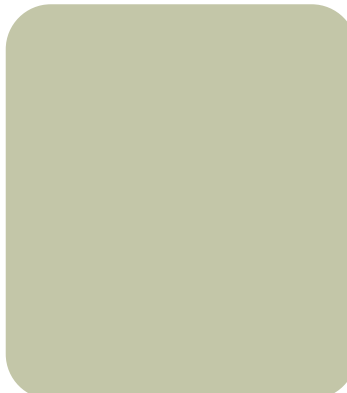


**Washington State's
Integrated Basic
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Implementation and
Early Impact Report**

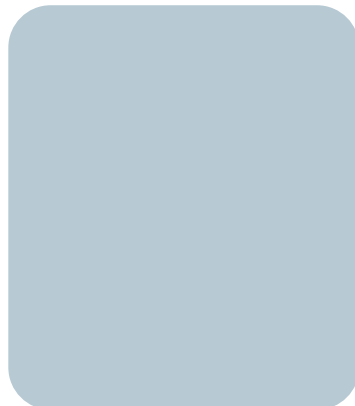
Executive Summary



**Pathways for
Advancing Careers
and Education**



OPRE Report No. 2018-87



September 2018

Washington State's Integrated Basic Education and Skills Training (I-BEST) Program in Three Colleges: Implementation and Early Impact Report Executive Summary

Pathways for Advancing Careers and Education (PACE)

OPRE Report No. 2018-87

September 2018

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Executive Summary

Low-skilled workers with only a high school education or less face poor and declining employment prospects. Postsecondary training, often at community colleges, offers one strategy for improving this population's education and employment opportunities, especially if targeted to occupations where demand for skilled workers is high and growing. How to facilitate a match between the nation's need for a skilled workforce and the needs of low-skilled adults for entry-level employment and advancement to higher-skilled jobs is a topic of great interest to policymakers, workforce development organizations, educators, and other key stakeholders.

The Integrated Basic Education and Skills Training (I-BEST) Program

This report describes the implementation and early impacts of the Washington State Integrated Basic Education and Skills Training (I-BEST) program at three colleges: Bellingham Technical College (BTC), Everett Community College (EvCC), and Whatcom Community College (WCC). Designed by the Washington State Board for Community and Technical Colleges (SBCTC), I-BEST operates at all 34 public community and technical colleges in the state. It is designed to provide occupational training and basic skills in a structured career pathway for students who have basic skills levels too low to enter college.

Without I-BEST, students whose college entrance test scores were too low to enroll directly in an occupational training program would first have to enroll in Adult Basic Education (ABE) or English as a Second Language (ESL) classes to raise their basic skills to the required levels.

The key elements of the I-BEST program as defined by SBCTC are:

- **Focus on living wage jobs.** I-BEST programs must incorporate coursework that will qualify workers for jobs with median wages of at least \$13 per hour (or \$15 per hour in King County, which includes Seattle).
- **Basic skills instruction through team teaching and support classes.** I-BEST occupational training courses are required to have both an occupational instructor and a basic skills instructor present for at least 50 percent of class time. As a complement to team teaching, some I-BEST programs also include support classes, taught by basic skills instructors, that clarify concepts from occupational training classes, address basic skills

Key Finding

Within a 24-month follow-up period, treatment group members were more likely than a randomly assigned control group who could not access the program to

- obtain workforce and academic credits, and
- receive a college credential.

required to succeed in occupational classes, and help students prepare for assignments and tests.

- **Credits.** Most I-BEST programs range in length from one to two quarters, and each quarter includes credit-bearing courses. Per SBCTC guidelines, workforce credits are earned in occupational training courses that focus on specific technical skills. For the most part, I-BEST generally did not result in academic credits, which are usually transferable to four-year colleges, including most general education requirements.
- **Credentials.** Completion of I-BEST courses generally culminated in a workforce award from the college, although further state licensing may be required to practice in the field (e.g., for nursing occupations).¹
- **Subsequent training and credentials.** As I-BEST programs are relatively short by definition, each program also defines a longer-term post-I-BEST educational pathway.

Within this overall approach, individual colleges have flexibility in how they design and operate their I-BEST program, including the occupations targeted.

In addition to these standard I-BEST elements, the three colleges in the PACE evaluation received additional resources for two program enhancements funded by the Open Society Foundations:

- A **dedicated advisor** available to I-BEST students to assist with guidance on academic issues, navigating the college's procedures, and career planning.
- **"Fill-the-gap" financial support** for tuition and course-associated materials that could not be covered by other sources.

Pathways for Advancing Careers and Education (PACE) Evaluation

Abt Associates and its partners are evaluating I-BEST as part of the **Pathways for Advancing Careers and Education (PACE)** evaluation. Funded by the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services, PACE is an evaluation of nine programs that include key features of a **career pathways framework**. The framework guides the development and operation of programs aiming to improve the occupational skills of low-income, low-skilled adults, primarily older nontraditional students, by increasing their entry into, persistence in, and completion of postsecondary training. Central to accomplishing these outcomes, the framework describes strategies for overcoming barriers to education and

¹ All community and technical colleges governed by SBCTC provide workforce awards (a certificate or an Associate in Applied Sciences degree requiring more 20 or more credits that are not transferable to a four-year college); workforce completion (a certificate requiring less than 20 credits); and associate's degrees that require two years of coursework and are transferrable to a four-year college.

training that these students can face. Key features of programs within this framework include: a series of well-defined training steps, promising instructional approaches targeted to adult learners, services to address academic and non-academic barriers to program enrollment and completion, and connections to employment.

The I-BEST evaluation includes an **implementation study** that examines the design and operation of the program and enrolled students' participation patterns. It also includes an **impact study** that measures differences in education and employment outcomes using an experimental design; that is, by comparing individuals randomly assigned to a *treatment* group that could enroll in I-BEST at the three colleges versus a *control* group that could not.²

The three community and technical colleges in the study offer I-BEST programs in a different set of occupational fields (see box). The colleges were selected due to the size of their I-BEST program and willingness to participate in a random assignment study. They were not selected to be representative of the I-BEST program across all community and technical colleges in the State of Washington. The PACE evaluation of I-BEST pools results across the programs in the three colleges.

Analyses used data from two baseline surveys completed at the time of study entry, an 18-month follow-up survey, 24 months of college records, and site visits. This report provides the results from the implementation study and describes the early impacts of the I-BEST program (18 to 24 months after random assignment) on education, training receipt, credits earned (the confirmatory outcome selected to assess the early effects of I-BEST), and credential receipt, as well as early employment outcomes. Though there are previous evaluations of I-BEST, PACE is the first to use a rigorous random assignment research design to determine a causal link between access to I-BEST and education outcomes.

Colleges and I-BEST Programs Included in PACE Evaluation

Bellingham Technical College

- Automotive
- Electrical
- Nursing Assistant
- Precision Machining
- Welding

Everett Community College

- Nursing Assistant
- Sustainable Office Skills
- Welding

Whatcom Community College

- Clerical Administration

² Random assignment ensures that the treatment and control groups will be alike in their observed and unobserved characteristics, and that any systematic differences in their outcomes can be attributed to the treatment group having access to program services.

Findings Summary

From the Implementation Study

- *I-BEST served individuals with low education and basic skills levels, including 31 percent who had less than a high school diploma or equivalent.*

As discussed, I-BEST seeks to increase access to college-level classes for students with low basic skills. Reflecting this approach, the high proportion of study participants who lacked a high school diploma or equivalent reflects the low basic skills level of the population served. More than two-thirds of study participants reported never having attended college, and less than 10 percent reported having an associate's degree or higher. I-BEST allowed students with lower skills levels to enroll in the college-level occupational training programs that included basic skills instruction.

- *Though the details varied across the colleges and I-BEST programs, the three colleges implemented I-BEST team teaching by combining basic skills and occupational technical content.*

A hallmark of the I-BEST model is team teaching. As noted above, basic skills instructors must be present for at least 50 percent of occupational training class time. The colleges and instructors had flexibility in how they approached team teaching, including how occupational and basic skills instructors defined their roles within the classroom and planned their time together. The implementation study documented three general approaches:

1. *Basic skills instructor as an active student*, sitting in class with the students and stopping the occupational instructor to ask clarifying questions or for a concept to be further explained if students were having difficulty with the material. This approach was used often in occupational courses that were primarily lecture-based and highly technical, such as Welding and Machining.
2. *Basic skills instructor delivers part of the content during a designated part of the occupational classes*. For example, the basic skills instructor might start each class with a discussion of study skills before turning it over to the occupational instructor to present technical information.
3. *Basic skills and occupational instructors jointly deliver class content*. From the students' perspective, delivery is seamless; it may not be apparent which instructor is responsible for which type of content. Staff reported this approach was more suitable to I-BEST programs where the occupational focus was not highly technical or specialized, such as Office Skills.

- *The I-BEST teaching teams reported benefiting from experience in working together, but some faced challenges in finding adequate instructional planning time.*

Two colleges had teaching teams that worked together for multiple quarters. These teams tended to have clearly defined roles and often co-delivered content. I-BEST staff reported that new teams had a learning curve. For many occupational instructors, I-BEST courses were their first experience teaching low-skilled students, whereas basic skills instructors needed to learn occupational content quickly. Regardless of team tenure, college staff reported that some teaching teams had limited preparation time due in part to the adjunct status of instructors.

- *Basic skills instructors provided advising and support.*

Basic skills instructors at each of the three colleges provided tutoring and one-on-one academic support, especially early in the academic term when students struggled with course material. Though each of the three colleges offered tutoring services to all students, including those in I-BEST, staff reported that students were often hesitant to engage with tutors and more inclined to seek the assistance of the basic skills instructors whom they already knew.

- *The I-BEST programs provided “fill-the-gap” financial assistance and dedicated student advisors (“navigators”) with funding from the Open Society Foundations.³*

Many I-BEST students were new to college and had never completed the Free Application for Federal Student Aid (FAFSA) or applied for other forms of financial aid. Navigators helped new students apply for financial aid for which they were eligible. The program then provided “fill-the-gap” funding if the financial aid was not sufficient. Colleges also used the funding to cover training-related expenses such as books.

Navigators also provided proactive advising to I-BEST students regarding class progress, potential barriers to participation, and career and academic planning. Instructors and administrators at one college characterized the navigator as a “one-stop shop” who served as both a coordinator and guide for I-BEST participants. Another administrator described the navigator role as an “early alert system” to proactively identify potential issues that could inhibit student success.⁴

³ Programs in PACE could receive funding from OSF to enhance program services. OSF made a grant to Abt Associates for this purpose, and funds were allocated by Abt to programs that proposed modifications.

⁴ Each of the colleges had advising services available to I-BEST students prior to the start of PACE. However, these services were less comprehensive than what was available to treatment group members during the study. Feedback from staff from Washington’s State Board for Community and Technical Colleges indicates that more comprehensive navigation services are now a core component of I-BEST.

- *The I-BEST program did not offer structured employment services, but some instructors provided informal employment and job search assistance.*

SBCTC designed the I-BEST program with an explicit focus on occupational training that could increase the earnings potential of participants. However, none of the three colleges had employment supports specific to I-BEST. Administrators at one college noted that the lack of employment services was a weakness of the I-BEST program, whereas another administrator indicated that the lack of such specific employment services reflected the focus on continued training and credentials.

Although none of the three colleges had dedicated I-BEST employment services, staff reported that instructors often provided informal, individualized assistance to students as requested. Some I-BEST instructors came from the relevant industry and knew employers in the local labor market. One Welding instructor, for example, stayed informed of employers who were likely to hire entry-level welders and provided applications to students and coached them on the application process.

- *Recruiting students for I-BEST was challenging.*

For the PACE study, the three colleges collectively planned to enroll 1,000 study participants to be equally divided between the treatment and control groups. Based on past experience, college administrators expected a high demand for occupational training among their currently enrolled basic skills students (ABE and ESL), and several I-BEST programs included in the study traditionally had waiting lists. In addition, colleges expanded their outreach to community-based organizations, employers, the state's Temporary Assistance for Needy Families (TANF) program, and the local media. They also reached out to students whose college entrance scores were high enough to enroll in the standard college occupational classes but whose basic skills levels were in the I-BEST range. Despite efforts to increase recruitment, the three colleges struggled to recruit participants for the study and ultimately recruited two-thirds of the sample goal (632 study participants in total).

- *Across the three colleges, almost three-quarters of treatment group members participated in an I-BEST program.*

Seventy-three (73) percent of treatment group members participated in at least one I-BEST course. Exhibit ES-1 shows the proportion of the treatment group that participated in an I-BEST course and, for those who participated, the percentages who obtained a credential and enrolled in additional courses after I-BEST within a 24-month follow-up period.

Exhibit ES-1: Participation in I-BEST, Credential Receipt, and Participation in Post-I-BEST Courses, by College and Program, within 24 Months after Random Assignment

College/Program	Participated in an I-BEST Program	Obtained Workforce Credential	Enrolled in Additional Courses after I-BEST
	Among Those Randomly Assigned	Among Those Who Participated in a I-BEST Program	
Bellingham Technical College			
Automotive (N=3)	100%	33%	67%
Electrical (N=13)	87%	31%	77%
Nursing Assistant (N=57)	71%	70%	53%
Precision Machining (N=6)	60%	83%	50%
Welding (N=39)	81%	38%	72%
<i>Subtotal (N=118)</i>	76%	55%	62%
Everett Community College			
Nursing Assistant (N=20)	61%	80%	55%
Sustainable Office Skills (N=36)	86%	61%	67%
Welding (N=22)	48%	95%	55%
<i>Subtotal (N=78)</i>	65%	76%	60%
Whatcom Community College			
Clerical Assistant (N=38)	89%	29%	76%
Total (all colleges and programs)	73%	58%	63%

SOURCE: SBCTC college records.

NOTES: Sample size for column one is 315; sample size for columns two and three is 230 and includes all individuals who attended at least one team-taught I-BEST program.

As shown in the first column, almost 90 percent of WCC treatment group members enrolled in an I-BEST course, whereas 76 percent of BTC students and 65 percent of EvCC students did so. Participation rates were above 80 percent for the Automotive, Electrical, and Welding programs at BTC; the Sustainable Office Skills program at EvCC; and the Clerical Assistant program at WCC. The lowest rate (48 percent) was in the I-BEST Welding program at EvCC.

- ***Fifty-eight (58) percent of treatment group members who participated in I-BEST obtained a workforce credential, and almost two-thirds enrolled in subsequent education and training.***

Each college awarded a college-issued certificate for the completion of its I-BEST programs. As shown in the second column on Exhibit ES-1, 58 percent of treatment group members who participated in I-BEST received a credential within the 24-month follow-up period, with the majority being workforce awards (20 credits or more; not shown).

Credential receipt varied by college and occupational area. More than three-quarters of EvCC students (76 percent) obtained a credential, compared with 55 percent of BTC students and 29 percent of WCC students. Credential receipt rates were above 80 percent for treatment group members who enrolled in the BTC’s Precision Machining and EvCC’s Nursing Assistant and Welding programs. EvCC had notably higher credential receipt rates than comparable programs at the other colleges for students enrolling in its Welding program (95 percent for EvCC versus 38 percent for BTC) and in its clerical program (61 percent for EvCC versus 29 percent for WCC).

The third column of Exhibit ES-1 shows that a high proportion of treatment group members who participated in an I-BEST program continued their education beyond I-BEST, with 63 percent enrolling in additional college courses after I-BEST. This rate was similar at BTC and EvCC (about 60 percent) but higher at WCC (76 percent). On average, those who attended an I-BEST program were enrolled in college courses for four quarters—longer than the I-BEST portion of the occupational training lasted. Approximately one-quarter were still enrolled in college at the end of the 24-month follow-up period (not shown).

The variation in credential receipt, as well as the progression to additional education and training (in some cases, a greater proportion than those who received a credential through I-BEST), is likely due to I-BEST students not completing all of the I-BEST program course requirements but continuing to higher or perhaps different courses of study.

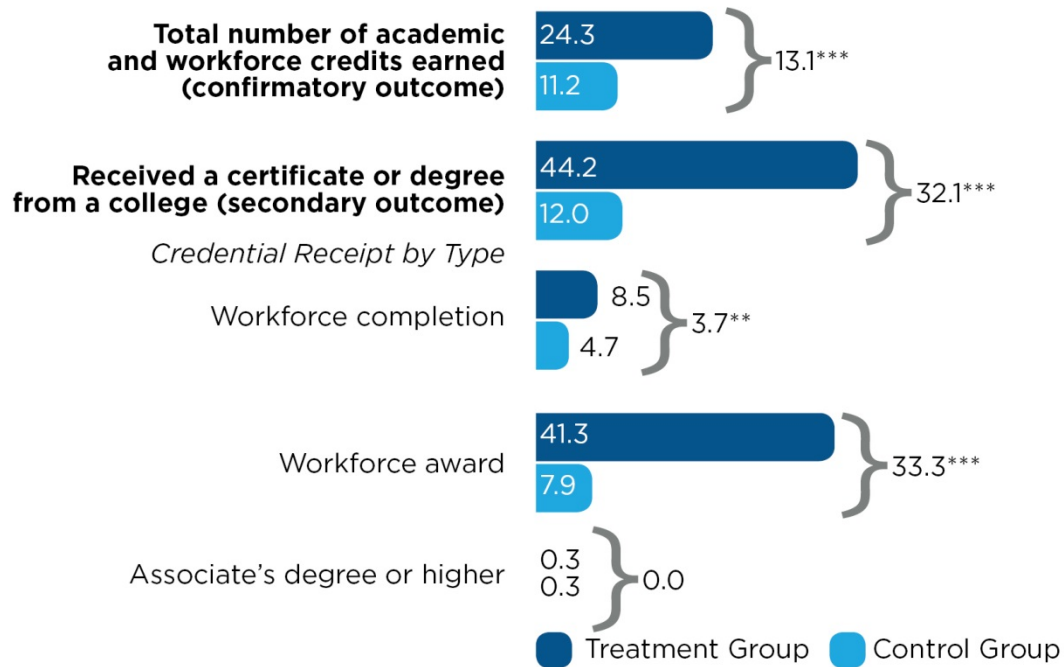
From the Impact Study

- *I-BEST had a positive impact on the number of academic and workforce credits earned at colleges (confirmatory outcome).*

As Exhibit ES-2 shows, I-BEST had a 13-credit impact on academic and workforce credit completion, which was the confirmatory outcome for the impact analysis. Both types of credits are college-level credits (i.e., non-remedial and applicable towards credentials), and the accumulation of these credits is a positive indicator of academic progress, either towards a credential or, for academic credits, towards transferring to four-year programs in the future. However, the majority of the credits (84 percent) earned were workforce credits (not shown).

The impact on credits earned was driven primarily by more treatment group members enrolling in college than control group members, and to a lesser extent by treatment group members who attended college earning more credits than control group attendees. These results indicate engagement in college-level courses for many of these students would not have otherwise been possible, because they did not meet the college entry basic skill requirements.

Exhibit ES-2: Early Impacts on Credits Earned and Credential Receipt, within 24 Months after Random Assignment (Confirmatory and Secondary Outcomes)



*** statistically significant at the one percent level; ** at the five percent level.

SOURCE: SBCTC records.

- ***I-BEST produced large positive impacts on credential completion, particularly workforce awards.***

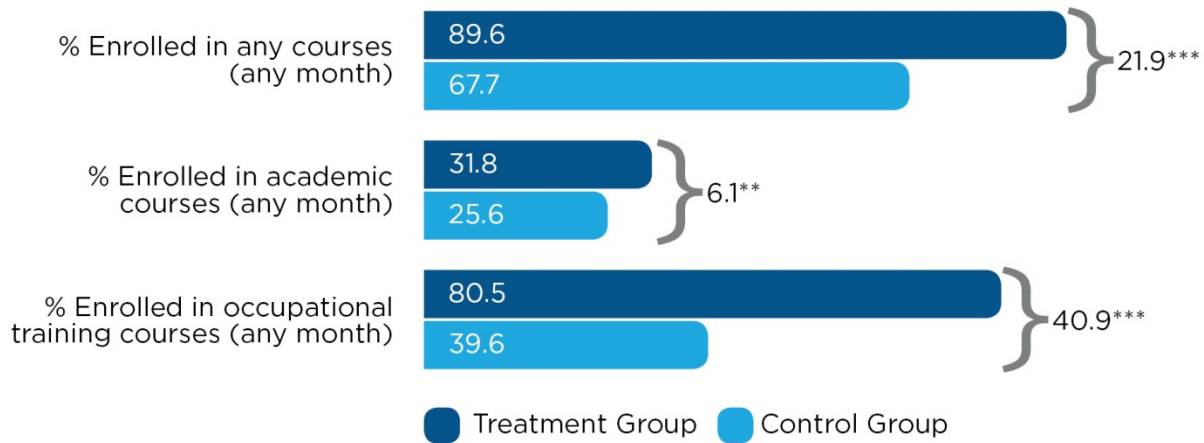
As Exhibit ES-2 shows, I-BEST increased the completion of any credential from a SBCTC college within 24 months after random assignment by more than 32 percentage points, with more than 44 percent of the treatment group receiving some type of credential within the 24-month follow-up period compared with only 12 percent of the control group (based on SBCTC college records). The majority of the students completed a workforce award, a categorization that includes either a certificate that required more than 20 total workforce credits to complete or an Associate’s in Applied Science (AAS) degree. I-BEST also increased by four percentage points completion of short-term workforce completion certificates, which includes any certificate that requires less than 20 total workforce credits to complete.

The impact on credentials completed was driven primarily by a higher proportion of treatment group members who enrolled in college receiving a credential than did the control group members who enrolled in college. Among those who enrolled in college, 54 percent of treatment group members received a credential from a college, whereas 28 percent of control group members did so (not shown).

- *I-BEST had large positive impacts on college course enrollment, driven primarily by enrollment in occupational training courses within the first six months after random assignment.*

As Exhibit ES-3 shows, I-BEST increased college enrollment by 22 percentage points, with close to 90 percent of the treatment group enrolling in college compared with 68 percent of the control group. As shown in the exhibit, I-BEST increased enrollment in occupational training courses by 41 percentage points (81 percent for treatment group members compared with 40 percent for control group members over the 24 months—a 100 percent increase). The large impact on occupational training course enrollment is driven by treatment group members enrolling in I-BEST courses, whereas the control group members would likely take remediation classes first. The treatment group members could earn workforce credits for completing I-BEST courses. I-BEST also increased academic course enrollment by six percentage points.

Exhibit ES-3: Early Impacts on Enrollment in Occupational Training and Academic Courses, within 24 Months after Random Assignment



*** statistically significant at the one percent level; ** at the five percent level.

SOURCE: SBCTC records.

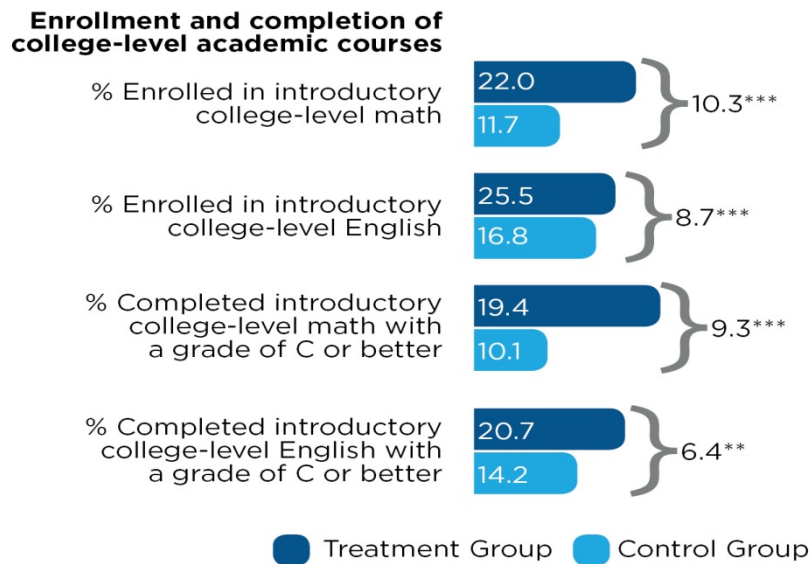
The impact in occupational training class enrollment is at its largest in the first six months after random assignment, with 73 percent of the treatment group enrolling in an occupational training course compared with only 22 percent of the control group (not shown). The impacts on cumulative occupational training course enrollment decrease over time, where eventually the treatment and control groups are roughly equal in months 19-24 after random assignment (not shown).

- *There was a positive impact on the enrollment and completion of college-level algebra and English courses.*

As Exhibit ES-4 shows, I-BEST increased enrollment in and completion of college-level algebra and English, both of which are credit-bearing academic courses and are often considered to be

“gateway” courses for advancement into higher-level college courses. For algebra, I-BEST increased enrollment by 10 percentage points and completion by nine percentage points; for English, I-BEST increased enrollment by nine percentage points and completion by six percentage points. These findings are encouraging in terms of advancement in college coursework, since these algebra and English courses serve as prerequisites for many other courses required as part of two-year associate degrees and are often transferrable to four-year colleges.

Exhibit ES-4: Early Impacts on the Enrollment and Completion of College-Level Algebra and English



*** statistically significant at the one percent level; ** at the five percent level.

SOURCE: SBCTC records.

- *I-BEST had statistically significant impacts on receipt of advising and employment services.*

Reflecting the dedicated advisor that was part of I-BEST, the program had a 14 percentage point impact on receipt of career counseling (36 percent of the treatment group members versus 22 percent of control group members, statistically significant at the one percent level). There were similar impacts on receipt of help arranging supports for school, work, or family (29 percent of the treatment group versus 16 percent of the control group, statistically significant at the one percent level). Though there were no official job search assistance services, I-BEST produced an impact on receipt of job search or placement services (29 percent of the treatment group versus 19 percent of the control group, statistically significant at the one percent level), potentially reflecting the assistance received from instructors or the advisor. (See full results in Chapter 4, Exhibit 4-5).

Implications

Because of the interest at the federal, state, and local levels in the I-BEST as a strategy to improve education and employment outcomes for low-skilled adults, replications of the model are already underway in several states and localities. These results have a number of implications for further development of related initiatives.

- **Initial findings from the PACE evaluation provide strong causal evidence of the effect the I-BEST program can have on education outcomes.** The PACE evaluation provides the first rigorous evidence on I-BEST from a range of occupational programs at three of the state's 34 community and technical colleges. Though not representative of all I-BEST programs statewide, these results greatly strengthen the evidence that I-BEST can produce increases in receipt of credits and credentials. Future reports will provide information on employment effects at later follow-up points.
- **Though the I-BEST programs themselves last one to two quarters, many students used them as a launching pad for additional college-level education and training.** A high proportion of treatment group members who attended I-BEST programs continued their education beyond I-BEST, with 63 percent enrolling in additional college courses after I-BEST. On average, those who attended an I-BEST program were enrolled in college courses for four quarters—longer than the I-BEST portion of the occupational training lasted. Approximately one-quarter were still enrolled in college at the end of the 24-month follow-up period.
- **Maintaining a connection between occupational and academic programs may be important for students interested in pursuing higher levels of education that may result in higher-paying jobs.** Most of the credits earned and credentials received by I-BEST participants were for workforce rather than academic courses, meaning they are not transferable to four-year colleges. But there is some evidence of students moving to academic courses of study. Primarily through enrollment in courses after I-BEST, the program increased enrollment in and completion of college-level algebra and English, both of which are credit-bearing academic courses and are often required as part of two-year associate degrees and transferrable to four-year colleges.
- **The team teaching approach benefited from planning and durability in teaching teams.** Staff reported variations in how team teaching was operationalized and challenges the teams faced. To effectively implement I-BEST the instructors reported that they needed to adapt to the learning styles of students with lower basic skills as well as develop instructional approaches that effectively integrate a second instructor. Overall, the study indicates the value of planning activities to help instructors define and integrate their instruction and importance of the tenure of the instructors in working

together as team. In addition, several of the programs experienced challenges using staff who were part-time and adjunct, which is common in community college programs, because it limited the planning time available to the teaching teams.

- **Although the I-BEST programs operated largely as designed, the implementation experience showed areas for further attention and development.** First, although the program sought to target low-skilled individuals, colleges had some difficulty recruiting students. Second, connections to employment and jobs were not a formal component of the program in most of the career areas. Finally, study findings on the impacts of student advising and supports indicate that the dedicated student advisors and “fill-the-gap” financial assistance—resources not typically available to I-BEST students but available during the study through a PACE-related foundation grant—may be a contributing factor to the program effects observed.

Next Steps

The next I-BEST report will cover a **36-month follow-up period**. It will focus on the effects of the program on students' economic outcomes for the period when these are expected to occur. The report will examine **employment outcomes**, such as average employment and earnings over successive follow-up quarters, and job characteristics. Thus, it will begin to answer whether the services provided by I-BEST translate into economic gains in the workplace in the longer term. An analysis at 72 months after random assignment will estimate long-term effects on earnings of the program.

The many important questions that remain to be addressed in subsequent reports include:

- Will I-BEST's impact on educational attainment remain stable, increase, or decrease?
- Will I-BEST's impact on educational attainment translate into impacts on employment and earnings?
- Does I-BEST have other impacts on participants and their families?
- Is I-BEST cost beneficial?