paper briefly introduces the research from the three sectors examined in this review. For each sector, the paper reviews studies that actually attempt to measure organizational performance in order to identify the practices of organizations that achieve superior outcomes and improve their performance over time.

Studies of undergraduate institutions. Only a handful of studies have examined the practices of undergraduate institutions identified through quantitative analysis as more effective than their peers in graduating students (see Table 1). Among these, only one (Jenkins, 2007) examined community colleges; the others focused on four-year institutions. Although each study resulted in interesting findings (discussed in the next section), all of them suffer from methodological weaknesses, as described in Table 1. Only two of the five (Jenkins, 2007; Muraskin & Lee, 2004) compared the practices of “effective” institutions to the practices of a counterfactual sample of less effective institutions. Only one study (Jenkins, 2007) had access to data on individual students that made it possible to control for the effects of student characteristics on institutional outcomes; the others relied on aggregate measures of student characteristics and institutional performance. However, the study that used student record data was limited by the fact that its sample included only six institutions (three high-impact and three low-impact). Given these methodological limitations, the evidence provided by all of these higher education studies is at best suggestive.

Studies of K-12 schools. The literature on effective K-12 schools is much more extensive and more definitive. For example, Boreman et al. (2003) conducted a meta-analysis of the impact on school performance of 29 studies of the Comprehensive School Reform (CSR) model established in the late 1990s and promoted by the U.S. Department of Education. More recently, Bryk et al. (2010) synthesized the results of more than a decade of their research on the Chicago Public Schools at the Consortium on Chicago School Research. Bryk and his colleagues examined the performance of individual schools using “productivity profiles” that measured how much students learned each year and whether learning gains increased over time. The researchers also used questionnaires, interviews, and site visits to characterize the policies and practices of each school.

Table 1
Recent Studies of Effective Undergraduate Institutions

Study	Data and Methods	Methodological Issues
Carey (2005)	Examined baccalaureate-granting institutions with higher graduation rates than similar institutions grouped statistically based on Carnegie classification, admissions selectivity, size, financial resources, and other characteristics. Also identified institutions where the gap in graduation rates between minority and white students is small or nonexistent. Administrators from colleges with superior graduation rates and lower achievement gaps compared to their peers were interviewed about what they thought accounts for their superior performance.	<ul style="list-style-type: none"> • Used institutional aggregates to measure performance; therefore unable to control for individual student characteristics. • Findings based on the opinions of administrators about what accounts for their colleges' superior performance. • No counterfactual sample of "less effective" institutions.
Jenkins (2007)	Conducted field research in a sample of Florida community colleges ranked according to their effect on minority student graduation rates. Used multivariate analysis of unit record transcript data on first-time community college students tracked over five years to select three high-impact and three low-impact colleges for in-depth field research.	<ul style="list-style-type: none"> • Small sample size for field research (six colleges). • Lack of controls for student socioeconomic status.
Kuh et al. (2005)	Conducted in-depth field research at 20 four-year institutions that had both higher-than-predicted graduation rates (based on the six-year rates reported to the U.S. Department of Education as part of the IPEDS Graduation Rate Survey) and higher-than-predicted scores on the National Survey of Student Engagement (NSSE).	<ul style="list-style-type: none"> • Used institutional aggregates to measure performance; therefore unable to control for individual student characteristics. • No counterfactual sample of "less effective" institutions.
Muraskin & Lee (2004)	Examined the institutional characteristics, policies, and practices that might account for differences in graduation rates among four-year colleges and universities that serve high concentrations of low-income students. From the institutions with high proportions of students receiving a Pell grant, the researchers identified a group with higher-than-average graduation rates (HGRs) (based on IPEDS data) and another group with lower-than-average graduation rates (LGRs). Chose ten institutions from each group for field research to achieve a balanced representation by geographic location, enrollment size, governance (public vs. private) and mix of students by race and ethnicity.	<ul style="list-style-type: none"> • Used institutional aggregates to measure performance; therefore unable to control for individual student characteristics. • Lack of controls for student characteristics and institutional fixed effects (see Muraskin & Lee, 2004, p. 2).
Southern Regional Education Board (SREB) (2010)	Using the College Results Online database, selected 15 four-year public universities that met selection criteria, including relatively high graduation rates despite lower selectivity and enrollment of a high proportion of low-income students. Conducted site visits and reviewed documents to determine the institutional strategies that contributed to student retention and graduation.	<ul style="list-style-type: none"> • Used institutional aggregates; therefore lacked controls for student characteristics and institutional fixed effects. • No counterfactual sample of "less effective" institutions.

Based on this research, Bryk et al. identified “five essential supports” present in schools that showed substantial improvements in student performance.³

Studies of non-educational organizations. Outside of education there is also a large body of research on organizational effectiveness. In the 1980s, scholars examined the performance of manufacturing firms and other organizations that had adopted practices based on the quality management models that had their origin in the work of W. Edward Deming, Joseph Juran, and Philip Crosby. The ideas of these early pioneers evolved into a general set of principles that are often referred to as “Total Quality Management,” or TQM. While there are many variants of TQM, one well-known model in the U.S. is reflected in the Baldrige National Quality Program, part of the U.S. Department of Commerce, which each year gives awards to organizations that meet rigorous standards of practice reflecting seven main principles (Baldrige National Quality Program, 2009b). Management science research has generally found that TQM has a positive effect on firm performance (see Kaynak, 2003, for a review).

During the 1990s, researchers explored the effects on organizational performance of sets of human resource practices known as “high-performance work practices” (HPWPs), which include employee participation, teams, training, and other flexible work arrangements (Huselid, 1995; Pfeffer, 1998; Applebaum, Bailey, Berg, & Kalleberg, 2001). These practices are thought to increase employees’ knowledge and motivation and empower employees to use their increased skills to improve organizational performance (Delery & Doty, 1996; Becker & Huselid, 1998; Delery & Shaw, 2001). Studies indicate that they lead to greater job satisfaction, better decision making, and higher productivity, all of which help improve organizational performance (Becker, Huselid, Pickus, & Spratt, 1997). A meta-analysis of 92 studies of the relationship between HPWPs and organizational performance found that HPWPs affect organizational performance in a way that is “not only statistically significant, but managerially relevant” (Combs, Liu, Hall, & Ketchen, 2006, p. 518). The positive relationship between HPWPs and organizational effectiveness is consistent across performance measures, although it is

³ The five essential supports are school leadership, student-centered learning climate, instructional guidance, professional capacity, and parent–community ties. Summaries of each support are presented on the consortium’s website: http://ccsr.uchicago.edu/content/page.php?cat=3&content_id=46.

stronger for manufacturing firms than it is for service organizations (Combs et al., 2006, p. 519).

2.2 High-Performance Practices

Table 2 lists practices of undergraduate institutions identified by each of the five relevant studies reviewed here as being associated with superior student outcomes. The studies whose results support the given practice are listed in the right-hand column.

Table 2
Practices of Undergraduate Institutions with Superior Student Outcomes

Practices of Effective Undergraduate Institutions	Studies Identifying Given Practice
Leadership with a strong focus on student success	(1), (2), (3), (4), (5)
Well-coordinated, proactive student support services	(2), (3), (4), (5)
Innovation in teaching and methods for improving student success	(1), (2), (4)
Use of data analysis to monitor student progress and guide program improvements	(1), (2), (5)
Targeted programs that provide advising and academic support specially designed for at-risk students	(2), (4), (5)
Emphasis on engaging students, particularly in the first year	(1), (5)
Committees or work groups that monitor and promote student success efforts	(5)
Collaboration across departments, with broadly shared responsibility for ensuring student success	(5)
Small class sizes, even in freshman introductory courses	(4)
Strong institutional culture, particularly a willingness to see changes through, even if results take time to become evident	(3)

Key to studies: (1) Carey (2005); (2) Jenkins (2007); (3) Kuh et al. (2005); (4) Muraskin & Lee (2004); (5) SREB (2010).

The research on effective K-12 schools and organizations outside of education consistently identifies eight sets of practices that are characteristic of highly effective organizations (see Table 3). Some of these practices receive less emphasis in research on colleges and universities. As discussed later, it is not entirely clear whether the lesser emphasis on these practices in postsecondary research is due to a lack of relevant

practices to study or to perceptions that these practices are not as important in undergraduate institutions.

Leadership. All three bodies of research literature stress the importance of strong, inclusive leaders who are committed to improving outcomes in accordance with the organization’s mission and goals. Strong leadership with a clear focus on improving student success was mentioned as a key feature of effective undergraduate institutions by all five higher education studies summarized in Table 1. Bryk et al. (2010) identified school leadership as one of the five essential supports (mentioned earlier) evident in schools that were able to improve student outcomes, defining it as the extent to which “principals are strategic, focused on instruction and inclusive of others in their leadership work.” The first principle of the Baldrige National Quality Program (2009a) is “effective leadership,” which is defined as leaders who “communicate with their workforce to develop leadership within the organization and promote organizational learning, ethical behavior and high performance” (p. 7).

Table 3
Practices of Effective Organizations: Level of Emphasis in Research on Different Sectors

Practice	Research on Undergraduate Institutions	Research on K-12 Schools	Research on Non-Educational Organizations
Strong leadership	STRONG	STRONG	STRONG
Focus on customer	STRONG	STRONG	STRONG
Functional alignment	Moderate	STRONG	STRONG
Process improvement	Moderate	STRONG	STRONG
Use of metrics/measurement for improvement	Moderate	STRONG	STRONG
Employee involvement	<i>Weak</i>	STRONG	STRONG
Employee training/professional development	<i>Weak</i>	STRONG	STRONG
External linkages	<i>Weak</i>	STRONG	STRONG

Focus on the customer. Whether it is in terms of a college with a “learner-centered campus” (Kuh et al., 2005), a school with a “student-centered learning climate”

(Bryk et al., 2010), or a corporation with a “customer focus,”⁴ all three literatures stress the importance of focusing organizational energy and resources on providing high-quality service to the customer.

Functional alignment. All three research literatures point to the value of aligning functions to achieve organizational goals. Models of organizational effectiveness that emerge from research on private sector firms stress the importance for firm performance of managing the organization’s “core competencies” in a coordinated fashion (Baldrige National Quality Program, 2009b; Kaynak, 2003). Studies of effective undergraduate institutions emphasize the importance of coordinating instruction and student support services (Jenkins, 2007; Kuh et al., 2005; Muraskin & Lee, 2004; SREB, 2010). The conception of alignment that emerges from the K-12 research is even broader, encompassing not only instruction and academic supports but also assessment, classroom management, and professional development. In the K-12 literature, this broader alignment of functions has been referred to as “instructional program coherence.” Newmann et al. (2001) define this as “a set of interrelated programs for students and staff that are guided by a common framework for curriculum, instruction, assessment, and learning climate and that are pursued over a sustained period” (p. 299). In a study of elementary schools in Chicago, Newmann et al. (2001) found that schools with higher levels of instructional coherence showed test score gains 12–13% higher in reading and mathematics over three years than did schools with lower levels of instructional coherence. Bryk et al. (2010) found that Chicago elementary schools with strong curriculum alignment were four times more likely to improve in math and reading than schools that were weak on this measure. Notably, their results indicate that school improvement frameworks that promote instructional program coherence are more likely to improve student achievement than are multiple unconnected interventions.

Process improvement. Ongoing efforts to improve core organizational processes are another feature of effective organizations identified by research in all three sectors. The Baldrige model encourages organizations to continually analyze organizational processes to ensure that the quality of programs and services improves over time

⁴ The Baldrige criteria tout the importance of engaging customers, meeting needs, and building loyalty through a strong “customer focus” (Baldrige National Quality Program, 2009b).

(Baldrige National Quality Program, 2009b). In education settings, the core processes are those encompassed by the “instructional program coherence” concept mentioned above. Interestingly, the emphasis on instructional innovation is not as great in studies of effective undergraduate institutions as it is in research on high-performing K-12 schools.

Use of measurement. As with process improvement, the use of performance measurement is identified in some of the studies of effective undergraduate institutions, but it does not feature as prominently in studies of undergraduate institutions as it does in research in the other two sectors. While three of the five higher education studies mention the use of student data for improvement (see Carey, 2005; Jenkins, 2007; and SREB, 2010), evidence-based decision making is an overriding principle of the Comprehensive School Reform model from K-12 education (Boreman et al., 2003). Measurable goals, assessment, evaluation, and use of evidence are mentioned explicitly in five of the 11 components of the Comprehensive School Reform (CSR) model. The use of measurement and evidence to guide and inform process improvement and management decisions is also a central feature of high-performance organizations outside of education (Kaynak, 2003). TQM and other improvement models, such as the Baldrige principles, emphasize the use of measurement to identify opportunities for process improvement and gauge the effectiveness of process improvement efforts. The Baldrige program refers to measurement, analysis, and knowledge management (principle 4) as the “brain center” of organizational improvement (Baldrige National Quality Program, 2009b).

Employee involvement and professional development. Research on institutional effectiveness in all three literatures points to the importance of involving employees in efforts to improve organizational performance. However, studies of organizational improvement efforts in K-12 schools and organizations outside of education exhibit a much greater emphasis on employee involvement and on ensuring that employees not only understand the goals of major organizational reforms but also believe in the principles that drive them. Changing organizations depends ultimately on changing the hearts and minds of employees. At the same time, preparing employees to lead reforms requires training and professional development. For example, a central principle of the Comprehensive School Reform model is that of distributed leadership, whereby administrators, teachers, and staff are expected to share responsibility for

improving student outcomes. One of the five essential supports identified by Bryk et al. (2010) in effective Chicago schools is “professional capacity,” which they define as “the quality of the faculty and staff recruited to the school, their base beliefs and values about change, the capacity of staff to work together, and the quality of ongoing professional development.” Schools where teachers were highly committed and inclined to embrace innovation were five times more likely to improve in reading and four times more likely to improve in math than schools with low levels of teacher involvement (Bryk et al., 2010). One of the Baldrige National Quality Program criteria is “workforce focus,” which examines “how the organization engages, manages, and develops the workforce to utilize its full potential in alignment with the organization’s overall mission, strategy, and action plans” (Baldrige National Quality Program, 2009a). Research indicates that high-performance work systems benefit organizational performance by helping employees strengthen their knowledge, skills, and abilities (KSAs) and by involving and empowering them to use their KSAs for the benefit of the organization (Combs et al., 2006, p. 504).

External linkages. While involvement of both parents and outside communities is a key feature of the models of effective schools that emerge from K-12 research, the literature on effective undergraduate institutions mentions neither. Perhaps more surprising is that studies of effective undergraduate institutions do not mention relationships with K-12 schools—or in the case of community colleges, with four-year institutions and employers. Research on private sector organizations indicates that firms that strategically manage their relationships with supplier and customer firms perform better on a variety of measures than firms that are not strategic in managing these relationships (Carr & Pearson, 1999; Kaynak, 2003; Sezhiyan & Nambirajan, 2010).

2.3 Complementary Effects of High-Performance Practices

Studies in all three sectors examined here find that innovative organizational practices have complementary effects. Thus they have greatest impact on organizational performance when implemented in concert with one another.

All five higher education studies reviewed here found that effective colleges tended to implement their programs and services in a coordinated or complementary way.

For example, in a study of 20 four-year institutions identified as having high actual graduation rates compared to their expected rates (which were adjusted to control for student characteristics) and high levels of student engagement, Kuh et al. (2005) found that student success at these institutions appeared to be the result of their cumulative efforts. Effective institutions had multiple “complementary” academic and social policies and programs that were utilized by a large proportion of students. These institutions reached out to students and encouraged them to take advantage of the supports offered. The Community College Research Center’s study of community colleges that were more effective in enabling minority students to graduate (controlling for student characteristics) found that these colleges not only offered an array of support services—including in-depth orientations, proactive advising, early warning systems, and well-organized academic support services—but also aligned and coordinated services across the campus to create mutually reinforcing supports for students (Jenkins, 2007).

That organization drives performance improvement and that individual interventions are unlikely to work in isolation is further supported by extensive research on K-12 schools. The meta-analysis by Boreman et al. (2003) of studies on the Comprehensive School Reform model found that schools that implemented CSR principles in an integrated fashion were in many cases more effective than similar schools that implemented CSR principles in a more piecemeal fashion. Similarly, Bryk et al. (2010) found that Chicago elementary students in schools that measured high on all five supports were at least 10 times more likely than students in schools with just one or two strengths to achieve substantial gains in reading and math. A sustained weakness in just one of the areas undermined virtually all attempts at improving student learning. This suggests that the alignment of multiple practices at multiple levels of the organization is needed to create the conditions needed for students to learn and succeed. Moreover, it indicates that there is a lack of substitutability, such that more of one “essential support” is not enough to compensate for the lack of another.

The idea that the practices of effective organizations have a complementary effect on performance is also strongly supported by evidence from outside of education. A study of the relationship between the practices of total quality management and various measures of organizational performance in private sector firms found that TQM practices

are interdependent, in that some practices affect firm performance through other practices (Kaynak, 2003).⁵ Rigorous empirical studies of organizational performance in manufacturing have found that high-performance work practices (HPWPs) affect the performance of manufacturing plants not individually but as complementary sets or “bundles” of practices (Ichniowski & Shaw, 2003; Ichniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995). A more recent meta-analysis (mentioned earlier) of 92 studies of the relationship between high-performance work practices and organizational performance concluded that the studies reviewed support the hypothesis that systems of HPWPs have stronger organizational performance impacts than do individual HPWPs (Combs et al., 2006).

Overall, the research on organizational effectiveness both within and outside of education strongly suggests that to achieve large improvements in student outcomes, community colleges should seek to implement the practices associated with high-performance organizations in a concerted way. Piecemeal changes focused on discrete programmatic interventions will not suffice.

Given the converging evidence that innovative organizational practices have a complementary effect on performance, it is noteworthy that research on effective undergraduate institutions places less emphasis on certain practices that studies of K-12 schools and private sector firms indicate are characteristic of high-performance organizations. These include functional alignment, employee involvement and professional development, and external linkages. It could be that practices such as these are less important to the performance of undergraduate institutions than to other types of organizations. It could also be that these features are not well developed in undergraduate institutions and therefore did not emerge as a salient feature in the research on effective institutions. In that case, colleges and universities might be able to improve their performance markedly by strengthening practice in these areas. The next section examines the extent to which community colleges follow high-performance organizational practices.

⁵ For example, according to the Kaynak study (which includes an extensive literature review): “Management leadership, training, employee relations, and quality data and reporting affect operating performance through supplier quality management, product/service design, and process management” (p. 426).

3. Community Colleges and High-Performance Practices

Evidence from the literature suggests that community colleges are often weak in several areas of practice associated with high-performance organizations. Some well-known national community college reform models do reflect some of the key principles of effective organizational practice; however, they overlook, or at least do not emphasize, other key practices.

3.1 Community College Norms and High-Performance Models Compared

Although only one study has systematically examined high-performing community colleges (Jenkins, 2007), other sources provide insight about the use of high-performance practices by community colleges more generally. It appears that many, if not most, do not follow key practices that are supported by research on organizational effectiveness. Observational evidence suggests that community colleges are often weak in the following high-performance practices.

Functional alignment. Observers of community colleges have long pointed to the common lack of coordination among student services functions including assessment, advising and counseling, and financial aid, and between student services and academic programs (Lundquist & Nixon, 1998). Student support services generally are not well integrated with instructional programs; rather, students must take initiative to seek them out. The students most likely to use these services tend to be those who are better prepared to succeed in college, leaving more disadvantaged students to fend for themselves (Karp, O’Gara, & Hughes, 2008).

Within community college academic programs, learning outcomes are frequently not well coordinated across courses in a program sequence. For example, college remedial or “developmental” courses are generally designed to prepare students for college-level math and English courses, but they are usually not oriented toward helping students succeed in other general education courses, and rarely are they connected to career–technical offerings (Jenkins, 2003). A recent in-depth study of remedial programs for language minority students in California community colleges found that remedial offerings are not well aligned with curricula for college-level programs in the corresponding subject areas (Bunch, Endris, Panayotova, Romero, & Llosa,

forthcoming). General education course requirements are often dictated by the requirements for transfer to baccalaureate programs rather than by a common set of general education learning standards (Wellman, 2002). While community college departments often have common syllabi for particular courses, many if not most community colleges lack clear learning outcomes for courses and programs, and few use the same exams for different course sections. How colleges can achieve instructional program coherence without cohesive learning standards and common means of assessing students' achievement of them is unclear.

Some researchers have argued that the programs of private occupational colleges are more structured than those of community colleges, with fewer electives, a clearer pathway to completion of credentials and employment in specific career fields, and built-in supports along the way (Rosenbaum, Deil-Amen, & Person, 2006).⁶ They claim that highly structured programs with integrated student supports enable students at private occupational colleges to achieve better outcomes than students of similar economic and educational backgrounds who are served by community colleges (Stephan, Rosenbaum, & Person, 2009). (For a review of the literature on the importance of program structure for student success, see the companion paper by Scott-Clayton [2011].)

Process improvement. Many community colleges do not systematically evaluate the impact of their programs and services on student outcomes, and when they perform evaluations, they often do not use the results to improve their programs or services (Morest & Jenkins, 2007). When community colleges do implement innovations to improve student success, their efforts are generally small in scale and often depend upon limited-term grant funding (Brock et al., 2007; Jenkins, Ellwein, Wachen, Kerrigan, & Cho, 2009). In addition, processes for managing programs and services, including strategic planning, program review, and budgeting, often do not focus organizational energy on student outcomes or help to bring about systemic improvements in programs and services (Habley & McClanahan, 2004).

Use of measurement for improvement. A national survey of community college institutional research practices found that top administrators generally do not use data on

⁶ It is notable that the concept of program structure that Rosenbaum et al. find in private proprietary colleges is similar to the “instructional program coherence” that emerges from K-12 research as key to superior school performance.

student outcomes for decision making (Morest & Jenkins, 2007). The survey also found that community colleges often allocate limited resources for institutional research, and many treat it as an administrative function that is not central to the management of the college. This is perhaps not surprising given the policy research indicating that because colleges are funded based on enrollments rather than outcomes (Shulock & Moore, 2007a, 2007b). Thus, there are few incentives for college leaders to focus on the latter.

Employee involvement. There have not been in-depth studies of the level of engagement of community college faculty in efforts to improve student outcomes, but observational evidence suggests that it is often limited to a relatively small number of especially dedicated individuals (Grubb, 2010). Engaging community college faculty on a broad scale in reform efforts is challenging given the large teaching load that these instructors generally carry and the fact that a majority of community college instructors are part-time employees who are generally paid to teach and not to assist with program improvement.

Employee training and professional development. Although community colleges pride themselves on being “teaching institutions,” comprehensive pre- or in-service staff development programs designed to help instructors improve their teaching are rare (Grubb & Associates, 1999). Professional development activities at community colleges seem generally to be designed to enhance the skills and knowledge of individual faculty members rather than to build “professional communities of practice” in which instructors can work together to improve curricula and instruction—a common feature of K-12 school reform models (McLaughlin & Talbert, 2001; Bryk et al., 2010).

External linkages. A growing body of research documents the need for stronger connections for students between K-12 and higher education (see, e.g., Kirst & Venezia, 2005). While some case studies document efforts by particular community colleges to work with high schools to improve college readiness of high school students on a substantial scale (see, e.g., Kerrigan & Slater, 2010), there is no evidence that community colleges generally do this in a systematic way. On the other end, while some community colleges have built strong relationships with baccalaureate institutions to facilitate transfer, higher education policies in many states do not provide strong incentives for colleges and universities to work together create clear transfer pathways for students

(Wellman, 2002). Moreover, despite the community college mission to serve workforce needs of their local communities, connections between community college faculty and employers are often weak (Brewer & Gray, 1999).

3.2 Community College Reform Models

Although community college management norms may not generally reflect practices of high-performance organizations, certain individual community colleges are seeking to improve their performance by adopting reforms based on high-performance models. In 2005, Richland Community College in Texas became the only community college—and one of the only educational institutions—to win the Baldrige National Quality Award. As part of its application, the college presented data on improvements in student outcome measures during the six-year period from 1999 to 2005 and described how the college applied the Baldrige principles to bring about the performance improvements reported.⁷

Other community colleges have tried to emulate Richland Community College's success with the Baldrige award and are applying the Baldrige principles in assessing and seeking to improve their own organizational processes. However, Baldrige only recognizes a handful of organizations each year that meet its very high standards of practice, so even if more community colleges were to win a Baldrige award, the likely effects on community college practice overall would be small.

The Academic Quality Improvement Program (AQIP) was created in an effort to apply quality management principles to improving the performance of higher education institutions on a wider scale. AQIP is an alternative accreditation process offered to colleges that are already accredited by the Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools. Currently over 125 institutions, many of them community colleges, participate in the AQIP process.⁸ To earn AQIP accreditation, colleges and universities must provide evidence that they are striving to continuously improve performance by addressing nine criteria designed to challenge

⁷ Richland College has posted its Baldrige application online at <http://www.rlc.dcccd.edu/temp/baldrigeApp.pdf>.

⁸ For more information, see <http://www.hlcommission.org/aqip-home/>.

institutions to examine how their organizational processes are moving the institution to improve its performance.

Each AQIP criterion requires self-assessment, asking institutions to evaluate how they approach each of their processes and how the processes are implemented across the different departments in a college. The criteria also encourage colleges to reflect on how they measure and evaluate their processes, how information is used to inform improvement strategies, and how the processes positively affect students and other stakeholders. To allow for institutional flexibility, the AQIP criteria are somewhat vague, which presents a challenge for research and evaluation, as there is not a standard instrument or rubric that would allow for comparable measurements of the criteria across institutions. This may account for the scarcity of research indicating that institutions that have implemented the AQIP process were thus able to improve student outcomes.

Another model for strengthening organizational performance of community colleges specifically is offered by Achieving the Dream, a major reform initiative involving over 100 community colleges nationally, designed to improve outcomes for students, particularly low-income students and students of color.⁹ Achieving the Dream works with colleges to build a “culture of evidence and inquiry” in support of student success. The Achieving the Dream model’s four principles of institutional effectiveness (Achieving the Dream, 2009) clearly reflect some of the eight practices of high-performance organizations:

1. *Leadership* committed to eliminating achievement gaps among groups of student and improving student success overall.
2. *Use of evidence* on what works for students to improve programs and services.
3. *Broad engagement* of faculty and staff in evidence-based improvement efforts.
4. *Systemic institutional improvement* through evidence-based program review, strategic planning, and budgeting.

⁹ For more information, see the initiative’s website at www.achievingthedream.org.

Achieving the Dream encourages colleges to follow a five-step iterative process to implement these principles and bring about changes in organizational practice needed to improve student success.

Early field studies of the implementation of the Achieving the Dream indicated that some colleges had begun to implement key aspects of the model, particularly increased commitment on the part of college leaders to improving student outcomes and strengthened use of data to identify opportunities for improvement (Brock et al., 2007; Jenkins et al., 2009). However, some colleges had difficulty engaging faculty on a broad scale in improvement efforts. Despite the emphasis of the initiative on engaging faculty and staff in evidence-based improvement, Achieving the Dream in its initial work with colleges takes more of a top-down approach, encouraging colleges to form a core team comprised of the president and other top administrators, although faculty leaders are generally represented. A survey of data use by faculty and administrators at Achieving the Dream colleges found that the extent to which faculty work together to use data to improve their programs depends more on the policies and practices of their individual department than of the college overall (Jenkins & Kerrigan, 2009). Achieving the Dream began with a strong focus on getting commitment from college CEOs and other top administrators. However, given the survey findings and the decentralized nature of authority in community colleges generally, colleges seeking to implement systemic reforms should involve faculty leaders from the start in decision making. They should also involve deans, department chairs, and other “mid-level” managers whose decisions bear more directly on program design and operation than those of top administrators.

Another reason that some Achieving the Dream colleges have had difficulty engaging faculty may be that teaching and learning, although considered important, are not the central focus of the initiative. The indicators that the initiative uses to gauge colleges’ performance are measures of student retention, progression, and completion rather than measures of improvement in learning per se. As a result, most of the interventions implemented early on by colleges that joined the initiative in the first round were designed to improve student services and academic supports, such as supplemental instruction, enhanced tutoring, and student success courses, rather than to strengthen curriculum and instruction (Brock et al., 2007). Moreover, Achieving the Dream has not

emphasized instructional program coherence, which research on K-12 schools indicates is critical for improving student learning.

The formal evaluation of the impact of Achieving the Dream on college performance is still underway.¹⁰ Given the research on high-performance K-12 schools and organizations outside of education, though, one might expect that with the lack of a central focus on teaching and learning and the difficulty some colleges have had engaging faculty on a broad scale in reform efforts, the initiative might not produce improvements in student outcomes as large as expected.

4. Engaging Faculty and Staff in Building a High-Performance College

Research on implementing systemic reforms in organizations highlights the importance of winning the hearts and minds of organizational actors as a means of actively involving them in reform efforts and changing norms of practice. Community colleges face a number of barriers to engaging faculty and staff in organizational change. The research literature offers some ideas about how colleges might address these challenges, although unfortunately it provides no definitive solutions. The discussion of how to motivate faculty and staff to participate in organizational reforms raises the question of what incentives colleges have to take on the hard work of organizational change. Here again, the literature offers some guidance but no clear answers.

4.1 The Importance of Employee Involvement for Organizational Innovation

In a widely cited review of the literature on the implementation of reforms at scale in K-12 schools, Coburn (2003) suggests that it is necessary to focus not only on the number of districts and schools that adopt a reform but also on how extensively reform practices are implemented within schools. Too often, reforms fail to penetrate to the level of the classroom, and when they do, they vary in depth and substance. Coburn points out that because teachers draw on their own knowledge and experience to interpret and enact reforms, “they are likely to ‘gravitate’ to practices that are congruent with their prior

¹⁰ The evaluation of Achieving the Dream is being conducted by MDRC in partnership with the Community College Research Center. For more information, see the project description at: http://www.mdrc.org/project_34_73.html.

practices, focus on surface manifestations (such as discrete activities, materials, or classroom organization) rather than deeper pedagogical principles, and graft new approaches on top of existing practices without altering classroom routines or norms” (p. 4). For reforms to change classroom practices in “deep and consequential” ways, they must bring about changes in teachers’ beliefs, norms of social interaction between teachers and students, and underlying pedagogical principles embodied in the curriculum.

“Creating conditions to shift authority and knowledge of the reform from external actors to teachers, schools, and districts” (Coburn, 2003, p. 7) is essential to sustaining a reform in the face of constantly changing priorities, turnover among reform leaders, and the likelihood that initial funding for a reform will disappear over time. The research on scaling educational reforms in K-12 schools points to practices that can help to bring about this transfer of knowledge and authority. These include structures and mechanisms for ongoing reform-related learning by teachers and administrators (such as teacher study groups), cultivation of “deep, reform-centered knowledge” among key leaders, and use of reform-centered ideas or structures in school or district decision making.

Studies of organizational innovation in fields outside of education provide further evidence of the importance of involving employees in designing and implementing organizational innovations and argue against a “top-down” approach to organizational improvement. For example, a study of the implementation of quality improvement strategies by hospitals (Shortell et al., 1995) found that hospitals that used a “prospector approach”—characterized by decentralized control, employee empowerment, and “just-in-time” training—were more successful in implementing quality improvement methods than were hospitals with more bureaucratic, hierarchical cultures. The authors concluded that what really matters is whether or not a hospital has a culture that supports quality improvement work and an approach that encourages flexible implementation.

Research on the organizational innovation process outside of education also stresses the importance of educating employees to ensure that the “recipients” of the change in question have a deep understanding of the goals and methods of organizational reform (Bartunek, Rousseau, Rudolph, & DePalma, 2006). Being aware of the sometimes contradictory perceptions of change by change agents and change recipients can help both groups work together to devise midcourse corrections.

Studies of innovation in private sector organizations point to specific mechanisms for promoting organizational learning. For example, in a rigorous study of organizational learning in hospital intensive care units, Tucker et al. (2007) found evidence that practices such as the following can help overcome barriers to organizational change: 1) selection of measurable goals or targets—because employees have more trust in new practices for which there is supporting evidence of success; 2) creation of project teams that investigate and implement new practices found to be successful; and 3) cultivation of a climate of psychological safety, where employees feel confident asking questions or making mistakes.

At the same time, colleges should consider how they can provide incentives for individual employees to take initiative in improving organizational effectiveness. Studies on non-educational organizations indicate that individual initiative is a more critical factor in enabling organizational innovation than is individual creativity. Such research finds that while having creative people is important for spurring organizational innovation, it is not sufficient, since creative individuals do not necessarily have initiative (Miron, Erez, & Naveh, 2004). When the organization does not support initiative, only employees with high personal initiative reach high levels of innovative performance; but when the organization actively encourages and supports initiative, employees with high and low levels of personal initiative reach similar levels of performance.

Studies of non-educational organizations also indicate that efforts to increase adherence to protocols of practice and attention to detail are not necessarily incompatible with the goal of promoting innovation (Naveh & Erez, 2004). Not surprisingly, different management practices have different effects on innovation and attention to detail. While efforts to standardize practices increase attention to detail but decrease innovation, teams and goal setting both positively influence innovation. Thus organizations seeking to increase consistency and coherence of practice while also promoting innovation should adopt quality improvement practices that foster innovation, such as organizing cross-functional teams of employees and setting challenging goals designed to motivate employees.

4.2 Overcoming Barriers to Engaging Community College Faculty and Staff

Engaging employees in organizational innovation is particularly challenging for community colleges for a number of reasons. These include the fact that most community college faculty members are part-time employees, the prevalence of collective bargaining in many colleges and “shared governance” in most, and the lack of incentives for college personnel to participate in organizational reform efforts.

Engaging adjunct faculty members. About two thirds of faculty in community colleges are part-time employees or adjunct professors.¹¹ Studies of temporary workers in information technology and other “knowledge” occupations outside of education indicate that the lack of authority and job security can hamper their productivity. Moreover, temporary workers have limited connections to their employers and to opportunities to network with colleagues, both of which are considered essential for organizational innovation (Barley & Kunda, 2004; Blatt, 2008; Kunda, Barley, & Evans, 2002; Liden, Wayne, Kraimer, & Sparrowe, 2003).

While the effects of part-time instructors on student learning and success is still debated, at least two studies have found that community colleges with higher proportions of part-time faculty have lower rates of student completion and transfer than those with fewer adjuncts (Bailey, Calcagno, Jenkins, Kienzl, & Leinbach, 2008; Jacoby, 2006). Another study that used student-level data found that community college students’ likelihood of transferring to a four-year college or university is significantly lower the more their exposure to part-time instructors increases (Eagan & Jaeger, 2009). Some studies have found similar negative effects of increased usage of part-time, non-tenure-track faculty at four-year institutions (Ehrenberg & Zhang, 2005), although other research finds a small positive effect of using adjuncts, especially in occupational fields (Bettinger & Long, 2010).

Studies that find negative effects for adjunct instructors should not be interpreted as indicating necessarily that adjunct faculty are less effective instructors than are full-time faculty. It is just as plausible that institutions that rely more heavily on adjunct instructors find it more difficult to engage in sustained quality improvement than do

¹¹ Author’s calculations based on the *Digest of Education Statistics: 2009*, Table 253, U.S. Department of Education, Institute on Education Sciences: http://nces.ed.gov/programs/digest/d09/tables/dt09_253.asp?referrer=list.

institutions with more full-time faculty members. Adjunct instructors may receive some limited support for course preparation, but they generally are not paid to work with full-time colleagues to improve existing programs or develop new ones.¹² As a result, creating coherent instructional programs at colleges that rely heavily on part-time instructors could be difficult.

Most of the research on adjunct instructors examines the effects of adjunct versus full-time instructors on student outcomes. No study to date explores how to engage adjunct instructors in organizational improvement efforts. Research from outside education indicates that for temporary knowledge workers, their relationships with professional communities outside of the organizations that employ them and with peers inside the organization can influence the extent to which they behave in ways conducive to the effective functioning of the organization that employs them more than does their relationship with the organization itself (Blatt, 2008). This suggests that colleges should provide opportunities for adjunct faculty to collaborate with full-time faculty members on improving curricula and instructional quality in the fields they teach.

Performance incentives for faculty and staff. The heavy reliance of community colleges on part-time, non-tenure-track faculty complicates the challenge of providing incentives to community college faculty to improve. Faculty rewards in community colleges are still generally granted to full-time faculty only through tenure or tenure-like structures. This means that the majority of community college faculty work outside the reward structure of the college (Brewer & Tierney, 2010).

There has been little research on the use of individual incentives other than tenure to motivate faculty and staff in traditional public colleges and universities to improve their performance. One recent study (Ehrenberg, 2010) describes faculty human resource practices at University of Phoenix and Capella University, both for-profit institutions, which follow performance review and incentive compensation practices that resemble those used in private corporations. The study does not provide evidence that these

¹² A related potential barrier to engaging faculty in improvement is the fact that a growing number of community college courses are taught online (see Jaggars, 2011). The growth of online teaching means that there may be less opportunity for face-to-face interaction not only between faculty and students but also among faculty themselves and between faculty and student services staff.

practices lead to better outcomes, just that they are quite different from those used in public higher education.

Texas A&M University is one public institution that has recently begun implementing several performance incentive reforms suggested by the Texas Public Policy Foundation, a conservative think tank (Patel, 2010). One such reform already in effect on three of the university's campuses is a voluntary incentive program in which faculty can earn bonuses of up to \$10,000, based on the outcomes of anonymous evaluations by students. Other reforms currently under consideration include building evidence of teaching skill into tenure decisions and designing student/faculty "learning contracts" that provide students with information about graduation rates, average starting salaries for majors, teacher evaluation information, and information on the expected educational value added by the program. Thus far, these reform ideas have proven controversial, and university officials allege that the policy organizations' research base is flawed. In addition, to date there has been little or no independent evaluation of the efficacy of these reform ideas.

In contrast to higher education research, the K-12 literature is replete with studies of the use of "merit pay" incentives. Evidence of their efficacy is mixed. One study found that while performance incentives for individual teachers were associated with small test scores gains, the results could not conclusively be attributed to the incentives as opposed to other unobserved school characteristics (Figlio & Kenny, 2006). Recent research calls into question the value-added methodology that is most often used to measure the level of educational progress students have made under the tutelage of a given teacher and to determine performance awards (Rothstein, 2010). Other studies suggest that providing incentives to schools rather than to individual teachers—encouraging schools to compete for financial rewards—has a positive impact on student outcomes (Lavy, 2002).

Working effectively with faculty unions and representative bodies. Of the more than 300,000 faculty members represented by recognized collective bargaining agreements in 2006, 45% taught at public two-year colleges (NCSCBHEP, 2006). In 2005, over 40% of full-time faculty members in public two-year colleges were working under collective bargaining agreements (A. M. Cohen & Brawer, 2008). A recent study of shared governance at 341 public universities found that the presence of a faculty union

greatly increases faculty influence over decision making in such areas as setting faculty salary scales and individual faculty salaries, appointing department chairs, and appointing institution-wide committees (Porter & Stephens, 2010). However, research on the impact of faculty unions on institutional effectiveness is inconclusive (Cameron, 1982, 1985; DeCew, 2003; Wickens, 2008). Studies of the effects of unionization on the performance of organizations outside of education find that unions can inhibit organizational flexibility, which can create difficulties during economically difficult times or periods of rapid technological change, both of which require firm adaptability (Verma, 2007). Gunderson (2007) argues that public sector unions can have two faces—a negative one that amounts to “muscle flexing and influence peddling” (p. 414), and one that is positive in the sense that they provide a vehicle for employee “voice,” as identified by Freeman and Medoff (1984). However, he suggests that to date most public sector unions have generally played more of a negative role than a positive one.

At colleges that do not have faculty unions, faculty members are typically represented in shared governance with administrators by faculty senates or similar organizations. Thus, in many community colleges, efforts to engage faculty in the process of changing instructional practice will likely involve working with their representative organizations, whether formal labor unions or not. While the relationship between faculty representative organizations and organizational innovation has not been studied in higher education, there is an extensive literature on the topic in K-12 schools. Some such studies chart the spread and impact of “reform unionism” (Kerchner, Koppich, & Weeres, 1997), in which teachers unions move from an industrial labor relations model concerned mainly with economic rights to a model oriented toward strengthening professional competence and school effectiveness. Studies indicate that this new model of teacher unionism is spreading slowly into collective bargaining efforts in a number of urban school districts (Koppich, 2006). For example, Cincinnati, Minneapolis, and Denver, among others, have worked to negotiate contracts that incorporate elements such as rigorous teacher evaluations, merit pay compensation structures, and rigorous tenure requirements. The keys to success in all these instances were collaborative labor relations, in which management and unions found new ways engage each other’s perspectives, and the development of trust on both sides of the table. Moreover, in each case, the scope of

negotiable issues was expanded beyond just wages and working conditions to include issues of teaching and learning.

4.3 Incentives for Colleges to Change

The challenge of engaging faculty and staff in organizational change raises the question of what incentives colleges as institutions have to undertake systemic reforms. This question has only recently begun to be explored in the academic and policy literatures.

As one remedy to the barriers to change that they identify in higher education, Brewer and Tierney (2010) suggest that state and federal funding be tied to performance indicators, such as graduation rates, rather than to enrollment. They also argue that rather than be guaranteed, such funding should be awarded through competitive bids, in much the way research grants are given. A similar approach has recently been enacted in the K-12 arena through the federal Race to the Top competition, which requires states to make policy changes to be eligible, while only awarding grants to a few states. Brewer and Tierney also suggest that accreditation procedures be based on comparable performance indicators that are publicly available to students.

However, efforts to provide incentives for colleges and universities to implement improvements through policies such as performance funding have generally fallen short of their goals (Burke & Associates, 2005). Policy researchers have advanced a variety of explanations for this, including the fact that the amount of funding involved is typically very small and too often tied to the vicissitudes of state budgets (Zumeta, 2001; Dougherty & Hong, 2006; Dougherty & Natow, 2010). Recent research on performance funding in particular suggests that rather than create small innovation funds that will likely disappear when state revenues decline, policymakers should build incentives for improvement into base budget funding (Shulock & Moore, 2007a; Offenstein & Shulock, 2010). This could be done, for example, by paying colleges for the number of students who complete courses (rather than the number who enroll in them) or for accelerating the rate at which students achieve key intermediate milestones (such as completing a college-level math course, or earning a specified number of colleges credits in a given timeframe) that are associated with a higher likelihood of degree or credential completion. The policy

implementation literature presents other reasons why the effects of policies such as performance funding may fall short of the policymakers' visions for them, including lack of clear goals for the given policy, policy incoherence, and outright rejection on the part of those responsible for implementation (see Spillane, Reiser, & Reimer, 2002 for an overview).

Recently, scholars have paid more attention to the cognitive processes of those responsible for implementing policy reforms. This research assumes that implementers may not be hostile to a particular policy, but rather their understanding of the policy may differ significantly from the understanding of those who crafted it (Coburn & Stein, 2006; D. K. Cohen, 1990). Alternately, their level of competence and professional experience may limit their ability to implement the reform (Loeb & McEwan, 2006; Mazmanian & Sabatier, 1989), resulting in a policy that in practice differs from the original conception. This literature suggests that to ensure that policy reforms are implemented as intended, policymakers and college leaders should seek to educate faculty and staff on the goals of a particular policy. Spillane et al. (2002) found that teachers who engaged in discussions with other teachers and with administrators about new district policies and their implications for practice were more likely to understand the policies in ways that were consistent with their original intent.

The policy implementation literature also indicates that policymakers may want to engage college personnel through their professional communities as well as through their institutional roles. Professional communities allow teachers to make sense of new policies in a broader context, which can result in different interpretations of policy based on professional or disciplinary differences (Spillane & Burch, 2006; Spillane, Reiser, & Gomez, 2006).

We can infer from research on K-12 school reform that to be effective in changing the behavior of colleges, college constituents need to see that a reform policy serves their own internally determined goals. Honig and Hatch (2004) describe school reform as a process of "crafted coherence" rather than one that achieves its end through a mandated end-goal. They suggest that schools interact with external demands for reform through an ongoing process they call "bridging and buffering." Bridging occurs when schools decide to take on a given external policy demand in the name of serving an internally determined

goals, such as obtaining additional resources. At other times, schools buffer demands by limiting their engagement or even ignoring policy directives. Thus, we might expect community college reform to follow a similar, non-linear trajectory.

Given the complexity of the processes described in this section and the challenges of engaging faculty and staff in systemic reforms, community college reformers need to be realistic about the time required to bring about fundamental change in organizational culture and practice. One study found that, given the many barriers to change in the field, higher education takes longer than other industries to adopt new innovations (Getz, Siegfried, & Anderson, 1997). The same study found that rates of adoption differed significantly depending on the type of innovation; computing and library innovations took similar amounts of time to diffuse as in other sectors, (approximately five years), while classroom and financial innovations took an average of 12 and 15 years respectively to reach the median institution. The researchers found no discernible patterns in the types of higher education institutions that were more or less likely to adopt innovations.

Research on comprehensive school reform in the K-12 sector suggests that organizational performance may decline when systemic reforms are first implemented and only later improve. In an evaluation of the Accelerated Schools Program (ASP), Bloom et al. (2001) used an interrupted time series model to investigate whether ASP made an impact on eight “high-implementation” elementary schools. Data were collected for three baseline years prior to implementation as well as five years post-intervention. The evaluation findings show that in the first two years post-intervention, school performance actually declined as the schools experimented with the new ways of doing things, but by the end of the five-year period, the schools showed more progress than they would have without the intervention. Therefore, community college reformers need to manage expectations about the likely performance impacts of efforts to improve organizational performance.

5. Steps for Redesigning Community Colleges for Completion

Community colleges came of age in the 1960s and 1970s as key players in the historic expansion of access to higher education. As such, they were designed for access, with organizational structures and management practices appropriate for handling large numbers of students, many of them unprepared for college-level work, who want to take college classes at relatively low cost to themselves and taxpayers. They offer large numbers of remedial and entry-level college courses and rely heavily on part-time instructors, who are paid to teach but usually not to work with full-time faculty and student services staff to develop and improve academic programs. Thus it is difficult for community colleges to create offerings with strong instructional program coherence, which research on K-12 education indicates promotes learning and educational success, particularly by disadvantaged students.

Community college resources for professional development are scarce and are generally used to support full-time faculty members' individual professional growth rather than to strategically promote learning and development by full- and part-time faculty in ways that directly support efforts to strengthen academic programs. Community colleges offer advising, career services, tutoring, and other services designed to help students succeed, but they lack the resources to provide every student with intensive, individualized support. Instead, students are left to seek out help themselves, even though research indicates that the students who tend to take advantage of support services are generally not those who need them the most.

Because community colleges have been designed primarily for low-cost access, it is not surprising that their rates of completion are relatively low compared to those of more selective institutions. Now, however, given the growing importance of postsecondary education—both for individuals seeking family-wage jobs and for a national economy that increasingly requires a more highly skilled workforce—community colleges are being called on to expand their focus beyond enrolling large numbers of students in college courses to ensuring that more students complete college programs.

The research reviewed here strongly suggests that to bring about improvement in student outcomes on a scale needed to meet national goals for increased college attainment, community colleges will have to make fundamental changes in the way they operate. Colleges will need to rethink how they manage programs and services, following the eight practices of high-performance organizations described in this paper. Programmatic innovations, such as learning communities, supplemental instruction, and mentoring programs, particularly if implemented in isolation from larger organizational reforms, will not be sufficient to improve student outcomes on a meaningful scale. Indeed, the research suggests that scaling particular innovations generally requires changes in a range of related institutional policies. For example, offering learning communities to large numbers of incoming students would require colleges to change how they schedule courses, which has implications for advising, instructor training and course preparation, and other issues related to institutional policy. Moreover, the literature also strongly indicates that improvements in organizational performance result from implementation of complementary sets of organizational practices—no one policy or practice, even if implemented at scale, will improve student outcomes overall. Innovations in policy and practice must be implemented in concert with one another and must be aligned to support the goals of increasing student learning and completion.

Community college reform initiatives like Achieving the Dream have begun working with colleges to adopt organizational reforms based on high-performance principles. Achieving the Dream is centrally focused on improving rates of student retention and completion. Learning outcomes and instructional innovation have been a secondary focus. This may be one reason that some Achieving the Dream colleges have had difficulty engaging faculty on a broad scale in efforts to improve student outcomes. Yet research on successful efforts to improve organizational performance indicates that employees—in this case, faculty and student services staff—must be centrally involved in the process. Organizations that succeed in implementing reforms at scale focus on changing employees' beliefs as well as norms of practice. Community colleges face substantial barriers to engaging faculty and staff, including their heavy reliance on part-time faculty and paraprofessional staff, collective bargaining in many colleges and shared governance in most, and limited incentives for individuals to improve their performance.

5.1 Recommendations for Community College Reformers

Despite the impediments to reform, the research literature offers guidance on steps community college reformers can take to engage faculty and staff in redesigning these linchpin institutions to increase student completion while maintaining broad access.

Cultivate leadership for improved student success throughout the college.

Research on effective organizations in and outside of education is emphatic about the importance for organizational improvement of strong leadership. Given the decentralized nature of authority and decision making in community colleges, it follows that leadership for reform needs to be cultivated not just among college presidents and other top administrators but also among deans and department chairs, faculty leaders, and student services program directors.

Studies of policy implementation support the common-sense notion that organizational actors who understand an organizational reform and see that it aligns with their interests are more likely to support it. Conversely, if individuals view improvement goals as an external mandate that is incompatible with their own goals and interests, they are less likely to commit to achieving them. Therefore, policymakers and college leaders should seek to communicate a compelling vision for change and educate key stakeholders on the goals of reform and the strategies by which they will be met.

Research also suggests that performance metrics help focus the attention of organizational actors on the need to improve student success. Thus college leaders should set clear, measurable goals for improving student outcomes and emphasize them in communications with faculty, staff, trustees, and others, presenting data on the college's performance on the measures and highlighting areas for improvement whenever possible. Colleges can also communicate the importance of shared responsibility for student success through performance review standards for faculty and staff and in criteria used to hire new faculty and staff.

Still, communication and goal setting can only go so far in changing behaviors. The research on organizational change makes it clear that creating deep, sustainable reforms in organizational practice requires changing beliefs and norms of practice. Studies suggest that this is best accomplished by involving employees—in the case of community colleges, faculty, staff, and administrators—as central actors in the

organizational redesign process. The following additional recommendations suggest concrete steps, supported by research on organizational effectiveness, that colleges can take to accomplish this.

Empower faculty to establish common learning outcomes and assessments for academic programs. Studies of effective K-12 schools demonstrate the importance of coherent academic programs in which curricula, teaching methods, assessment, and academic support are well aligned. Given this evidence—and evidence from the literature generally about the importance to organizational performance of functional alignment—community colleges should strengthen efforts to establish learning outcomes and associated assessments for courses, with course outcomes and assessments clearly tied to learning outcomes for certificate and degree programs. Faculty in baccalaureate transfer programs should partner with university colleagues to ensure that the learning outcomes for their programs align with bachelor’s degree program requirements. Faculty in career-technical programs should go through a similar process with employers to ensure that their programs meet labor force needs.

In recent years, the regional agencies that accredit community colleges and other degree-granting postsecondary institutions have put increasing pressure on colleges to establish systems and processes for defining and assessing learning outcomes and to use assessment results to improve student learning (Ewell, 2009; Kuh & Ewell, 2010). Like other regionally accredited institutions, community colleges are responding by convening faculty to define learning outcomes for courses and programs. However, colleges should intensify these efforts and approach them more systematically. As part of the process, faculty should be encouraged to document recommended approaches to teaching particular topics and promising methods for classroom management. These could be attached to statements of learning outcome standards for particular courses or programs.

Faculty-driven development of learning outcomes would help to foster coherence in community college academic programs in a number of ways. First, it would help ensure consistency and alignment of learning outcomes within and across courses in a particular academic program. Second, and particularly if it is accompanied by improvements in program information provided to students, it could help make clearer to students what they need to know and do to succeed in a course and how their success in

particular courses supports their progress toward completing their programs. Research reviewed in a companion paper in this series by Judith Scott-Clayton (2011) suggests that outcomes for academically underprepared students in particular may be improved through more highly structured academic programs that lead to well-defined educational and career outcomes, limit opportunities for erroneous decisions, and build academic and personal supports into the formal educational experience. Third, making learning outcomes more transparent would also help ensure that adjunct instructors and full-time faculty are teaching to the same learning goals. This would generate more consistency in content across courses and, to the extent that learning outcome standards are accompanied by recommended strategies for teaching related topics, would also help to disseminate effective teaching practices. Finally, better defining learning outcomes for programs and courses would help to clarify standards for college readiness. Such standards could in turn be used by colleges to develop more robust systems of placement testing (see companion paper by Hughes and Scott-Clayton [2011] on the problems with current assessment practice in community colleges), and to communicate to high school students and teachers more clearly about what students need to learn and be able to do to be prepared for college-level study.

Engaging faculty in the process of setting and assessing learning outcomes would help promote the sort of employee involvement and buy-in that the research literature indicates is a key element of continuous quality improvement in organizations. It could also create opportunities for building communities of professional practice within colleges, which research on K-12 reform suggests help to sustain reform ideas in the face of changing school leadership and shifting priorities. Research indicates that part-time knowledge workers are more likely to act in ways that support organizational functioning when they have close relationships with peers inside the organization and with professional communities outside it. Thus, to the extent feasible, colleges should ensure that adjunct faculty members participate in this process, providing financial support or other incentives as needed to enable them to do so. At the very least, part-time faculty should be expected to work with full-time faculty in their departments to review the results of common course assessments at the end of every term in order to see how well

students are achieving learning goals and discuss what can be done to strengthen instruction in areas where students struggle.

Working with colleagues to better define standards for student learning and to compare student performance against those standards to improve teaching is a potentially powerful form of faculty professional development. Colleges should consider redirecting resources currently spent on professional development activities that do not directly advance the goal of improving teaching and learning toward supporting teams of faculty working to establish learning outcome standards and assessments for their programs.

Ideally, community college faculty should collaborate across colleges in establishing learning outcomes and assessment for courses that have high enrollments, such as college-level math and English, Psychology 101, Anatomy and Physiology 101, Accounting 101, and developmental offerings. This would help colleges pool their resources and ensure consistency across colleges in a given state. It could also help to create greater transparency for students who may take courses at multiple colleges in a region. Such collaboration would be particularly feasible in state community college systems with common course numbering across colleges. This might also be an activity in which national associations of content-area faculty could play an active role.

Rethink college policies to help students better negotiate the pathways they take through the institution. Colleges should create a cross-functional committee or task force of faculty, student services staff, and administrators to map out the experience of students from the time they first make contact with the college, examine the interactions between students and college programs and services at each point along these “pathways,” and assess the extent to which college policies and practices help or hinder students from making progress toward successful completion. As part of this process, the student success committee should track cohorts of entering first-time college students longitudinally to locate places along the path where students tend to struggle and to identify “momentum indicators,” such as entering a coherent program of study within one year and passing college-level math within two years, that are associated with an increased likelihood of completing a credential (see Leinbach & Jenkins, 2008; Moore, Shulock, & Offenstein, 2009).

Colleges should examine their policies to determine whether or not they promote student progression at each stage along pathways to completion. For example, what is the impact of allowing students (as many community colleges do) to register for courses after a semester has already begun, if such students may be less likely to persist than students who register on time? Should students who enter college with academic deficiencies be allowed to take online courses if they are less likely to complete them than similar students who enroll in face-to-face sections of the same courses (see the companion paper by Shanna Smith Jaggars [2011] on the effects of online learning on student success)? Should all first-time college students be required to take a college success course that provides structured advising in the context of a tuition-bearing course, to learn note taking and other college success skills, and to be exposed to the various program streams offered by the colleges (see the companion paper on non-academic supports by Melinda Mechur Karp [2011])? In assessing the effects of college programs and services, colleges should conduct focus groups with students to better understand from their perspective where improvements are needed. Surveys of student engagement, such as the *Community College Survey of Student Engagement (CCSSE)* and the *Survey of Entering Student Engagement (SENSE)*, are also invaluable in better understanding students' experiences with the college.¹³

Based on this analysis, the student success committee should recommend changes in policies that have the potential to improve student outcomes on a substantial scale.

Examples might include:

- Requiring first-time students who register late to go through a “bridge term” designed to get them on track so that they are better prepared to start college the next term.
- Requiring orientation for all new students, with in-person orientation (as opposed to online) strongly encouraged.
- Training of front-line staff involved in student registration, placement testing, financial aid, and advising to ensure that incoming students get consistent messages about the intake process, their potential for success in college, how to acclimate to college, and what support services are available.

¹³ Information on *CCSSE* and *SENSE* is available at: <http://www.ccsse.org/index.cfm>.

- Requiring first-time college students to take a “first-year experience” student success course around which initial advising is structured.
- Requiring students, as part of a student success course, to develop a career and college plan that would include a timetable of which courses students need to take and when they need to take them to complete credentials associated with their goals.
- Contacting students who complete portions of their programs (for example, 12 credits, 18 credits, 30 credits, etc.) to provide encouragement and tips for ensuring continued progress.
- Mandatory orientation and training on student success practices for all new faculty, including adjuncts, with ongoing training and mentoring from senior faculty for at least a year.

These are just examples of policies that could be implemented at scale within community colleges. The student success committee should decide what would work best for students. The committee should also work with college institutional research staff to evaluate the impact on student success of changes in policy. In enacting policies such as these, colleges should of course remember that to improve rates of student learning and success, no one innovation will suffice. Rather, innovations need to be implemented in a coordinated manner so they support students’ progression and success at each stage of their experience with the college.

Engage student service staff in developing protocols of recommended practice. Colleges should also convene cross-functional teams of student services staff to develop, in consultation with faculty, protocols of recommended practice for assisting students at each stage of their experience with the college, including their initial application to the college, first enrollment in college courses, entry into a program of study, program completion, and career placement. Protocols might include sets of supports that are offered to particular groups of students. For example, those entering college soon after high school might benefit from a set of services incorporating career exploration and planning, while older students who have been out of school for a long time might benefit from a math refresher. Some of these protocols can be automated, as some colleges are doing in providing “early alerts” to students who are struggling.

Codifying effective practices in this way could help to improve the consistency and quality of support services and their functional alignment with academic programs. It would facilitate evaluation of the effectiveness of student service innovations. As mentioned, research on organizations outside of education indicates efforts to increase standardization of particular practices—in this case, student support services (and learning outcomes as recommended in step 2, above)—will likely not stifle innovation to the extent that colleges engage faculty and staff in cross-functional teams and set clear and high standards for improving outcomes.

Colleges should evaluate the effectiveness of protocols in promoting student success and encourage the cross-functional teams to use the findings to further improve protocols. College leaders should highlight approaches that prove to be effective, both as a means of disseminating knowledge of effective practice and motivating efforts to improve further. Moreover, they should use the results of protocol evaluations in making decisions about how to allocate their limited resources for student support services. Thus the protocols of effective practices could be used as a means of codifying and disseminating organizational knowledge and motivating organizational learning.

Partner with high schools (and adult basic skills programs) to align curricula and ensure students are motivated and prepared to succeed in college. Just as community college faculty need to strengthen the coherence of academic program offerings and ensure that their programs meet the requirements of employers and baccalaureate programs, so they need to ensure that high school and college offerings are aligned. A key step is for college and high school faculty to compare their respective curricula in core subjects. Colleges should also partner with high schools to develop and offer college readiness activities for students early on in their high school experience. These activities might include providing orientations to college, offering college placement tests so that students can find out if they should seek remediation before they get to college, and providing assistance with college and financial aid applications. Colleges should build similar relationships with adult basic education providers to increase the rate at which students in these programs advance to and succeed in college-level programs of study.

5.2 A Continuous Improvement Process

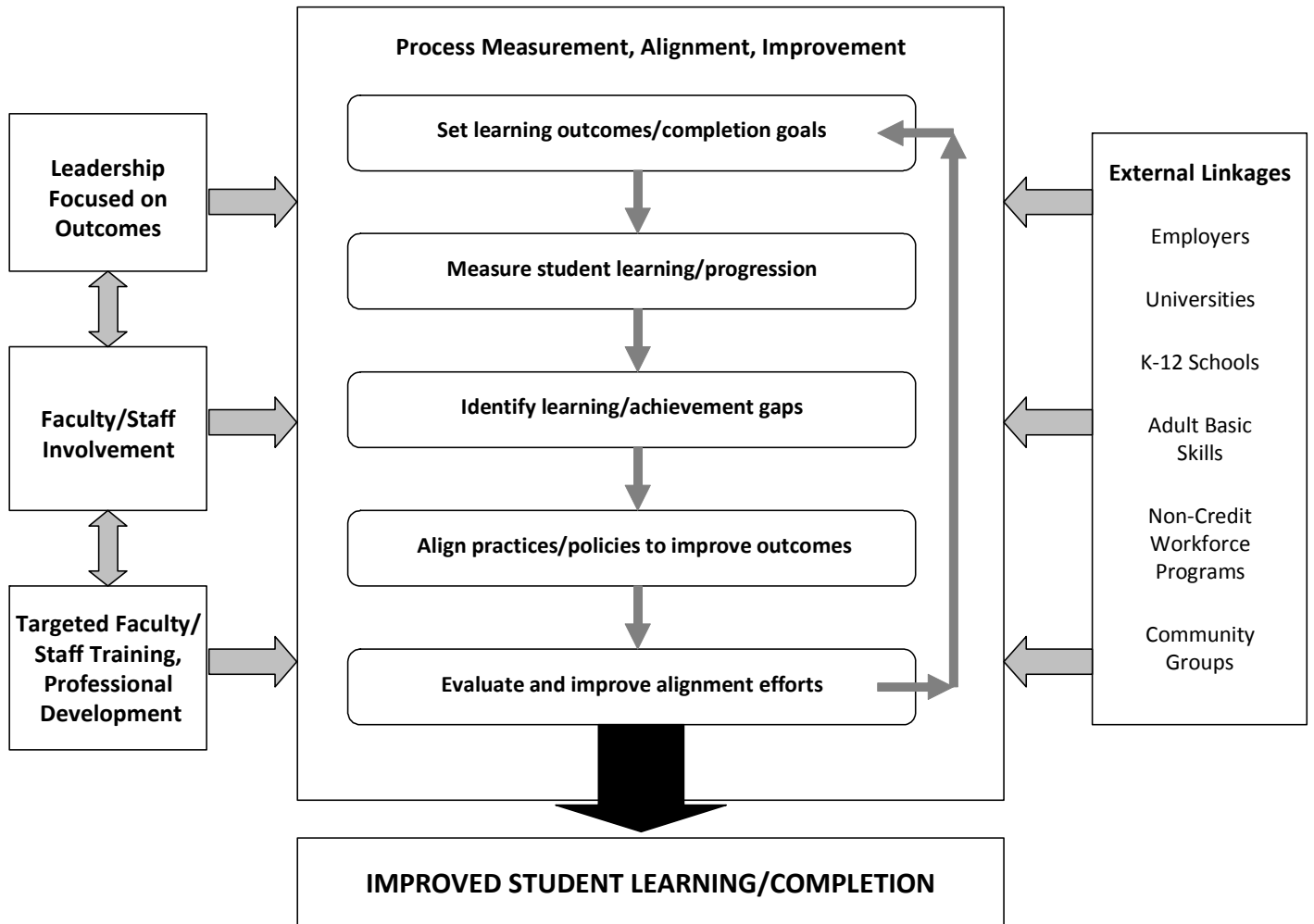
These recommended actions for colleges reflect a continuous improvement process that is at the heart of an overall model of organizational redesign based on the eight practices of high-performance organizations identified in this review. This model is illustrated in Figure 1. The continuous improvement process consists of five steps, shown in the figure in the box labeled “Process Measurement, Alignment and Improvement,” and briefly described as follows.

1. *Set outcome goals.* Colleges should set goals for increased student achievement, in terms of student mastery of academic program learning outcomes and rates of completion by students generally and by particular groups of students (for example, younger students who enter needing remediation). Goals should also include reducing the number of students from local high schools who enter the college needing remediation.
2. *Measure student learning/progression.* Faculty should measure progress toward student mastery of program learning outcomes using outcomes standards and common assessments for core courses in each program. Faculty and staff should track the rates at which students attain key milestones (such as entering a coherent program of study or earning a substantial number of credits—12, then 18, then 30, etc.—on their way to a credential). Colleges should pay attention to how long it takes for students to attain particular milestones in order to measure how fast students are progressing. Colleges should track the number of entering students from feeder high schools (and adult basic skills programs) who require remediation and share this information with the high schools (and adult basic education providers), partnering with them to figure out how to reduce the number of underprepared students.
3. *Identify gaps in learning and achievement.* Colleges should use the data collected in step 2 to identify gaps in student learning and rates of progression. What course and program learning outcomes do students frequently have trouble mastering? At which points are students most likely to drop out of college? Are there gaps in rates of student progression and attainment among particular student groups by demographic factors such as age, gender or race/ethnicity, or by their level of college

readiness when they first enroll (as measured by placement test scores and referrals, for example)?

4. *Align policies and practices to improve outcomes.* Based on further analysis and diagnosis of the gaps identified in step 3, colleges should review and align their practices and policies to improve student learning and progression toward degrees and close achievement gaps among student groups. This might involve faculty making changes to curricula or instructional methods to strengthen teaching in particular topics that students find challenging. It might also mean changes in policies and practices to benefit large numbers of students, such as limiting late enrollment; requiring first-time college students to take college-level success courses; or consolidating credential programs to a manageable set of pathways, each with clearly defined steps to completion, further education, and, where applicable, employment. While colleges may want to support exploratory or pilot efforts to increase student success, ultimately colleges should seek to make changes that benefit students throughout the institution. Unless innovations in policy and practice can feasibly be implemented at scale, they are unlikely to be sustained.
5. *Evaluate the effects of alignment efforts and make further improvements.* Colleges should evaluate the effects of efforts to improve outcomes. Smaller-scale interventions should be evaluated by comparing outcomes for students “touched by” a given intervention with outcomes for similar students who were not. For practices and policies that affect many students, colleges might need to compare outcomes before and after the change was implemented. Just as important as evaluating changes in practice and policy is *using* the results to make further improvements.

Figure 1
Redesigning Community Colleges for Completion



As shown in Figure 1, this five-step process is designed to be iterative, so that the organizational learning it produces continues over time. Figure 1 also shows that other practices of high-performance organizations are important for making the improvement process work. *Leadership* focused on improving student outcomes is critical not only to initiating the process but also to sustaining it. Just as important is *broad involvement* of faculty and staff in the improvement process. In engaging faculty and staff, colleges should also provide *training and professional development* strategically targeted to help build the skills and knowledge needed to implement improvements. Finally, *external linkages* are also key to redesigning colleges—with employers and universities to set academic program learning goals and with K-12 schools, adult basic education programs, and noncredit college and community-based training programs to strengthen the “pipeline” of students entering college-level programs.

To ensure that this improvement process is continuous, it should become a chief responsibility and priority of the academic and student services divisions and at least one college-wide standing committee. Some colleges may need to reorganize their committee structure to sustain the focus on improving student outcomes.

6. What Incentives Are There for Colleges to Change?

What will motivate community colleges and their faculties and staffs to undertake the systemic reforms recommended in the previous section? As mentioned, state policies designed to provide incentives for colleges to implement improvements through measures such as performance funding have generally fallen short of their goals. Recent research on performance funding in particular suggests that rather than create small innovation funds that will likely disappear when state revenues decline, policymakers should build incentives for improvement into base budget funding, for example, by tying a portion of a college’s funding to rates of student progression and success.

Some states are trying to motivate and support colleges to continuously improve through a process that involves using state data to track students over time, reporting by college data on student attainment of intermediate and completion milestones, engaging colleges throughout the state to examine the data, supporting efforts by colleges to use

their own data to improve programs and services, and creating policy incentives for systemic reforms. This was essentially the process that led to the major reform of developmental mathematics that is being undertaken by the community colleges in Virginia (Mills, 2010). It is also the process followed by the Washington State Board for Community and Technical Colleges (SBCTC) through its efforts to create more coherent pathways to career-related credentials for disadvantaged adult students (Bridges to Opportunity, 2008), and it is central to a new performance funding policy established by the SBCTC that rewards colleges for increasing the rate at which students achieve key intermediate milestones (such as completing a college-level math course) along a pathway to completion (Jenkins, Ellwein, & Boswell, 2009). This approach is probably more feasible in states with strong state community college systems that collect longitudinal unit record data.

Policymakers across states, as well as accreditation agencies and student advocacy groups, should continue to ask community colleges and other higher education institutions what students are learning as a result of their education and how well colleges are enabling disadvantaged students in particular to complete certificate and degree programs, secure career-path employment, and pursue further education. Still, because some stakeholders within educational institutions are likely to resist reforms and defend the status quo, the process of promoting reform in community colleges may follow a non-linear path like the “bridging and buffering” observed by Honig and Hatch in their research on K-12 reform. Similar to the process of promoting systemic change in individual colleges, efforts to promote reform across state systems are likely to involve a lengthy, messy process requiring persistent pressure for change from the outside as well as sustained commitment to organizational improvement from within.

The dismal fiscal outlook in most states, combined with sharp increases in enrollments at many colleges, raises questions about where the resources needed to motivate and support community college reforms will come from. The federal government, states, and private foundations have invested large sums to support organizational innovation at the K-12 level. The Obama administration succeeded in encouraging Congress to provide billions for its Race to the Top initiative, which includes an Investing in Innovation, or “i3,” fund for states and schools, but failed to

convince Congress to support its full request for the American Graduation Initiative, which would have provided billions for innovation in community colleges aimed at improving college completion rates.

All of this increases the importance of the investments in reform by private foundations, including the Bill & Melinda Gates Foundation and Lumina Foundation for Education. Based on this review of the literature, foundations, state and federal policymakers, and higher education leaders seeking to motivate improvements in postsecondary attainment by community college students can have the greatest impact if they make investments based on a theory of change that encourages colleges to adopt the practices highlighted as effective by research on high-performance organizations. While the research literature provides considerable guidance about what those practices are, reformers will be charting new territory in terms of how to motivate colleges to adopt them. Given their strong historical commitment to expanding educational opportunity, however, there is every reason to believe that community college educators will rise to the challenge of increasing student completion if they are empowered and supported to accomplish this goal.

References

- Achieving the Dream. (2009). *Field guide for improving student success*. Retrieved from Achieving the Dream website:
http://www.achievingthedream.org/docs/Field_Guide_for_Improving_Student_Success.pdf
- Applebaum, E., Bailey, T., Berg, P., & Kalleberg, A. L. (2001). Do high performance work systems pay off? In S. P. Vallas (Ed.), *The transformation of work: Research in the sociology of work* (Vol. 10, pp. 85–107). Oxford, UK: Emerald Group Publishing Limited.
- Bailey, T., Calcagno, J. C., Jenkins, D., Kienzl, G. S., & Leinbach, D. T. (2008). Community college student success: What institutional characteristics make a difference? *Economics of Education Review*, 27(6), 632–645.
- Baldrige National Quality Program. (2009a). *2009–2010 education criteria for performance excellence*. Gaithersburg, MD: National Institute of Standards and Technology. Retrieved from http://www.nist.gov/baldrige/publications/upload/2009_2010_Education_Criteria.pdf
- Baldrige National Quality Program, (2009b). *Why Baldrige? A proven approach to performance improvement*. Gaithersburg, MD: National Institute of Standards and Technology. Retrieved from http://www.baldrige.nist.gov/PDF_files/Why_Baldrige.pdf
- Barley, S. R., & Kunda, G. (2004). *Gurus, hired guns, and warm bodies: Itinerant experts in a knowledge economy*. Princeton, NJ: Princeton University Press.
- Bartunek, J. M., Rousseau, D. M., Rudolph, J. W., & DePalma, J. A. (2006). On the receiving end: Sensemaking, emotion, and assessments of an organizational change initiated by others. *Journal of Applied Behavioral Science*, 42(2), 182–206.
- Becker, B. E., & Huselid, M. A. (1998). High performance work systems and firm performance: A synthesis of research and managerial implications. In G. R. Ferris (Ed.), *Research in personnel and human resources management* (Vol. 16, pp. 53–101). Stamford, CT: JAI Press.
- Becker, B. E., Huselid, M. A., Pickus, P. S., & Spratt, M. F. (1997). HR as a source of shareholder value: Research and recommendations. *Human Resources Management*, 36(1), 39–47.
- Bettinger, E. P., & Long, B. T. (2010). Does cheaper mean better? The impact of using adjunct instructors on student outcomes. *Review of Economics and Statistics*, 92(3), 598–613.

- Blatt, R. (2008). Organizational citizenship behavior of temporary knowledge employees. *Organization Studies*, 29(6), 849–866.
- Bloom, H., Ham., S., Melton, L., & O'Brien, J. (2001). *Evaluating the accelerated schools approach: A look at early implementation and impacts on student achievement in eight elementary schools*. New York, NY: MDRC.
- Boreman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of Educational Research*, 73(2), 125–230.
- Brewer, D. J., & Gray, M. J. (1999). Do faculty connect school to work? Evidence from community colleges. *Educational Evaluation and Policy Analysis*, 21(4), 405–416.
- Brewer, D. J., & Tierney, W. G. (2010, June). *Barriers to innovation in U.S. higher education*. Paper presented at the American Enterprise Institute conference, *Reinventing the American university: The promise of innovation in higher education*, Washington, DC.
- Bridges to Opportunity. (2008). *Bridges to opportunity for underprepared adults: A state policy guide for Community College Leaders*. Retrieved from <http://www.communitycollegecentral.org/>
- Brock, T., Jenkins, D., Todd, E., Miller, J., Gooden, S., Martin, K., MacGregor, C., & Pih, M. (2007). *Building a culture of evidence for community college student success: Early progress in the Achieving the Dream initiative*. New York, NY: MDRC and Community College Research Center, Teachers College, Columbia University.
- Bryk, A. S., Sebring, P. B., Allensworth, E., Luppescu, S., & Easton, J. Q. (2010). *Organizing schools for improvement: Lessons from Chicago*. Chicago, IL: University of Chicago Press.
- Bunch, G. C., Endris, A., Panayotova, D., Romero, M., & Llosa, L. (Forthcoming). *Language testing and placement for language minority students in California's community colleges: Mapping the terrain* (Report for the William and Flora Hewlett Foundation). Santa Cruz, CA: University of California.
- Burke, J. C., & Associates (Eds.). (2005). *Achieving accountability in higher education: Balancing public, academic, and market demands*. San Francisco, CA: Jossey-Bass.
- Cameron, K. S. (1982). The relationship between faculty unionism and organizational effectiveness. *Academy of Management Journal*, 25(1), 6–24.

- Cameron, K. S. (1985). Investigating the causal association between unionism and organizational effectiveness. *Research in Higher Education*, 23(4), 387–411.
- Carey, K. (2005). *One step from the finish line: Higher college graduation rates are within our reach*. Washington, DC: The Education Trust.
- Carr, A. S., & Pearson, J. N. (1999). Strategically managed buyer–supplier relationships and performance outcomes. *Journal of Operations Management*, 17(5), 497–517.
- Coburn, C. E. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher*, 32(6), 3–12.
- Coburn, C. E., & Stein, M. K. (2006). Communities of practice theory and the role of teacher professional community in policy implementation. In M. I. Honig (Ed.), *New directions in education policy implementation* (pp. 25–46). Albany, NY: State University of New York Press.
- Cohen, A. M., & Brawer, F. B. (2008). *The American community college* (5th ed.). San Francisco, CA: John Wiley & Sons, Inc.
- Cohen, D. K. (1990). A revolution in one classroom: The case of Mrs. Oublier. *Educational Evaluation and Policy Analysis*, 12(3), 311–329.
- Combs, J., Liu, Y., Hall, A., & Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology*, 59, 501–528.
- DeCew, J. W. (2003). *Unionization in the academy: vision and realities*. Lanham, MD: Rowman & Littlefield Publishers, Inc.
- Delery, J. E., & Doty, D. H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, 39(4), 802–835.
- Delery, J. E., & Shaw, J. D. (2001). The strategic management of people in work organizations: Review, synthesis, and extension. *Research in Personnel and Human Resources Management*, 20, 165–197.
- Desrochers, D. M., Lenihan, C. M., & Wellman, J. V. (2009). *Trends in college spending 1998–2008: Where does the money come from? Where does it go? What does it buy?* Washington, DC: Delta Project on Postsecondary Education Costs, Productivity, and Accountability.

- Dougherty, K. J., & Hong, E. (2006). Performance accountability as imperfect panacea: The community college experience. In T. Bailey & V. S. Morest (Eds.), *Defending the community college equity agenda*. Baltimore, MD: John Hopkins University Press.
- Dougherty, K. J., & Natow, R. (2010). *Continuity and change in long-lasting state performance funding systems for higher education: The cases of Tennessee and Florida* (CCRC Working Paper No.18). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Eagan, M. K., & Jaeger, A. J. (2009). Effects of exposure to part-time faculty on community college transfer. *Research in Higher Education*, 50(2), 168–188.
- Ehrenberg, R. G. (2010, June). *Rethinking the professoriate*. Paper presented at the American Enterprise Institute conference *Reinventing the American university: The promise of innovation in higher education*, Washington, DC.
- Ehrenberg, R. G., & Zhang, L. (2005). Do tenured and tenure-track faculty matter? *Journal of Human Resources*, 49(3), 647–659.
- Ewell, P. (2009). *Assessment, accountability, and improvement: Revisiting the tension* (NILOA Occasional Paper No.1). Urbana, IL: University of Illinois and Indiana University, National Institute of Learning Outcomes Assessment.
- Figlio, D., & Kenny, L. W. (2006). *Individual teacher incentives and student performance* (NBER Working Paper No. 12627). Cambridge, MA: National Bureau of Economic Research.
- Freeman, R. B., & Medoff, J. L. (1984). *What do unions do?* New York, NY: Basic Books, Inc.
- Getz, M., Siegfried, J. J., & Anderson, K. H. (1997). Adoption of innovations in higher education. *Quarterly Journal of Economics and Finance*, 37(3), 605–631.
- Grubb, W. N. (2010, September). *The quandaries of basic skills in community colleges: Views from the classroom*. Paper prepared for the National Center for Postsecondary Research developmental education conference, New York, NY.
- Grubb, W. N., & Associates. (1999). *Honored but invisible: An inside look at teaching in community colleges*. New York, NY: Routledge.
- Gunderson, M. (2007). Two faces of union voice in the public sector. In J. T. Bennett & B. E. Kaufman (Eds.), *What do unions do? A twenty-year perspective*. New Brunswick, NJ: Transaction Publishers.

- Habley, W. R., & McClanahan, R. (2004). *What works in student retention? Two-year public colleges*. Iowa City, IA: ACT.
- Honig, M. I., & Hatch, T. (2004). Crafting coherence: How schools strategically manage multiple, external demands. *Educational Researcher*, 33(8),16–30.
- Hughes, K. & Scott-Clayton, J. (2011, forthcoming). *Assessing developmental assessment in community colleges* (CCRC Working Paper, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity and corporate financial performance. *Academy of Management Journal*, 38(3), 635–672.
- Ichniowski, C., & Shaw, K. (2003). Beyond incentive pay: Insiders’ estimates of the value of complementary human resource management practices. *Journal of Economic Perspectives*, 17(1), 155–180.
- Ichniowski, C., Shaw, K., & Prennushi, G. (1997). The effects of human resource management practices on productivity: A study of steel finishing lines. *American Economic Review*, 87(3), 291–313.
- Jacoby, D. (2006). Effects of part-time faculty employment on community college graduation rates. *Journal of Higher Education*, 77(6), 1081–1103.
- Jaggars, S. S. (2011). *Online learning: Does it help low-income and underprepared students?* (CCRC Working Paper No. 26, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Jenkins, D. (2003, March). *The potential of community colleges as bridges to opportunity: Can it be achieved at scale?* Paper presented at the Community College Research Center, Seminar on Equity and Access, New York, NY.
- Jenkins, D. (2007). Institutional effectiveness and student success: A study of high- and low-impact community colleges. *Journal of Community College Research and Practice*, 31(12), 945–962.
- Jenkins, D., Ellwein, T., & Boswell, K. (2009). *Formative evaluation of the Student Achievement Initiative “learning year.”* New York, NY: Columbia University, Teachers College, Community College Research Center.

- Jenkins, D., Ellwein, T., Wachen, J., Kerrigan, M. R., & Cho, S.-W. (2009). *Achieving the Dream colleges in Pennsylvania and Washington: Early progress toward building a culture of evidence*. New York, NY: Columbia University, Teachers College, Community College Research Center, and MDRC.
- Jenkins, D., & Kerrigan, M. R. (2009). *Faculty and administrator data use at Achieving the Dream colleges: A summary of survey findings* (Culture of Evidence Series Report No. 3). New York, NY: Achieving the Dream; Columbia University, Teachers College, Community College Research Center; and MDRC.
- Karp, M. M. (2011, forthcoming). *Toward a new understanding of non-academic student support: Four mechanisms encouraging positive student outcomes in the community college* (CCRC Working Paper, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Karp, M. M., O’Gara, L., & Hughes, K. L. (2008). *Do support services at community colleges encourage success or reproduce disadvantage? An exploratory study of students in two community colleges* (CCRC Working Paper No. 10). New York, NY: Community College Research Center, Teachers College, Columbia University.
- Kaynak, H. (2003). The relationship between total quality management practices and their effects on firm performance. *Journal of Operations Management*, 21(4), 405–435.
- Kerchner, C. T., Koppich, J. E., & Weeres, J. G. (1997). *United mind workers: Unions and teaching in the knowledge society*. San Francisco, CA: Jossey-Bass.
- Kerrigan, M. R., & Slater, D. (2010). *Collaborating to create change: How El Paso Community College improved the readiness of its incoming students through Achieving the Dream* (Culture of Evidence Series Report No. 4). New York, NY: Columbia University, Teachers College, Community College Research Center and MDRC.
- Kirst, M. W., & Venezia, A. (Eds.) (2005). *From high school to college: Improving opportunities for success in postsecondary education*. San Francisco, CA: Jossey-Bass.
- Koppich, J. E. (2006). The as-yet unfulfilled promise of reform bargaining. In J. Hannaway & A. J. Rotherham (Eds.), *Collective bargaining in education* (pp. 203–228). Cambridge, MA: Harvard University Press.
- Kuh, G. D., & Ewell, P. T. (2010). The state of learning outcomes assessment in the United States. *Higher Education Management and Policy*, 22(1), 1–20.

- Kuh, G. D., Kinzie, J., Schuh, J. H., Whitt, E. J., & Associates. (2005). *Student success in college: Creating conditions that matter*. San Francisco, CA: Jossey-Bass.
- Kunda, G., Barley, S. R., & Evans, J. (2002). Why do contractors contract? The experience of highly skilled technical professionals in a contingent labor market. *Industrial and Labor Relations Review*, 55(2), 234–261.
- Lavy, V. C. (2002). Evaluating the effects of teachers' group performance incentives on pupil achievement. *Journal of Political Economy*, 110(6), 1286–1317.
- Leinbach, D. T., & Jenkins, D. (2008). *Using longitudinal data to increase community college student success: A guide to measuring milestone and momentum point attainment* (CCRC Research Tools No. 2). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Liden, R. C., Wayne, S. J., Kraimer, M. L., & Sparrowe, R. T. (2003). The dual commitments of contingent workers: An examination of contingents' commitment to the agency and the organization. *Journal of Organizational Behavior*, 24(5), 609–625.
- Loeb, S., & McEwan, P. J. (2006). An economic approach to education policy implementation. In M. I. Honig (Ed.), *New directions in education policy implementation*. Albany, NY: State University of New York Press.
- Lundquist, S., & Nixon, J. S. (1998). The partnership paradigm: Collaboration and the community college. *New Directions for Community Colleges*, 103, 43–49.
- MacDuffie, J. P. (1995). Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48(2), 197–221.
- Mazmanian, D. A., & Sabatier, P. A. (1989). *Implementation and public policy*. Lanham, MD: University Press of America.
- McLaughlin, W. M., & Talbert, J. E. (2001). *Professional communities and the work of high school teaching*. Chicago, IL: University of Chicago Press.
- Mills, K. (2010). *Altered state: How the Virginia Community College System has used Achieving the Dream to improve student success*. Boston, MA: Jobs for the Future.
- Miron, E., Erez, M., & Naveh, E. (2004). Do personal characteristics and cultural values that promote innovation, quality, and efficiency compete or complement each other? [Special issue]. *Journal of Organizational Behavior*, 25(2), 175–199.

- Moore, C., Shulock, N., & Offenstein, J. (2009) *Steps to success: Analyzing milestone achievement to improve community college student outcomes*. Sacramento, CA: Institute for Higher Education Leadership & Policy.
- Morest, V. S., & Jenkins, D. (2007). *Institutional research and the culture of evidence at community colleges* (Culture of Evidence Series Report No. 1). New York, NY: Achieving the Dream and Columbia University, Teachers College, Community College Research Center.
- Muraskin, L., & Lee, J. (with Wilner, A., & Swail, W. S.) (2004). *Raising the graduation rates of low-income college students*. Washington, DC: Pell Institute for the Study of Opportunity in Higher Education.
- Naveh, E., & Erez, M. (2004). Innovation and attention to detail in the quality improvement paradigm. *Management Science*, 50(11), 1576–1586.
- National Center for the Study of Collective Bargaining in Higher Education and the Professions (NCSCBHEP). (2006). *The directory of faculty contracts and bargaining agents*. New York, NY: City University of New York, Hunter College.
- Newmann, F. M., Smith, B., Allensworth, E., & Bryk, A. S. (2001). Instructional program coherence: What it is and why it should guide school improvement policy. *Educational Evaluation and Policy Analysis*, 23(4), 297–321.
- Offenstein, J., & Shulock, N. (2010). *Taking the next step: The promise of intermediate measures for meeting postsecondary completion goals*. Boston, MA: Jobs for the Future.
- Patel, V. (2010, June 13). A&M regents push reforms.” *The Eagle*. Retrieved from <http://www.theeagle.com/am/A-amp-amp-M-regents-push-reforms>
- Porter, S. R., & Stephens, C. M. (2010). *The causal effect of faculty unions on institutional decision-making*. Unpublished manuscript. Department of Educational Leadership and Policy Studies, Iowa State University. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1705713
- Pfeffer, J. (1998). Seven practices of successful organizations. *California Management Review*, 40(2), 96–124.
- Rosenbaum, J. E., Deil-Amen, R., & Person, A. E. (2006). *After admission: From college access to college success*. New York, NY: Russell Sage Foundation.
- Rothstein, J. (2010). Teacher quality in educational production: Tracking, decay, and student achievement. *Quarterly Journal of Economics*, 125(1), 175–214.

- Scott-Clayton, J. (2011). *The shapeless river: Does a lack of structure inhibit students' progress at community colleges?* (CCRC Working Paper No. 25, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Sezhiyan, D. M., & Nambirajan, T. (2010). An empirical investigation on relationships between critical supply chain management activities and supplier selection on the business performance using structural equation model. *Journal of International Business and Economics*, 10(1), 121–133.
- Shulock, N., & Moore, C. (2007a). *Invest in success: How finance policy can increase student success at California's community colleges*. Sacramento, CA: Institute for Higher Education Leadership & Policy.
- Shulock, N., & Moore, C. (2007b). *Rules of the game: How state policy creates barriers to degree completion and impedes student success in the California community colleges*. Sacramento, CA: Institute for Higher Education Leadership & Policy.
- Shortell, S. M., O'Brien, J. L., Carman, J. M., Foster, R. W., Hughes, E. F. X., Boerstler, H., et al. (1995). Assessing the impact of continuous quality improvement/total quality management: Concept versus implementation. *Health Services Research*, 30(2).
- Southern Regional Education Board (SREB). (2010). *Promoting a culture of student success: How colleges and universities are improving degree completion*. Atlanta, GA: Author.
- Spillane, J. P., & Burch, P. (2006). The institutional environment and instructional practice: Changing patterns of guidance and control in public education. In H.-D. Meyer & B. Rowan (Eds.), *The new institutionalism in education* (pp. 87–102). Albany, NY: State University of New York Press.
- Spillane, J. P., Reiser, B. J., & Gomez, L. M. (2006). Policy implementation and cognition: The role of human, social, and distributed cognition in framing policy implementation. In M. I. Honig (Ed.), *New directions in education policy implementation: Confronting complexity* (pp. 47–64). Albany, NY: State University of New York Press.
- Spillane, J. P., Reiser, B. J., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research*, 72(3), 387–431.
- Stephan, J. L., Rosenbaum, J. E., & Person, A. E. (2009). Stratification in college entry and completion. *Social Science Research*, 38(3), 572–593.

- Tucker, A. L., Nembhard, I. M., & Edmondson, A. C. (2007). Implementing new practices: An empirical study of organizational learning in hospital intensive care units. *Management Science*, 53(6), 894–907.
- U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2009). *Changes in postsecondary awards below the bachelor's degree: 1997 to 2007* (NCES Report No. 2010-167). Washington, DC: Author.
- Verma, A. (2007). What do unions do in the workplace? Union effects on management and HRM policies. In J. T. Bennett & B. E. Kaufman (Eds.), *What do unions do? A twenty-year perspective* (pp. 275–312). New Brunswick, NJ: Transaction Publishers.
- Wellman, J. V. (2002). *State policy and community college-baccalaureate transfer* (National Center Report No. 02-6). San Jose, CA: National Center for Public Policy and Higher Education and Institute for Higher Education Policy.
- Wickens, C. M. (2008). The organizational impact of university labor unions. *Higher Education*, 56(5), 545–564.
- Zumeta, W. (2001). Public policy and accountability in higher education. In D. E. Heller (Ed.), *The states and public higher education* (pp. 155–197). Baltimore, MD: Johns Hopkins University Press.