IES Institute of Education Sciences

Integrated Basic Education Skills and Training (I-BEST)

Intervention Brief | Postsecondary Career and Technical Education

WHAT WORKS CLEARINGHOUSE™
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Rising employer demand for skilled workers has driven efforts to better align occupational training programs to industry needs.[1] Yet, even as the demand for skilled workers increases, less than half of students who enter occupational training programs receive a credential within six years.[2] Community colleges are working to find faster and more effective ways to train those in need of basic skills instruction in math, reading, or job skills. Traditionally, basic skills courses are offered in a sequence that must be completed before students can begin college-level occupational training. However, most students referred to basic skills training never enroll in college-level courses.[3] As its name implies, Washington State's *Integrated Basic Education Skills and Training (I-BEST)* provides integrated basic skills and occupational training that allows students to complete their training program faster, and provides supports designed to ensure students stay engaged in training. Washington State's *I-BEST* program was developed by the Washington State Board of Community and Technical Colleges (SBCTC) and was first implemented in the 2006–2007 school year.

This What Works Clearinghouse™ (WWC) report, part of the WWC's Postsecondary Career and Technical Education topic area, explores the effects of *I-BEST* on education and labor market outcomes. The WWC identified 12 studies of *I-BEST*. Three of these studies meet WWC standards.[4] The evidence presented in this report is from studies of the impact of *I-BEST* on students in career and technical education programs—including African-American, Hispanic, Asian, Native Hawaiian, and White students—in a variety of school settings, including urban, suburban, and rural community colleges.

What Happens When Students Participate in *I-BEST*?

The evidence indicates that implementing *I-BEST*:

- **is likely to increase industry-recognized credential, certificate, or license completion**
- **may increase short-term employment**
- **may increase short-term earnings**
- **may result in little or no change in credit accumulation**

Findings on *I-BEST* from three studies that meet WWC standards are shown in Table 1. The table reports an effectiveness rating, the improvement index, and the number of studies and students that contributed to the findings. The improvement index is a measure of the intervention's effect on an outcome. It can be interpreted as the expected change in percentile rank for an average comparison group student if that student had received the intervention.

Table 1. Summary of findings on *I-BEST* from studies that meet WWC Standards

		Study findings	Evidence meeting WWC standards (version 4.0)	
Outcome domain	Effectiveness rating	Improvement index (percentile points)	Number of studies	Number of students
Industry-recognized credential, certificate, or license completion	Positive effects	+18	3	44,367
Short-term employment	Potentially positive effects	+10	1	2,064
Short-term earnings	Potentially positive effects	0	2	2,519
Credit accumulation	No discernible effects	-1	1	42,894

Note:The improvement index can be interpreted as the expected change in percentile rank for an average comparison group student if that student had received the intervention. For example, an improvement index of +18 means that the expected percentile rank of the average comparison group student would increase by 18 points if the student received *I-BEST*. The improvement index values are generated by averaging findings from the outcome analyses that meet WWC standards, as reported by Glosser et al. (2018), Modicamore et al. (2017), and Anderson et al. (2017). A positive improvement index does not necessarily mean the estimated effect is statistically significant. Industry-recognized credential, certificate, or license completion outcomes reported in these studies include receipt of a credential from any source; receipt of a vocational, technical, or professional license or certificate; and receipt of any credential from a college. The short-term employment outcome reported in one study was employed in the first year after program completion. Short-term earnings outcomes included working in a job paying $12 or more after 18 months and earnings one year after program completion. The credit accumulation outcome was the percentage of students earning more than 12 credits. The effects of *I-BEST* are not known for other outcomes within the Postsecondary Career and Technical Education topic area, including technical skill proficiency, postsecondary degree attainment, medium-term employment, long-term employment, medium-term earnings, and long-term earnings.

BOX 1. HOW THE WWC REVIEWS AND DESCRIBES EVIDENCE

The WWC evaluates evidence based on the quality and results of reviewed studies. The criteria the WWC uses for evaluating evidence are defined in the Procedures and Standards Handbooks and the Review Protocols. The studies summarized in this report were reviewed under WWC Standards (version 4.0) and the Postsecondary Career and Technical Education topic area protocol (version 4.0).

To determine the effectiveness rating, the WWC considers what methods each study used, the direction of the effects, and the number of studies that tested the intervention. The higher the effectiveness rating, the more certain the WWC is about the reported results and about what will happen if the same intervention is implemented again. The following key explains the relationship between effectiveness ratings and the statements used in this report:

Effectiveness rating	Rating interpretation	Description of the evidence
Positive (or negative) effects	The intervention ***likely*** to change an outcome	Strong evidence of a positive effect, with no overriding contrary evidence
Potentially positive (or negative) effects	The intervention ***may*** change an outcome	Evidence of a positive effect with no overriding contrary evidence
No discernible effects	The intervention ***may result in little to no change*** in an outcome	No affirmative evidence of effects
Mixed effects	The intervention ***has inconsistent effects*** on an outcome	Evidence includes studies in at least two of these categories: studies with positive effects, studies with negative effects, or more studies with indeterminate effects than with positive or negative effects

How is *I-BEST* Implemented?

The following section provides details of how *I-BEST* was implemented. This information can help educators identify the requirements for implementing *I-BEST* and determine whether implementing this intervention would be feasible in their colleges. Information on *I-BEST* presented in this section comes from the studies that meet WWC standards (Glosser et al., 2018; Modicamore et al., 2017; and Anderson et al., 2017) and from correspondence with the developer.

- **Goal:** *I-BEST* was developed by SBCTC to increase the rate at which adults in need of basic skills enter and succeed in postsecondary occupational training. It is designed to integrate adult basic education and occupational skills training, so students can learn literacy, math, work, and college-readiness skills and move into living wage jobs faster. It provides an alternative to the traditional track of providing adult basic education prior to students entering occupational training, which generally results in low rates of advancement between basic skills and occupational training.
- **Target population:** *I-BEST* allows individuals with skill levels that are lower than normally required to enroll in college-level programs to pursue credit-bearing, short-term certificate programs as well as college degrees.
- **Method of delivery:** *I-BEST's* signature feature is its team teaching approach, which involves a basic skills instructor and an occupational instructor co-teaching during at least 50 percent of occupational training class time. *I-BEST* was replicated under two different names.The *Accelerating Opportunity* model calls for a minimum of 25 percent team teaching, while the *Accelerating Connections to Employment (ACE)* model prescribes a 50 percent minimum of team teaching. In addition, a dedicated *I-BEST* navigator (coach) is available to students who can provide career counseling and help students access "fill-the-gap" financial support for tuition and course materials; funding for support services (e.g., uniforms, transportation, licensure testing); clinical placements (for nursing students); and internships. Both *Accelerating Opportunity* and *ACE* had partnerships with Workforce Investment Boards (WIBs) that connected students to employers.
- **Frequency and duration of service:** Some *I-BEST* programs require full-time enrollment while others are offered part-time in the evenings or weekends. The duration of students' participation in *I-BEST* depends on their course of study. For example, as reported in Glosser et al. (2018), automotive, electrical, and certified nursing assistant trainings lasted one quarter while precision machining, welding, and sustainable office skills trainings lasted two quarters.
- **Intervention components:** Refer to Table 2 for additional details.

Comparison group: In the three studies that contribute to this intervention report, students in the comparison group received the regular supports provided by their community college. In the *ACE* study (Modicamore et al., 2017), students who entered the program through a WIB had access to regular WIB services which included training referrals, career counseling, and job search assistance.

Table 2. Components of *I-BEST*

Key component	Description
Team teaching	*I-BEST* offers students integrated basic skills and occupational skills training. Both the basic skills instructor and the occupational training instructor are required to be present in class for at least half of the total instructional time in an *I-BEST* course—or 25 percent of total instructional time in *Accelerating Opportunity*. Instructors collaborate to identify joint learning outcomes for students in their class and both take part in leading discussions and managing student projects. Team teaching can take on different forms: • **Traditional team teaching**, where two or more teachers share instructional responsibilities in the same classroom at the same time with the same group of students. • **Collaborative teaching**, where teachers exchange and discuss ideas in front of learners, instead of engaging in usual direct instruction. • **Complementary-supportive teaching**, where one teacher is responsible for teaching content and the other is responsible for providing follow-up activities or study skills. • **Parallel instruction**, where the class is divided into two groups and each teacher is responsible for teaching the same material to each group. • **Differentiated split class**, where the class is divided into smaller groups according to learning needs, and each teacher provides instruction to their respective group. • **Monitoring teacher**, where one teacher instructs the entire class and the other teacher circulates in the classroom and monitors student understanding and behavior. In the *Accelerating Opportunity* evaluation (Anderson et al., 2017), all six types of team teaching models were used, with the complementary-supportive model being most popular, followed by monitoring teacher, traditional, and collaborative. In the *ACE* study (Modicamore et al., 2017), the complementary-supportive model was described as being typical. In the *I-BEST* study (Glosser et al., 2018), collaborative teaching was implemented, as were two variants of traditional team teaching: (1) basic skills instructors delivered instruction for part of the class period, then turned over instruction to the occupational skills instructor, and (2) both instructors delivered class content together. *I-BEST* uses a contextualized instruction approach, where students learn basic skills in the context of their course of study. For example, in an *I-BEST* nursing program, increased emphasis is placed on learning medical terms in addition to mastering everyday vocabulary. This instructional model aims to improve the motivation and achievement of students by providing them experiences where they can see the usefulness of basic skills instruction in their chosen field.
Career navigation	*I-BEST* provides students with a career navigator, who provides intake, orientation, job readiness, mentoring, and job placement services. *I-BEST* offers multiple tracks from its traditional program, to either provide additional vocational education that can lead to a college degree, or provide additional academic instruction to help students advance on a career pathway.
Financial supports	*I-BEST* students in Washington can receive Opportunity Grants when they enroll in *I-BEST* professional technical pathways. The grant covers up to 45 credits of tuition and up to $1,000 a year for books and supplies.
Additional supports	*I-BEST* students also receive tutoring, career advising, emergency child care, emergency transportation, and college success classes.
Job placement assistance	Both the *Accelerating Opportunity* and *ACE* implementation of the *I-BEST* model included partnerships with local WIBs to place students in jobs. The *ACE* program added a job developer position to actively help students find employment after their training was completed, and to develop relationships with employers. *I-BEST* as studied in Glosser et al. (2018) did not include specific employment and job placement services.

What Does *I-BEST* Cost?

This preliminary list of costs is not designed to be exhaustive; rather, it provides educators with an overview of the major resources needed to implement *I-BEST*. The program costs described below are based on information available as of March 2020. The total cost of *I-BEST* was reported in a SBCTC cost-benefit analysis to be $2,417 in direct student costs and $7,279 in state costs as of January 2013. The total cost of *ACE* as of May 2017 ranged from $4,828 to $13,033 per student across the nine sites. The total cost of *Accelerating Opportunity* as of November 2017 ranged from $2,635 to $7,128 per student across four states. Below is a breakdown of the costs reported in the SBCTC study.

- **Equipment and materials costs:** The SBCTC cost-benefit analysis reported that enrollment support, which includes both direct and indirect costs of instruction, was $4,396 per *I-BEST* completer. Washington State provided an average of $2,883 in financial aid support per *I-BEST* completer.
- **Personnel costs:** The SBCTC cost-benefit analysis reported that enrollment support, which includes both direct and indirect costs of instruction, was $4,396 per *I-BEST* completer.
- **Facilities costs:** No additional facilities costs were reported beyond the facilities costs normally associated with college attendance.
- **Costs paid by students or parents:** The SBCTC cost-benefit analysis reported that tuition minus the weighted average financial aid per student completer was $1,114. The cost of books was listed as $1,000 and the cost of fees was $300 per student completer. Students can use Opportunity Grants when they enroll in *I-BEST* professional technical pathways, which cover up to 45 credits of tuition and up to $1,000 a year for books and supplies.

- **In-kind supports:** *I-BEST* students also receive tutoring, career advising, emergency child care, emergency transportation, and college success classes.

- **Sources of funding:** *I-BEST* is funded by SBCTC. The *Accelerating Opportunity* program was funded by the Bill & Melinda Gates Foundation. The *ACE* program was funded through a U.S. Department of Labor Workforce Innovation Fund grant with additional support from the Annie E. Casey Foundation.

For More Information:

About *I-BEST*

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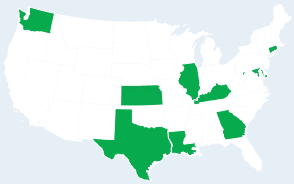
About the cost of the intervention

Web: https://www.sbctc.edu/resources/documents/colleges-staff/programs-services/basic-education-for-adults/InvestmentsinI-BESTPrograms.pdf

In What Context Was *I-BEST* Studied?

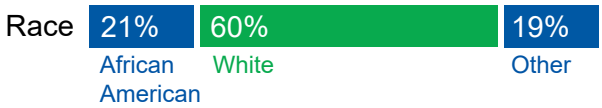
The following section provides information on the setting of the three studies of *I-BEST* that meet WWC standards, and a description of the participants in the research. This information can help educators understand the context in which the studies of *I-BEST* were conducted, and determine whether the program might be suitable for their setting.

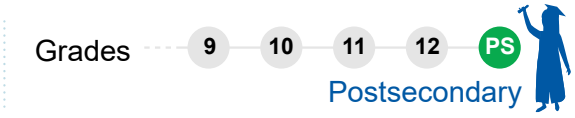
WHERE THE STUDY WAS CONDUCTED



3 studies, **45,413** students in Connecticut, Georgia, Illinois, Kansas, Kentucky, Louisiana, Maryland, Texas, and Washington

Districts: Urban, suburban, and rural settings





LEARN MORE

Read more about the *I-BEST* intervention and the studies that are summarized here in the Intervention Report.

Endnotes

[1] Carnevale, A. P., Cheah, B., Ridley, N., & Strohl, J. (2017). *Good jobs that pay without a BA*. Washington, DC: Georgetown University, Center on Education and the Workforce.

[2] Shapiro, D., Ryu, M., Huie, F., Liu, Q., and Zheng, Y. (2019), *Completing College 2019 National Report* (Signature Report 18), Herndon, VA: National Student Clearinghouse Research Center.

[3] Bailey, T., Jeong, D. W., & Cho, S-W. (2010). Referral, enrollment, and completion in developmental education sequences in community colleges. *Economics of Education Review, 29*(2), 255-270.

[4] Absence of conflict of interest: This intervention report includes a study conducted by staff from Abt Associates (Glosser et al., 2018). Because Abt Associates is a contractor that administers the WWC, this study was reviewed by staff members from a different organization.