

What do we know about the effectiveness of community college-based interventions?

Community colleges offer a variety of affordable programs that lead to educational attainment and further education and in some cases improved employment outcomes. Employment-focused community college programs, in particular, may provide students with industry-recognized certificates, credentials, and associate degrees that can lead to improved labor market outcomes.

This synthesis highlights key findings from studies identified through a CLEAR systematic evidence review that examined the impacts of community college-based interventions on education, earnings, and employment outcomes.¹ CLEAR found 193 reports of 238 distinct studies published from January 1994 to October 2019.² Of these studies, 67 received a high or moderate causal evidence rating which means that we have a good degree of confidence that the studied interventions caused the measured impacts on individuals' education and labor market outcomes.³ This synthesis presents a summary of the evidence from these 67 high and moderate-rated studies.⁴

Table 1 illustrates the broad types of interventions found in the studies. Studies of community college-based interventions examine the extent to which they improve academic persistence, degree/certificate completion, and labor market outcomes.

Table 1. Types of community college-based interventions examined

Intervention	Description
Linked learning community	A program in which students are placed in cohort groups with shared curricular goals.
Accelerated learning	An approach that allows students to complete courses in a shorter period of time than a traditional semester. Sometimes referred to as “fast track” programs.
Paid performance incentive	A program that provides students with financial rewards for exhibiting behaviors associated with student achievement.
Transition programs and support services	An approach that prepares students for community college and beyond using a variety of activities and services such as: academic preparation; basic skills support in mathematics, reading, and writing; and student support services such as counseling, tutoring, time and resource management (e.g., financial aid), study skills, and child care services.
Career pathways	A series of structured and connected education and training programs that enable students to secure a job or advance in a high-demand industry or occupation with multiple entry and exit points.
Work-based learning	A program in which community college classroom instruction is paired with workplace experience, allowing participants to gain or enhance their skills while employed or while engaged in an experience similar to employment.
Blended interventions funded by Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants	TAACCCT was a federal capacity-building grant program designed to increase the ability of community colleges to provide education and training to adults for in-demand jobs by funding strategies such as industry-aligned curriculum, competency-based education, credit for prior learning, contextualized instruction, stacked and latticed credentials, educational technology, hands-on experiences, and student support services. Blended interventions funded by TAACCCT were implemented and evaluated by community colleges and/or consortia of community colleges and included a variety of services such as career pathways and work-based learning; however, they are analyzed separately here given the integral nature of their capacity-building feature.

¹ For more information on CLEAR, including how CLEAR conducts systematic reviews, see <https://clear.dol.gov/>.

² See the CLEAR Community College Review Protocol (<https://clear.dol.gov/reference-documents/community-college-review-protocol>) to learn more about the literature search parameters and the specific criteria used to determine which studies were eligible for inclusion in the systematic review.

³ See the CLEAR Causal Evidence Guidelines, Version 2.1 (<https://clear.dol.gov/reference-documents/causal-evidence-guidelines-version-21>) for information on the evidence guidelines used to determine the causal evidence ratings.

⁴ All results from CLEAR's Community College systematic evidence review can be found on the CLEAR website: <https://clear.dol.gov/topic-area/community-college>. Information from the 171 studies that received a low causal evidence rating are included in the supplement to this synthesis.

Key takeaways

- ▶ **Many community college-based interventions improved education outcomes but few improved earnings or employment outcomes.** The studies found that participation in community college-based interventions increased rates of course enrollment, course completion, and credit accumulation. Community college-based interventions also increased the rates of degree, credential, or certificate completion as well as transfers to a four-year institution. A smaller percentage of studies found higher quarterly earnings, larger wage gains, or higher employment rates among program participants.
- ▶ **Paid performance incentives improved education outcomes and show promise to increase earnings.** All studies of paid performance incentives found increased academic persistence, credit accumulation, or degree/certificate completion, providing a small body of credible, quality evidence of promising interventions to improve education outcomes. One study of year-round Pell (YRP) funding also found higher earnings among YRP recipients three years later. More evidence is needed to draw stronger conclusions of the effectiveness on earnings.
- ▶ **Accelerated learning interventions increased the rates of course enrollment and completion as well as the rates of degree/certificate completion.** The studies focused on accelerated learning interventions designed for individuals in developmental learning courses who traditionally have lower rates of academic persistence and degree completion.
- ▶ **Some studies showed that work-based learning interventions improved education and employment outcomes, but the evidence base is small.** One study found that workforce training paired with parental education increased program enrollment and certification rates, and also increased employment rates in the healthcare sector. Another study found increased likelihood of course enrollment, course completion, and credits earned. Two studies found that participation in work-based learning increased long-term earnings but the authors did not provide tests of statistical significance.
- ▶ **Career pathways interventions had varying degrees of effectiveness across the outcomes.** These interventions had multiple studies that found improved education, earnings, or employment outcomes.
- ▶ **Evidence on the effectiveness of blended interventions funded by TAACCCT is mixed.** Variation in the results of these capacity building grants may be due to programmatic differences. Blended interventions funded by TAACCCT were comprised of different services in addition to work-based learning or career pathways, including academic supports (e.g., tutoring), employment supports (e.g., career counseling), technology (e.g., online learning), and developmental education (e.g., remedial courses).

Promising employment-focused interventions to improve education, earnings, and employment outcomes

- Skill-UP Network Pathways Acceleration in Technology and Healthcare (SUN PATH) Program
- Advancing Careers and Training for Healthcare (ACT for Healthcare)
- Health Profession Opportunity Grant (HPOG)

Summary of the evidence base

What we know from existing research, as summarized in Table 2, includes:

- All but five studies investigated the effect of community college-based interventions on education outcomes (62 studies, see column 2 in Table 2).
- The most frequently evaluated community college-based interventions are linked learning communities and accelerated learning (each with 14 studies; see column 1).
- Each intervention listed in Table 2 has been shown to improve education outcomes (green boxes labeled with “a” in column 2). All paid performance incentives interventions improved education outcomes. Over half of linked learning community, accelerated learning, and blended TAACCCT-funded studies found improved education outcomes. Half of career pathways and work-based learning studies found favorable education outcomes. All but one transition program/support services study found favorable education outcomes.
- Less than half of the studies investigated the effect of community college-based interventions on earnings and wage outcomes (26 studies, see column 3) and employment outcomes (23 studies, see column 4).
- Only 6 of the 26 studies that investigated the effect of community college-based interventions on earnings and wage outcomes found favorable outcomes (green boxes labeled with “a” in column 3).

- One-third of the studies (8 out of 23) that investigated the effect of community college-based interventions on employment outcomes found improvements (green boxes labeled with “a” in column 4).

Table 2. Summary of the evidence base

Intervention	1	2			3			4			
	#	Education and skills gain			Earnings and wages			Employment			
Linked learning communities	14	7 ^a	7 ^c			1 ^c			1 ^c		
Accelerated learning	14	10 ^a	1 ^c	3 ^d	n.a.			n.a.			
Paid performance incentives	6	6 ^a			1 ^a	1 ^c			2 ^c		
Transition programs and support services	4 ¹	3 ^a		1 ^b	n.a.			n.a.			
Career pathways	12 ^{2,3}	6 ^a	1 ^c	4 ^d	3 ^a	3 ^c	3 ^d	2 ^b	4 ^a	3 ^c	3 ^d
Work-based learning	4 ²	2 ^a				3 ^c			1 ^a		
Blended interventions funded by TAACCCT grants	13 ⁴	8 ^a		2 ^d	1 ^b	2 ^a	6 ^c	1 ^b	3 ^a	5 ^c	1 ^b

Key: ^a Indicates the number of studies that found at least one favorable impact in the outcome domain. These studies had at least one statistically significant favorable impact and no statistically significant unfavorable impacts.
^b Indicates the number of studies that found at least one unfavorable impact in the outcome domain. These studies had at least one statistically significant unfavorable impact in the outcome domain and no statistically significant favorable impacts.
^c Indicates the number of studies that found no statistically significant impacts in the outcome domain.
^d Indicates the number of studies with mixed impacts in the outcome domain. These studies had some statistically significant favorable and some statistically significant unfavorable impacts in the outcome domain.
n.a. indicates that none of the studies examined these outcomes.

Notes:
¹ Two studies examined bridge programs, one examined a dual enrollment program, and one study examined developmental math with a college success course.
² Although classified as either work-based learning or career pathways programs due to the primary intervention component, these employment-focused interventions included additional components (e.g., student support services, technology, accelerated learning, developmental education).
³ One study examined short-term stackable certificates as part of a career pathways program.
⁴ This synthesis includes a small percentage of studies of blended interventions funded by TAACCCT, implemented by individual community colleges or consortia. Those that are included received a moderate causal evidence rating (and none received a high rating). Studies of these blended interventions funded by TAACCCT represented 60 percent of all studies in the overall Community College systematic evidence review. To view synthesis reports of TAACCCT evaluations, please see the U.S. Department of Labor, Chief Evaluation Office’s Completed Reports webpage: <https://www.dol.gov/agencies/oasp/evaluation/completedstudies>.

Where are the gaps in the research on community college-based interventions?

- **More research, including longitudinal research, is required to determine the effect of community college-based interventions on labor market outcomes.** Less than half of the studies examined the effect of community college-based interventions on earnings outcomes (26 studies) and employment outcomes (23 studies). The focus was primarily on education outcomes (62 studies), such as degree/credential completion and academic persistence. For studies that examined labor market outcomes, most were less than 24 months post-intervention.
- **More research is required to determine what combination of services or intervention components lead to improved education, earnings, and employment outcomes.** The employment-focused interventions (career pathways, work-based learning, and blended interventions funded by TAACCCT) are quite varied and included multiple services in each study. For example, one TAACCCT grant included stacked and latticed credentials,⁵ improved instructional design, increased online learning offerings, coaching on industry recognized credentials, and the use of job development career coaches to integrate soft skills while another TAACCCT grant included career pathways with student support services.

⁵ Stacked credentials allow an individual to accumulate credentials over time to move up a career ladder or through a career pathway while latticed credentials allow an individual to move across multiple career pathways.

- **Exploring the differences in outcomes across sites would illuminate the importance of implementation and context when evaluating the effectiveness of interventions.** Several studies were implemented across multiple sites, but the research studies included combined findings only. Variation in the results may be due to the implementation of the intervention and the context and setting where the intervention took place.
- **More high-quality studies examining the impact of community college-based interventions are needed.** Of the 238 studies found in this evidence review, 67 studies (less than one-third) received a high or moderate causal evidence rating. A low rating does not mean that the intervention was ineffective or had unfavorable outcomes. Low-rated studies often reflect the most rigorous methods authors could use given the circumstances. The remainder of studies found in this evidence base (the 171 low-rated studies), whose findings are not included in this synthesis, had several methodological limitations. For example, the selection of a comparison group in some studies produced a confounding factor where it was difficult to attribute the observed effects to the intervention studied and not to other factors. More rigorous, credible research would enable us to draw stronger conclusions about the effectiveness of community college-based interventions.

Publications included in the review

- Anderson, T., Kuehn, D., Eyster, L., Barnow, B., & Lerman, R. I. (2017). *New evidence on integrated career pathways: Final impact report for Accelerating Opportunity*. Washington, DC: Urban Institute.
- Bandyopadhyay, P. (2010). *The impact of course delivery systems on student achievement and sense of community: A comparison of learning community versus stand-alone classroom settings in an open-enrollment inner city public community college* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3390450)
- Barnett, E. A., Bork, R. H., Mayer, A. K., Pretlow, J., Wathington, H. D., & Weiss, M. J. (2012). *Bridging the gap: An impact study of eight developmental summer bridge programs in Texas*. New York: National Center for Postsecondary Research.
- Bellville, J., Schoeph, K., Wilkinson, A., Leger, R., Jenner, E., Lass, K., Dunn, N., Finke, J., Bishop, M., Weingartner, T., Coffman, K., Petry, K., & Fujawa, A. (2017). *WV Bridging the gap TAACCCT round 3: Final evaluation report*. Indianapolis, IN: Thomas P. Miller & Associates.
- Berger, A., Turk-Bicakci, L., Garet, M., Song, M., Knudson, J., Haxton, C., Zeiser, K., Hoshen, G., Ford, J., Stephan, J., Keating, K., & Cassidy, L. (2013). *Early college, early success: Early college high school initiative impact study*. Washington, DC: American Institutes for Research.
- Betesh, H., Kim, H., Kogan, D., Lindy, R., & Paprocki, A. (2017). *Evaluation of Accelerated Training for Illinois Manufacturing (ATIM): Impact report*. Retrieved from <https://www.spra.com/wordpress2/wp-content/uploads/2017/05/ATIM-Impact-Report-Final.pdf>
- Bloom, D., & Sommo, C. (2005). *Building learning communities: Early results from the Opening Doors Demonstration at Kingsborough Community College*. New York: MDRC.
- Bowers, J. M. (2018). Does stacking work? *The academic value of short-term, stackable certificates* (Unpublished doctoral dissertation). University of Washington, Seattle, WA.
- Brock, T., & Richburg-Hayes, L. (2006). *Paying for persistence: Early results of a Louisiana scholarship program for low-income parents attending community college*. New York: MDRC.
- Center for Applied Research. (2017). *Central Georgia Technical College, TAACCCT*. Charlotte, NC.
- Chapman, A. (2017). *Quantitative analysis of an urban community college S-STEM program*. (Unpublished doctoral dissertation). University of Phoenix, Phoenix, AZ.
- Chase-Lansdale, P. L., Sabol, T. J., Eckrich Sommer, T., Chor, E., Cooperman, A. W., Brooks-Gunn, J., Yoshikawa, H., King, C., & Morris, A. (2019). Effects of a two-generation human capital program on low-income parents' education, employment, and psychological wellbeing. *Journal of Family Psychology*, 33(4), 433-443.
- Cho, S. W., Kopko, E., Jenkins, D., & Jaggars, S. S. (2012). *New evidence of success for community college remedial English students: Tracking the outcomes of students in the Accelerated Learning Program (ALP)* (CCRC Working Paper No. 53). New York: Columbia University, Community College Research Center.
- Dauphinee, T., & Bishwakarma, R. (2018). *SUN PATH comparison group study*. Albuquerque, NM: University of New Mexico, Career to Cradle Policy Institute.
- Edgecombe, N., Jagers, S., Baker, E., & Bailey, T. (2013). *Acceleration through a holistic support model: An implementation and outcomes analysis of FastStart@CCD*. Community College Research Center Report. New York: Teachers College, Columbia University.
- Eyster, L., Nightingale, D.S., Barnow, B., O'Brien, C., Trutko, J. & Kuehn, D. (2010) *Implementation and early training outcomes of the High Growth Job Training Initiative: Final report*. Washington, DC: Urban Institute Center on Labor, Human Services, and Population.
- Gardiner, K., Rolston, H., Fein, D., & Cho, S-W. (2017). *Pima Community College Pathways to Healthcare Program: Implementation and early impact report* (Report No. 2017-10). Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

- Glosser, A., Martinson, K., Cho, S. W., & Gardiner, K. (2018). *Washington State's Integrated Basic Education and Skills Training (I-BEST) program in three colleges: Implementation and early impact report* (Report No. 2018-87). Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
- Hodara, M., & Jaggars, S. (2014). An examination of the impact of accelerating community college students' progression through developmental education. *Journal of Higher Education, 85*(2), 246-276.
- Hughes, K., Belfield, C., Ran, F., & Jenkins, D. (2018). *KCTCS Enhancing Programs for IT Certification (EPIC): Independent evaluation contracted by the Kentucky Community and Technical College System*. New York, NY: Community College Research Center, Teacher's College, Columbia University.
- Jacobson, L., & LaLonde, R. (1997). *Net impact evaluation of retraining under ESHB 1988*. Retrieved from <https://files.eric.ed.gov/fulltext/ED413525.pdf>
- Jacobson, L., LaLonde, R., & Sullivan, D. G. (2001). *The returns to community college schooling for displaced workers*. Retrieved from: <https://files.eric.ed.gov/fulltext/ED481841.pdf>
- Jaggars, S. S., Hodara, M., Cho, S. W., & Xu, D. (2015). Three accelerated developmental education programs: Features, student outcomes, and implications. *Community College Review, 43*(1), 3-26.
- Jenkins, D., Speroni, C., Belfield, C., Jaggars, S., & Edgecombe, N. (2010). *A model for accelerating academic success of community college remedial English students: Is the Accelerated Learning Program (ALP) effective and affordable?* (CCRC Working Paper No. 21). New York: Columbia University, Community College Research Center.
- Jensen, J., Horohov, J., & Wright, C. (2016). *Online2Workforce (O2W) Elizabethtown Community & Technical College TAACCCT Round II Grant final evaluation report*. Lexington, KY: University of Kentucky College of Education Evaluation Center.
- Little, M. D. (2016). *Delivery of remedial community college mathematics instruction in an emporium learning environment: Predicting academic success, persistence, retention, and completion*. (Unpublished doctoral dissertation). University of North Carolina at Charlotte, Charlotte, NC.
- Liu, Y. T. (2017). *Essays on the economics of higher education: The academic and labor market outcomes to four to two-year transfer, summer enrollment, and year-round Pell*. (Unpublished doctoral dissertation). Columbia University, New York, NY.
- Maccariella, J. (2015). *Engaging community college students using an engineering learning community*. (Unpublished doctoral dissertation). Old Dominion University, Norfolk, VA.
- Magnolia Consulting. (2016). *Coconino County Community College TAACCCT grant: Final report*. Retrieved from: <https://www.skillscommons.org/handle/taaccct/15564>
- Martin, V. & Broadus, J. (2013). *Enhancing GED instruction to prepare students for college and careers: Early success in LaGuardia Community College's Bridge to Health and Business program*. New York: MDRC.
- Martinson, K., Williams, J., Needels, K., Peck, L., Moulton, S., Paxton, N., Mastri, A., Copson, E., Comfort, A., & Brown-Lyons, M. (2016). *The Green Jobs and Health Care impact evaluation: Findings from the impact study of four training programs for unemployed and disadvantaged workers*. Retrieved from https://wdr.doleta.gov/research/FullText_Documents/ETAOP-2017-07%20Findings%20from%20the%20Impact%20Study.pdf
- Maxwell, N., Dolfen, S., Bruch, J., & Luca, D. L. (2017). *Outcomes from a certification program for early career professionals in supply chain management*. Princeton, NJ: Mathematica Policy Research.
- Mayer, A. K., Patel, R., & Gutierrez, M. (2016). Four-year degree and employment findings from a randomized controlled trial of a one-year performance-based scholarship program in Ohio. *Journal of Research on Educational Effectiveness, 9*(3), 283-306.
- Modicamore, D., Lamb, Y., Taylor, J., Takyi-Laryea, A., Karageorge, K., & Ferroggiaro, E. (2017). *Accelerating Connections to Employment volume I final evaluation report*. Fairfax, VA: ICF.
- Patnaik, A., O'Shea, D., & Prince, H. (2016). *Growing Regional Opportunity for the Workforce (Project GROW): Final evaluation report*. Austin, TX: The University of Texas, Austin Ray Marshall Center for the Study of Human Resources.

- Peck, L. R., Werner, A., Harvill, E., Litwok, D., Moulton, S., Fountain, A. R., & Locke, G. (2018). *Health Profession Opportunity Grants (HPOG 1.0) impact study interim report: Program implementation and short-term impacts*. (Report No. 2018-16a). Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, US Department of Health and Human Services.
- Price, D., Sedlak, W., Roberts, B., & Childress, L. (2016). *Making the Future: The Wisconsin strategy: Final evaluation report*. Indianapolis, IN: Northeast Wisconsin Technical College.
- Price, D., Valentine, J., Sedlak, W., & Roberts, B. (2018). *Advancing Careers and Training (ACT) for Healthcare in Wisconsin*. Retrieved from: <http://support.skillscommons.org/showcases/outcomes/healthcare/act/>
- Rayyes, N., Abe, Y., Sanchez, R., Lai, F., Akiya, K., Chan, V., & Jennings, E. D. (2016). *Contra Costa Community College District Design it–Build it–Ship it (DBS) final evaluation report*. Oakland, CA: Impaq International.
- Richburg-Hayes, L., Brock, T., LeBlanc, A., Paxson, C., Rouse, C. E., & Barrow, L. (2009). *Rewarding persistence: Effects of a performance-based scholarship program for low-income parents*. New York: MDRC.
- Scrivener, S., & Weiss, M. J. (2009). *Opening doors: More guidance, better results? Three-year effects of an enhanced student services program at two community colleges*. New York: MDRC.
- Scrivener, S., Bloom, D., LeBlanc, A., Paxson, C., Rouse, C. E., & Sommo, C. (2008). *A good start: Two-year effects of a freshman learning community program at Kingsborough Community College*. New York: MDRC.
- Scrivener, S., Gupta, H., Weiss, M. J., Cohen, B., Cormier, M. S., & Brathwaite, J. (2018). *Becoming college-ready: Early findings from a CUNY Start evaluation*. New York: MDRC.
- Scrivener, S., Sommo, C., & Collado, H. (2009). *Getting back on track: Effects of a community college program on probationary students*. New York: MDRC.
- Scrivener, S., Weiss, M., & Sommo, C. (2012). *What can a multifaceted program do for community college students? Early results from an evaluation of Accelerated Study in Associate Programs (ASAP) for developmental education students*. New York: MDRC.
- Scrivener, S., Weiss, M., Ratledge, A., Rudd, T., Sommo, C., & Fresques, H. (2015). *Doubling graduation rates: Three-year effects of CUNY's Accelerated Study in Associate Programs (ASAP) for developmental education students*. New York: MDRC.
- Smith, L., Gregg, A., Roth, L., Stoeklen, P., Krueger, B., Lawton, G., & Knaeble, B. (2017). *TAACCCT3 INTERFACE project: Final evaluation report*. Menomonie, WI: University of Wisconsin-Stout, Applied Research Center, Wisconsin's Polytechnic University.
- Sommo, C., Boynton, M., Collado, H., Diamond, J., Gardenhire, A., Ratledge, A., . . . Weiss, M. J. (2014). *Mapping success: Performance-based scholarships, student services, and developmental math at Hillsborough Community College*. New York: MDRC.
- Sommo, C., Cullinan, D., Manno, M., Blake, S., & Alonzo, E. (2018). *Doubling graduation rates in a new state: Two-year findings from the ASAP Ohio demonstration*. New York: MDRC.
- Sommo, C., Mayer, A. K., Rudd, T., & Cullinan, D. (2012). *Commencement day: Six-year effects of a freshman learning community program at Kingsborough Community College*. New York: MDRC.
- Van Noy, M., Edwards, R., Haviland, S. B., McKay, H., Douglas, D., Mabe, W., Coty, V., Javed, S., Pardalis, N., Hubbard-Mattix, L., & Seith, D. (2018). *New Jersey Health Professions Pathways to Regional Excellence project TAACCCT evaluation: Final report: Implementation and impact*. Piscataway, NJ: Rutgers Education and Employment Research Center.
- Visher, M., & Teres, J. (2011). *Breaking new ground: An impact study of career-focused learning communities at Kingsborough Community Colleges*. New York: National Center for Postsecondary Research.
- Webber (2018). *Starting to succeed: The impact of CUNY Start on academic momentum*. Retrieved from http://www1.cuny.edu/sites/cunystart/wp-content/uploads/sites/51/2018/08/gateway_brief_final.pdf

- Weisburst, E., Daugherty, L., Miller, T., Martorell, P., & Cossairt, J. (2017). Innovative pathways through developmental education and postsecondary success: An examination of developmental math interventions across Texas. *The Journal of Higher Education, 88*(2), 183-209.
- Weiss, M. J., Mayer, A., Cullinan, D., Ratledge, A., Sommo, C., & Diamond, J. (2014). *A random assignment evaluation of learning communities at Kingsborough Community College: Seven years later*. New York: MDRC.
- Weiss, M., Brock, T., Sommo, C., Rudd, T., & Turner, M. C. (2011). *Serving community college students on probation: Four-year findings from Chaffey College's Opening Doors Program*. New York: MDRC.
- Weiss, M., Visher, M., & Wathington, M. (2010). *Learning communities for students in developmental reading: An impact study at Hillsborough Community College*. New York: MDRC.
- Weissman, E., Butcher, K., Schneider, E., Teres, J., Collado, H., Greenberg, D., & Welbeck, R. (2011). *Learning communities for students in developmental math: Impact studies at Queensborough and Houston Community Colleges*. New York: National Center for Postsecondary Research.
- Weissman, E., Cullinan, D., Cerna, O., Safran, S., & Richman, P. (2012). *Learning communities for students in developmental English: Impact studies at Merced College and the Community College of Baltimore County*. New York: MDRC.