

Rebalancing the Mission: The Community College Completion Challenge

Christopher M. Mullin



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ABOUT THE AUTHOR

Christopher M. Mullin is the program director for policy analysis at the American Association of Community Colleges in Washington, DC.

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For more information, contact

Christopher M. Mullin
Program Director for Policy Analysis
American Association of Community Colleges
One Dupont Circle NW, Suite 410
Washington, DC 20036
Phone: 202-728-0200, ext. 258
E-mail: cmullin@aacc.nche.edu

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REBALANCING THE MISSION: THE COMMUNITY COLLEGE COMPLETION CHALLENGE

EXECUTIVE SUMMARY

President Barack Obama has set forth an ambitious agenda for U.S. postsecondary education: by 2020, to once again have the highest proportion of college graduates in the world. In April 2010, the American Association of Community Colleges and five other community college organizations responded by reaffirming their commitment to completion while maintaining their commitment to increasing access and quality by issuing a joint statement, *Democracy's Colleges: Call to Action*. The partnering organizations were the Association of Community College Trustees, the Center for Community College Student Engagement, the League for Innovation in the Community College, the National Organization for Staff and Organizational Development, and Phi Theta Kappa. With this commitment to completion articulated, *Rebalancing the Mission: The Community College Completion Challenge* addresses what it means for community colleges to embrace completion in the same way that they have historically embraced access. Because community colleges are, first and foremost, oriented toward their communities, they may need to modify their traditional ways of fulfilling their individual missions, specifically in three areas: course enrollment, course completion, and certificate and degree completion.

In terms of the enrollment mission, community colleges provide access to, and opportunity for, education through courses that serve as the foundation for a career, a new life, or a new perspective. The belief in democratizing education by maintaining opportunity is paramount to the continuance of an educated citizenry. Support of the open-access philosophy by policymakers has resulted in strong student demand at community colleges, where enrollment has been increasing dramatically. Meeting increased demand for more noncredit and online courses is one challenge facing community colleges.

Another challenge for community colleges is to help some kinds of students to successfully complete courses, especially high school students, swirlers, and retoolers. For high school students, community colleges provide opportunities not only for the academically advanced but also for those who need to further develop their potential. Earning college credit while in high school has been shown to increase the likelihood that a student will enroll and persist in a postsecondary education institution. The demand for community college courses is apparent in the substantial growth of dual-credit programs in high schools. Community colleges also assist students in completing high school or its equivalent, which is essential to increasing earnings and future workplace, postsecondary, and military opportunities.

Swirlers—students who attend 4-year institutions and enroll at a community college for just one course—also reap economic benefits by earning credit that transfers at a much lower cost. The ability to take courses while enrolled concurrently in a 4-year institution can also decrease time-to-degree. Community colleges also represent a means of increasing

workplace productivity for retoolers—students who enroll in courses to expand their knowledge or skills. Examples include learning a new welding technique, a new computer program, or the most recent changes in the Internal Revenue Code. Retoolers can also earn continuing education units, which may be essential to maintaining licensure in a profession.

The credentials primarily awarded by community colleges—certificates and associate degrees—play a unique role in advancing college completion rates. Given the current economic climate and high unemployment rates, there exists a clear demand for, and focus on, quickly returning people to a changing work environment through education and training. In community colleges, this demand manifests itself in heightened interest in short-term, work-related certificates in specific programs. Community college leaders are faced with focusing either on (a) increasing completion rates using the traditional measures (i.e., attainment of associate and bachelor's degrees) used in international comparisons or (b) getting people back to work with certificates and industry credentials that are not counted as a success measure in those comparisons. Focusing solely on the former narrowly defines success while overlooking the needs and achievements of a significant number of people, whereas focusing solely on the latter will not increase the international ranking of the United States. Community colleges are therefore in the difficult position of balancing two completion agendas: the person's need to return to work and the nation's desire to be a world leader in terms of a narrowly defined set of outcomes.

Aligning student success with future opportunities for continued career success should be part of any completion agenda. Within the community college, courses generally relate well to each other, but when graduates look to study at other institutions, they often face unanticipated difficulties. Thus, one challenge is to more clearly define and facilitate future education paths for students. Stackable credentials, career pathways, and applied associate and bachelor's degrees have emerged as ways to provide opportunity for continued academic progression for those who might otherwise have enrolled in terminal training programs.

Community colleges are committed to improving completion rates while maintaining their commitment to access and quality. This brief highlights some of the issues that community college leaders, working with their community partners, will have to navigate as they focus more squarely on improving completion rates, however they are defined. How each college addresses these issues will vary, but a consistent factor is that fiscal conditions will undoubtedly continue to influence policy and administrative decisions. Community colleges will have difficulty embracing the practices and perspectives needed to increase completion rates without additional fiscal resources, especially at a time when they are facing double-digit enrollment growth.

REBALANCING THE MISSION: THE COMMUNITY COLLEGE COMPLETION CHALLENGE

We believe education is essential for realizing the fullest potential of each member of our society and that appropriate higher education should be available to all who can benefit from it.

— From the AACC Constitution

Introduction

On February 24, 2009, President Barack Obama set forth an ambitious agenda for U.S. postsecondary education: by 2020, to once again have the highest proportion of college graduates in the world.¹ Five months later, at Macomb Community College in Michigan, the president placed the spotlight on community colleges to meet this ambitious goal. Of the estimated 8.2 million additional graduates needed for the United States to become the world leader in education,² five million additional students would graduate from community colleges.³ The president's announcement in July 2009 of the American Graduation Initiative, which was aimed at providing the resources needed to meet the target, positioned community colleges front and center in the plan for the United States to become the world's most highly educated nation.⁴

Nine months later, however, the proposed program and accompanying \$12 billion in funding that energized the largest sector of postsecondary education was not enacted. In the aftermath, community colleges continue to focus on how to move more students toward the achievement of their goals, with a new emphasis on graduation. In April 2010, the American Association of Community Colleges and five other community college organizations responded by reaffirming their commitment to completion while maintaining their commitment to increasing access and quality by issuing a joint statement, *Democracy's Colleges: Call to Action*.⁵ The partnering organizations were the Association of Community College Trustees, the Center for Community College Student Engagement, the League for Innovation in the Community College, the National Organization for Staff and Organizational Development, and Phi Theta Kappa. With this commitment to completion clearly and broadly articulated, this policy brief addresses what it means for community colleges to embrace completion in the same way that they have historically embraced access.⁶

Rebalancing the Mission

In a remarkable confluence, federal⁷ and state governments⁸ and foundations⁹ are urging a paradigm shift for community colleges and similar institutions, from one emphasizing access to one emphasizing completion. Because of the egalitarian philosophy guiding community colleges, this shift has complex and challenging implications.

A galvanizing principle driving the focus on completion is that education contributes to the development of human capital. Although building human capital unquestionably benefits the broader community, it is most commonly expressed in terms of its labor market benefits to the individual person: Decreased unemployment and increased earnings accrue for each successive level of education a person attains.¹⁰ Not surprisingly, research has shown that earnings increase not only by level of education attainment but also by program of study and standard industry wages.¹¹ For example, 25% of those with a bachelor's degree earn less than those with an associate's degree.¹²

Because community colleges are, first and foremost, oriented toward their communities, they may need to modify their traditional ways of fulfilling their individual missions in light of the completion imperative. In this brief, I examine the rebalancing of the community college mission that needs to occur; emphasizing less the curriculum that is offered (academic transfer, workforce development, developmental education, etc.)¹³ and more the objectives students seek to complete (course enrollment, course completion, and certificate and degree completion).

Course Enrollment

On one level, the act of enrolling in a course is success for all those who desire education beyond high school,¹⁴ for those new to the country who need a place to develop career-related skills, and for those who simply want to enrich their lives. As democratically oriented, egalitarian institutions, community colleges do not limit availability of courses to, nor design them exclusively for, those populations who need it most. Indeed, community colleges were initially conceptualized to serve as the first two years of a liberal arts higher education over 100 years ago.¹⁵ In the century since, a substantial number of academically strong students have started at community colleges and transferred to continue and complete upper-division course work and degrees. In addition to their role as a starting point for higher education, community colleges serve a large number of students from 4-year institutions who wish to take classes at their local colleges during times when they are home with family.

Support of the open-access philosophy by policymakers is one reason for stronger demand for community colleges, where

fall enrollment increased almost eightfold from 1963 to 2008.¹⁶ Federal actions to support access include continued funding for the Pell Grant and other Title IV student aid programs,¹⁷ aid to institutions serving underrepresented populations,¹⁸ various tax provisions,¹⁹ and judicial decisions that support diversity on campus.²⁰ States have improved access by including in master plans community colleges located within commuting distance of potential students, by granting fiscal support for institutions and students,²¹ and by implementing policies and actions to assist in preparing K–12 students for college and careers. Support for access continues to come from private foundations such as the Atlantic Philanthropies, Bill & Melinda Gates Foundation, Charles Stewart Mott Foundation, the Ford Foundation, the Joyce Foundation, the Walmart Foundation, the W.K. Kellogg Foundation, the Kresge Foundation, Lumina Foundation for Education, and numerous local, regional, and national foundations dedicated to providing opportunity for education. Most importantly, access to courses is the result of institutional admission policies.

The belief in democratizing education by maintaining opportunity is paramount to the continuance of an educated citizenry. The importance of open-access to course content is currently evident in the push for more online courses and those offered for non-credit.²² While each institution will determine the degree to which it continues the practice of open access and the way it is provided, time has shown the need for and benefits of open access to postsecondary education.

Course Completion

While it takes an act of courage for many people to enroll in courses, it takes institutional effort as well to help students successfully complete them. People of all academic abilities enroll in community colleges for a multitude of reasons. Three primary groups are high school students, swirlers, and retoolers.

High School Students

Community colleges straddle two historically distinct silos of education: secondary and postsecondary. This creates unique opportunities and responsibilities for the colleges. Earning college credit while in high school has been shown to increase the likelihood that a student will enroll and persist in a postsecondary education institution.²³ Furthermore, the demand for college courses is apparent in the substantial growth of dual-credit programs in high schools.²⁴

Taking courses while in high school can also help students in obtaining a high school diploma or its equivalent. Attaining a high school diploma is necessary, if by no means sufficient, to attain a middle-class lifestyle, with strong returns to students and their families in terms of further workplace, postsecondary, and military opportunities. Over the last decade, high school completers consistently earned nearly 50% more than those who did not complete high school.²⁵ As with all levels of postsecondary attainment, these increased earnings result in greater tax revenues for government and societal benefits.²⁶

To be successful in college-level courses, students must have acquired the knowledge and skills provided by a rigorous K–12 learning experience. Yet many students lack the academic preparation to be successful in college, as is evidenced by the fact that, in 2004, approximately 60% of community college

students need academic remediation.²⁷ The Developmental Education Initiative, funded by the Bill & Melinda Gates Foundation and Lumina Foundation, was created in 2009 to address this problem by working with community colleges and state policymakers to increase necessary academic support through course redesign.²⁸

Swirlers

Swirlers—students who attend 4-year institutions and enroll at a community college for even just one course—reap economic benefits. Not only do these students receive a quality learning experience that is portable to their native institutions, but students who take the same course at a local community college pay, on average, \$447 less in tuition than at their public 4-year institution.²⁹ The taxpayer benefits in that total federal, state, and local operating fund revenue provided for community colleges is just 19% that of public 4-year institutions.³⁰ Finally, the ability of students to take courses while either enrolled concurrently in a 4-year institution or during the summer also contributes to decreasing time-to-degree by providing the courses students need, where they need them, when they need them.

Retoolers

A lesser-known category of community college students consists of working adults who enroll for a course to retool their knowledge or skills.³¹ As a result, workplace productivity increases for those who learn a new welding technique, a new computer program, or the most recent changes in the Internal Revenue Code. A corollary to courses taken by retooling students is continuing education units (CEUs) in the professional community.³² In many professions,³³ maintaining licensure is contingent on expanding one's knowledge via CEUs earned in courses or at seminars.

Thus, classifying success solely in terms of course completion is incongruent with synoptic views of educational attainment. A way to broaden one's viewpoint is to examine the counterfactual: What if educational opportunity were not available at the course level? Under such conditions, a computer programmer would have to earn another degree to stay current in the field. Or a sole proprietor would have to earn a business degree to learn the accounting skills to manage business more effectively.

Many other examples could be given, but the point remains the same: There is value to completing a course. As community colleges focus on improving completion rates, they may need to reconsider the impact of packaging learning opportunities one course at a time.

Certificate and Degree Completion

Completing course work to obtain a credential, whether it is a certificate, work-related certification, or a degree, signifies an acquisition of knowledge and skills in a given discipline, but the world of credentials is mesmerizing in its scope and complexity. The credentials primarily awarded by community colleges—certifications and associate degrees—play a unique role in advancing college completion rates.

Certificate Programs

Given the current economic climate and high unemployment rates, there exists a clear demand for, and focus on, quickly returning people to a changing work environment through education and training. In community colleges, this demand manifests itself in heightened interest in short-term, work-related education certificates in a specific program. The trend toward short-term training predates current economic conditions, however: From 1997 to 2007 there was a 58.4% increase in short-term certificates awarded at community colleges as compared to an 18.7% increase in associate degrees, a 28.5% increase in moderate-term certificates, and a 9.8% decrease in long-term certificates.³⁴ It appears that this trend will continue: The Bureau of Labor Statistics projects that eight of the top 10 occupations with the largest employment growth by 2018 will require less than a bachelor's degree,³⁵ with six requiring less than an associate degree.

The focus on putting people back to work with short- and moderate-term certificates and associate degrees does pose a problem for the workhorse of higher education: community colleges. Community college leaders are faced with focusing either on (a) increasing completion rates using the traditional measures (i.e., attainment of associate and bachelor's degrees) established by the Organisation for Economic Cooperation and Development in international comparisons or (b) getting people back to work with certificates and industry credentials that are not counted as a success measure in international comparisons.³⁶ Focusing solely on the former narrowly defines success while overlooking the needs and achievements of a significant number of people, whereas focusing solely on the latter will not increase the international ranking of the United States. Community colleges are therefore in the difficult position of balancing two completion agendas: the person's need to return to work and the nation's desire to be a world leader in terms of a narrowly defined set of outcomes.

Community colleges have been addressing this completion disconnect by, for example, developing stackable credentials, defined as a "series of certificates, licenses, diplomas or other credentials that 'stack' on top of one another and designate advancement along career pathways."³⁷ For example, the Shifting Gears Initiative, funded by the Joyce Foundation, has begun the difficult work of merging training in workplace skills with the academic foundation needed to progress along a college and career pathway.³⁸

Associate Degrees

Aligning student success with future opportunities for continued career success should be part of any completion agenda: It is estimated that a person will hold, on average, 10.8 jobs between the ages of 18 and 42 and will therefore need the requisite skills to be productive during these transitions.³⁹ Within the community college, courses generally relate well to each other, but when community college graduates look to study at other institutions, they often face unanticipated difficulties.⁴⁰

One challenge is to more clearly define and facilitate future education paths for students. As is evidenced in Florida and most recently applied in Tennessee,⁴¹ common course numbering across all postsecondary sectors, a clear statement of transferability, and a higher education system that guarantees acceptance to public 4-year institutions for associate degree completers are ways to encourage degree completion and better align state systems. Highly structured, accelerated learning experiences, such as short-term certificate and 1-year associate degree programs, have been embraced by some as a way to increase program completion. These accelerated programs can help young and adult learners meet President Obama's ambitious 2020 goal;⁴² however, these learners have to juggle work and family responsibilities that limit their ability to forego earnings as may be required to complete accelerated programs.

A challenge for community colleges in accepting highly structured programs is the contentious issue of diminishing student aspirations—especially of traditionally disadvantaged populations. The process, known as "cooling-out,"⁴³ occurs when advisors encourage students to matriculate in less rigorous programs that they may believe the students would be more successful at completing. This issue has yet to be resolved conclusively, but recent research has shown that advising has a positive impact on completion, especially for those with academic deficiencies.⁴⁴ Furthermore, stackable credentials, career pathways, and applied associate and bachelor's degrees have emerged as ways to provide opportunity for continued academic progression for those who might otherwise have enrolled in terminal training programs.

Conclusion

Community colleges are committed to improving completion rates while maintaining their commitment to access and quality. This brief highlights some of the issues that community college leaders, working with their community partners, will have to navigate as they focus more squarely on improving completion rates, however difficult that may be to define. How each college addresses these issues will vary, but a consistent factor across all community colleges is that current fiscal conditions will undoubtedly continue to influence policy and administrative decisions.

Any conversation about national education attainment goals is also a conversation about national priorities. As such, it warrants an examination of the types of public investment necessary to produce the desired public good. Community colleges will have difficulty embracing the practices and perspectives needed to increase completion rates without additional fiscal resources, especially at a time when they are facing double-digit enrollment growth.⁴⁵ Funding community colleges at one fifth the amount that public 4-year institutions receive and expecting community colleges to provide the services and opportunities needed to reach an ambitious national completion goal is a problematic proposition.

¹ Remarks of President Barack Obama – As Prepared for Delivery Address to Joint Session of Congress, February 24, 2009, para. 66.

² Martha Kanter, "What You Need to Know About President Obama's Graduation Initiative" (plenary session presentation at the annual convention of the American Association of Community Colleges, Seattle, WA, April 17-20, 2010).

³ Remarks by the President on the American Graduation Initiative, July 14, 2009, para. 25.

⁴ Student Aid and Fiscal Responsibility Act of 2009, H.R. 3221, 111th Cong., 1st Sess. (2009).

⁵ American Association of Community Colleges, the Association of Community College Trustees, the Center for Community College Student Engagement, the League for Innovation in the Community College, the National Institute for Staff & Organizational Development, and Phi Theta Kappa Honor Society, *Democracy's Colleges: Call to Action* (Washington, DC: American Association of Community Colleges, April 20, 2010).

⁶ What constitutes success is being defined for community colleges, by community colleges in a way that will allow them to be judged by the merit of their mission through the Voluntary Framework of Accountability. As such, this brief was not developed to define what constitutes completion.

⁷ Student Aid and Fiscal Responsibility Act of 2009, H.R. 3221, 111th Cong., 1st Sess. (2009).

⁸ See for example, Texas' *Closing the Gaps by 2015* (<http://www.theccb.state.tx.us/index.cfm?objectid=858D2E7C-F5C8-97E9-0CDEB3037C1C2CA3>) or Tennessee's *Complete College Act of 2010* (<http://www.tbr.state.tn.us/news/default.aspx?id=6290>).

⁹ See, for example, Lumina Foundation for Education's "Big Goal" of increasing the percentage of Americans with high-quality degrees and credentials to 60 percent by the year 2025 (www.luminafoundation.org/goal_2025/index.html); The Bill & Melinda Gates Foundation's goal is to help double the number of low-income adults who earn a college degree or credential with genuine marketplace value by age 26 (www.gatesfoundation.org/postsecondaryeducation/Pages/default.aspx).

¹⁰ I refer here to Walter McMahon's concept of modern human capital which includes "...not just narrowly defined economics of job markets and earnings.... [but] the use of human capital at home and in the community during leisure-time hours..." See, Walter W. McMahon, *Higher Learning, Greater Good: The Private and Social Benefits of Higher Education* (Baltimore, MD: The Johns Hopkins University Press, 2009): 5-10.

¹¹ For discussion of programs of study on earnings, see Louis Jacobson and Christine Mohker, *Pathways to Boosting the Earnings of Low-Income Students by Increasing Their Educational Attainment* (Washington, DC: The Hudson Institute and CNA, January 2009). As it relates to what herein is referred to as standard industry wages or— the "firm effect" — is informative to note that researchers have found "[t]here are three distinct components of wages: human capital, a firm effect and an unexplained residual. Because the human capital measure and the firm effect are virtually uncorrelated, when measured at the level of an individual job, an individual's earnings may be due to who they are or where they work... demographic characteristics - such as education, occupation, age, sex, marital status and even include some firm characteristics such as firm size and industry — are typically able to explain some 30% of earnings variation. Longitudinal data on workers and firms explain closer to 90% of earnings variation" from U.S. Census Bureau, Longitudinal Employer – Household Dynamics Program, *A Layman's Guide to the LEHD Human Capital Measures* (Informational Document No. ID-2003-04) (Suitland, MD: Author, January 2003).

¹² Anthony P. Carnevale, Jeff Strohl, and Nicole Smith, "Help Wanted: Postsecondary Education and Training Required" *New Directions for Community Colleges*, No. 146 (Summer 2009): 21-31.

¹³ Arthur M. Cohen and Florence B. Brawer, *The American Community College*, 5th ed. (San Francisco, CA: Jossey-Bass, 2008).

¹⁴ K-12 education in 27 states has been determined to be inequitable and/or inadequate, see "Equity" and "Adequacy" *School Funding Liability Court Decisions, March 2010* (New York: National Access Network, 2010). www.schoolfunding.info.

- ¹⁵ Allen A. Witt, James L. Wattenbarger, James F. Gollattscheck, and Joseph E. Suppinger, *America's Community Colleges: The First Century* (Washington, DC: American Association of Community Colleges, 1994).
- ¹⁶ Tom D. Snyder and S. A. Dillow, *Digest of Education Statistics 2009* (NCES 2010-013) (Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U. S. Department of Education, 2010): Figure 11.
- ¹⁷ Higher Education Opportunity Act of 2008 (Pub. L. No. 110-315 § 401 to 498).
- ¹⁸ Public Law 110-315, Title III – Institutional Aid and Title V – Developing Institutions.
- ¹⁹ For more information see, for example, Department of the Treasury, Internal Revenue Service, *Tax Benefits for Education: For Use in Preparing 2009 Returns* (Pub. No. 970) (Washington, DC: Author, January 25, 2010).
- ²⁰ *Grutter v. Bollinger*, 539 US 306 (2003); *Gratz v. Bollinger* 539 U.S. 244 (2003).
- ²¹ Public fiscal support for community colleges has been recorded since 1966 in the Grapevine Database, <http://www.grapevine.ilstu.edu/historical/index.htm>. Data collection by sector of postsecondary education ended in 2009 with the merger of the Grapevine and the State Higher Education Finance survey of the State Higher Education Executive Officers.
- ²² Open courses were given priority in the *American Graduation Initiative*. The Bill & Melinda Gates Foundation has a continued interest in open-courses for the 20 to 25 highest demand developmental and/or general education courses.
- ²³ Melinda Mechur Karp, Juan Carlos Calcagno, Katherine L. Hughes, Dong Wook Jeong and Tom Bailey, *The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States* (St. Paul, Minnesota: National Research Center for Career and Technical Education, University of Minnesota, October 2007).
- ²⁴ Southern Regional Education Board, *New Data Reveal Percent of College Credits Taken by High School Students* (Fact Book Bulletin 10E01) (Atlanta, GA: Author, March 2010); T. Waits, J. C. Setzer, and L. Lewis, *Dual Credit and Exam-based Courses in U.S. Public High Schools: 2002–2003* (NCES Report No. 2005-009) (Washington, DC: U.S. Department of Education, National Center for Education Statistics, 2005).
- ²⁵ From 1998 to 2008 the percent increased range was from 43 to 52%. See, U.S. Census Bureau, *Current Population Survey, Educational Attainment in the United States: 2009* (Washington, DC: Author, April 2010): Table A-3.
- ²⁶ See, for example, Walter W. McMahon, *Higher Learning, Greater Good: The Private and Social Benefits of Higher Education* (Baltimore, MD: The Johns Hopkins University Press, 2009); Howard R. Bowen, *Investment in Learning: The Individual and Social Value of American Higher Education* (San Francisco: CA, Jossey-Bass, 1977).
- ²⁷ John Wirt, Susan Choy, Patrick Rooney, Stephen Prevasnik, Anindita Sen, and Richard Tobin, *The Condition of Education 2004* (NCES 2004-077) (Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2004): Table 18-1.
- ²⁸ For more information see, <http://www.deionline.org/>.
- ²⁹ This value reflects the difference of reported tuition and fees per 3 credit course. Tuition and fees per 3 credit course was derived by first dividing tuition and fees by 30 [number of credits for full-time equivalent student], then multiplying by 3 [number of credits per course]. Data from Tom D. Snyder and S. A. Dillow, *Digest of Education Statistics 2009* (NCES 2010-013) (Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U. S. Department of Education, 2010): Table 335. A difference of \$448 was observed when conducting the same analysis on data presented in, College Board, *Trends in College Pricing 2009* (Washington, DC: Author, October 2009).
- ³⁰ Author analysis 2006-07 data from column 4 of Tom D. Snyder and S. A. Dillow, *Digest of Education Statistics 2009* (NCES 2010-013) (Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U. S. Department of Education, 2010): Table 352.
- ³¹ Christopher M. Mullin and Kent Phillippe, *Community College Enrollment Surge: An Analysis of Estimated Fall 2009 Headcount Enrollments at Community Colleges* (2009-01PBL) (Washington, DC: American Association of Community Colleges).

³² Continuing Education Units are defined by the International Association for Continuing Education and Training (IACET) as “ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction.” (<http://www.iacet.org/content/continuing-education-units.html>). The American Council on Education is a partner to IACET.

³³ CEU requirements generally apply to professions which require licensure, and as such may be required to maintain one’s license. These requirements can vary by field and state. A few examples of professions where CEUs are required include architects, building inspectors, educators, engineers, nurses, and well drillers.

³⁴ Short-term refers to certificates requiring less than one academic year, moderate-term refers to awards requiring at least one but less than two years, and long-term require more than two academic years to complete. See, Laura Horn and Xiaojie Li, *Changes in Postsecondary Awards Below the Bachelor’s Degree: 1997 to 2007* (Stats in Brief, NCES 2010-167) (Washington, DC: U.S. Department of Education, Institute for Education Sciences, National Center for Education Statistics, November 2009): Table 2.

³⁵ U. S. Department of Labor, Bureau of Labor Statistics, *Employment Projections 2008-2018* (DL-09-1503) (Washington, DC: Author, December 11, 2009): Table 6.

³⁶ Email correspondence, OECD statistician, January 5, 2010. For further information about mapping educational attainment see, OECD data file “2765339.xls” obtained from www.oecd.org/dataoecd/11/18/2765339.xls.

³⁷ Minnesota Career and Technical Education, *Minnesota FasTRAC (Training, Resources and Credentialing) Supplement Background Information* (St. Paul, MN: Minnesota State Colleges & Universities, 2009): 1.

³⁸ For more information on the Shifting Gears initiative see www.shifting-gears.org.

³⁹ U.S. Department of Labor, Bureau of Labor Statistics, *Number of Jobs Held, Labor Market Activity, and Earnings Growth Among the Youngest Baby Boomers: Results From a Longitudinal Survey Summary* (USD L 08-0860) (Washington, DC: Author, June 27, 2008).

⁴⁰ Associate degree attainment has a varied history, influenced in part by state policies and relationships with other sectors of postsecondary education. If a state does not have a transfer policy built upon the acquisition of an associate’s degree, the incentive for transfer-oriented students to pursue one is diminished. It is the case in some states that 4-year institutions wish for transfer students only to complete their general education requirements at the community college and then transfer. For further discussion, see *Community Colleges and Baccalaureate Attainment* (AACC Statement) (Washington, DC: American Association of Community Colleges, October 19, 2009).

⁴¹ For more information see *Complete College Tennessee Act of 2010*, <http://www.tbr.state.tn.us/news/default.aspx?id=6290>

⁴² One estimate places 70% of the increased awards will have to come from the adult learners. See, State Higher Education Executive Officers, *The College Degree Gap: One Million More Degrees Annually, 2009-2025* (Boulder, CO: Author, 2009).

⁴³ Burton R. Clark, The “Cooling-out” Function in Higher Education,” *The American Journal of Sociology*, 65, No. 6 (1960): 569-576; Burton R. Clark, The “Cooling-out” Function Revisited,” in *New Directions for Community Colleges*, No. 32, ed. George B. Vaughan (San Francisco, CA: Jossey-Bass, 1980): 15-31.

⁴⁴ See, Peter R. Bahr, “Cooling Out in the Community College: What is the Effect of Academic Advising on Students’ Chances of Success?” *Research in Higher Education* 49 (2008): 704-732.

⁴⁵ Christopher M. Mullin and Kent Phillippe, *Community College Enrollment Surge: An Analysis of Estimated Fall 2009 Headcount Enrollments at Community Colleges* (2009-01PBL) (Washington, DC: American Association of Community Colleges).



One Dupont Circle, NW | Suite 410
Washington, DC 20036
T. 202-728-0200 | F. 202-833-2467
www.aacc.nche.edu

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