RESEARCH REPORT

Implementation of Accelerating Opportunity

Lessons for the Field

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May 2016

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The Aspen Institute is an educational and policy studies organization based in Washington, DC. Its mission is to foster leadership based on enduring values and to provide a nonpartisan venue for dealing with critical issues.

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Acknowledgments

The evaluation team would like to thank the funders and management of the Accelerating Opportunity initiative for supporting a rigorous and comprehensive evaluation. The Accelerating Opportunity grants are sponsored by the Bill & Melinda Gates Foundation, the Joyce Foundation, the W. K. Kellogg Foundation, the Kresge Foundation, the Open Society Foundations, the Arthur Blank Foundation, the Woodruff Foundation, the Annie E. Casey Foundation, and the University of Phoenix Foundation. The Accelerating Opportunity grants are administered by Jobs for the Future in partnership with the National College Transition Network, the National Council for Workforce Education, and the State Board for Community and Technical Colleges in Washington State. We especially thank Lisa Soricone and Randall Wilson for their guidance and support throughout this process. We are grateful to them and to all our funders, who make it possible for Urban to advance its mission.

We also thank the leadership teams in Illinois, Kansas, Kentucky, and Louisiana and all of the participating colleges for giving their time and energy to host site visits, complete surveys, provide student data, and answer myriad questions about all aspects of Accelerating Opportunity. They have made this evaluation possible.

The views expressed are those of the authors and should not be attributed to the Urban Institute, its trustees, or its funders. Funders do not determine research findings or the insights and recommendations of Urban's experts. Further information on the Urban Institute's funding principles is available at www.urban.org/support.

Executive Summary

This final implementation report shares findings from the first three years of Accelerating Opportunity (AO), an initiative launched in 2011 that aimed to help adults with low basic skills earn valued occupational credentials, obtain well-paying jobs, and sustain rewarding careers. The report documents the accomplishments of AO over this period and provides an in-depth description of the process and lessons that emerged from the effort. These findings may be of particular interest to state policymakers and colleges planning for the implementation of the Workforce Innovation and Opportunity Act (WIOA), which provides new opportunities for career pathway development within states and colleges.

The AO model focused on students who scored between the 6th- and 12th-grade level in basic skill areas but who expressed interest in earning technical credentials. In particular, AO was designed for adult education students who lacked high school diplomas or the equivalent. AO encouraged states to change the delivery of adult education for these students by allowing community and technical colleges to enroll them in for-credit career and technical education (CTE) courses at the same time as they earned their high school credentials, improved their basic academic skills, or built their English language abilities. Colleges structured the CTE programs in which students enrolled as credit-bearing, integrated college and career pathways with enhanced support services. Each pathway was required to incorporate integrated instruction, which combined basic skills and technical training that was contextualized for the occupation targeted. Specifically, AO required colleges to implement "team teaching," where an adult education instructor co-teaches with a CTE instructor in the same classroom. This approach intended not only to make CTE courses accessible for students with low basic skills but also to enhance the quality of instruction. AO was also designed to change how states and colleges coordinated with government, business, and community partners by reforming policy and practice to make it easier for students with low basic skills to access and succeed in postsecondary education and the workforce.

A consortium of foundations, including the Bill & Melinda Gates Foundation, the Joyce Foundation, the W. K. Kellogg Foundation, the Kresge Foundation, the University of Phoenix Foundation, and the Open Society Foundations, provided funding for AO. Jobs for the Future (JFF) managed and provided technical assistance for the initiative in partnership with the National College Transition Network, the National Council for Workforce Education, and the Washington State Board for Community and Technical Colleges.

This final implementation report describes the first three years of AO implementation in four states that were part of the evaluation for all three years of the initial implementation period (three additional affiliate

states implemented AO but were not included in the evaluation). It covers January 2012 through the end of calendar year 2014 in Illinois, Kansas, and Kentucky and from fall 2012 through summer 2015 in Louisiana. The data presented in this report come from a survey administered in each of the three years of all AO colleges that were part of the evaluation, two rounds of site visits to the participating state offices and two colleges per state (eight visits total), program documentation, and quarterly calls with AO states and colleges over three years of implementation. This report also includes data from two web-based surveys of current and former AO participants that focused on student experiences in the program (see Spaulding and Martin-Caughey 2015).

This report is part of a comprehensive evaluation of the AO initiative that Urban Institute conducted with its partners the Aspen Institute and the George Washington University. The evaluation includes an implementation study, an impact study, and a cost-benefit analysis. The evaluation team will release summative reports for the quasi-experimental impact study and cost-benefit analysis by early 2017.

Accelerating Opportunity over Three Years

During its first three years, the AO initiative grew as states and colleges increased their efforts to help low-skilled adults obtain credits and credentials and attain employment. Based on annual data from a college survey, these states expanded the AO model to all or a large proportion of colleges within their respective states. Ultimately, 54 AO colleges in the four evaluation states enrolled 8,287 students over the first three years of the AO effort.[1] These colleges implemented 154 integrated career pathways. The most common pathways were in manufacturing (39 percent of pathways offered) and health occupations (32 percent).

Major Accomplishments

The students enrolled in AO pathway programs earned 56,757 credits and 11,283 credentials, 78 percent of the 14,400 credentials initially targeted for the three-year AO initiative (3,600 credentials per state), according to annual college survey data. In addition to supporting acquisition of credits and credentials, the AO initiative helped students connect to the labor market. According to the college surveys, over one-third (35 percent) of AO students engaged in work-based learning, such as internships, during their enrollment in AO coursework; 37 percent entered employment in any job; and 30 percent found a job related to the occupational area of their pathway within the first three years. These figures do not indicate the impacts of

AO on student labor market and educational outcomes, which would require a comparison of outcomes to similar non-AO students. Information on impacts will appear in a later report.

The evaluation team also found that AO students expressed great satisfaction with the AO initiative. During focus groups and in response to student survey questions, students noted that college courses and credentials might not have been a viable option for them had they not had access to AO. Students identified specific components of the AO model—including individualized supports, team teaching, and tutoring services—as critical for helping them succeed in postsecondary institutions and attain employment.

Financing and Resources Expended

States had flexibility about how they allocated the grant money across colleges, and they asked colleges participating in AO to make major changes with relatively few resources. Colleges received funding from the state AO grant ranging from $8,800 to $140,000 in the first year, with the average at about $52,000 per college. The amounts were similar for the original colleges in subsequent years. States and colleges complemented AO grant resources by combining AO funds with other institutional resources and grants, such as Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants and the Health Profession Opportunity Grants.

On average, colleges used about $233,000 in resources for AO in the first year. By the third year, the resources used for AO per college had decreased to about $227,000, even as the number of students served and credits and credentials awarded increased. These estimated figures represent the value of the extra resources used beyond what the colleges would have invested if AO did not exist. The majority of these extra resources were dedicated for AO personnel, such as additional teachers for team-teaching instruction or AO-specific coaches and navigators who provided support services. Some of these resources also represent the value of the time spent by deans and other college leadership personnel to support the roll-out of AO. Most colleges did not write a check for the entire amount of the resources used; colleges redirected some portion of the resources captured in this analysis from other potential uses.

The data reported from the college and student surveys and site visits demonstrate that the AO initiative had promising outcomes over the course of three years and that colleges achieved these outcomes more efficiently over time. The next section describes some of the lessons learned over the course of the three-year implementation period.

Implementing the AO Model: Lessons for the Field

The implementation of the AO model required states and colleges to adapt existing structures and systems to meet the initiative's overall goal of increasing the ability of students with low basic skills to earn valued occupational credentials and enter well-paying careers. These lessons from AO implementation may be valuable to other state policymakers and colleges interested in pursuing similar efforts.

Strong State Executive-Level Leadership and Ongoing Support Bolster College Efforts

The implementation of AO represented a major shift in how state administrators, college staff, and faculty perceived low-skilled adults in community and technical college systems. It challenged long-held assumptions regarding how likely these students were to succeed in CTE programs. The leadership and ongoing support of state executive agencies were critical for the design and implementation of the AO model at the college level. Each of the four states had state-level AO teams to manage the initiative, led by the state's community and technical college board or system. State partnerships between higher education executive leadership and adult education leadership, workforce agencies, and health and human services departments were valuable in facilitating the policy changes and cooperation needed for AO implementation. These state management teams coordinated the effort across colleges, helped college leadership navigate policy barriers, and provided professional development and technical assistance to help colleges deliver the AO model.

State Policy Can Support Student Success

AO state teams recognized that formal policies were critical for ensuring that adults with low basic skills and adult education students could enroll in and complete postsecondary coursework successfully. Therefore, state teams engaged multiple stakeholders to build policy support for AO. This policy work covered multiple areas, including changing assessment practices for low-skilled students, aligning curricula to allow for acceleration, developing new funding models to support integrated instruction strategies, and improving capabilities for data collection and tracking student outcomes. Each state undertook unique strategies in their efforts to realign resources and change or develop new policies or systems. In all states, this work was invaluable in facilitating college-level efforts to enroll AO students in integrated career pathways. In all four states, preexisting infrastructure promoted the AO initiative's successful implementation because JFF only awarded AO grants to states in which the postsecondary system governed adult education.

One challenge that required a state response was the elimination of the Pell grant's "Ability to Benefit" provision in 2012, which meant that students without high school credentials could not qualify for federal financial aid. This provision was reinstated in 2015, toward the end of the AO effort—too late for colleges to use Pell grants to support tuition for AO students. Instead, some state teams strategized with AO colleges to find tuition resources for students without high school credentials: three states (Illinois, Kansas, and Louisiana) forged relationships with the state workforce system, one (Kansas) developed a formal agreement with the state department of human services, and another (Louisiana) revised its tuition waiver policy for students without high school credentials. Despite these efforts to support tuition for students without high school credentials, most students whom the colleges recruited into AO had completed high school or equivalent before enrollment. State and college administrators emphasized that students who possessed high school credentials but still had basic skill needs could also benefit from the AO model.

Both College Institutional Factors and Labor-Market Demand Influence Pathway Selection

The AO model emphasizes that pathways should be in high-demand or high-growth occupational areas, based on local labor-market information. Although local labor-market demand played a role in college decisions on pathway selection and implementation, most colleges initially prioritized institutional factors over demand. Institutional factors included the college's capacity to provide the pathway (e.g., equipment and faculty availability), preexisting relationships between adult education and certain CTE programs, prerequisites for the occupational field, and student interest in a particular occupation.

Colleges took unique approaches to integrated career pathway design and implementation; there was no "one size fits all" solution. One common approach was for colleges to implement AO initially with CTE departments that were more open to exploring integrated instruction methods. The approach of choosing "friendly" CTE departments allowed colleges to start AO implementation quickly and build evidence of success. The early evidence then helped colleges convince administrators and faculty in other occupational areas to try AO. Over time, states required colleges to consider labor-market demand more explicitly in developing new pathways, since this is a critical component of the career pathways model.

Team Teaching Is Considered Effective, but It Requires Higher Investments

Many college faculty and administrators were initially concerned about the team-teaching model prescribed by AO, but many were convinced of its benefits by the end of the grant period. CTE faculty at first expressed

concerns about the specific role of an adult education instructor in the CTE classroom, but those who engaged in team teaching became more positive about the approach over time. Some even discussed wanting to incorporate an adult education instructor into non-AO classes. Students were also enthusiastic about the model and expressed that they would like more exposure to team-taught classes. Often, the adult education instructor contributed to instructional delivery; students shared that the adult education instructor also served an important supportive staff member.

College leadership expressed initial uncertainty about the cost-effectiveness of the team teaching approach. Some college leaders, many of whom were concerned about the higher costs of team teaching and its ability to serve students with low basic skills, became convinced that team teaching was a worthwhile investment moving forward because of its positive reception by faculty and students. Others planned to integrate the benefits of team teaching while reducing costs by implementing team teaching for one or two semesters, thereby giving CTE instructors a chance to learn how to incorporate basic skills content into their courses, and then moving forward without the second instructor. Alternatively, some colleges began to emphasize separate but contextualized basic skills instruction in lieu of team teaching.

College Internal Partnerships Are Fundamental but Time Intensive

Internal college partnerships among various departments—including adult education, CTE departments, college admissions, financial aid, and student support services—proved critical for AO success. These partnerships supported the co-enrollment of adult education students in college courses, increased the type and amount of instructional resources available, and facilitated students' transition to employment. College staff noted that these productive partnerships took time to develop. One of the first stages in developing these partnerships was to inform other staff and faculty at the college about the AO model and encourage them to buy into the idea that students with low basic skills could succeed in CTE programs. This early foundational work set the context for a positive culture shift toward higher confidence in the capabilities of low-skilled students.

External Partners Provide Needed Support, but Deep Employer Engagement Is Challenging

Throughout the implementation period, colleges leveraged external partnerships in various ways. Local workforce systems helped with recruitment and sometimes provided tuition support for students who did not qualify for Pell grants. Community-based organizations often provided individualized case management

and access to resources, such as child care or transportation vouchers. In some cases, community-based organizations also provided adult education services.

Colleges engaged employers as a part of AO, but creating and sustaining meaningful relationships with employers was challenging in many cases. Of the colleges involved in AO for all three years, the number with employer partners increased from 55 percent in the first year to 70 percent in the third year. Additionally, 82 percent of the original AO colleges indicated that they had an employer partner in at least one year. However, colleges still have work to do in deepening those partnerships. For instance, only 32 percent of colleges indicated that employers had assisted with pathway design. During site visits, college staff often cited employer engagement as an area for improvement. Colleges with strong CTE engagement in the AO effort were better positioned to leverage existing college relationships with employers through CTE employer advisory boards and instructor connections to industry, but engaging employers in a systematic way was often a new area for adult education departments working on AO.

Individualized Supports Are Helpful for Student Success, but Difficult to Sustain in the Long Term

Comprehensive support services—academic, career, and personal—are integral to the AO model. Common support services included tutoring or other academic support, career planning, college navigation support, job search assistance and job placement, and case management. Staff and students expressed that the individualized attention that AO staff gave to their students was the most important factor in student success. AO students received this support from adult education instructors in the classroom or from navigators who connected them to needed services inside or outside the college. Staff discussed how individualized support is particularly important for low-skilled adult students, since many of these students have a history of academic struggles and often juggle job and family responsibilities. According to student survey results, over 90 percent of those who received individual support or advice from an AO navigator or faculty member were satisfied or very satisfied with the support and advice they had received. College leadership, however, worried about their ability to scale and sustain individualized support services, given the costs, and have explored new funding sources that can be tapped for this purpose.

States and Colleges Plan to Sustain Aspects of AO, but There Is More to Learn

Even with the substantial resource investments required for implementation and the challenges in developing pathways, support structures, partnerships, and policies to support the model, many of the states and colleges report that they found the investments worthwhile. Legislative bodies in Kansas and Louisiana appropriated funds to support AO, partially based on early indicators of program success. Kentucky and Louisiana scaled up AO or AO-like efforts to all community and technical colleges. Across all four states, no colleges categorically rejected continuing aspects of AO, and 82 percent identified specific aspects of the model they would carry on after the grant period. In a survey, students expressed that the team-teaching approach—the aspect of the intervention that was arguably most costly—was the most beneficial and that they wanted more of it.

The forthcoming impact report will draw upon administrative data systems to examine the impacts of AO on student outcomes. Additionally, a forthcoming cost–benefit analysis will incorporate more complete cost data and show benefits accrued to states, colleges, and students. In the meantime, it appears that many AO leaders, staff, and students ended the grant period feeling that the intervention had positive effects on low-skilled students and was worth the time and resource investment.

Introduction to Accelerating Opportunity

The long-term goal of the Accelerating Opportunity (AO) initiative is to increase the ability of students with low basic skills to earn valued occupational credentials, obtain well-paying jobs, and sustain rewarding careers. Multiple foundations sponsored the AO grant initiative, which began in 2011 with planning grants to states and colleges. In 2012, four states entered a three-year AO implementation phase, which is the focus of this report.

AO promotes and supports the development of integrated career and college pathways that incorporate contextualized and integrated instruction, team teaching between adult education and college career and technical education (CTE) instructors, and enhanced support services at community colleges. AO is also designed to change how states and colleges coordinate with government, business, and community partners and reform policy and practice to fundamentally change how students with low basic skills access and succeed in postsecondary education and the workforce. The AO initiative also leveraged promising practices from earlier initiatives, particularly Breaking Through, Washington State's Integrated Basic Education and Skills Training (I-BEST) Program, and the career pathway models that were already in development at the states and colleges.[2]

This final implementation report focuses on AO implementation in Illinois, Kansas, Kentucky, and Louisiana. AO implementation took place from January 2012 through the end of calendar year 2014 in Illinois, Kansas, and Kentucky and from fall 2012 through summer 2015 in Louisiana. The report serves two related purposes: (1) it documents the accomplishments of AO over three years of implementation and (2) it also provides an in-depth description of the process and lessons that emerged from the initiative. The report begins with an overview of the context in which the AO initiative developed and its underlying theory of change. The next chapter provides an overview of AO activities and outcomes: the growth of the AO initiative, the types of students served, and the resources used to support implementation. The following chapter describes the implementation processes and lessons learned across the initiative, as states and colleges adapted structures and systems to create opportunities for adult education students and other low-skilled individuals to succeed in postsecondary education and eventually the labor market. Specifically, the implementation chapter of the report examines the following:

- How colleges made decisions about which occupations to select for AO career pathway offerings

- How colleges recruited adult education and other students with low basic skills for integrated career pathway programming
- How colleges developed and implemented team-teaching instructional methods
- How colleges provided students with comprehensive support services and the types of supports offered
- How colleges developed and leveraged both internal and external partnerships, including with employers, to support effective AO implementation
- How states repurposed and created new policies and found funds to help community colleges implement career pathway programs and enroll students with low basic skills into for-credit career and technical education courses

This report concludes with considerations for AO-participating states and colleges as they continue to plan for scale and sustainability. The report also highlights lessons for the field concerning the implementation of similar models and approaches.

These findings may be of particular interest to state policymakers and colleges interested in supporting integrated career pathways for low-skilled adults. The report is especially relevant today, given the recent passage of the Workforce Innovation and Opportunity Act of 2014 (WIOA) and current state efforts to plan for its implementation. WIOA provides new opportunities for state adult education systems to better align with CTE programs and the public workforce system. WIOA explicitly discusses integrated education and career pathways as a strategy that states should deploy to serve adults seeking to build their skills to obtain good jobs. The AO implementation experience offers valuable insights into how the four states transformed their adult education programs and postsecondary institutions to provide occupation-specific training and supports to help adult learners with low basic skills connect to the labor market.

The Need for a Better Approach to Help Low-Skilled Adults

The AO initiative was developed with the premise that in today's economy, postsecondary education has become increasingly important for economic advancement (Card 1999, 2001). As suggested in a 2013 report by the Department of Education, adult education programs designed to help low-skilled adults typically have few effective links to postsecondary education.[3] Finding a well-paying job becomes a difficult

challenge to individuals with low basic skills because few adult education students enroll in or complete postsecondary education or gain occupational credentials (US Department of Education 2013).

Box 1 provides a macro-level view of the need for stronger adult education programming that moves adults toward postsecondary enrollment and credentials. The research suggests that investing in the improvement of adults' basic skill levels will strengthen the economy and make the United States more competitive globally.

BOX 1

Low Basic Skills: A Macro View

The need for strong adult education programming is acute as the U.S. faces persistent literacy challenges. The Programme for the International Assessment of Adult Competencies, a comprehensive international test administered in 2011–12, revealed that nearly one in five adult Americans displayed low literacy levels, and nearly one in three displayed low numeracy levels (Goodman et al. 2013). Compared with the scores of other countries in the study, the US scores are weak on literacy and very poor on numeracy (OECD 2013). The US Department of Education estimated that 30 million adults fell below basic literacy levels in 2003; another 60 million adults could not perform at moderately challenging literacy levels.[1] In addition, 11 percent of noninstitutionalized adults ages 25 or older lacked a high school diploma or GED (General Educational Development) credential in 2015.[2] Moreover, many high school graduates are underprepared for postsecondary education and are placed in developmental education classes. By one estimate, community colleges referred approximately three-fifths of first-time enrolling students to at least one developmental math class and one-third to at least one developmental reading class (Bailey, Jeong, and Cho 2010).

About three-quarters of the fastest-growing jobs in the next decade will require a high school credential and some postsecondary education.[3] In 2015, adults ages 25-64 with a high school credential but no college were already disadvantaged, experiencing a 78 percent higher unemployment rate than those with some college or greater.[2] Based on these data, it appears that approximately 46 million adults lack the education required for stable employment and family-sustaining wages. Innovative approaches to co-enrollment and career pathways, such as AO, may help adults access the education necessary for labor market success.

1. See "National Assessment of Adult Literacy: Demographics, Overall," US Department of Education, Institute of Education Sciences, National Center for Education Statistics, accessed January 25, 2016, http://nces.ed.gov/naal/kf_demographics.asp.
2. Authors' tabulations using the Bureau of Labor statistics data, based on data from the Current Population Survey (www.bls.gov/data).
3. Author tabulations using the Bureau of Labor Statistics data, based on data from the Current Population Survey (www.bls.gov/data). Of the 50 occupational areas projected to grow the fastest between 2014 and 2024, 74 percent will require at least some postsecondary education, whereas only 44 percent of the remaining 819 occupational areas will require at least some postsecondary education.

The Accelerating Opportunity Theory of Change and the Model as Designed

The key programmatic components of AO included I-BEST's integrated career pathways approach and contextualized instruction and Breaking Through's focus on comprehensive student support services, accelerated learning, labor-market payoffs, and aligning programs for low-skilled adults.[4] Although AO incorporated the key elements of previous initiatives, it had a distinct design, with enhanced elements such as policy change, partnerships, and culture shift to institutionalize the model in the four states. Box 2 summarizes the key "nonnegotiable" design elements of the AO model.

The AO grant required that at least eight colleges per state offer two or more integrated career pathways each. Traditional career pathway approaches utilize strategies that align with occupational sectors and contextualized learning to help students achieve stackable, marketable, industry-recognized credentials in high-wage areas with high demand or high expected growth. The pathways offer multiple entry and exit points that allow for earnings gains at each point, and they provide intensive wraparound supports (Clagett and Uhalde 2012; CLASP 2013; Fein 2012). AO's *integrated* career pathway had these features while also allowing for co-enrollment between adult education and CTE courses and incorporating team-taught instruction. This integrated approach allowed for acceleration toward credentials for adults with low basic skills. In addition, through team teaching, the adult education instructor and the CTE instructor mutually reinforced the content, potentially enhancing the quality of instruction. Team teaching is one form of integrated instruction, which combines technical training and basic skills contextualized for the targeted occupation.

Colleges' AO pathways consisted of at least 12 credits of course work in which students could earn one or more stackable, industry-recognized credentials for an occupation. This was the first step on a longer career pathway leading to additional credentials, an associate's or bachelor's degree, or the labor market. Jobs for the Future (JFF)—the manager of the AO initiative—and its partners chose the 12-credit pathway model leading to a credential, because earlier research on Washington State's I-BEST model found that 12 credits appeared to be the "tipping point" above which students pursue further education and training.[5]

To ensure that the pathways addressed employers' demand for skills, states and colleges needed to partner with workforce organizations (workforce investment boards [WIBs] and One-Stop Career Centers) and employers to shape and support the pathways. Because low-skilled students often face personal barriers and must balance work and family, ensuring that comprehensive support services are available is an important part of the AO model. Partnerships within and outside the college played a critical role in making those services a reality.

The overall goal for the initiative was that each participating state would produce at least 3,600 credentials within the grant period. Participating colleges had to target recruitment efforts toward students who were within National Reporting System levels 4–6 (6th- to 12th-grade equivalency levels) on math, reading, or writing or National Reporting System levels 5–6 in English-language skills (high-intermediate to advanced levels). Students in these ranges have high-intermediate basic education levels or above, but they are still considered low-skilled because they score below college level. Though the initiative originally targeted adults without high school credentials as the primary target population, the only formal eligibility criterion was that students test within the qualifying skill levels. Therefore, eligible students may or may not have had a high school diploma or GED certificate at program entry.

Figure 1, at the end of this chapter, provides an abbreviated version of the theory of change and illustrates the relationship between the model's elements and the main expected outcomes. Appendix A contains a complete description of the model and the entire theory of change.

BOX 2

Key Design Elements: "Nonnegotiable" Aspects of the AO Model

- Two or more integrated career pathways in at least eight colleges
- Acceleration strategies
- Academic and social student supports (e.g., tutoring, child care, transportation)
- Dual enrollment strategies (e.g., paired courses, I-BEST or I-BEST-like approaches)
- Marketable, stackable, credit-bearing certificates and degrees
- Award of some college-level professional-technical credits
- Partnerships with workforce investment boards and employers
- Evidence of strong local demand for selected pathways

Recruitment of AO States

The AO initiative began with a nine-month design phase. JFF awarded $200,000 planning grants to 11 states to "analyze state labor market trends and baseline student data; assess current instructional practices as well as college capacity to implement pathway programs; identify state and institutional policy barriers and opportunities; develop a strategic communications plan; and build state and college data capacity to prepare for participation in impact evaluations" (JFF 2011). Eligible AO states were required to

have existing adult basic education programs governed by a postsecondary or community college system.[6] States that participated in the design phase were subsequently invited to apply for grants to implement their plans.

JFF, its funders, and partners selected four states—Illinois, Kansas, Kentucky, and North Carolina—to receive the three-year implementation grants, which began on January 1, 2012. JFF then selected Louisiana as a fifth implementation state, which began implementation in fall 2012. In late 2012, North Carolina formally left the AO initiative to focus on its state Basic Skills Plus program. Other states (Arkansas, Georgia, and Mississippi) joined the initiative as affiliate members, but the evaluation focuses on the four states that received full three-year AO grants.[7] At the end of the three-year grant period, JFF offered the AO states a one-year extension. The extension year efforts are not included in this report.

The Accelerating Opportunity Evaluation

The AO evaluation—led by the Urban Institute and its partners, the Aspen Institute and George Washington University—is a comprehensive assessment of the initiative that aims to produce valuable evidence for the field and to inform public policy on new approaches to serving the education and workforce needs of adults with low basic skills. The evaluation consists of three major components:

- **Implementation study:** A qualitative study of the process through which states and colleges undertook, scaled, and potentially sustained AO integrated pathways and an analysis of how well the states and colleges implemented the AO model
- **Impact study:** A quasi-experimental analysis designed to measure the effectiveness of the AO model by comparing educational and labor-market outcomes of participants and similar students who did not participate in AO
- **Cost–benefit analysis:** A comparison of the costs and benefits for states, colleges, and students engaged in the AO initiative

This publication is the final report for the AO implementation study.

Data Sources

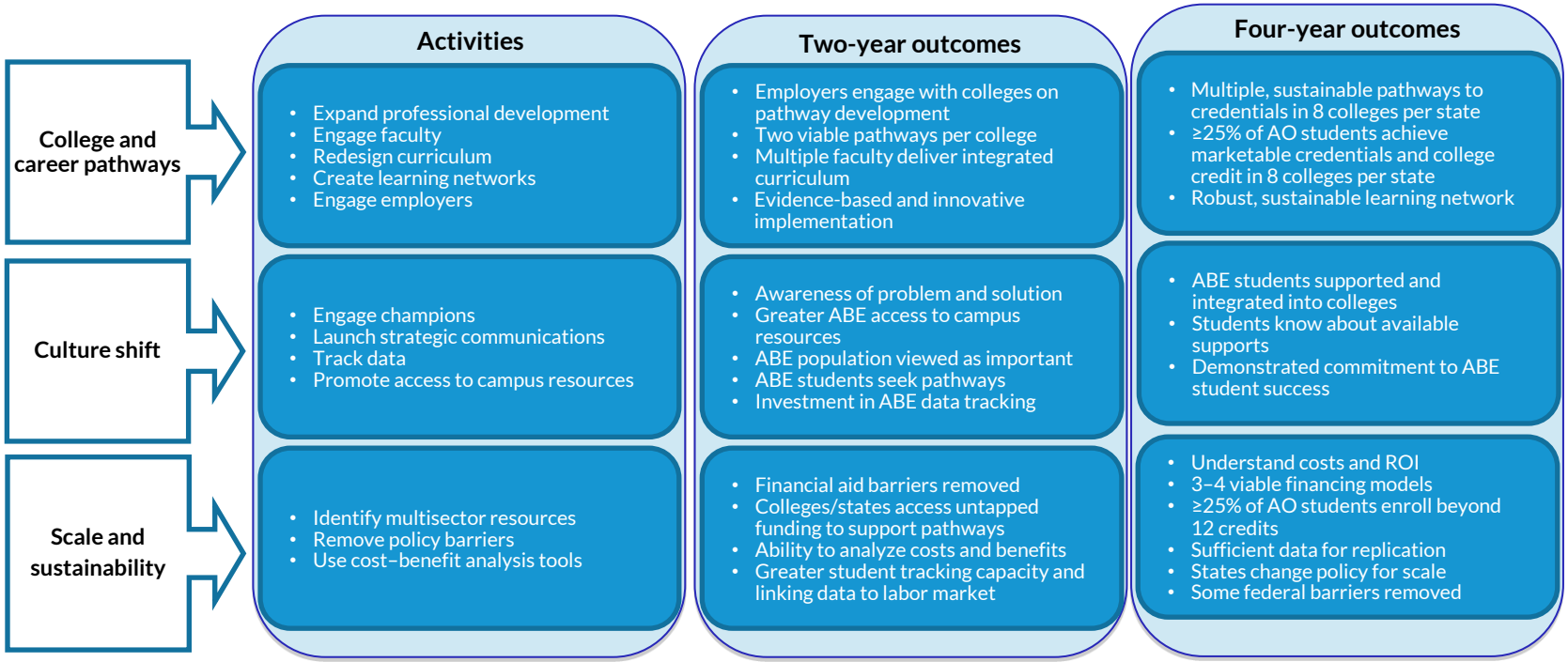
This report is based on data collected as part of the implementation study. The data were collected from AO state community college system offices and participating colleges through site visits to two colleges in each state in fall 2012 (Illinois, Kansas, and Kentucky), summer 2013 (Louisiana), spring 2014 (Illinois, Kansas, and Kentucky), and fall 2014 (Louisiana). During those visits, the evaluation team spent one day with the state staff responsible for the initiative and the state's partners and one day each at the two AO colleges. Those site visits provided insight into the context in which the states and colleges were operating, how colleges were implementing the model, and the types of partners involved. The site visits also provided an opportunity for the evaluation team to observe AO classes and conduct focus groups with AO students at each of the colleges visited.

The evaluation team fielded three in-depth, web-based surveys to all participating colleges to obtain detailed data on the implementation of AO in each year of the initiative. The surveys collected data on the colleges' goals, the pathways implemented, student characteristics, the nature of the instruction and support services, the resources used to operate AO, partnerships that supported the effort, and sustainability plans. The college surveys achieved a 100 percent response rate in all years. The evaluation team verified reported resources expended on AO with each college through individualized exchanges in order to gather the most accurate information possible. All data from those surveys came from self-reports by AO staff members at the colleges.

Finally, the evaluation team conducted two web-based surveys of current and former AO participants to look at student experiences in the program. The first survey was administered in spring 2014 and focused on the students' motivation for enrolling in the program and their overall satisfaction with program services. The second survey, administered one year later, focused on the students' experiences after program exit.[8] Spaulding and Martin-Caughey (2015) detail the results of the first student survey.

FIGURE 1

Abbreviated Accelerating Opportunity Theory of Change



Notes: ABE = adult basic education; CTE = career and technical education; ESL = English as a second language; ROI = return on investment.

Three Years of Accelerating Opportunity

The AO initiative grew as states and colleges scaled their efforts throughout the initial three-year grant period. It served and supported a large number of students as they obtained credits and credentials and moved into employment. The number of colleges that implemented AO across Illinois, Kansas, Kentucky, and Louisiana increased from 34 in the first year to 54 in the third year,[9] though some states saw broader participation after the end of the initial three-year implementation period. The colleges implemented 154 pathways in the third year—an increase from 89 pathways in the first year—and served 8,287 students in all.

This chapter provides a summary of the initiative's growth over time, the types of students served through the AO model, and their education and employment achievements. The data are self-reported by participating colleges in annual surveys. Future evaluation activities will compare those numbers with student-level records.

Students had important achievements, as reported by the colleges, earning 56,757 credits and 11,283 credentials. That resulting total is 78 percent of the 14,400 credentials initially targeted for the AO initiative (3,600 credentials per state). Students also gained work experience during AO and employment during and after AO. Over one-third (35 percent) engaged in work-based learning, such as internships; 37 percent entered employment in any job; and 30 percent found a job related to the occupational area of their pathway.

The value of in-kind and cash resources used for AO implementation averaged $227,018 per college (median of $213,784) by the third year. Notably, resource costs declined from the first year, whereas outputs—students served, credits, and credentials—increased. Most resources went toward personnel. Colleges received some support for those investments from sources beyond the AO grant. Important details about the resource calculations appear at the end of this chapter.

College Participation

A key goal of the AO initiative was to achieve scale within each state. AO mandated that at least eight colleges in each state participate and, by the start of the initiative, all states had recruited at least eight colleges through different methods.

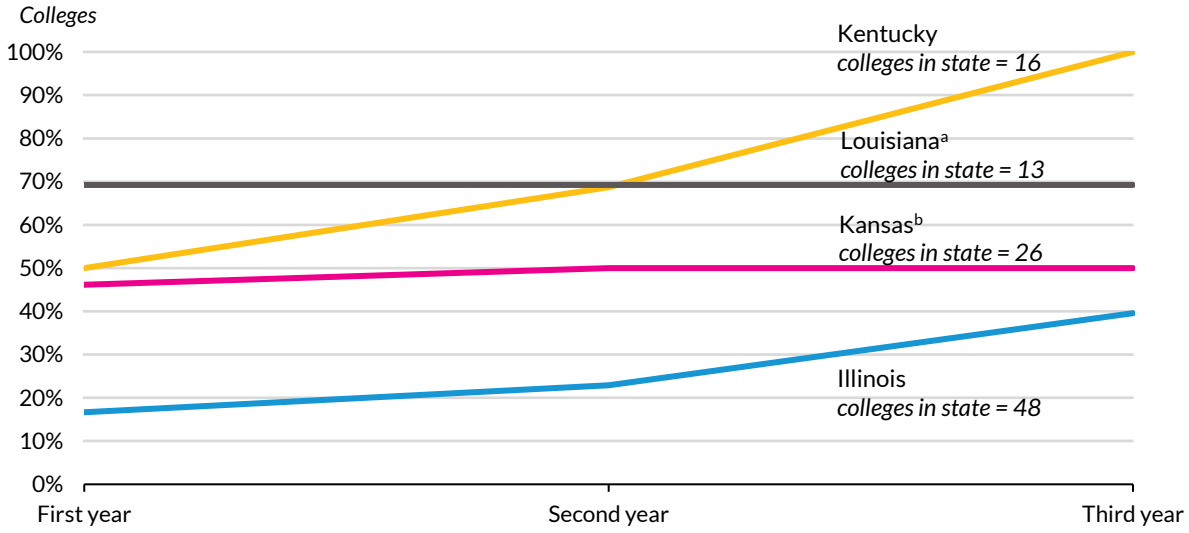
Kansas and Louisiana began with 9 colleges, whereas Illinois and Kentucky started with 8, for a total of 34 colleges. By the third grant year, all states except Louisiana had increased the number of colleges participating in AO, bringing the total to 54 colleges.[10] Louisiana brought additional colleges into the career pathways effort (to total 13) but consistently counted 9 of them as "AO colleges" for the purpose of the evaluation. Four of the Kansas colleges formed a consortium; those colleges are counted as one for the evaluation because they undertook a unified effort and collectively completed one survey.

Figure 2 shows the percentage of all community and technical colleges in each state that took part in AO. The proportion of colleges participating in AO varied by state. Of the four states in this study, Illinois had the largest community college system (with 48 total colleges in its system, the third largest in the country), and it engaged about 40 percent of its colleges (19 out of 48).[11] The 14 AO colleges in Kansas (4 of which were in a consortium and were counted as 1 for the evaluation) represented 54 percent of the 26 community and technical colleges in the state. By the end of the third year, Kentucky was the only state that included all 16 colleges in its system in the AO program. Of the 13 colleges in Louisiana, 9 (69 percent) participated in AO , though all colleges in the state were pursuing integrated career pathways by the end of the third year through an AO-inspired state initiative that was not evaluated as part of this effort.

FIGURE 2

Colleges Involved in AO

By state and year



Sources: First, second, and third years of the AO college survey.
Note: The first year began in September 2012 in Louisiana and in January 2012 in the other states.
[a] Louisiana expanded aspects of the AO model to all 13 colleges in the state, but only the original 9 colleges are part of the evaluation and therefore are counted here.
[b] This figure counts separately the four Kansas colleges that formed a consortium. The remainder of this analysis counts those colleges as one because they implemented one cohesive program and jointly completed one AO college survey each year.

Pathways Offered

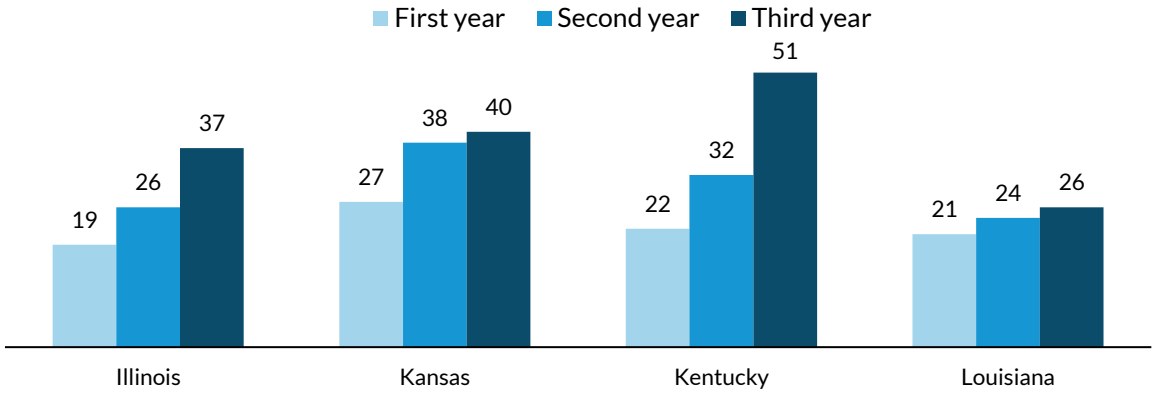
The AO model calls for pathways in high-growth, high-wage industries. All participating colleges were required to offer at least two for-credit career pathways that led to stackable, marketable, industry-recognized credentials. Pathways were expected to be at least 12 credit hours in length. However, in some cases, JFF allowed a few colleges to offer shorter or longer pathways if the college provided labor market evidence that the pathways would lead to an in-demand job and family-sustaining wage.

The colleges implemented 154 pathways in the third year, an increase from 89 pathways in the first year. The 65 additional pathways represent a net increase, as colleges added, removed, and changed pathways to meet the needs of students and industry. Most of the added pathways came from the increased number of colleges participating in three of the states. Among the colleges involved in AO all three grant years, the number of pathways increased from 87 to 109. Figure 3 shows the growth in the number of pathways offered in each state during the grant period.

FIGURE 3

Unique Pathways across the Implementation Period

By state and year



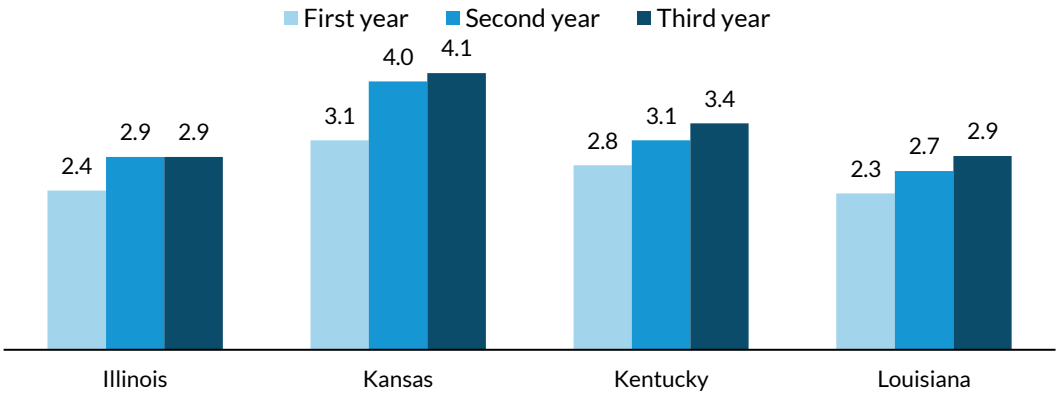
Sources: First, second, and third years of the AO college survey.
Note: The first year began in September 2012 in Louisiana and in January 2012 in the other states. Pathways are "unique" in that the counts are unduplicated across semesters within each grant year.

The average number of pathways per college increased among the colleges that were involved in AO all three years. The average grew from 2.6 pathways per college in the first year to 3.3 pathways per college in the third year across all states, with the largest average number of pathways per college in Kansas. Figure 4 summarizes pathway growth among colleges involved in AO for three grant years.

FIGURE 4

Average Pathways per College

By state and year, for colleges in AO for three years



Sources: First, second, and third years of the AO college survey.
Note: The first year began in September 2012 in Louisiana and in January 2012 in the other states.

Overall, the states' pathways primarily focused on the manufacturing and health occupations in all states and all years. Across states, 39 percent of pathways were in manufacturing occupations, 32 percent were in health, and 10 percent were in automotive. No major shifts occurred over the years. Kansas and Illinois had relatively more pathways in manufacturing, whereas Louisiana had relatively more in health, reflecting the local labor market and capacity of the institutions to provide particular pathways. The "Pathway Composition and Selection" section of the next chapter provides further detail about the composition of pathways and how colleges made decisions about their pathway offerings.

Students Served

Over the three years, AO colleges enrolled 8,287 students in the AO pathways: 2,370 starting in the first year, 2,874 starting in the second year, and 3,043 starting in the third year. Kansas had the highest enrollment of the states in the first two years of AO, owing largely to Kansas colleges' efforts to enroll existing CTE students who scored in the eligible skill range in AO.[12] The discussion of implementation in the next chapter provides a more complete explanation of recruitment sources and the reasons for shifts from adult education to other sources. Figure 5 summarizes some key characteristics of AO students at entry. Appendix B contains complete student demographics by state and year.

In all states, slightly more than 50 percent of AO students were female. Students tended to be younger adults; the median student age at entry was between 20 and 22 years in all states except Kentucky, where the median student age was between 23 and 26. Some older students also participated in AO; over one-fifth of students who started AO were over age 35.

The majority of AO students in Kansas and Kentucky were white, whereas the majority in Louisiana were African American. In Illinois, about a third each were white, African American, and Hispanic/Latino. In all states, the majority of AO students had a high school diploma or GED at entry, though in Louisiana the rate was lower than in other states.

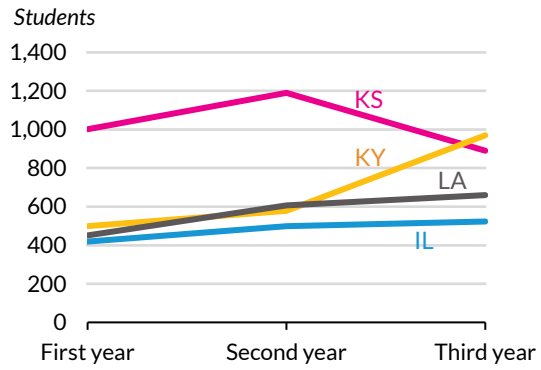
The initiative was originally designed to target adult education students. Ultimately, 37 percent of students came from adult education (internal or external to college), 30 percent came from CTE or developmental education programs within the college, and 33 percent from other sources, including sources external to the college.[13]

FIGURE 5

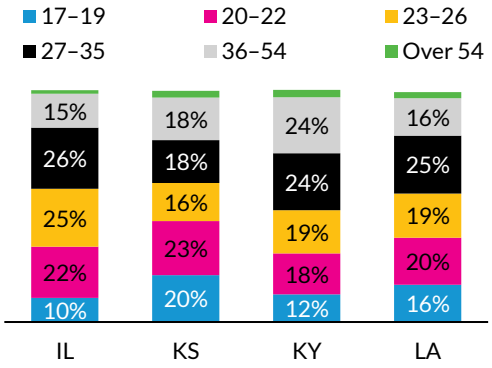
Characteristics of Students at Entry

Data for new enrollees

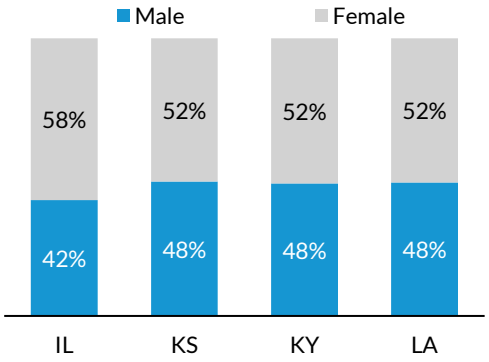
Total Enrollment, by state and year



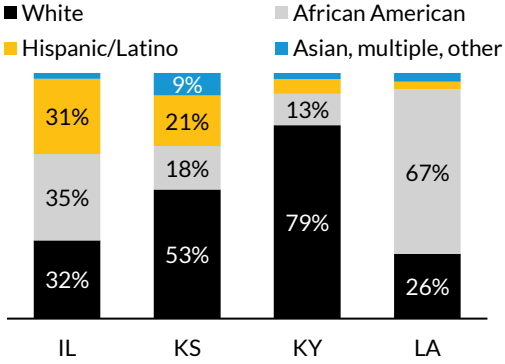
Age, by state, all years



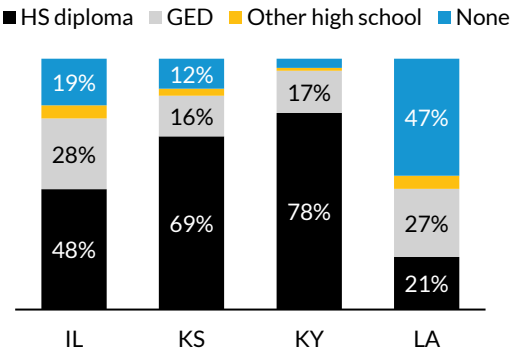
Gender, by state, all years



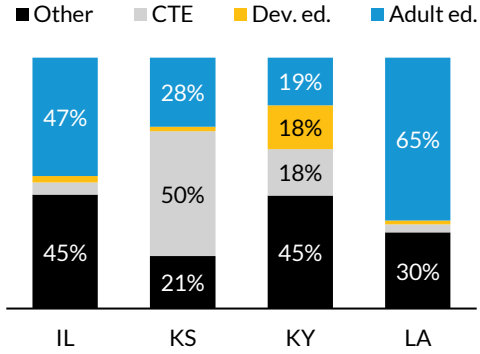
Race/Ethnicity, by state, all years



Educational Attainment, by state, all years



Recruitment Source, by state, all years



Sources: First, second, and third years of the AO college survey.

Notes: The first year began in September 2012 in Louisiana and in January 2012 in the other states. All percentages are computed for students for whom data are available; missing values are excluded. CTE = career and technical education; GED = General Educational Development; Dev. ed. = developmental education.

Outcomes

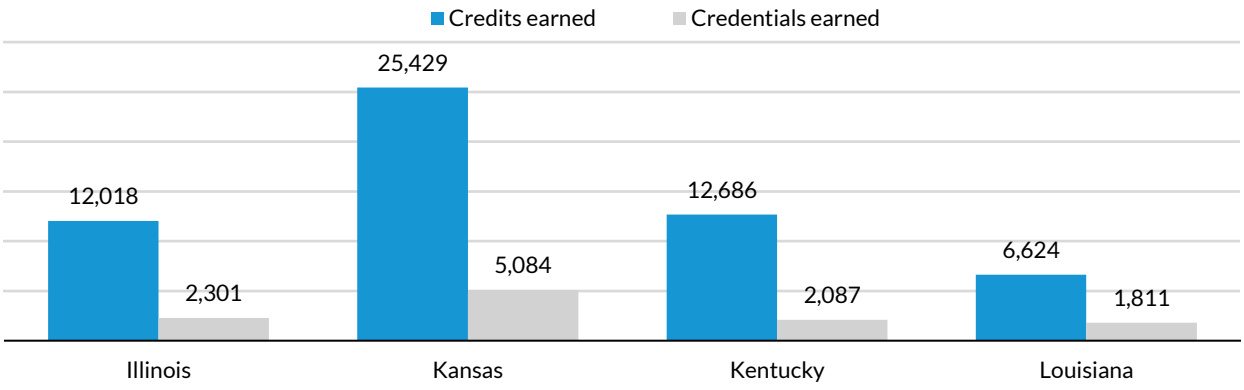
The primary outcomes of interest for AO were attainment of credits, postsecondary and industry-recognized credentials, and employment. The only formal performance measure for the initiative was that states award 3,600 postsecondary or industry-recognized credentials by the end of the three-year grant period. However, one student could earn more than one credential, and many pathways stacked multiple credentials into the initial 12-credit pathway.[14] Student outcomes do not represent *impacts* of AO, since the evaluation team has not yet compared participants to nonparticipants with similar characteristics to project what would have happened in the absence of AO. The information in this section comes from reporting by college staff. The forthcoming impact report will contain a quasi-experimental analysis as well as data from other sources, including state administrative records.

By the end of the three years, the 8,287 AO students earned 56,757 college course credits and 11,283 credentials, as reported by the colleges. Figure 6 shows the credit and credential awards by state. Note that differences in totals among states may relate to the number of colleges involved in the initiative.

FIGURE 6

Credits and Credentials Awarded

By state



Sources: First, second, and third years of the AO college survey.

Table 1 shows the number of students enrolled in and the number of credits and credentials awarded in each of the five most common occupational areas. Though manufacturing pathways outnumbered health pathways (39 percent of pathways versus 32 percent), far more AO students were enrolled in health pathways than in manufacturing (4,083 versus 2,711). Manufacturing pathways included welding, which was very common.

Of the top five occupational areas, students earned the most credits on average in automotive pathways (10.8 credits) and the most credentials in automotive and health pathways (1.5 credentials). Though students in health pathways earned more credentials on average than students in manufacturing pathways, they earned substantially fewer credits on average (5.5 versus 8.0), meaning that the credentials awarded in health pathways likely required fewer credits to complete. That outcome was consistent with information gathered from other parts of the survey and from the site visits; health pathways tended to have a higher number of credentials in the initial 12-credit pathway, sometimes as many as five.

TABLE 1

Enrollment and Achievements by Occupational Area

All states and all years

	Manufacturing	Health	Automotive	Business	Education	Other
Students	2,711	4,083	510	199	81	703
Credits	21,631	22,288	5,527	1,189	592	5,531
Credentials	3,629	5,935	785	111	28	795
Credits per student	8.0	5.5	10.8	6.0	7.3	7.9
Credentials per student	1.3	1.5	1.5	0.6	0.3	1.1

Sources: First, second, and third years of the AO college survey.

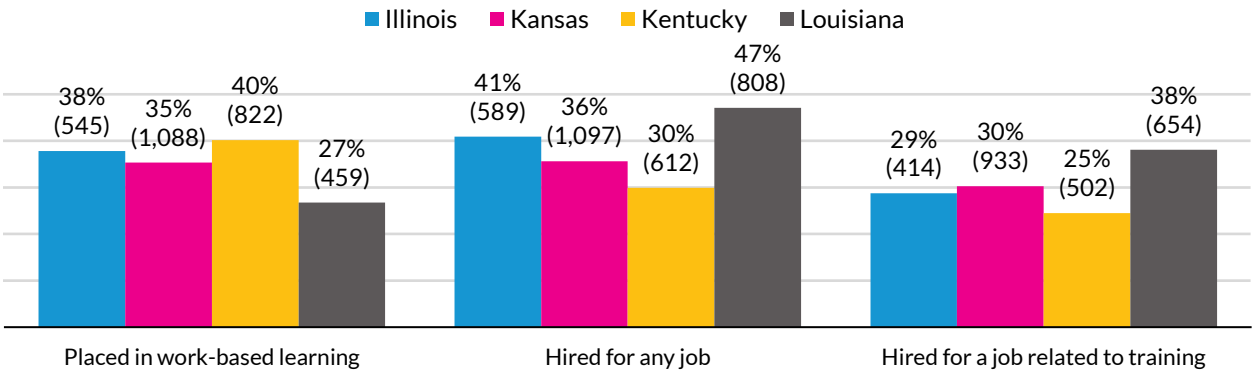
Employment

Through their AO programs, 35 percent of students (2,914 students) experienced work-based learning, such as internships, clinical rotations, and apprenticeships; 37 percent (3,106 students) were hired for a job; and 30 percent (2,503 students) were hired for a job related to their training.[15] Students may have had more than one of those experiences; the categories are not mutually exclusive. In addition, more information about labor market activity will become available through later analysis, which will examine AO student employment before, during, and after program completion through administrative records.[16] Figure 7 shows the results by state. Additional outcome data are available in appendix C.

FIGURE 7

AO Student Employment during the AO Program

By state



Sources: First, second, and third years of the AO college survey.

Financing and College Resources Expended

Colleges participating in AO were asked to accomplish a great deal with relatively modest resources. Grant funding ranged from $8,800 to $140,000 in the first year, with the average at about $52,000 per college. The amounts were similar for the original colleges in subsequent years. Because the resources necessary for the program were higher than their AO allotments, colleges complemented the grant money with funds from other sources, such as federal or state funds, partner funds, or their own institutional resources. Many colleges received financing well beyond the cost of AO by leveraging AO to bring in additional investments, such as federal TAACCCT grants and Title III funds.[17]

College Resources Expended

States and colleges invested substantial resources to make CTE programming available to students with low basic skills so students could enter and complete career-oriented education and move into higher-paid employment more quickly. One goal of the evaluation is to try to capture those investments and monetize them when possible, in order to estimate the dollar value of the resources that states and colleges invest in AO.

This section summarizes the value of incremental resources used by the colleges to implement AO—that is, the extra resources used beyond what the colleges would have invested if AO did not exist.[18] The estimates account for only the resources used by the colleges and thus do not include costs

to the students (such as forgone earnings or tuition) and to the state and federal government. All costs will be incorporated into the cost–benefit analysis, which will be released by early 2017.[19]

The economic costs, or real resources used, do not necessarily represent money directly expended. Most colleges did not write a check for the entire amount of the resources used; colleges redirected some portion of the resources captured in this analysis from other potential uses. The analysis accounts for redirected resources because they were "used up" by AO when they could have gone toward other activities that were of value to the college.[20] The resources reported here are net, so savings are subtracted from the total (classes not given because of AO, for example).

Added resources used for AO include the time allocated to AO by administrators, instructors, counselors, and other personnel; supplies; space; advertising; and supports. The resource measures compare the actual costs with what they would have been under "business as usual." In many cases, business as usual for this student population would be adult education programming, although in some colleges, it may be CTE or developmental education programs.

Figure 9 shows the unit costs by year and state, as well as the percentage increase (red) or decrease (green) in cost between the first and third year. On average, colleges used about $233,000 in extra resources for AO in the first year. By the third year, the resources used for AO per college had decreased to about $227,000, even as the number of students served and credits and credentials awarded increased. The left-hand panel of figure 8 shows the total resources used in each state and the number of colleges in the cost analysis. Only colleges with data on resources expended for all three years are included in this analysis (30 colleges). The right-hand panel of figure 8 shows the mean (average) and median resource expenditures per college. Though some variation exists, the spending patterns are similar across all four states, with comparable average and median investment amounts per college.

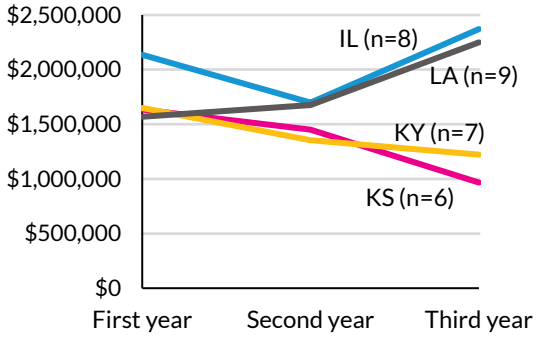
As shown in appendix D, the majority of the outlays in all states and years went toward personnel. Personnel resources included the cost of providing an additional teacher to implement team-teaching approaches, as well as the cost of providing student supports, since the majority of AO colleges hired coaches and navigators for the program.

FIGURE 8

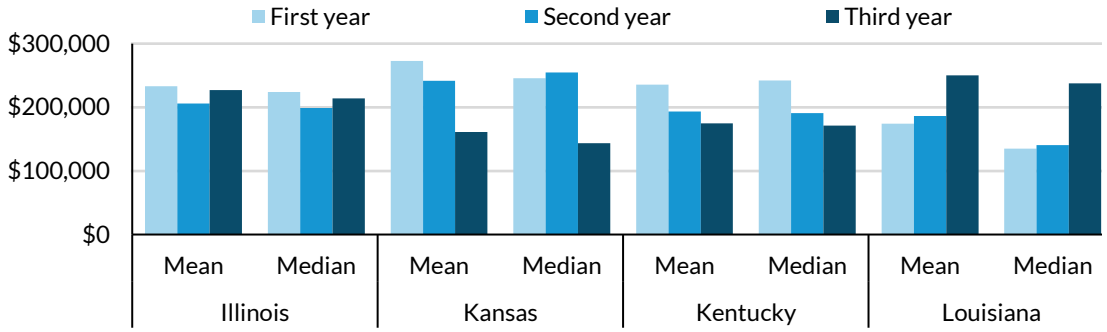
Resources Used to Support AO

By state and year

Total resources, by state and year



Mean and median resources per college, by state and year



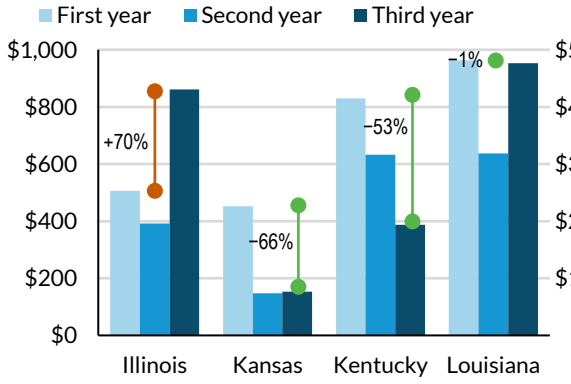
Sources: First, second, and third years of the AO college survey.

Note: The first year began in September 2012 in Louisiana and in January 2012 in the other states.

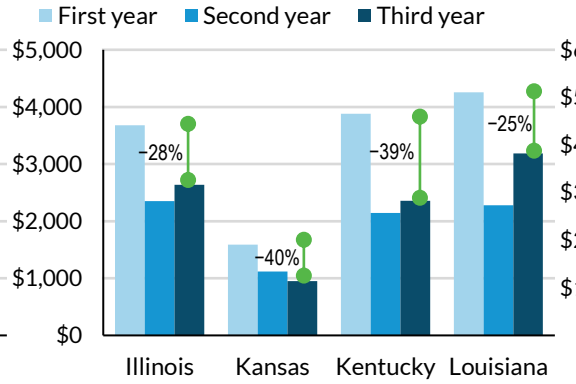
FIGURE 9

Resources Used per Credit, Credential, and Pathway Semester

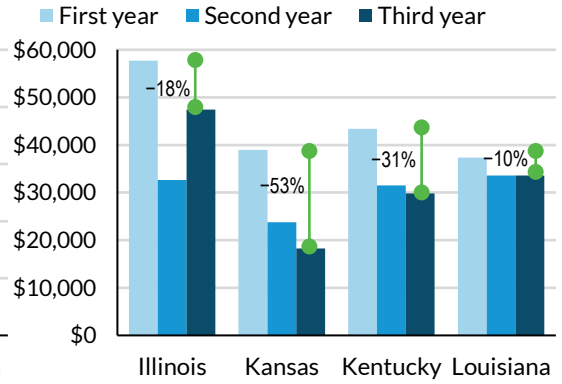
Resources per credit, by state and year



Resources per credential, by state and year



Resources per pathway semester, by state, year



Sources: First, second, and third years of the AO college survey.

Note: The first year began in September 2012 in Louisiana and in January 2012 in the other states.

Over this period, many colleges' programs were growing, adding students, services, and pathways. Therefore, it is also instructive to look at the unit costs per credit, credential, and pathway and at how they changed over time. It is common for organizations implementing new programs to economize on resources used in later years. In putting a new program in place, organizations often experience one-time start-up costs. Those costs accrue when organizations invest in planning for implementation, intensive initial professional development and technical assistance, concentrated recruitment efforts, and other start-up activities. Of course, organizations also invest resources in ongoing program development, particularly in the first few years of rollout. However, resource needs are often highest and program outputs (e.g., credits and credentials) are lower in the first year. Over time, unit costs (i.e., costs per credential or credit) often decrease.

AO results show that overall and unit costs declined in all cases in the second year but in some cases increased somewhat in the third year. There are several possible explanations for this pattern. State AO leadership indicated that the third-year increase likely stems from colleges contributing additional resources to AO to scale the initiative to additional pathways and to create structures for sustainability. State leadership also mentioned other factors, such as trying to spend down other grants (like TAACCCT or workforce incentive funds) or growth in noncredit programs (particularly in Louisiana), which would affect per-credit unit costs.

AO Implementation Summary

The AO colleges, AO states, and the wider field can learn important lessons from AO implementation. To implement the AO model, colleges and states had to adapt existing structures and systems to meet the initiative's overall goal of increasing the ability of students with low basic skills to earn valued occupational credentials and enter well-paying careers. This was a time-intensive undertaking and entailed a steep learning curve for state program administrators, college staff, and faculty who changed both how they served low-skilled students and how they viewed them in the college system. The colleges developed career pathways leading to certificates and credentials that were accessible to adults with low basic skills in occupational areas with strong local labor-market demand. Further, colleges applied acceleration and dual-enrollment strategies to the content and delivery of instruction. Colleges had to adapt to their state's policy and financing systems, while the states sought additional funding and sometimes changed policy to support the colleges' AO efforts. In addition, AO state teams were responsible for providing guidance and support to the colleges that were implementing the model.

This chapter describes how states and colleges used AO to adapt structures and systems in order to improve opportunities for adult education students and low-skilled individuals to succeed in postsecondary education and eventually the labor market. The chapter closes with observations on how AO implementation changed attitudes and culture at community colleges, among state stakeholders, and of the students themselves concerning the ability of students with low basic skills to enroll in postsecondary education and earn marketable credentials.

State Support of AO Implementation

The leadership and support of the state AO teams were critical in helping colleges implement the AO model on the ground. Each of the four states constructed state AO teams to provide leadership, professional development, and technical assistance and help improve the capacity of colleges to deliver the AO model. The types of assistance that states provided to colleges included helping with pathway development, developing recruitment and outreach strategies, providing local labor-market information, and training on integrated instruction methods.

State teams also engaged multiple stakeholders to galvanize policy support for AO and to maintain it as a state priority. In particular, the original AO request for proposals sought state leaders who could "build support for the initiative within the higher education agency, among external stakeholders, and with colleges" (JFF 2011). The grant also required the governor's sign-off, ensuring buy-in among state administrators.

To accomplish their objectives, the state teams developed strategies to contribute to a state policy environment more conducive to meeting the needs of students with low basic skills, particularly adult education students. State teams focused their policy work on (a) changing assessment practices for students with low basic skills, (b) aligning curricula to allow for acceleration, (c) developing new funding models to support integrated instruction strategies, and (d) improving the capabilities for data collection and tracking of students. For instance, AO state teams were instrumental in supporting colleges when the Pell grant's "Ability to Benefit" (ATB) provision ended in 2012, which meant that students without high school credentials could not qualify for federal financial aid. This provision was reinstated in 2015, toward the end of the AO effort—too late for colleges to use Pell grants to support tuition for AO students. Changes in ATB affected original plans throughout the initiative to recruit heavily from adult education. As a result, each state team had to work with its AO colleges to figure out ways they could provide tuition support for AO for students without a high school diploma. Finally, state teams worked on connecting the AO initiative with other state efforts to connect low-skilled adults to education and workforce services.

Each state developed a unique approach to working with relevant stakeholders and colleges. The following sections describe the structure of each AO state team and the type of systems and policies they enhanced or developed to support the implementation of AO by colleges.

Illinois

A team within ICCB, the state's coordinating board for community colleges, oversaw the management of AO at the state level. Initially, ICCB's Division of Adult Education solely managed the initiative. In its second year, staff members from ICCB's CTE Division joined the AO management team. The state AO team considered the inclusion of CTE in AO management to be a key turning point in the initiative because it created collaboration opportunities for CTE and adult education offices, at both the state and college levels. The CTE Division's management role in the initiative at the state level also signaled college-level adult education and CTE offices about the need to collaborate more closely on helping adult education students transition to postsecondary education.

The Illinois AO state team also leveraged existing work and structures to facilitate the transition of adult education students into postsecondary programs. ICCB's 2009 strategic plan redefined the purpose of adult education from a focus on GED completion to a focus on transition into postsecondary education. The Shifting Gears initiative was also instrumental in laying the foundation for AO in Illinois by establishing systems to create and scale up career pathways and bridge programs in community colleges.[21] Overall, the goals of initiatives such as Shifting Gears and AO were well aligned with state goals to increase the proportion of adults with high-quality postsecondary credentials to 60 percent by 2025.

The state team supported colleges with the resources needed to launch AO. To support the implementation of the AO model, the state team provided a $10,000 planning grant to each of the initial participating colleges. Those grants allowed the colleges to be part of the design process from the beginning and enabled them to launch career pathways quickly when the initiative started in early 2012. ICCB also contributed additional adult education and CTE funds to colleges to support AO, which colleges used to cover allowable costs.

The Illinois AO state team achieved two major policy wins to ensure the funding of programs for students with low basic skills and adult education students during the AO implementation period. In 2012, ICCB was successful in getting adult education metrics such as transition rates and skills level gains to be included in performance-based funding measures for the state's community colleges. That change added an incentive for community colleges to address the needs of adult education students more intentionally and to work more closely with the state Division of Adult Education. However, state budget cuts made the funding less substantial than initially planned. In 2013, ICCB changed their policy so that they recognized AO students who were enrolled in CTE credit-bearing courses as postsecondary CTE students. This allowed AO students to access some support from Perkins funds. Similarly, CTE programs that worked alongside adult education to implement the AO model were able to draw upon Perkins funding to support program expenditures. The integration of AO students into Perkins, which has always had supporting career pathways as a goal, further institutionalized AO within the state's career pathways strategy.

Finally, in addition to aligning AO to existing state-level goals and related initiatives, the state team used ICCB's professional development partners to support AO colleges in developing and implementing integrated career pathways. Specifically, ICCB initially tapped its Southern Illinois Professional Development Center, which was providing training on bridge programs to adult education professionals prior to AO. In partnership with the Illinois Center for Specialized Professional Support, which provides services to CTE professionals statewide, the Southern Illinois Professional Development Center has

developed and delivered training tools on integrated pathways. Specifically, it staged an annual Transitions Academy, which brought the "original eight" AO colleges together with a cohort of college administrators and faculty to help them design or improve bridge programs or integrated career pathways. The state plans to continue the Transitions Academy model to support statewide implementation of the AO model.

Box 3 summarizes Illinois's AO implementation efforts in the three-year grant period.

BOX 3

Illinois Summary

Managing Agency: Illinois Community College Board

- Partnership between the Division of Adult Education and Career and Technical Education Division

Financing and Policy Work to Support AO Implementation:

- Gave colleges additional adult education and CTE funds to support AO
- Created performance-based funding measures that included adult education measures
- Accessed Perkins funds for AO activities

Technical Assistance and Professional Development: ICCB's Southeast Professional Development Center and the Center for Specialized Professional Support provided training and tools on both bridge programs and integrated pathways.

Kansas

The Kansas Board of Regents (KBOR), the coordinating board for the state's 26 postsecondary community and technical colleges, served as the lead for AO. KBOR worked in partnership with the Kansas Department of Commerce in managing AO implementation. The agencies jointly provided funds to expand the role of the director of workforce training and education, a shared position across the two agencies whose function is to strengthen connections between workforce and education efforts, to work closely with the state adult education director and to support AO. The state team saw AO as an opportunity to spur economic growth by helping the state's population of low-skilled adults move into the workforce. By focusing on that benefit, the state team sought to build up the "business case" for AO and position it as a workforce development initiative.

Kansas was also able to build on work from previous federal- and state-funded initiatives to support the implementation of AO, including the Kansas Health Profession Opportunity Project, Ready for College, and Keeping Kansas Competitive.[22] Each of those efforts had related goals: (a) getting more individuals into career pathways, (b) increasing the number of students with industry-recognized credentials, and (c) improving job placement and wages of graduates. KBOR sought to align those goals through AO. Another related structural support was the state's program alignment effort, under which KBOR aligned industry credentials and credit hours in technical programs offered by community and technical colleges across the state. KBOR's work on those related projects allowed the state team to launch AO quickly, since some technical programs and career pathways were easily adapted to the AO model. In addition, some of those projects required collaboration with workforce and human services agencies, enabling KBOR to build on already-established relationships with the Kansas Department of Commerce and the Kansas Department for Children and Families (KDCF).

Kansas's intentional cross-agency involvement helped streamline support among relevant stakeholders to institute policy changes that would help community and technical colleges implement AO. During the second year of the initiative, KBOR leveraged its partnership with the KDCF to use Temporary Assistance for Needy Families (TANF) funds for tuition scholarships for students eligible for cash benefits. That policy was designed to counteract the effects of the termination of ATB on colleges' ability to recruit more students without high school credentials into AO. In another policy shift, KBOR changed the performance-based funding formula for adult education so that programs did not lose money by participating in AO.

One of the largest policy achievements to support AO in Kansas was legislation, known as the GED Accelerator, passed in 2014 supporting tuition for students enrolled in AO programs and incentivizing colleges to support GED and credential attainment. The GED Accelerator legislation allocated $1.9 million through the end of June 2015 for incentive funds to colleges supporting transition for adults without secondary school credentials into CTE.[23] The legislation also provided at least $500,000 annually for tuition support for AO students through what was officially called the *AO-K Proviso*. The state legislature continued to support both of these programs after the end of the AO grant period.

Finally, KBOR also worked closely with Washington State and the National College Transition Network to create a sustainable professional development structure to train its college staff and faculty in integrated instruction methods and to train career navigators. KBOR created "train the trainer" offerings that encouraged "champion" instructors to share their expertise with others across the state. KBOR also utilized some existing online modules for new AO instructors. Finally, KBOR worked with direct service workforce staff members to assist them with eligibility criteria for individual training

accounts in order to encourage approval of tuition funds to support training for AO students. The increased focus on individual training accounts was in part a response to ATB changes.

Box 4 summarizes Kansas's AO implementation efforts in the three-year grant period.

BOX 4

Kansas Summary

Managing Agency: The Kansas Board of Regents

- Partnership with the Kansas Department of Commerce and the Kansas Department for Children and Families

Financing and Policy Work to Support AO Implementation:

- Leveraged previous program alignment efforts to create AO pathways
- Negotiated an agreement with the Kansas Department for Children and Families to access TANF funds for AO tuition
- Changed the adult education funding formula to align with AO
- Implemented the $1.9 million GED Accelerator and $500,000 AO-K Proviso legislation that provided tuition support for AO students and incentivized colleges

Technical Assistance and Professional Development: The Kansas Board of Regents used online modules, developed train-the-trainer offerings, and assisted workforce staff on navigating rules about individual training accounts to encourage approval of funds supporting AO tuition and training.

Kentucky

The Kentucky Community and Technical College System (KCTCS) led the AO initiative in partnership with Kentucky Adult Education and the Kentucky Education and Workforce Development Cabinet. Top officials from all three agencies formed an executive committee leading the implementation of AO; the committee structure signified that AO is an initiative for Kentucky, not just for the Kentucky community colleges. Before coming together for AO, those three agencies partnered on other related initiatives, such as Skill Up Kentucky (a contextualized GED program) and JFF's Breaking Through.

Beyond bringing the three agencies together at the state level, Kentucky colleges participating in AO also formed executive-level teams that mirrored the structure of the state team. Local teams had a college leadership representative, a Kentucky Adult Education local representative, and a Kentucky Education and Workforce Development Cabinet local representative. KCTCS also hired a full-time AO

statewide program coordinator who was central throughout the grant period in addressing the needs of AO colleges.

Throughout AO implementation, all three agencies shared the goal of enabling individuals with low basic skills to access postsecondary education that leads to family-sustaining jobs while maintaining their own priorities. Their motivation for supporting the AO model influenced how they participated and contributed to the initiative's implementation process. For KCTCS, AO was a strategy to help low-skilled students enter and complete college and bypass developmental education. Kentucky Adult Education focused on improving the quality of adult education services throughout the state and increasing the number of students who attained their high school equivalency and transferred to a postsecondary institution. The Kentucky Education and Workforce Development Cabinet focused on building the employment pipeline by supporting low-skilled individuals attaining family-sustaining jobs. They perceived that GED attainment and postsecondary education were critical components to helping achieve that employment outcome. The three organizations stayed focused on their primary missions, but all state team members reported that the focus of the AO initiative helped them find common ground and develop a productive working relationship with one another. Specifically, the AO state executive team has described the partnership as helpful in laying the foundation to recalibrate the systems and use of resources to serve low-skilled adults more effectively.

Each of the agencies contributed its own funds and resources to supplement AO grant funds. During the grant period, KCTCS covered the cost for AO grant coordinators at each of the colleges to be liaisons among the three partners and manage the initiative locally. KCTCS also appropriated state workforce funds to help colleges launch AO and, in 2014, used workforce incentive funds to create a scholarship for GED-seeking students who were not eligible for federal financial aid. Kentucky Adult Education provided matching funds throughout the grant for instructor and classroom expenses to its providers participating in AO. The Kentucky Education and Workforce Development Cabinet provided funds for AO student outreach efforts and worked with its local partners so that graduating AO students would be connected with a career coach for individualized guidance.

The Kentucky state team also helped facilitate the implementation of several policies to support AO implementation at the college level. The AO initiative helped the state team build on ongoing efforts to improve the quality of adult education instruction, specifically work to align adult education curricula to the federal Common Core Standards. The state team also worked with colleges to change their assessment policies for incoming students. KCTCS now allows colleges to use the Test of Adult Basic Education as an assessment exam for incoming students instead of traditional college admissions exams, such as the ACT or SAT, which reduces the barriers to college entry for adult education students

by minimizing the number of separate tests students need to take. Finally, the AO initiative has helped the state move forward in its efforts to strengthen its P-20 data warehouse system to better connect information from various systems, including education and workforce. Those data efforts are helping the state better track outcomes for low-skilled individuals.

Box 5 summarizes Kentucky's AO implementation efforts in the three-year grant period.

BOX 5

Kentucky Summary

Managing Agency: Kentucky Community and Technical College System

- Partnership with Kentucky Adult Education and Kentucky Education and Workforce Development Cabinet

Financing and Policy Work to Support AO Implementation:

- Benefited from state agencies contributing $2.6 million of their own funds and resources to supplement AO grant dollars
- Created a scholarship from workforce incentive funds to support tuition for students without a high school credential
- Aligned adult education curricula with federal Common Core Standards
- Allowed colleges to use the Test of Adult Basic Education for incoming students
- Developed a data system to connect education and workforce data

Technical Assistance and Professional Development: KCTCS hired a statewide program coordinator to connect colleges to technical assistance and professional development resources.

Louisiana

The Louisiana Community and Technical College System (LCTCS) is the managing agency for AO in Louisiana. LCTCS manages 13 community and technical colleges within the state. Since 2010, LCTCS has also managed Louisiana adult education services. Under LCTCS, adult education focuses primarily on transitioning adult education students into postsecondary institutions; it has been branded as WorkReady U, a statewide framework for moving more underprepared adult learners into training and credential attainment.

As in the case of the other three states, the Louisiana state team made considerable efforts to integrate AO with other statewide priorities. For instance, LCTCS led its colleges in major structural and institutional reforms in order to improve student completion, transfer rates to four-year institutions, and labor-market outcomes. Some of those major changes included merging three community colleges with technical colleges and making vast improvements to LCTCS's data systems. Those changes have not been easy for colleges to navigate, but they have created a ripe environment for introducing different approaches, such as AO, to improve instruction and services for students.

LCTCS has also encouraged colleges to align the AO grant with other key initiatives, such as TAACCCT and the Health Profession Opportunity Grants. For instance, Louisiana Delta Community College was able to leverage a Health Profession Opportunity Grant to provide support services and other resources toward the effort to develop integrated pathways for AO. The Louisiana state team merged AO and TAACCCT efforts and encouraged TAACCCT colleges to do the same on the local level.

Furthermore, LCTCS has been able to work with the state legislature and the Louisiana Workforce Commission to identify funds to support the implementation and eventual scale of AO throughout the community college system. In 2014, AO operational costs at colleges were supported by $750,000 from the state's Workforce Training Rapid Response Fund and $430,000 from the state's Workforce Investment Act incentive award. Additionally LCTCS secured a grant for $1 million from the JPMorgan Chase Foundation for its broader career pathway efforts. The grant was subsequently matched four to one by a newly created state fund called the Workforce and Innovation for a Stronger Economy Fund, resulting in a total investment of $5 million.

Other policy changes that have supported AO include LCTCS's decision to allow colleges to waive tuition for AO students for the first 12 credits. That policy helped enable colleges to enroll students without a high school equivalency in AO. That policy change was also helpful since adults without high school credentials could not get federal tuition support following the termination of ATB. In addition, as in other states, LCTCS allows colleges to enroll adult education students into CTE courses without requiring them to take traditional placement exams like COMPASS.

By the end of the third year, LCTCS had given seed money to all 13 colleges to implement AO-like programming under the state's unified "Train to Attain" banner. Train to Attain brings together efforts under TAACCCT, AO, WorkReady U, and other related programs that promote integrated career pathways.

LCTCS strived to provide technical assistance to participating colleges through regional and online training modules on the development of integrated pathways, which launched late in the third year of

implementation. A new training module introduced in 2015 for all colleges focused on the Train to Attain "triangular teaching model," which represents the triangular support among the CTE staff, adult education staff, and coaches or navigators and was inspired by I-BEST and AO.[24]

Box 6 summarizes Louisiana's AO implementation efforts in the three-year grant period.

BOX 6

Louisiana Summary

Managing Agency: Louisiana Community and Technical College System

- Partnership with the Louisiana Workforce Commission

Financing and Policy Work to Support AO Implementation:

- Leveraged $5 million in other state funding, such as the Workforce Training Rapid Response Fund and the Workforce and Innovation for a Stronger Economy Fund, to support AO
- Interpreted state laws broadly to allow colleges to waive tuition for AO students
- Allowed adult education students to take CTE courses without taking a college placement exam

Technical Assistance and Professional Development: LCTCS developed regional training and online training modules to ensure easy access to training on integrated pathways for faculty and staff.

College Development and Implementation of Integrated Career Pathways

Several factors affected how the AO initiative unfolded, as AO college staff and faculty worked together to develop integrated career pathways. This section focuses on five factors: (1) pathway selection, (2) student recruitment, (3) design and delivery of team teaching, (4) support service provision, and (5) partnership development. Each offers important lessons for the four states, the colleges, and the broader field.

Pathway Composition and Selection

The details of pathway construction depended on state certification standards and other considerations. Health care and manufacturing were the most common occupational areas for AO

pathways. A health pathway might consist of cardiopulmonary resuscitation and first aid, certified nurse aide, certified medication aide, and phlebotomy or home health aide. A manufacturing pathway may start with Occupational Safety and Health Administration certification, blueprint reading, and the first industry-recognized technical credential in the specific manufacturing field, such as certified production technician, computer numerical control operator, fundamentals of mechatronics, or a welding technical certification.

Many considerations informed the process of selecting and constructing those pathways. A key requirement of the AO model is that pathways train students for occupations that have sufficient labor-market demand. AO states provided guidance on pathway selection to participating colleges to varying degrees. For example, Illinois required the colleges to submit their pathway plans for review and approval. The state required "adequate, verifiable evidence" that there was a demand for that pathway in the local workforce, based on local labor-market information. All state teams strongly encouraged or required colleges to use local labor-market information to make decisions about which pathways were appropriate for the AO model.

For pathway selection, colleges had to balance local labor-market demand, a college's capacity to provide the pathway, and faculty and student interest in participating in AO. Colleges were required to offer at least two AO pathways, though nearly half of colleges offered more than two pathways by the third year. Although colleges sought to select pathways for AO that offered high wages or high growth in the local labor market, many colleges ended up prioritizing institutional factors when selecting pathways. For example, during site visits, several colleges noted that they selected pathways in CTE departments that were willing to enroll adult education students into their courses and try out integrated instruction methods. For those colleges, starting with CTE departments that were open to changing instruction and to working across institutional lines was important because it allowed them to start up quickly and to build up evidence of success. That early evidence helped colleges convince administrators and faculty from other programs who were initially more skeptical about the approach to try AO. The number of pathways in the original AO colleges increased from 87 to 109, indicating success in bringing new programs into AO.

A program of study's entry requirements also influenced pathway selection. Many CTE programs have certain eligibility requirements (e.g., test scores or course prerequisites) that AO students with basic skills deficiencies were often unable to meet. Some programs are accredited by state agencies that limit the ability of individual institutions to control entry requirements. Another barrier is the requirement of background checks or other screenings in sensitive professions like health care and education.

Student occupational interests also informed college decisions on AO pathway selection. Colleges wanted to make sure to offer AO pathways in areas of study that would attract enrollment. Many staff members in charge of student recruitment discussed the challenge of overcoming student misinformation about the actual labor-market demand of some occupations. They sometimes created visuals or other tools to communicate to students the importance of choosing programs of study that would offer job opportunities after completion.

Finally, as colleges became more adept at thinking about the implementation of integrated pathways, many returned to a focus on labor-market demand and recalibrated some of their pathway offerings. For example, one Kentucky college that had initially offered early childhood education as an AO program of study later decided to discontinue that pathway in favor of a welding pathway that was responsive to local labor demand.

Box 7 summarizes elements of AO implementation that can inform pathway selection.

BOX 7

AO Implementation Highlights: Pathway Selection

- When selecting pathways, colleges weighed local labor-market demand against student interest in certain occupations.
- Institutional factors and relationships mattered. It was helpful for AO staff to work closely with CTE departments that bought into the AO model, which allowed them to develop a "proof of concept" to convince more skeptical departments.
- CTE program eligibility requirements influenced pathway selection because many programs have skill entry requirements that are harder for students with low basic skills to meet.
- Colleges refined and expanded their pathway offerings over time.

Student Recruitment

Colleges served students from different recruitment sources. Louisiana colleges focused largely on the adult education population in their recruitment efforts; 65 percent of AO enrollees came from adult education programs. To support tuition costs, the state interpreted tuition waiver rules broadly so that colleges could waive tuition for AO students who could not qualify for federal aid. That policy change seemed to play a large part in allowing colleges to serve the adult education population.

In addition to recruiting adult education students, several Illinois colleges recruited from sources outside the college, such as community-based organizations (CBOs), YouthBuild programs, and workforce offices. The state team indicated that the types of students who entered from those other sources were largely similar to adult education students, in that relatively few of them had high school credentials and they faced similar barriers to college enrollment. Forty-seven percent of AO students in Illinois came from adult education and an additional 44 percent came from other sources external to the college.

The Kansas AO initiative served large numbers of students from CTE programs, whereas Kentucky's AO program attracted many from college developmental education programs. Though the students were already in colleges and possessed high school credentials, they scored in the AO-eligible range on basic skills tests, signaling that they had low basic skill levels. State and college leadership indicated that the focus on CTE and developmental education students in two of the states was influenced by the elimination of the Pell ATB provision. In the three years before the provision was reinstated, colleges had to find other ways to offset tuition costs for adults without high school credentials, so they started enrolling students into the program who could more easily qualify for Pell grants.[25] The shift to CTE and developmental education students also reflected a general recruitment strategy to increase enrollment from an eligible segment of the student population that could benefit from AO and could enroll quickly enough to meet state and college enrollment goals.

Kansas colleges recruited largely from CTE programs for two reasons. First, given the changes to financial aid rules, the state faced challenges in funding adult education student tuition before the agreement with KDCF and the new legislative appropriations for tuition came through. Second, Kansas is a relatively small state, and the state and college leadership were concerned about their ability to meet the 3,600-credential expectation by serving adult education students alone. To recruit from the CTE population, AO staff at many colleges negotiated with individual instructors of introductory CTE courses to administer an adult basic skills test to all students in the already-convened classrooms. College staff in Kansas consistently reported that around 90 percent of the students tested scored within the eligible range for AO participation. In those cases, the entire classroom would receive AO resources, including team teaching and the services of a navigator or access to other AO supports.[26] Kansas also recruited from adult education programs, either within the college or offered by community-based organizations, but adult education students constituted only 28 percent of the AO student population in the state.

Kentucky was also challenged to support adult education student tuition and did not find additional funds to offset the Pell grant changes in the implementation period. KCTCS allowed colleges to waive

tuition for students without high school credentials for one semester, but many colleges instead either turned to students already enrolled in developmental education programs or routed students who would otherwise have been directed into developmental education courses toward AO. Those students generally had high school credentials but scored below college level on college entrance examinations or adult basic skill tests. Only 19 percent of the Kentucky AO population came from adult education programs. Starting the fall 2014 semester, Kentucky began to offer a tuition scholarship for GED students who were not eligible for Pell through state workforce incentive funds.

Box 8 summarizes strategies colleges implemented to support student recruitment into AO.

BOX 8

AO Implementation Highlights: Student Recruitment

- Colleges developed partnerships with external agencies such as workforce agencies and community-based organizations to create pipelines for student recruitment.
- Colleges examined policy and resource options for supporting the cost of tuition for adult education students who did not qualify for financial aid.
- Some colleges relied more heavily on adult education programs for student recruitment, while other colleges focused more on low-skilled students in CTE or developmental education programs.

Team Teaching

Team teaching is a core element of the AO model. This approach pairs a CTE instructor with an adult education instructor in a technical content course; both are responsible for instruction. The team-teaching model encourages an approach in which students view both instructors as equally important contributors to the content, even as their roles may vary within a single lesson or throughout a course. The team-teaching model also encourages collaboration to be as active as possible between teachers, including aligning learning objectives. Finally, the approach requires planning time and coordination of instruction to align the overlap of instructors and the contextualization of basic skills content within CTE content and instruction.

AO states and colleges received training and technical assistance in team-teaching methods through the State Board for Community and Technical Colleges in Washington State. AO colleges were required to establish team teaching in their pathways for at least 25 percent of instructional hours over the course of a term. Nearly all colleges reported meeting that requirement (though verification was

difficult), but the intensity of and instructional methods used for team teaching varied both across and within states.

Some variation emerged from differences in state guidance. Kansas adopted the requirement of 25 percent overlap; Kentucky required colleges to pick either a 35 or 50 percent overlap; Illinois targeted an overlap of 50–100 percent; and the Louisiana state team encouraged colleges to target an overlap that was suitable for the type of course, between 25 percent and 75 percent. Some colleges also offered supplemental instruction on basic skills outside the classroom, contextualized for the CTE program of study. For example, if a student was in a welding pathway, the adult education instructor contextualized the supplemental instruction on basic skills topics to welding concepts. In some cases, colleges offered contextualized supplemental instruction in lieu of team teaching or instructor overlap, though this does not align with the AO model.

As in the case of pathway selection, the initial decision on how and in which courses to implement team teaching depended greatly on the support of CTE faculty and staff. During the initial implementation period, several CTE instructors reported that they were skeptical of having a second instructor in their classroom. Colleges adopted a variety of strategies to increase buy-in for team-teaching approaches among CTE faculty who were part of AO. For instance, some colleges selected adult education instructors for team teaching who were interested in and knowledgeable about the occupational content. Some colleges also had adult education instructors audit CTE classes a semester before starting team teaching so they could become familiar with the content. Adult education instructors reported that both of these approaches made it easier for them to identify their role in the classroom. AO college staff reported that the more CTE instructors participated in team-taught courses, the more positive they became in their attitudes toward the approach and in the abilities of students with low basic skills. Those changes represented an important element of culture shift within the AO institutions.

College staff members also reported that they considered their team's ability to work together and the nature of the course content in deciding how to structure team teaching. During site visit conversations, adult education instructors who worked with multiple CTE instructors reported using different team-teaching formats in different courses, depending on the receptiveness and preferences of the technical instructor, as well as the course's specific content. For example, the team teaching approach used for a medical terminology course might be different from the team teaching approach used in a welding course. In a medical terminology course, an adult education co-instructor might develop study guides to help students review content, while in the welding class the adult education co-instructor might circulate the room and support students if they have questions for the CTE instructor.

College survey results over three years indicated a wide variation in team-teaching methods used, even within the same college. Students also acknowledged that variation in team-teaching methods in focus groups and through the student survey. According to the 2014 student survey data, most students (72 percent) acknowledged frequently experiencing some type of integrated instruction for their AO coursework.

The vast majority of the students found team teaching to be beneficial and expressed the desire for more team teaching and tutoring supports. Forty-three percent of the students surveyed indicated they would have liked more team teaching, and 63 percent of students without a high school credential would have liked more team teaching. As evidenced by site visit observations and interviews, the adult education instructor became a social support for students above and beyond providing academic reinforcement at many colleges.

Many college administrators also changed their perspectives on team teaching over time. It is a cost-intensive method, since it requires the time of two instructors for one classroom, which initially made many administrators uncertain about its cost-effectiveness. Some college leaders eventually were won over by the popularity of the model among faculty and students. Others planned to integrate the benefits of team teaching while reducing costs by implementing team teaching for one or two semesters, thereby giving CTE instructors a chance to learn how to incorporate basic skills content into their courses, and then moving forward without the second instructor.

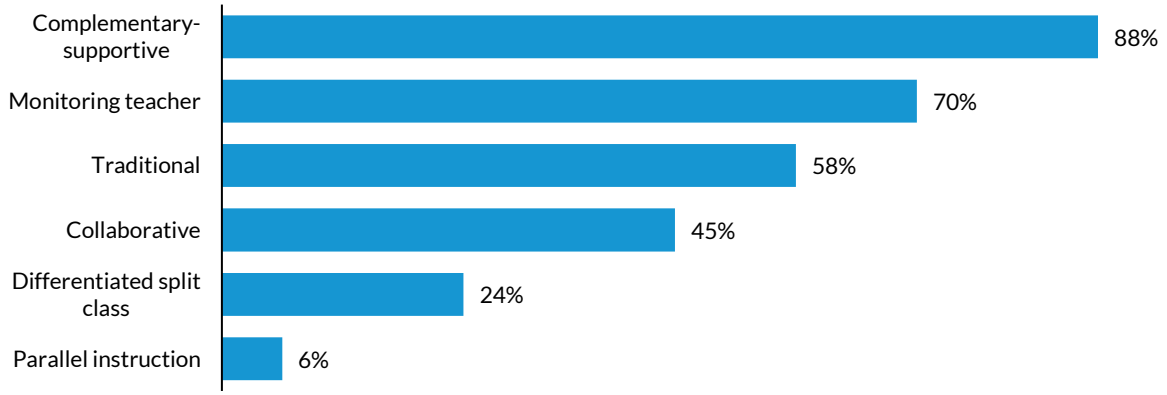
Figure 10 shows the team-teaching methods that colleges implemented across all three years. The most common methods were the complementary-supportive method and the monitoring method. In both approaches, the CTE instructor took more of the lead in instruction, whereas the adult education instructor played a supportive role by circulating the classroom, providing follow-up activities on related basic skills topics or study skills, or both. Overall, the use of one team-teaching approach over another depended on the instructors' success in working collaboratively. In addition, over time, some colleges reported that delivering team-taught courses became a less time-intensive process as instructors became more comfortable and experienced with the approach.

Box 9 summarizes considerations that colleges made when implementing team teaching.

FIGURE 10

Team Teaching Approaches

All states and all years



Sources: First, second, and third years of the AO college survey.
Notes: Colleges could select more than one method. **Complementary-supportive teaching:** One teacher is responsible for teaching the content to the students. The other provides follow-up activities on related topics or on study skills. **Monitoring teacher:** One teacher is responsible for instructing the entire class. The other circulates around the room, watching and monitoring students' understanding and behavior. **Traditional team teaching:** Two or more teachers share the instruction of the content and skills in the same classroom at the same time with the same group of students. Each teacher performs a different but equally important instructional task. **Collaborative teaching:** Team teachers work together to teach the material not by the usual monologue, but by exchanging and discussing ideas and theories in front of the learners. The course uses group-learning techniques, such as small-group work, student-led discussion, and joint test taking. **Differentiated split class:** A class with more than one teacher is divided into smaller groups according to learning needs. Instructors provide their respective group with the instruction required to meet their learning needs. **Parallel instruction:** The class is divided into two groups, and each teacher is responsible for teaching the same material to her or his smaller group. This model is usually used in conjunction with other forms of team teaching. For more detail on each method, see "I-BEST Team Teaching Models," http://www.sbctc.edu/colleges-staff/programs-services/i-best/team-teaching-models.aspx.

BOX 9

AO Implementation Highlights: Team-Teaching Approaches

- Colleges found CTE department buy-in and cooperation to be crucial to success in team teaching.
- Team teaching pairs benefitted from joint planning time when colleges built it in.
- Teaching teams considered course content when choosing their approach.
- Team teaching was much smoother once teaching pairs developed a working relationship and instructional approach that worked for both team members.
- It was helpful when the adult education co-instructor was familiar with the occupational content.

Comprehensive Support Services

Comprehensive support services—academic, career, and personal—provide extra assistance to AO participants, who often struggle to balance school, work, and family commitments. JFF's Breaking Through initiative provided promising strategies and practices that highlighted the importance of comprehensive support services for low-skilled adults enrolled in community colleges (JFF 2010).

Unlike the case of team teaching, the AO model did not specify the nature or intensity of services that colleges were expected to deliver. According to survey data and information collected by JFF, common types of support services included tutoring or other academic support, career planning, college navigation support, job search assistance and job placement, and case management.

Overall, the support services offered were not highly differentiated for AO students. Colleges commonly reported that AO students were eligible for the same academic support services—such as tutoring, career counseling, financial counseling, and academic advising—as non-AO students. However, for adult education students, access to those services was sometimes an achievement in itself, since in many colleges adult education students do not qualify for general student services because they do not pay student fees. College staff discussed how in many cases AO allowed adult education students access to college campus services, such as computer labs, the library, and the career center. Even being eligible for a student identification card was at times an encouraging and validating benefit for adult education students to feel like "real" college students.

Throughout the evaluation period, colleges have reported through interviews and survey results that the main difference in supports for AO students, compared with traditional college students, has been the support of a "navigator," "success coach," or "transition coordinator" outside the classroom and the assistance provided by the adult education instructor in the classroom. The role of those support staff members varied across colleges, but generally they provided AO students assistance with needed services, such as academic advising and help with enrollment, individualized case management, tutoring, and connections to existing services on campus or through partner organizations.

During student focus groups and through the student survey, students noted that navigators assisted with a comprehensive range of supports and that they found those services to be valuable. On the survey, 68 percent of students reported that a college staff member provided them with support and advice on college, job, financial, or personal issues while they were in the AO pathway. It was most common for students in Illinois and Kentucky to report that type of support (83 percent and 71 percent, respectively) and somewhat less common in Kansas and Louisiana (52 percent and 62 percent, respectively). It was also more common for students in Illinois and Kentucky to report that they had a

regular time to meet with a staff member rather than communicating only when an issue came up relative to students in Kansas and Louisiana, possibly indicating that students received more consistent support in Illinois and Kentucky. Of those students who received support in all states, over 90 percent were satisfied or very satisfied with the support and advice they received on those issues.

During the course of AO implementation, college leadership and staff acknowledged difficulties in securing resources to provide differentiated support services targeted toward AO students. One major challenge identified was the limited resources available to fund navigator positions, which have been crucial in supporting AO students. College staff expressed concern about AO coordinators or adult education instructors having to take on navigator-like responsibilities in addition to their other roles. That pattern raised concerns about staff becoming overextended and students potentially not getting the level of support needed.

The limitations on internal resources provided colleges with the incentive to develop and strengthen ties with local CBOs, the workforce system, and other partner organizations. (The next section contains more details about the role of partner organizations in providing support services.) Some college staff also noted that combining funds from multiple grants within the same pathway occupation helped provide students with comprehensive supports. For instance, some colleges funded navigators through TAACCCT grants or provided tuition and child care assistance through Health Profession Opportunity Grants. Some of those other resources also allowed colleges to help students buy books, uniforms, and other necessities.

Box 10 summarizes colleges' experiences in supporting students inside and outside the classroom.

BOX 10

AO Implementation Highlights: Comprehensive Supports for Students

- Adult education instructors in team-taught classrooms often supported students in ways that extended beyond academic reinforcement.
- Navigators played an important role in AO implementation, but many colleges were unable to institutionalize the position because of scarce resources.
- Community partners were often helpful in connecting students to services.
- Colleges braided different funding sources to finance student support services.
- Dual enrollment in adult education classes and college courses allowed adult education students to access college services they could not access otherwise, such as the library and computer labs.

Partnership Development

The ability of AO to improve the educational and employment outcomes for students with low basic skills relied on colleges' ability to develop and leverage both internal and external partnerships. Internal partnerships—meaning collaboration with other offices and departments inside the college—helped promote agreement and support to allow adult education students to enroll in college courses, increase the resources available to support completion of the pathway program, and facilitate students' transition to employment. External partnerships—meaning collaboration with entities and organizations outside the college—increased recruitment resources and helped ensure that students had the academic and personal supports they needed to successfully complete an AO pathway. Local CBOs were the most engaged with recruitment and providing supplemental support services. Local workforce agencies provided referrals and tuition support and facilitated students' successful connection to careers. Connections to employer partners provided opportunities for work-based learning and student employment; it was often easier for CTE programs to develop meaningful employer connections than adult education offices. Most colleges had a dedicated part- or full-time AO coordinator who convened key stakeholders and worked to move the program forward.

INTERNAL PARTNERSHIPS AND INSTITUTIONAL BUY-IN

Throughout the implementation period, college staff reported that internal partnerships were crucial for the AO initiative's success. In developing those partnerships, colleges noted that engaging "champions" within the college improved the awareness of students' basic skills needs and promoted access of adult education students to college resources. Among those champions were the CTE faculty and staff and the staff in college admissions, financial aid, and student support offices.

College staff noted that internal partnerships rarely cohered immediately; productive partnerships took time to develop. Several colleges reported that working closely with CTE departments was crucial to raising the general awareness of the needs of adult education students. In colleges where the adult education services were provided inside the college, AO staff consistently reported that the initiative strengthened ties between CTE departments and adult education. In some cases, the CTE departments and college leadership began to see AO students as a new pipeline of general college students who could boost enrollment numbers.

College staff reported that having a broad range of internal partnerships in place beyond CTE departments was integral for both sustaining and scaling AO programming. Through working with the admissions departments, academic advising, and student services, AO staff members were in a better position to provide the comprehensive range of services needed to support student success. For

instance, working with admissions was helpful in recruitment; admissions staff helped identify and refer students who could benefit from the program. AO staff also often mentioned the financial aid office as an important partner. Helping AO students finance tuition was challenging, especially for adult education students without a high school credential, so having allies in financial aid who were knowledgeable about the program and AO student needs was important. Additionally, partnerships with student services departments helped AO navigators connect students to campus resources, such as child care and health services.

Finally, buy-in for the approach by college leadership, including the president or chancellor, was particularly valuable where achieved. That type of investment better positioned the college to think about how to align AO principles with the colleges' overall goals and objectives and aided the college in considering how to scale and sustain key aspects of the AO model beyond the termination of grant funding.

Box 11 summarizes key partnerships within the colleges that supported AO.

BOX 11

AO Implementation Highlights: Internal College Partners

- Strong partnerships between CTE and adult education departments were a key ingredient for implementation.
- Raising awareness and building broad support for AO across different college departments such as Financial Aid, Student Services, and Admissions was helpful as colleges supported students and planned to scale and sustain AO.
- College leadership support, both at the executive and academic levels, was crucial at colleges that sought to make meaningful changes in institutional policy and practice.

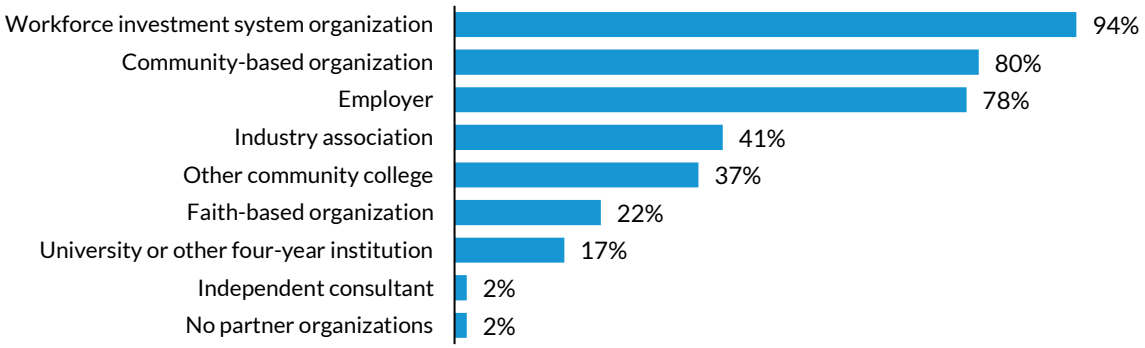
EXTERNAL PARTNERSHIPS

The AO model emphasized the importance of external partnerships, particularly with workforce agencies—such as WIBs—and employers to help connect students to careers in the local labor market. Throughout AO implementation, partnerships have remained a key component of the program. As figure 11 shows, it was most common for colleges to have partnerships with workforce organizations (WIBs and One-Stop Centers), CBOs, and employers.

FIGURE 11

Types of AO Partner Organizations

Percentage of colleges indicating each type of partner at any point in three-year grant period



Sources: First, second, and third years of the AO college survey.
Note: n = 54 colleges.

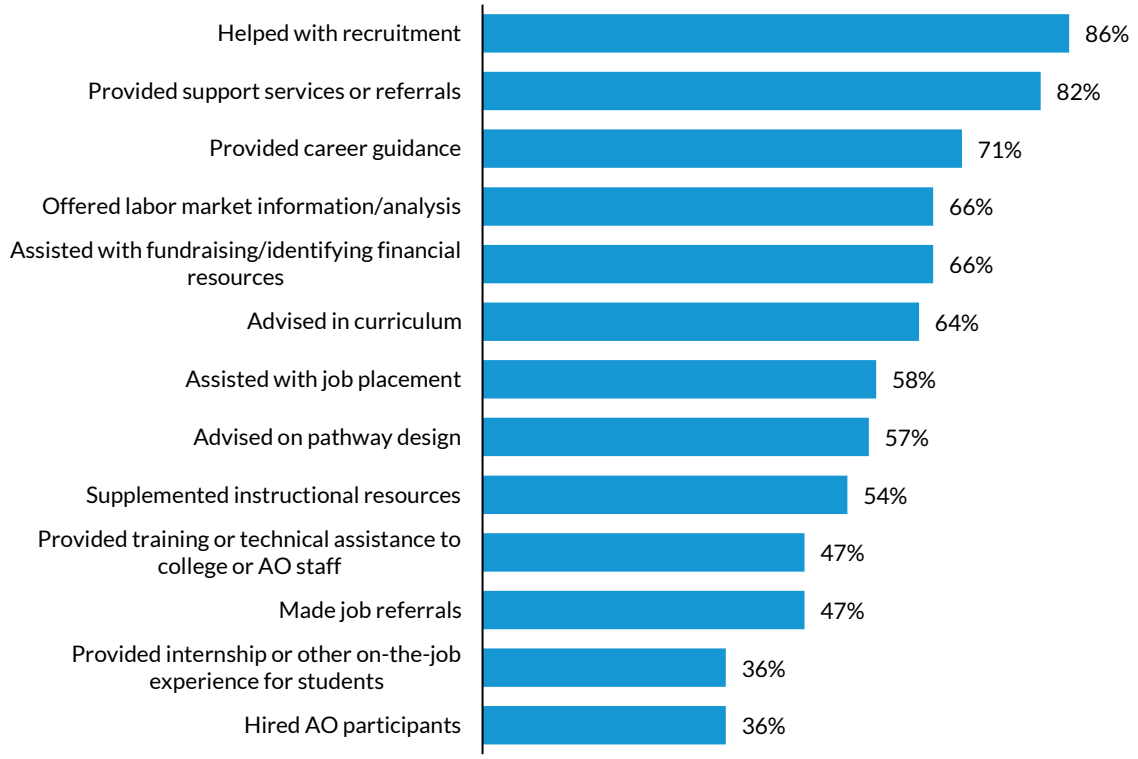
Figure 12 displays the range of ways in which external partners engaged with the AO program. College staff reported that they used external partnerships to various ends, including program recruitment, the provision of support services and referrals, and the provision of tuition for AO students. For instance, college staff indicated that CBOs were often helpful with recruitment efforts and with providing referrals for support services. In some cases, particularly in Kansas and Louisiana, CBOs also provided adult education services and were therefore integral partners in the AO effort.

The AO model required colleges to forge partnerships with their local workforce investment board and employers. Ninety-four percent of AO colleges had a relationship with their local workforce organization. AO college staff pointed out that partnerships with the local workforce system were particularly helpful in connecting students without a high school credential to tuition funds and in providing students with career services like job fairs and résumé workshops.

FIGURE 12

Activities of All External Partners in Support of AO

Percentage of colleges indicating each activity at any point in three-year grant period



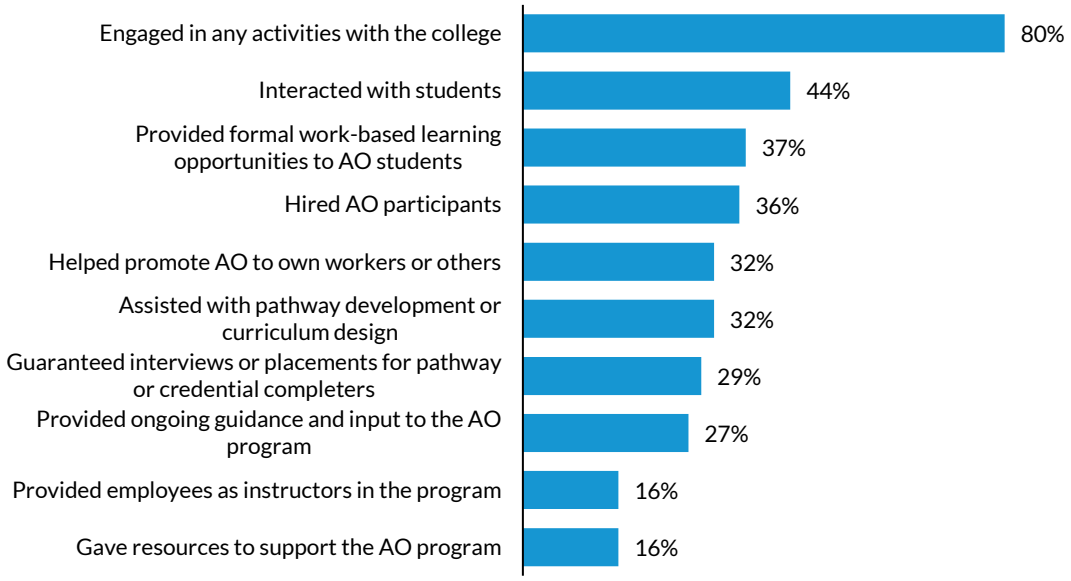
Sources: First, second, and third years of the AO college survey.
Note: n = 54 colleges.

Forging new partnerships or strengthening existing partnerships with employers was a priority for many AO colleges but was not always easy to implement. Of the colleges involved in AO for all three years, the number with employer partners increased from 55 percent in the first year to 70 percent in the third year. Additionally, 82 percent of the original AO colleges indicated that they had an employer partner in at least one year. Figure 13 shows the various ways in which employers collaborated with AO programs. Those data show that employers did more than place students in jobs; they also engaged in a range of activities, such as assisting with program design, providing internships and other work-based learning opportunities, and doing mock interviews with students. However, the portion of colleges with an employer who engaged in each activity is not particularly high, which again indicates that although colleges made progress in engaging employers, they still had work to do in deepening those partnerships.

FIGURE 13

Activities of Employers in Support of AO

Percentage of colleges indicating each activity at any point in three-year grant period



Sources: First, second, and third years of the AO college survey.
Note: n = 54 colleges.

Based on the site visits, it became clear that the process of engaging employers was particularly difficult for AO programs that were managed by adult education offices within the college. Staff reported that it had not been common for adult education programs to have existing employer connections, so the learning curve of engaging employers tended to be higher. Many adult education offices tried to overcome that issue by partnering with their local WIB or forging stronger relationship with college CTE programs. CTE programs have employer advisory committees to help with curriculum development and employed faculty members with strong connections to industry, which made it easier for AO programs with a CTE lead or with very strong ties to the CTE side of the college to engage employers. The ability to capitalize on existing relationships of CTE programs with employers is another reason why CTE buy-in and resource sharing are important for the success of AO and similar programs.

Box 12 summarizes how colleges engaged external partners and those partners' roles in supporting AO implementation.

BOX 12

AO Implementation Highlights: External Partners

- External partners were particularly helpful with program recruitment, support services and referrals, and student tuition.
- When available, relationships with employers were crucial for program quality and to support student transition to the labor market.
- Some AO programs leveraged existing connections between CTE programs and employers to engage employers with students and with program development.
- Workforce partners also sometimes helped connect colleges with employers.

Culture Shift and Changes in Attitudes toward Adult Education Students

Throughout the implementation period, colleges and states made progress in changing attitudes toward adult education students and in improving overall understanding of the comprehensive needs of students with low basic skills. The AO model strongly promoted those changes.

Aided by their more comprehensive understanding of the needs of adults with low basic skills, state teams developed strategies to meet the needs of these students, particularly those in adult education, more effectively. For instance, they modified assessment practices—allowing alternative tests like the Test of Adult Basic Education and Comprehensive Adult Student Assessment Systems for college entry—and created new funding models to support the transition of students without secondary credentials into CTE programming. Moreover, all of the state teams aligned the AO initiative with other state efforts to connect low-skilled adults to education and workforce services, recognizing that this segment of the population had been largely underserved by these systems.

Over time, colleges developed strategies for enrolling and serving low-skilled students and successfully promoted positive attitudes toward these students on campuses. Through the development of internal partnerships between the college AO staff and CTE or college administrative staff, new champions for adult education and low-skilled students emerged in the AO colleges. Those relationships motivated change in college policies to help students, such as waiving course prerequisites for AO students. Students enrolled in AO were also able to access an array of academic support services at the college, including tutoring, advising, and help with financial aid forms. Positive experiences with

AO implementation in the original AO colleges helped state teams promote the model and approach among other colleges and stakeholders.

Equally importantly, AO students reported changes in their attitudes because of the program. During focus groups and in comments on the survey, many students noted that had it not been for the AO program, college courses and credentials might have not been a viable option for them. Students also indicated through the survey and focus groups that they were generally satisfied with the individualized support that they received through their AO program. If anything, students expressed that they would have liked more team teaching and tutoring. Over half of the students who responded to the second student survey (64 percent) indicated that AO provided them with technical skills. Over half of the students in each survey indicated that the program prepared them "very well" for employment and for further education. Many indicated that they would have been in a worse financial situation or obtained less education if not for AO.[27]

Conclusions: Considerations for Sustainability and Scale

At its core, the AO initiative aimed to transform adult education and postsecondary systems for low-skilled adults. This meant creating more pathways to allow access to postsecondary credentials that are valuable in the local labor market. AO builds on key elements of Washington State's I-BEST model, which initially challenged traditional approaches of delivering adult education and CTE separately and sequentially. States and colleges have adapted key lessons learned from previous initiatives—such as Breaking Through and Shifting Gears—to AO. AO built upon these experiences to further strengthen the systems and structures that serve adults with low basic skills.

During the first three years of implementation in Illinois, Kansas, Kentucky, and Louisiana, AO grew to include 54 colleges that enrolled 8,287 students. Participating states originally committed to implementing the program at eight colleges, and all states surpassed that goal. Kentucky and Louisiana implemented integrated pathways statewide (though Louisiana had AO-specific programming at 9 of 13 colleges), Kansas implemented AO at 14 colleges (over 50 percent), and Illinois implemented AO at 19 colleges (40 percent). States also achieved a modest level of scale within AO-participating colleges, with an increase in the number of pathways offered in the original colleges and a larger increase when considering new colleges. Throughout the length of the initiative, those colleges adjusted pathways, eliminated pathways, and added new ones. But in almost all cases, they remained committed to figuring out how best to develop and implement integrated pathways and to support the students going through them. According to the latest college survey, 82 percent of AO colleges active in 2014 planned to continue some aspect of the work they started with AO, whereas the remainder did not know whether they would continue after the end of the grant; none said they would definitely not continue.

In the final year of the three-year grant period, states and colleges focused extensively on sustainability planning and were able to continue those planning activities into a fourth year through a one-year grant extension from JFF. That process has consisted of assessing which aspects of the AO model would be most effective in moving the low-skilled adult population forward in their contexts and which elements they could modify or drop. All AO states have reported that they are committed to sustaining integrated instruction in one form or another, though individual colleges may or may not continue the practice. The strong level of commitment to effect policy change and adapt systems is

indicative of changes in priorities and attitudes throughout the four states. State administrators have emphasized, however, that the approach is costly and, in a time of budget constraints, they must think critically about how to both align and repurpose funding. For instance, Louisiana has considered keeping down costs by offering more not-for-credit pathways.

Previous chapters of this report described how both states and colleges have made changes to policies, practices, and systems to support the work of AO. The following section lays out important considerations and lessons as those states and colleges continue to plan for scale and sustainability.

State Policy Context Is Key in Setting Direction and Supporting Systemic Changes

Each state came into the initiative with its own distinct policy context, which affected how the states could gain broader support for AO. For instance, Kansas aligned AO with other workforce development priorities when the state TANF program and legislature were seeking promising practices in this area. This helped motivate additional funding to support AO beyond the grant period.

Illinois—although committed to providing low-skilled adults with access to postsecondary education—faced more challenging policy context and funding issues. Though ICCB was able to leverage successes of Shifting Gears to integrate adult education metrics into state performance-based funding models for community colleges in the first year, the new performance incentives have yet to be fully funded. By thinking creatively, ICCB partially addressed that challenge by repurposing Perkins funds for AO.

Kentucky leveraged its three-agency AO state team structure to set forth various policy changes that supported the goals of the AO initiative, such as allowing colleges to use the Test of Adult Basic Education, an assessment for incoming students, and aligning adult education curricula with federal Common Core Standards.

Finally, in Louisiana, AO came at a time when key agencies at the state level were involved in efforts to address the state's low educational attainment rates and to align that work with economic development and growth. That work included restructuring the community and technical college system and integrating adult education under LCTCS. Strategically, AO aligned with those efforts, making it easier for LCTCS to identify additional funding for AO through the state legislature and workforce system.

State-Level Partnerships Are Important for Resource Alignment and Sustainability

State-level partnerships with the workforce system and other systems that influence how low-skilled individuals access training and labor-market opportunities have been critical. Kentucky was intentional about forming important partnerships at the start of the initiative. From the outset, KCTCS partnered with the Division of Adult Education and the Kentucky Education and Workforce Development Cabinet. The three organizations were all official members of the AO state executive team, which was charged with providing AO colleges with strategic direction around building integrated pathways. Although the agencies that formed the executive team had differing priorities, the process of coming together and having to work through sometimes differing agendas set the stage for continued collaboration on AO and on other statewide initiatives. The dedication of a full-time state coordinator at KCTCS organized much of the effort and facilitated this process of collaboration.

Additionally, state teams found that other statewide systems and agencies had a stake in the success of low-skill adults. Those other agencies have helped provide additional resources to support operational costs and student tuition. For instance, in Kansas, a partnership between KBOR and KDCF allowed AO colleges to tap into TANF funds to pay for tuition for TANF-eligible AO students. LCTCS's close relationship with the Louisiana Workforce Commission made it easier for LCTCS to leverage the Workforce Investment Act Rapid Response Fund and incentive funds for AO. The Louisiana Workforce Commission also provided data to support AO evaluation.

Overall, statewide partnerships have shifted and evolved according to each team's priorities and each state's particular context. However, those partnership efforts have built a foundation that will be important to continue as states and colleges refine integrated career pathway approaches.

Strategic Alignment between Adult Education and CTE Programs Is Central to Implementing Integrated Career Pathways

Integrated career pathways challenge the traditional way in which program staff and faculty in adult education and CTE systems work with students. Colleges that adapted to integrated instruction more quickly were those that developed strong relationships between adult education and CTE early on, often facilitated by college leadership. To achieve meaningful collaboration, it was necessary to account

for the inherent differences in goals and approach between the two systems. In general, colleges where adult education led the AO effort had a harder time engaging their CTE counterparts in this work; those where the CTE side led or had a natural investment in the AO effort (such as an aligned TAACCCT grant) experienced smoother implementation. CTE staff were also more involved and invested when AO was positioned as a workforce development initiative. AO staff at colleges reported that involvement of college leadership at the chancellor, president, or dean level in setting expectations and providing guidance made it easier to develop and refine integrated career pathways.

States also played an important role in guiding and supporting collaboration between local CTE and adult education programs. For instance, ICCB sent a clear message on the importance of CTE and adult education program alignment when the statewide director for postsecondary CTE joined the ICCB state implementation team. The Kansas state team recognized that the adult education programs in the state might face a disincentive to cooperate with CTE programs because of the nature of performance funding. In response, KBOR changed the funding formula so that adult education programs would not lose resources if their students participated in AO. In Kentucky, local adult education teams often struggled to balance the goals of improving their services and increasing GED attainment rates with the goals of AO, which focused more on credential attainment and job placement. To address that issue, the Kentucky AO state team built into its future AO plans more time and support for students who enter the program without a high school credential to help them earn their GED while working toward college credentials. Louisiana facilitated collaboration between adult education and CTE by encouraging colleges to merge AO and TAACCCT implementation teams and by bringing all career pathway efforts under the umbrella of Train to Attain. An intentional level of planning and support gives adult education providers the bandwidth to be more open to designing instruction that focuses on college and career readiness.

The AO Model Is Resource-Intensive but Is Seen as a Worthwhile Investment

The AO model emphasizes the need for thoughtful work on curricular alignment, culture shift, and policy change; team-teaching approaches; and intensive support services. Those activities require substantial human capital investments, which can be costly; over 90 percent of the colleges' costs for AO were for personnel. On the basis of qualitative data collection, state leadership also put large amounts of time and investment into supporting and promoting AO and working to alleviate barriers for low-skilled students.

However, it appears that many states and colleges found those investments to be worthwhile. Legislative bodies in Kansas and Louisiana appropriated funds to support AO, based partially on early indicators of program success. Kansas state leadership reports that additional colleges have adopted the AO model and current colleges will continue beyond the grant period. Illinois and Kentucky scaled up AO to all community and technical colleges. In Kentucky, all three state agencies have made a commitment to continue AO beyond the end of the grant period. Across all four states, 82 percent of colleges identified specific aspects of the model they would carry on after the grant period.

On the student survey, students expressed that the aspect of the intervention that was arguably most costly—the team-teaching approach—was the most beneficial to them and that they wanted more of it (68 percent of the colleges that indicated they would continue aspects of AO planned to continue team teaching). The forthcoming impact evaluation and cost–benefit analysis will provide more information about the payoff of AO. In the meantime, it appears that many AO leaders, staff, and students ended the grant period feeling that the intervention had positive effects on low-skilled students and was worth the costs.

Evaluation Products

This report has summarized implementation of AO over the three-year grant period. The evaluation team previously produced annual reports summarizing the first and second years of implementation, respectively (Anderson et al. 2014; 2015). The team also reported on student experiences from the first student survey (Spaulding and Martin-Caughey 2015).

Future evaluation products will include a quasi-experimental analysis of AO's impact on student education and employment outcomes and a cost–benefit analysis that shows net benefits accrued to states, colleges, and students. A final brief will give a high-level summary of findings across all reports.

Appendix A. Required Elements of AO and Theory of Change

Nonnegotiable Elements of the AO Grant

1. Explicit articulation of two or more educational pathways, linked to career pathways, that begin with adult basic education or English as a second language classes and continue to a college-level certificate and beyond
2. Evidence of strong local demand for the selected pathways, including the presence on the workforce investment board demand list for the local area or other local data demonstrating robust demand
3. Acceleration strategies, including contextualized learning and the use of hybrid (online and classroom-based) course designs
4. Evidence-based dual enrollment strategies, including paired courses and I-BEST and I-BEST-like approaches
5. Comprehensive academic and social student supports (e.g., tutoring, child care, transportation, access to public benefits, and subsidized jobs)
6. Achievement of marketable, stackable, credit-bearing certificates and degrees and college readiness, with an explicit goal of bypassing developmental education
7. Award of some college-level professional-technical credits, which must be transcripted the quarter or semester in which they are earned
8. Partnerships with workforce investment boards and employers

States and colleges are further expected to adhere to the nonnegotiable elements of the model except where infeasible. Those elements specify that the states' programs should offer career pathways that are at least 12-credit-hours long, at least two pathways should be established in each of at least eight colleges, and pathways should have at least 25 percent team teaching. Students eligible for AO must fall within National Reporting System levels 4–6 (6th- to 12th-grade levels) on math, reading, or

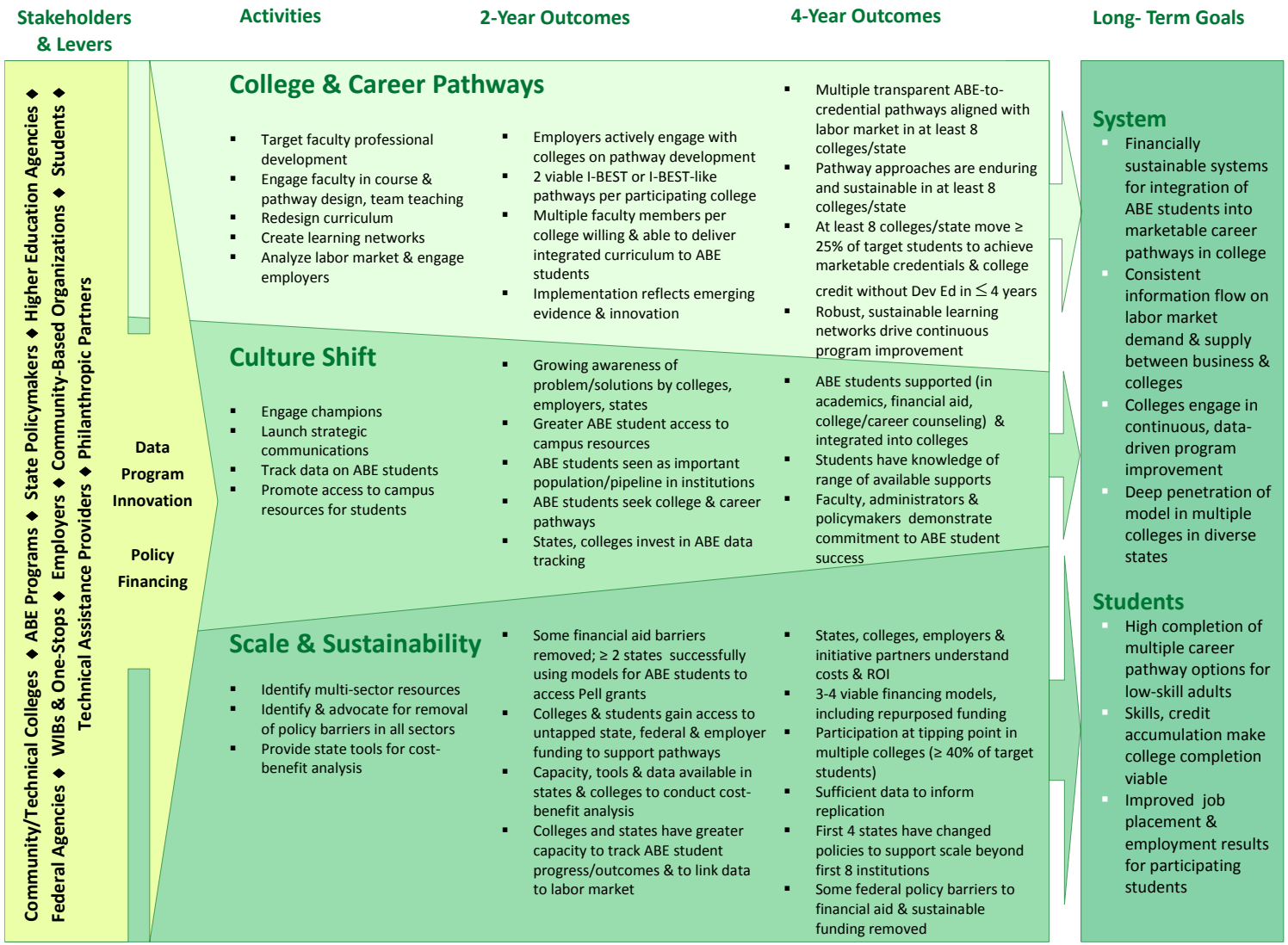
writing or National Reporting System levels 5–6 in English-language skills. Enrolled students may have a secondary school credential as long as they fall within the eligible skill ranges. States were asked to identify policy levers and are expected to make at least 80 percent progress toward their policy goals by the end of the grant period. The goal is that within three years of operation, each participating state will produce at least 3,600 credentials. Credentials should be offered in industries with sufficient labor demand so students could reasonably become employed within their areas of study.

Figure A.1 is JFF's original theory of change for the AO initiative, originally called "ABE to Credentials."

FIGURE A.1

Accelerating Opportunity Theory of Change – Definitions

Accelerating Opportunity Theory of Change – Path to Impact for System and Students



Source: JFF (2011); reproduced here with permission.

Notes: ABE = adult basic education; ASE = adult secondary education; CBOs = community-based organizations; ESL = English as a second language; ROI = return on investment; TA = technical assistance; WIBs = workforce investment boards.

Appendix B. Characteristics of AO Enrollees

TABLE B.1

AO Total Enrollment

By state and year

	First year	Second year	Third year
All states	**2,370**	**2,874**	**3,043**
Illinois	419	499	523
Kansas	1,001	1,190	890
Kentucky	499	579	970
Louisiana	451	606	660

TABLE B.2A

AO Student Characteristics by State and Year

Recruitment source (percent)

		First year	Second year	Third year
All states: Y1 n=2,213 Y2 n=2,617 Y3 n=2,771	**Internal – Adult Ed.**	**20**	**24**	**12**
	Internal – Dev. Ed.	**6**	**5**	**6**
	Internal – CTE	**23**	**29**	**21**
	Internal – Other	**2**	**2**	**2**
	External – Adult Ed.	**0**	**16**	**35**
	External – Other	**48**	**23**	**25**
Illinois: Y1 n=419 Y2 n=499 Y3 n=509	Internal – Adult Ed.	30	46	35
	Internal – Dev. Ed.	6	2	1
	Internal – CTE	2	5	7
	Internal – Other	0	3	2
	External – Adult Ed.	0	7	20
	External – Other	63	36	35
Kansas: Y1 n=1,001 Y2 n=933 Y3 n=866	Internal – Adult Ed.	12	11	8
	Internal – Dev. Ed.	3	2	1
	Internal – CTE	43	66	41
	Internal – Other	1	1	0
	External – Adult Ed.	0	9	45
	External – Other	41	12	6
Kentucky: Y1 n=392 Y2 n=579 Y3 n=814	Internal – Adult Ed.	7	6	7
	Internal – Dev. Ed.	17	19	17
	Internal – CTE	18	15	21
	Internal – Other	8	6	4
	External – Adult Ed.	0	9	21
	External – Other	49	46	31

TABLE B.2A CONTINUED

		First year	Second year	Third year
Louisiana: Y1 n=401 Y2 n=606 Y3 n=582	Internal – Adult Ed.	43	43	5
	Internal – Dev. Ed.	2	0	3
	Internal – CTE	3	4	3
	Internal – Other	0	1	2
	External – Adult Ed.	0	42	53
	External – Other	51	9	34

TABLE B.2B

Gender (percent)

		First year	Second year	Third year
All states: Y1 n=2,368 Y2 n=2,841 Y3 n=3,043	**Male**	**39**	**53**	**48**
	Female	**61**	**47**	**52**
Illinois: Y1 n=419 Y2 n=489 Y3 n=523	Male	35	51	39
	Female	65	49	61
Kansas: Y1 n=1,001 Y2 n=1,188 Y3 n=890	Male	40	58	45
	Female	60	42	55
Kentucky: Y1 n=498 Y2 n=568 Y3 n=970	Male	42	45	52
	Female	58	55	48
Louisiana: Y1 n=450 Y2 n=596 Y3 n=660	Male	39	50	52
	Female	61	50	48

TABLE B.2C

Age (percent)

		First year	Second year	Third year
All states: Y1 n=2,136 Y2 n=2,741 Y3 n=2,820	**Under 17**	**0**	**0**	**0**
	17–19	**15**	**15**	**17**
	20–22	**23**	**22**	**19**
	23–26	**19**	**19**	**20**
	27–35	**22**	**23**	**23**
	36–54	**19**	**18**	**18**
	Over 54	**2**	**3**	**3**
Illinois: Y1 n=419 Y2 n=496 Y3 n=505	Under 17	0	0	0
	17–19	11	10	10
	20–22	22	22	22
	23–26	21	28	26
	27–35	28	27	24
	36–54	17	12	15
	Over 54	1	1	2

TABLE B.2C CONTINUED

		First year	Second year	Third year
Kansas: Y1 n=999 Y2 n=1,172 Y3 n=798	Under 17	0	0	1
	17–19	19	19	24
	20–22	24	24	21
	23–26	16	16	18
	27–35	18	18	20
	36–54	20	19	15
	Over 54	3	3	3
Kentucky: Y1 n=344 Y2 n=563 Y3 n=932	Under 17	0	0	0
	17–19	9	13	12
	20–22	19	20	15
	23–26	19	15	20
	27–35	25	24	24
	36–54	26	21	25
	Over 54	1	6	2
Louisiana: Y1 n=374 Y2 n=510 Y3 n=585	Under 17	1	1	1
	17–19	15	13	19
	20–22	26	19	17
	23–26	23	20	16
	27–35	21	27	26
	36–54	13	19	15
	Over 54	1	1	5

TABLE B.2D

Race (percent)

		First year	Second year	Third year
All states: Y1 n=2,119 Y2 n=2,708 Y3 n=2,772	**White**	**52**	**48**	**50**
	African American	**27**	**28**	**33**
	Hispanic/Latino	**16**	**18**	**12**
	Asian	**1**	**1**	**2**
	Two or more races	**3**	**2**	**3**
	Other	**1**	**2**	**1**
Illinois: Y1 n=416 Y2 n=470 Y3 n=476	White	38	33	26
	African American	31	29	45
	Hispanic/Latino	30	36	26
	Asian	1	1	2
	Two or more races	1	1	0
	Other	0	0	1
Kansas: Y1 n=978 Y2 n=1,159 Y3 n=778	White	57	52	48
	African American	16	18	20
	Hispanic/Latino	20	20	22
	Asian	2	2	2
	Two or more races	5	4	7
	Other	1	4	1
Kentucky: Y1 n=339 Y2 n=564 Y3 n=870	White	82	70	84
	African American	14	14	11
	Hispanic/Latino	3	14	2
	Asian	1	1	2
	Two or more races	0	1	1
	Other	0	0	0

TABLE B.2D CONTINUED

		First year	Second year	Third year
Louisiana: Y1 n=386 Y2 n=515 Y3 n=648	White	28	28	24
	African American	64	67	69
	Hispanic/Latino	5	1	3
	Asian	0	1	1
	Two or more races	1	0	1
	Other	1	3	3

TABLE B.2E

Educational attainment at entry (percent)

		First year	Second year	Third year
All states: Y1 n=1,879 Y2 n=2,423 Y3 n=2,316	**HS diploma**	**59**	**60**	**56**
	GED	**16**	**23**	**22**
	Other HS	**2**	**4**	**4**
	None	**23**	**13**	**18**
Illinois: Y1 n=197 Y2 n=387 Y3 n=435	HS diploma	41	58	42
	GED	22	30	30
	Other HS	3	3	8
	None	35	9	20
Kansas: Y1 n=905 Y2 n=977 Y3 n=644	HS diploma	71	76	56
	GED	17	16	16
	Other HS	3	0	7
	None	9	8	21
Kentucky: Y1 n=441 Y2 n=491 Y3 n=789	HS diploma	78	79	78
	GED	18	17	16
	Other HS	0	0	2
	None	4	4	3
Louisiana: Y1 n=336 Y2 n=568 Y3 n=448	HS diploma	10	20	31
	GED	10	34	31
	Other HS	1	12	0
	None	79	34	38

TABLE B.2F

Receipt of Pell grant (%)

		First year	Second year	Third year
All states: Y1 n=1,773 Y2 n=1,789 Y3 n=1,904	**Pell**	**35**	**39**	**44**
	No Pell	**65**	**61**	**56**
Illinois: Y1 n=196 Y2 n=381 Y3 n=236	Pell	24	10	17
	No Pell	76	90	83
Kansas: Y1 n=964 Y2 n=837 Y3 n=541	Pell	42	44	37
	No Pell	58	56	63

TABLE B.2F CONTINUED

		First year	Second year	Third year
Kentucky: Y1 n=236 Y2 n=397 Y3 n=797	Pell	69	70	69
	No Pell	31	30	31
Louisiana: Y1 n=377 Y2 n=174 Y3 n=330	Pell	3	14	12
	No Pell	97	86	88

TABLE B.2G

Full-time enrollment (percent)

		First year	Second year	Third year
All states: Y1 n=1,917 Y2 n=2,434 Y3 n=2,748	**Full-time**	**36**	**55**	**51**
	Not full-time	**64**	**45**	**49**
Illinois: Y1 n=287 Y2 n=450 Y3 n=490	Full-time	13	35	48
	Not full-time	87	65	52
Kansas: Y1 n=787 Y2 n=993 Y3 n=791	Full-time	53	74	51
	Not full-time	47	26	49
Kentucky: Y1 n=392 Y2 n=474 Y3 n=889	Full-time	29	75	58
	Not full-time	71	25	42
Louisiana: Y1 n=451 Y2 n=517 Y3 n=578	Full-time	29	18	44
	Not full-time	71	82	56

TABLE B.2H

Employment status (percent)

		First year	Second year	Third year
All states: Y1 n=1,503 Y2 n=1,723 Y3 n=1,902	Employed	**37**	**41**	**39**
	Not employed	**63**	**59**	**61**
Illinois: Y1 n=219 Y2 n=492 Y3 n=322	Employed	30	34	33
	Not employed	70	66	67

TABLE B.2H CONTINUED

		First year	Second year	Third year
Kansas: Y1 n=808 Y2 n=518 Y3 n=503	Employed	38	54	50
	Not employed	62	46	50
Kentucky: Y1 n=235 Y2 n=190 Y3 n=543	Employed	51	28	39
	Not employed	49	72	61
Louisiana: Y1 n=241 Y2 n=523 Y3 n=534	Employed	26	38	34
	Not employed	74	62	66

Sources: First, second, and third years of the AO college survey.
Notes: The *n* values for each category and year represent the number of students for whom college staff reported nonmissing values. These are the denominators for the percentages in the table. The reader can determine the number of cases with missing information by looking at these values compared with the total enrollment reported in table B.1. The first year began in September 2012 in Louisiana and in January 2012 in the other states. Percentages may not sum to 100 because of rounding. CTE = career and technical education; Dev. Ed. = developmental education; GED = General Educational Development; HS = high school.

Appendix C. Achievements

TABLE C.1

Student Achievements

By state and implementation year

	First year	Second year	Third year	Total	Share of enrolled students engaged in employment activities[a]
Credits earned					
All states	**12,715.5**	**22,798.3**	**21,243.0**	**56,756.8**	**–**
Illinois	4,221.0	4,495.0	3,302.0	12,018.0	–
Kansas	4,802.5	12,347.5	8,279.0	25,429.0	–
Kentucky	2,063.0	3,322.8	7,300.0	12,685.8	–
Louisiana	1,629.0	2,633.0	2,362.0	6,624.0	–
Credentials earned					
All states	**2,589**	**3,659**	**5,035**	**11,283**	**–**
Illinois	581	729	991	2,301	–
Kansas	1,190	1,440	2,454	5,084	–
Kentucky	449	754	884	2,087	–
Louisiana	369	736	706	1,811	
Placed in work-based learning					
All states	**663**	**986**	**1,265**	**2,914**	**35%**
Illinois	156	151	238	545	38%
Kansas	184	480	424	1,088	35%
Kentucky	192	210	420	822	40%
Louisiana	131	145	183	459	27%
Hired for any job					
All states	**456**	**1,173**	**1,477**	**3,106**	**37%**
Illinois	140	184	265	589	41%
Kansas	46	545	506	1,097	36%
Kentucky	139	107	366	612	30%
Louisiana	131	337	340	808	47%
Hired for a job related to training					
All states	**403**	**972**	**1,128**	**2,503**	**30%**
Illinois	109	131	174	414	29%
Kansas	62	492	379	933	30%
Kentucky	122	89	291	502	25%
Louisiana	110	260	284	654	38%

Sources: First, second, and third years of the college survey.

Notes: "Hired" refers to students hired during each program year. The first year began in September 2012 in Louisiana and in January 2012 in the other states.

[a] The numerators are the values in the "total" column. The denominators are the total enrollment values.

Appendix D. Resources

TABLE D.1

Resources Used to Support AO

By state and year

		First year	Second year	Third year
All states (n=30)	**Total**	**$6,990,685**	**$6,181,929**	**$6,810,537**
	Average (mean) per college	**$233,023**	**$206,064**	**$227,018**
	Median per college	**$224,244**	**$198,680**	**$213,784**
Illinois (n=8)	Total	$2,136,576	$1,698,632	$2,371,533
	Average (mean) per college	$267,072	$212,329	$296,442
	Median per college	$271,782	$187,082	$246,455
Kansas (n=6)	Total	$1,635,441	$1,450,812	$966,986
	Average (mean) per college	$272,574	$241,802	$161,164
	Median per college	$245,421	$254,783	$143,750
Kentucky (n=7)	Total	$1,649,390	$1,354,759	$1,222,127
	Average (mean) per college	$235,627	$193,537	$174,590
	Median per college	$242,054	$191,000	$171,326
Louisiana (n=9)	Total	$1,569,278	$1,677,726	$2,249,890
	Average (mean) per college	$174,364	$186,414	$249,988
	Median per college	$135,000	$140,460	$237,500

Sources: First, second, and third years of the AO college surveys.

Notes: The first year began in September 2012 in Louisiana and in January 2012 in the other states. The resources values differ somewhat from what was reported in previous years because one college left the initiative and was therefore excluded from all calculations. Only colleges active in all three years of the grant are included in the analysis of resource investments. Percentages may not sum to 100 because of rounding.

TABLE D.2

Components of Resources Used for AO

By state and year, percentages

		First year	Second year	Third year
All states	**Personnel[a]**	**93.1**	**97.2**	**91**
	Nonpersonnel course expenses[b]	**5.3**	**1.5**	**7**
	Nonpersonnel support services[c]	**0.5**	**0.2**	**0**
	Advertising	**0.8**	**0.6**	**1**
	Consultants	**0.0**	**0.0**	**0**
	Other	**0.3**	**0.5**	**1**
Illinois	Personnel	85.6	94.7	89
	Nonpersonnel course expenses	11.0	3.6	10
	Nonpersonnel support services	1.5	0.1	0
	Advertising	1.3	1.6	1
	Consultants	0.0	0.0	0
	Other	0.6	0.0	0
Kansas	Personnel	94.9	97.5	85
	Nonpersonnel course expenses	3.9	2.2	12
	Nonpersonnel support services	0.0	0.0	0
	Advertising	0.6	0.1	1
	Consultants	0.0	0.0	0
	Other	0.7	0.2	2
Kentucky	Personnel	96.3	96.9	95
	Nonpersonnel course expenses	3.3	2.3	4
	Nonpersonnel support services	0.0	0.7	0
	Advertising	0.4	0.1	1
	Consultants	0.0	0.0	0
	Other	0.0	0.0	0
Louisiana	Personnel	98.2	99.7	95
	Nonpersonnel course expenses	1.2	−2.0[d]	4
	Nonpersonnel support services	0.0	0.0	0
	Advertising	0.7	0.4	1
	Consultants	0.0	0.0	0
	Other	0.0	1.9	0

Sources: First, second, and third years of the AO college surveys.

Notes: The first year began in September 2012 in Louisiana and in January 2012 in the other states. The resources values differ somewhat from what was reported in previous years because one college left the initiative and was therefore excluded from all calculations. Only colleges active in all three years of the grant are included in the analysis of resource investments. Percentages may not sum to 100 because of rounding.

[a] In measuring personnel resources used, the survey asked about the proportion of staff members' time dedicated to AO in the first year and the total value of their time for the whole year, including the value of benefits. The evaluators multiplied the total proportion of time for each category of staff member by the annual value of the time for that category.

[b] To measure resources directed to courses, the evaluators considered three types of classes: (a) entirely new classes added for AO, (b) existing classes that had AO added to them ("enhanced" classes), and (c) classes that the college did not offer because of AO but would have offered otherwise. Classes that colleges did not offer represent a saving. For each class no longer offered, colleges were asked about the cost the last time it was offered. For each added class, colleges were asked for the total cost of the class. For each enhanced class, they were asked about the incremental costs attributable to AO. For added and enhanced classes, colleges were also asked about the proportion of costs that could be attributed to instructors, supplies, space, and "other." Because personnel costs are captured separately, the costs of the instructors were then backed out of the course costs. Space costs and "other" costs were negligible. Supply costs were counted once (not for every semester the course was offered) because in follow-up verification, colleges confirmed that most supply expenditures were fixed capital costs, such as purchasing class textbooks or a piece of machinery, and therefore they would not recur across semesters.

[c] Support service resources here do not include the salary of the coach or navigator, which is part of personnel resources. Support services include transportation vouchers, emergency financial assistance, and child care assistance. They do not include tuition waivers or scholarships.

[d] Negative course costs may have occurred if a college was able to cancel a course that would have otherwise been offered because of AO.

TABLE D.2

Value of Resources per Credit, Credential, and Pathway

For colleges with cost data in all three AO implementation years

	First year	Second year	Third year	Change (Y3–Y1)	% Change ([Y3–Y1]/Y1)
Resources per credit					
All states	**$610**	**$326**	**$467**	**–$143**	**–23**
Illinois	$506	$392	$861	+$355	+70
Kansas	$453	$147	$153	–$299	–66
Kentucky	$830	$632	$388	–$442	–53
Louisiana	$963	$637	$953	–$11	–1
Resources per credential					
All states	**$2,908**	**$1,824**	**$2,169**	**–$739**	**–25**
Illinois	$3,677	$2,353	$2,635	–$1,042	–28
Kansas	$1,589	$1,117	$953	–$637	–40
Kentucky	$3,881	$2,144	$2,355	–$1,526	–39
Louisiana	$4,253	$2,280	$3,187	–$1,066	–25
Resources per pathway					
All states	**$87,384**	**$65,765**	**$70,212**	**–$17,172**	**–20**
Illinois	$112,451	$73,854	$103,110	–$9,341	–8
Kansas	$81,772	$55,800	$38,679	–$43,093	–53
Kentucky	$82,470	$64,512	$53,136	–$29,334	–36
Louisiana	$74,728	$69,905	$86,534	+$11,807	+16
Resources per pathway semester					
All states	**$43,967**	**$30,009**	**$32,277**	**–$11,689**	**–27**
Illinois	$57,745	$32,666	$47,431	–$10,315	–18
Kansas	$38,939	$23,784	$18,245	–$20,694	–53
Kentucky	$43,405	$31,506	$29,808	–$13,597	–31
Louisiana	$37,364	$33,555	$33,580	–$3,783	–10

Sources: First, second, and third years of the AO college surveys.

Note: The first year began in September 2012 in Louisiana and in January 2012 in the other states.

Notes

1. Overall, 7 states and 85 colleges implemented the AO model. The evaluation focused on 54 colleges in 4 states.
2. For more detail, see Anderson et al. (2014); JFF's Breaking through website, http://www.jff.org/initiatives/breaking-through; and the Washington State Board of Community and Technical College's I-BEST website, https://www.sbctc.edu/colleges-staff/programs-services/i-best/.
3. Adult education programs—operated by community and technical colleges, school districts, and community-based organizations—are often oriented toward helping adults obtain a secondary school credential, such as a GED or adult high school diploma, or toward improving English language skills.
4. For more detail, see Anderson et al. (2014); JFF's Breaking through website, http://www.jff.org/initiatives/breaking-through; and the Washington State Board of Community and Technical College's I-BEST website, https://www.sbctc.edu/colleges-staff/programs-services/i-best/.
5. The research on I-BEST found that the "tipping point" at which students had an annual earnings advantage after five years was one year's worth of college-credit courses and a credential. See Prince (2005).
6. This requirement was specified in the request for proposals, but some flexibility was granted to states in which adult basic education programs were at least governed by the same agency as the community college system, such as in North Carolina.
7. Also in late 2012, a consortium of nine colleges in Louisiana and Mississippi received a large Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant from the US Department of Labor. Louisiana joined AO as a result of the TAACCCT grant and an additional investment from the Kellogg Foundation. Arkansas and Georgia joined the AO learning community as affiliate states that are not part of the AO evaluation.
8. The response rates for the student surveys were relatively low for several reasons. The evaluation team asked all 46 participating colleges in the four states to disseminate the first online survey to students enrolled in AO during the spring semester of 2014. Because of privacy concerns, the Urban Institute was unable to contact students directly to administer the survey. Instead, colleges were charged with sending out the survey to their AO students, and some colleges chose not to do so. Therefore, the number of students who received the survey is lower than the total number of AO students. The survey was sent to 1,575 AO students. Of those, 444 students from 39 colleges submitted complete responses to the survey, a 28 percent response rate. The 2015 follow-up survey was sent to 290 students who had completed the first survey and had given their consent to be contacted for the follow-up survey. One hundred and ten (110) students completed the second survey, a 38 percent response rate, but representing just 7 percent of the original pool of 1,575 students who were contacted for the first survey. The Urban Institute team used multiple methods to try to increase the response rate for the second survey, including rounds of e-mails and phone calls, assistance from college staff members who were asked to contact students, and incentives in the form of $10 gift cards for respondents to complete the survey. However, many students had provided e-mail addresses and phone numbers that were invalid, and college staff members were often unable to contact students who had already left the programs. Therefore, results from the student surveys are suggestive but cannot be generalized to the entire population of AO students. The results are used judiciously in this report to avoid overgeneralization.
9. The evaluation team determined the number of AO colleges each year by asking the state AO coordinator to list the names and contact information for each active college. The Urban team sent a survey to those colleges to track their implementation progress and obtained a 100 percent response rate. These counts may differ from other counts based on alternative definitions of participation or the timing of enumeration.
10. In Kansas, one college left AO and two joined, leading to a net increase of one college.
11. After the three-year implementation period, Illinois scaled AO to 6 more colleges for a total of 25.
12. While other states experienced increases, Kansas saw a decline in enrollment in the third year because the state and colleges redirected efforts in that year to ensuring sustainability of the initiative and experienced some unexpected personnel changeover. Kansas expected enrollments to increase again after the third year, as AO became an integrated part of the state's workforce development strategy.

13. In the first year, the survey did not document what portion of students who were recruited externally to the college were from adult education programs. Therefore, some portion of the 33 percent of students who came from "other sources" may have come from external adult education programs.
14. In AO programs, colleges often compressed opportunities for credential attainment within fewer credit hours than non-AO programs. That approach was not necessarily to students' detriment. Indeed, it may have been beneficial to have more marketable credentials on their résumé after the relatively short pathway period. That benefit made the AO approach distinct from the Washington State I-BEST model, where I-BEST programs had to be identical to non-I-BEST programs in structure.
15. Colleges reported the number of AO students in each pathway who were hired for a job within the grant year; the students may have been in an AO pathway or may have already completed the AO pathway before obtaining employment.
16. The data reported here are from the college staff based on the college survey. The forthcoming impact report will contain more information about student employment and earnings from state administrative records. Administrative records may have information that is more complete about some items, like employment outcomes, for-credit course taking, and college-awarded credentials. However, administrative records may be incomplete for others, such as noncredit course taking and third-party credentials. Thus, the numbers from the survey may differ from the numbers based on the administrative data, but both are useful sources of information about AO's achievements.
17. "Title III funds" refer to funds allocated under the authorization of Title III of the Higher Education Opportunity Act. These funds support institutional aid to help special populations, including students in remedial programs and English language learners.
18. In general, colleges found it challenging in the survey to parse the resources used for AO relative to their regular programming. No college tracked every hour spent on AO-related activities, and in some cases, it was difficult to determine which classes would have existed in the absence of AO and which would not. To obtain the most accurate data possible, the evaluation team personally followed up with every college AO coordinator to verify that the resources reported in the survey represented their best-informed estimates.
19. Because of data limitations, the evaluation will be unable to account for the costs and benefits to other organizations, such as community-based organizations, that may have helped implement AO.
20. For example, a dean whom the college would have employed anyway may have spent 20 percent of her time on AO activities. Although that does not necessarily cost the college more money, the college invested the value of that 20 percent of the dean's time into AO when that time could have gone toward other activities, such as departmental oversight. Therefore, that dean's time is a resource used on AO.
21. In implementing the Shifting Gears initiative, ICCB was able to standardize the concept of college bridge programs for adult education students by establishing a common statewide definition that included three components: contextualization, career development and awareness, and career transitions. Shifting Gears also helped adult education programs cultivate partnerships with the Office of the Governor, Department of Commerce and Economic Opportunity, and Women Employed (a nonprofit organization with extensive experience in state workforce and education policy and programs). More information about shifting Gears is available at the Joyce Foundation's website, http://www.joycefdn.org/shifting-gears/.
22. The following is a complete list of previous initiatives in Kansas that fed into AO: Ready for College sought to improve secondary to postsecondary transition rates (US Department of Education), Kan-Go created employment and training programs for youth and adult job seekers (US Department of Labor), Career Pathways developed career pathways at community and technical colleges (US Department of Labor), the Health Profession Opportunity Grants—called the Kansas Health Profession Opportunity Project—provided training in health care fields for TANF recipients and other low-income individuals (US Department of Health and Human Services), and Keeping Kansas Competitive sought to increase the proportion of Kansans with a postsecondary credential from 41 percent to 64 percent by 2018 (state funding).
23. Under that new law, colleges were reimbursed at three payment points: (a) $170 for a student who co-enrolled between a GED program and CTE (which covers the $133 cost of the GED exam), (b) $500 for a student who earned a GED while pursuing CTE, and (c) $1,000 when a student who was co-enrolled between a GED and CTE program received a technical certificate.

24. See "Louisiana Pathways: Train to Attain" PowerPoint presentation, http://www.jff.org/sites/default/files/Louisiana.pptx.
25. The only formal requirement for students to qualify for AO was that their eligible National Reporting System scores ranged from 4 to 6 for ABE (grade levels 6 through 12) and 5 to 6 for English-as-a-second-language (high intermediate to advanced). In the end, the flexibility of that eligibility requirement for AO participation (as opposed to basing eligibility based on high school credential attainment) gave states the flexibility to broaden or shift the target population when a major federal policy change occurred—the loss of ability to benefit under the Pell grant program.
26. Only those who scored in the eligible range would count as "AO students" for tracking.
27. Those results are only suggestive, since the second student survey had a relatively low response rate.

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