COMMUNITY RESEARCH PARTNERS

300 E. Broad St., Suite 490
Columbus, Ohio 43215-3704
t 614. 224. 5917
f 614. 224. 8132
www.communityresearchpartners.org

Ohio Stackable Certificates: Models for Success

February 2008

Prepared for Columbus State Community College Business and Industry Division
With funding from the Ohio Board of Regents

About Community Research Partners

Community Research Partners is a unique nonprofit research center that strengthens Ohio communities through data, information, and knowledge. Since 2000, CRP has undertaken over 100 applied and policy research, community data, and program evaluation projects, both within and outside of central Ohio. CRP works in a wide range of fields, including human services, education, health, housing, employment, poverty, community development, and race and diversity. CRP is a partnership of the City of Columbus, United Way of Central Ohio, the John Glenn School of Public Affairs at The Ohio State University, and the Franklin County Commissioners, and is the lead Ohio agency for the Working Poor Families Project, a national initiative that focuses on increasing education and training for low-wage adult workers.

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1. Overview

> By 2011, Ohio will increase the percentage of its adult population enrolled in higher education by more than five percent. By 2015, Ohio will match the national average by increasing adult enrollment by fifteen percent.
> *—Ohio's Workforce Development Goals*

What do adults need in order to succeed in postsecondary education and training? That is the question facing Ohio, where 45% of adults ages 25-54 (2.1 million) have no postsecondary education, and employers have a growing demand for a skilled workforce. The Ohio General Assembly sought to address this pressing issue by passing legislation instructing the Ohio Board of Regents (OBR) and the Ohio Department of Education (ODE) to develop a statewide system of "stackable" certificates capable of engaging low-skilled adults in college.

The state interagency team charged with designing stackable certificates asked Columbus State Community College (CSCC) to facilitate the design process. CSCC engaged Community Research Partners (CRP), a nonprofit research and workforce policy center, to conduct national benchmarking in search of other stackable certificate type programming. Columbus State contributed to the research by conducting stakeholder focus groups. This information is contained in another report.

Creating a fast track to fill the college and workforce pipeline

Employers who are facing skilled workforce gaps cannot wait for adults to first go through months or years of basic academic remediation before they can take education courses that provide job-specific skills. But this is the very predicament that many low-skilled adults face when they enter the postsecondary education system.

A major obstacle facing these adults is the need to upgrade their math and English skills to the levels required to enroll in college. National research indicates that adults in need of significant academic remediation (i.e. adult basic or developmental education) rarely make the transition to college. These adults are likely to leave school—because they become discouraged or use up their financial aid—before gaining needed job skills.

For that reason, the national and Ohio policy and program experts interviewed (Table 1) recommended that the Ohio Stackable Certificates research focus on program models that create a fast-track to removing barriers adults face to college success by connecting pre-college academics to career-technical coursework. The outcomes of a number of these programs are industry-recognized certificates that put low-skilled adults on a pathway to a degree and improved employment opportunities.

A proposed Ohio Stackables Certificates framework

Based on the research findings, CRP developed a proposed framework for Ohio's system of stackable certificates that is most likely to produce success for adults, employers, and education programs. The framework, which builds upon and augments existing Ohio program models, is designed to deliver pre-college academics and for-credit job training to adults whose math, reading, writing, or language skills fall somewhere between a sixth grade level and a high school credential. These are the adults with the greatest barriers to moving to a level of the postsecondary education system where they can earn college credits. However, the research did not find examples of Ohio programs targeted to this

group of adults that incorporate all three components of the proposed framework: 1) academic remediation; 2) certificated technical skills training; and 3) college credits.

The proposed Ohio framework includes a progression of certificates—entry-level, intermediate, and advanced—each targeted to adults at a specific point along the education continuum. As adults raise their academic and technical skill levels by earning a certificate, they will earn an increasing number of college credits in their technical field. This also prepares them to take general education courses required for a degree. Examples of the framework for the healthcare, welding, and advanced manufacturing industries have been developed in consultation with Ohio and national education and training providers.

Reaching the "tipping point"

The framework is designed to help adults complete at least one year of college with an advanced technical certificate. Research in the state of Washington found that this is the "tipping point" where adults have a tangible payoff from postsecondary education, in the form of a measurable boost in earnings.

Table 1. Interviews for Program Models Research

POLICY EXPERTS	AGENCY OFFICIALS & PROGRAM PRACTITIONERS
• Kate Dins, Portland Community College • Barbara Endel, consultant • Josh Hawley, The Center on Education and Training for Employment, The Ohio State University • Davis Jenkins, Community College Research Center • Verna Lalbeharie, MDC Inc. • Mike Leach, Southern Good Faith Fund • Brandon Roberts, Working Poor Families Project • Julie Strawn, Center for Law and Social Policy • Judith Taylor, Jobs for the Future • Michelle Van Noy, Community College Research Center	**WITHIN OHIO** • Jody Angelone, Northwest ABLE Resource Center, Toledo • Judith Crocker, MAGNET, Cleveland • Dennis Franks, Pickaway-Ross Career and Technology Center, Chillicothe • Art Ftacnik, Great Oaks ABLE, Cincinnati • Kita Graham, Owens Community College, Toledo • Matt Kinkley, Rhodes State College, Lima • Carmine Burkette, Cuyahoga Community College, Cleveland • Maureen McGuinness and Linn Gahr, Lakeland Community College, Kirtland • Jane Meyer, Canton City Schools, Canton • Marty Ropog, Ohio Literacy Resource Center at Kent State University, Kent • Linda Stacy, Lucas County Improvement Corporation, Toledo **OUTSIDE OF OHIO** • Elaine Baker, Community College of Denver • Tina Bloomer, Washington State Board of Technical and Community Colleges • Roderick Brown, Ivy Tech Community College of Indiana • Tina Prentiss, Olympic College, Washington • Shauna King-Simms, Kentucky Community and Technical College System

State and education provider roles

The stackable certificates framework is intended to fit under the umbrella of the Ohio Skills Bank. Regional partnerships of education and training institutions, including Adult Basic and Literacy Education and ESL programs, adult career centers, and community colleges, would work with employers to develop sector-specific stackable certificates. To ensure quality of certificate programs and statewide articulation and transfer of credit, the state may need to complete several key tasks, including: (1) program design standards, (2) technical assistance, (3) funding, (4) rule changes, (5) performance measurement, and (6) alignment of state governance.

Report contents

The report includes a discussion of the following topics:

- Context for Ohio Stackable Certificates, including legislation and stakeholder perceptions
- Barriers that adults must overcome to succeed in postsecondary education
- National and Ohio best practices for engaging adults in postsecondary education
- A framework for Ohio Stackable Certificates
- Case studies of national and Ohio program models

2. Context for Stackable Certificates

In December 2006, the Ohio General Assembly approved the state's FY 2007-08 Capital Budget (HB 699), which included a provision requiring that OBR and ODE develop a system of "pre-college stackable certificates" and "college-level certificates." Initially, it was envisioned that the research would focus narrowly on this specific legislation; however, it became clear through conversations with ODE, OBR, and Ohio Department of Job and Family Services (ODJFS) officials, as well as nongovernmental stakeholders, that other legislative measures may be related to the initiative. These include AccelerateOhio and Career and Technical Transfer (CT^2).

In addition, it was found that state agency officials and stakeholders have varying perceptions about what it means to develop a system of stackable certificates. Some constituencies see the Ohio Stackable Certificates initiative primarily as a way for adults to build basic academic and work readiness skills, while others see it as a way to provide college credit for industry-recognized certificates.

Adding to the research challenges, the term "stackable" is not generally used by national experts. This all contributed to the complexity of identifying program models to guide the Ohio initiative. In the end, CRP based the selection of program models to be researched on the five goals for stackable certificates included in HB 699.

Ohio legislation

Stackable Certificates: HB 699, Section R.C. 333.34 (126th General Assembly)

The legislative language outlined below describes the intended goals of stackable certificates, but leaves considerable discretion for determining their structure and implementation.

Pre-college stackable certificate: A uniform system of certificates earned *before* an adult is enrolled in an institution of higher education that can:

1. Provide a clear and accessible path for adults seeking to advance their education
2. Transfer to college credit
3. Articulate in a way that ensures the most effective interconnection of competencies offered in specialized training programs
4. Respond to the expectations of both the workplace and higher education
5. Be available from an array of providers, including adult career centers, institutions of higher education, and employers

College-level certificate: A certificate earned *while* an adult is enrolled in an institution of higher education that can be transferred to college credit in different subject competencies, based on standards established by OBR and ODE. The certificates are intended to be based on competencies and experience, rather than time spent in the classroom.

AccelerateOhio: HB 119, R.C. 3333.55, Section 375.20.70 (127th General Assembly)

HB 119 directs OBR to work with two-year campuses to create and implement a statewide program intended to improve the education and skills of low-income working

adults in Ohio. The program, AccelerateOhio, is defined in the legislation as competency-based, low-cost, noncredit and credit-bearing modules and courses in communications, mathematics, information technology, and other fields selected by OBR. The program will be designed to culminate in a certificate and provide recipients with a foundation for additional postsecondary education. Key state policymakers see AccelerateOhio as the funding lever for the Ohio Stackable Certificates initiative. The FY 2008-09 budget appropriated $1.25 million in FY 2008 and $2.5 million in FY 2009 to create and implement the initiative.

Career and Technical Transfer (CT^2): HB 66 (126th General Assembly); Section 3333.162 of the Ohio Revised Code

HB 66 requires OBR and ODE to develop policies and procedures ensuring that students at an adult career-technical education institution or secondary career-technical education institution can transfer agreed upon technical courses completed there (that adhere to recognized industry standards) to any state institution of higher education without unnecessary duplication or institutional barriers.

In 2007, OBR formed faculty panels to examine issues, formulate recommendations, and conduct beta tests for transferring career-technical coursework in the following fields: automotive, engineering electrical mechanical, nursing, information technology-networking, and medical assisting.

Stakeholder perceptions of "stackable" certificates

Broadly speaking, OBR staff envisions a progression of pre-college certificate programs that would build—or "stack"—on top of one another, with the purpose of reengaging adults in school in order to prepare them for college and entry-level employment. OBR staff has placed particular importance on building basic academic, computer, and work readiness skills through self-paced, distance learning, and assessment techniques. OBR staff envisions that adult learners would earn these noncredit certificates after demonstrating their mastery of core competencies.

Stakeholders from the Ohio adult workforce education system discussed their interpretation of stackable certificates during focus groups conducted by Columbus State Community College. A theme that emerged from these discussions was a desire for the Ohio Stackable Certificates initiative to provide statewide standards for awarding college credit for technical, industry-recognized certificates. For instance, focus group participants suggested that a CISCO certificate should articulate into a specific number of college credits and fulfill academic course requirements in all public two-year and four-year postsecondary institutions across Ohio.

The adult workforce education stakeholders drew a distinction between their proposed certificate articulation concept and the current Career and Technical Transfer initiative. As they understand it, CT^2 is primarily a mechanism for comparing technical curriculum between adult career center and community college programs to determine how much, if any, college credit should be awarded for completion of career center coursework. The certificate articulation concept would be different from CT^2 in two ways: (1) college credits would be awarded for obtaining a certificate, not for completing specific coursework; and (2) the credit-bearing certificates could be delivered by a wider range of providers, including proprietary trainers and employers, rather than limiting articulation and transfer agreements to community colleges and adult career centers, as CT^2 does.

Lack of specific "stackable" program models

CRP began the research by looking for examples of "stackable certificates" in other states, but quickly found that they do not exist. The national experts interviewed were not familiar with the term "stackable" and could not point to other implementation models. An Internet search found only two references—both for "modularizing" or "chunking" profession master's degree programs within a university.

3. Barriers and Best Practices

Guided by the five goals for stackable certificates included in HB 699, CRP set out to identify program models that would be most successful in meeting the needs and circumstances of Ohio's working adults. The program models that surfaced through the research address employers' growing demand for a skilled workforce and the barriers adult learners face in returning to, and succeeding in, school.

A growing deficit of middle-skilled workers

Economic trends support the need to increase the number of Ohio working adults with postsecondary credentials. About half of all U.S. jobs, today and in the future, will require some postsecondary education above a high school diploma, but below a bachelor's degree (Holzer and Lerman 2007). Ohio is projecting a 15% increase in these "middle-skill" jobs by 2014. Just a 5% increase is projected for jobs requiring only on-the-job training or prior work experience (ODJFS 2006).

Filling the growing number of middle-skill jobs poses a challenge for Ohio (Table 2). More than 2.1 million Ohio adults—nearly half of the state's prime-working age population—holds only a high school degree or less. Only one-third has a college degree.

Table 2. Ohio Adult Education Snapshot, 2005

Prime Working-age Adults, Ages 25-54 (n=4.7 million)

EDUCATION ATTAINMENT LEVEL	NUMBER OF OHIO ADULTS	PERCENT OF OHIO ADULTS	PERCENT OF U.S. ADULTS	RANGE ACROSS STATES	OHIO'S RANKING AMONG STATES
Less than high school	463,610	9.7%	12.8%	4.9%–19.1%	21
High school or GED only	1,656,065	34.8%	28.3%	21.5%–42.5%	42
Some college (no degree)	990,340	20.8%	21.0%	16.5%–27.9%	32
Associate's degree or higher	1,653,285	34.7%	37.9%	25.9%–49.7%	34
	4,763,300	**100.0%**	**100.0%**		

Source: 2005 American Community Survey microdata, compiled by the Working Poor Families Project

The education "tipping point" for increased earnings

Research in the state of Washington found that low-skilled adults who complete at least one year of college with a technical certificate can expect a measurable boost in earnings (Table 3). However, most postsecondary education programs are not designed to help adults reach this milestone, and adults face many barriers to getting there on their own.

Table 3. Washington State Tipping Point Research

Washington state tracked employment outcomes of 35,000 adults enrolled in community college with a high school degree or less or who were non-English speaking. Six years after enrollment, one year of college plus a technical credential produced an earnings increase of:

- $8,500/year for ABE students
- $7,000/year for ESL students
- $2,700 /year for GED-holders
- $1,700 /year for high school graduates

Source: SBCTC 2005

A leaky education pipeline for low-skilled adults

Reaching the tipping point and beyond is difficult for low-skilled adults for a number of reasons, ranging from lack of financial aid, to conflicts with work and family commitments, and lack of transportation. Even when these obstacles are overcome, adults may still struggle in school if they are deficient in math or English. Research shows that students in need of significant academic remediation rarely succeed in college.

Adults who need to upgrade their academic skills typically must complete basic or developmental education before they can enroll in college-level courses. In order for these adults to earn a certificate or degree, they need to successfully transition from one program or institution to the next along the education "pipeline" (e.g. from Adult Basic Education to community college).The research identified gaps in the postsecondary pipeline where many entry-level adults "fall out" or give up on their education, as well as the barriers they face—both personal and institutional—to bridging these gaps (Table 4).

Table 4. Gaps in the Postsecondary Education Pipeline

GAPS	BARRIERS TO BRIDGING THE GAP
From: Adult Basic Education (ABE) or English as a Second Language (ESL) ***To:*** college credit	• Few ABE students persist in the program • Few ABE students ever earn a GED • Most GED-holders do not enter college • Few GED-holders ever earn a college credential
From: developmental education ***To:*** college credit	• Taking remedial courses lowers the chances at earning a credential • Many college students require developmental education • Multiple developmental education courses lowers the chances of college success even further
From: non-credit training ***To:*** for-credit programs	• Lack of college credit for prior training and occupational certificates
From: some college ***To:*** college credential	• Low degree attainment by nontraditional first-time college students • Limited supportive services for students • Restrictions on use of financial aid • Challenges posed by adults' personal and work lives

The leaky pipeline from ABE/ESL to college credit

- *Few ABE students persist in the program*: Half of adults who enroll in adult basic education classes drop out before 35 hours or 10 weeks, and only 10% of ABE students attend classes continuously for one year (Comings et al 1999).
- *Few ABE students ever earn a GED*: Only 7% of students in federal and state-funded Workforce Investment Act Title II adult education programs earned a GED in the year after program participation (U.S. Department of Education 2002). Studies find that 70% or more of ABE students never earn a GED (Strawn 2007).
- *Most GED-holders do not enter college*: Although 65% of people who take GED tests say they are doing so in order to go to college, only 30 to 35% of GED-holders actually enter college (Tyler 2001).
- *Few GED-holders ever earn a college credential*: Only 5 to 10% of GED-holders finish one year of college; only 0.5 to 3% earn an associate's degree (Tyler 2001).

The leaky pipeline from developmental education to college credit

- *Taking remedial courses lowers the chances at earning a credential.* Just 30% of first-time undergraduates enrolling in remedial reading courses completed a certificate or degree within eight years of leaving high school, compared with 69% of those not needing any remediation (U.S. Department of Education 2004).
- *Many college students require developmental education*: About 40% of all community college students require at least one remedial class (McCabe 2000). Estimates range from 25% to 85% of GED-holders entering college need further remediation (Reder 2007) (Hamilton 1998). Two-thirds of students in remedial reading enroll in at least two other remedial classes (Adelman 1998).
- *Multiple developmental education courses lowers the chances of college success even further*: Only one-quarter of students who take three developmental education classes complete all three courses in five years; only 4% graduate; and 78% leave school without a credential (Grubb 2001).

The leaky pipeline from noncredit training to for-credit programs

- *Lack of college credit for prior training and occupational certificates*: Noncredit workforce education and industry-recognized occupational credentials may not articulate and transfer into for-credit certificate and degree programs, forcing adult learners to retake coursework when they enter degree programs.

The leaky pipeline from some college to a college credential

- *Low degree attainment rates for nontraditional college students*: Nearly half (47%) of nontraditional students enrolling in college for the first time eventually drop out without a degree (Berkner, He, and Cataldi 2002). Just 27% of nontraditional students earned an associate's degree in five years, compared with 53% of traditional undergraduates (U.S. Department of Education 2002b)
- *Limited supportive services for students*: Adults may be unfamiliar with course and degree offerings or lack the knowledge or skills to deal with institutional processes (e.g. applying for financial aid, scheduling courses).
- *Restrictions on use of financial aid*: Adults may give up on their education once financial aid or personal savings run out. Students in developmental courses may exhaust their financial aid eligibility before they are permitted to enroll in a degree credit courses. Students must attend college at least part-time to be eligible for federal financial aid and the Pell grant.
- *Challenges posed by adults' personal and work lives*: Adults may have difficulty completing traditional certificate or degree programs due to work schedules, family commitments, and unreliable child care and transportation.

Best practices for bridging gaps in the pipeline

The research identified a number of best practices for bridging these gaps in the postsecondary education pipeline for low-skilled adults (Table 5). Some involve innovative, nontraditional methods for delivering a course or instruction to better meet the needs of adults (curriculum best practices). Others involve the development of a program that incorporates one or more curriculum best practices, supportive services, and/or other innovations, to prepare adults for school and work (program best practices).

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Table 5. Best Practices for Bridging Education Pipeline Gaps

CURRICULUM BEST PRACTICES	DESCRIPTION	OBSERVATIONS
Contextualized Learning	Tailoring the content of basic or developmental education instruction (i.e., reading, writing, language, and/or math) to relate directly to the key competencies of a specific technical field	Helps students recognize the relevance of academics for achieving their occupational goals
Accelerated Learning	Compressing a course into a shorter period of time (i.e., less than a full semester) or combining two or more courses into one semester-long unit, with a more intensive workload than a traditional course schedule	Expedites completion of developmental education and entry into for-credit courses
Chunking	Breaking up a degree program into a several sets or "chunks" of classes, with each set resulting in a competency-based certificate recognized by employers	Provides students with interim, marketable certifications as they work toward a degree
Modularization	Mini-courses that emphasize learning competencies in a short, compressed timeframe (e.g. weekend course) and build on one another to equal the credit of a single traditional course	Fits the busy schedules of working students
PROGRAM BEST PRACTICES	**DESCRIPTION**	**OBSERVATIONS**
Career Pathways	• A systemic workforce development framework, developed by partnerships of employers and education institutions • A series of connected instructional strategies, integrated with work experience and support services • Enables low-skilled workers to advance to better jobs and higher levels of education within an occupational pathway	• Ensures that education and training programs prepare students for skilled jobs in demand by employers • Lead time required to develop partnerships and design and implement pathways
Integrated Remediation	• College-level technical courses with integrated basic English and math content • Typically results in a technical certificate recognized by employers and articulates to a degree • Incorporates only the basic academic content most relevant to a career field (e.g. fractions and ruler measurements in a carpentry class) • May be co-taught by ABE and career-technical instructors	• Enables students with academic deficiencies to immediately enroll in for-credit technical courses and earn an industry-recognized certificate while upgrading basic academic skills • Requires cross-program collaboration and curriculum development
Workforce Bridge	• Short-term (32-64 hours over several weeks), pre-college academic and workplace skills program with intensive academic support • Includes English and math, career exploration, workplace competencies, offered sequentially or concurrently, and supportive services • Academics may be "contextualized" to career field • Can be tailored to populations from low-literacy (i.e. 6th grade) to near-college ready (i.e. high school credential)	• Helps students with academic deficiencies to advance their careers and enter postsecondary education • Bridges academic and entry-level workplace skills gaps • May not provide college credit
College Prep Bridge	• Short-term (one quarter/semester or less), pre-college academics-only course • Provides intensive support in math and English • Can be tailored to post-ABE students preparing for the GED or high school graduates in need of significant remediation	• Helps students more quickly bridge basic academic gaps so they can enter college • Does not typically prepare students to bypass developmental education • Not linked to job training
Student Success	Services that support academic success for adult students, including learning communities, proactive advising, peer support, college success classes, and personal supports (child care, transportation)	Helps students overcome barriers to enter and succeed in postsecondary education

Program strategies less suitable for low-skilled adults

The research also identified program strategies that work well for some adults, but have been found to be less successful than the best practices described in Table 5 in helping low-skilled adults overcome barriers to higher education and earn a college-level credential recognized by employers. These include the work readiness and basic skills certificates and self-paced and "no fail" curriculum designs.

Table 6. Strategies with Limitations for Low-Skilled Adults

STRATEGY	PURPOSE	LIMITATIONS
Work Readiness Certificate	Intended to serve as a signal to employers that a person has the basic skills needed to perform, at a minimum, entry-level work across sectors	Work readiness certificates (WRC) have generally not been shown to prepare individuals for higher education or provide an appreciable edge in the labor market. Research has found (Rey-Alicea and Scott, 2007; Strawn, 2007; and Jenkins, 2007): • Employers indicate that they do not consider WRC during hiring decisions. • WRC should not be targeted to individuals with work histories, employer references, and/or academic credentials. • WRC may provide a proxy for entry-level job-seekers who lack traditional documentation (academic credential, résumé, or employer references), such as welfare recipients, formerly-incarcerated, or those without a high school diploma or GED.
Basic Skills Certificate	Document and quantify basic education gains below a GED to improve retention of ABE/ESL students and demonstrate employability	Research has found (By the Numbers, 2000): • Developing a basic skills certificate is time consuming • There are disagreements about how to identify and verify core competencies. • It may be difficult to get ABE instructors to "teach to the certificate." • There is no evidence that the certificate leads to success in higher education.
Self-Paced	Provide flexibility for students to complete curriculum at their own pace, either by stopping and starting a class at will, or through distance (Internet-based) learning	Although self-paced programs may be more accommodating of work schedules and family commitments than traditional classes, they have been found to be less successful for low-skilled adults. Research has found (Jenkins, 2007): • Adults who lack basic literacy skills, strong study habits, motivation, or self-confidence may need a more structured, linear classroom experience to succeed in school. • Adults who leave in the middle of a course will not return; if they do, they will have difficulty picking up from where they left off • Self-paced programs should be targeted to experienced, high-performing students, who are more likely to have the self-discipline and knowledgebase to work independently.
No Fail	Programs that do not award failing grades, allowing students to complete curriculum when capable, after as many attempts as needed	Although adults may be less apprehensive about returning to school if they cannot fail the course, "no fail" programs pose barriers for low-skilled adults. Research has found (Jenkins, 2007 Columbus State Community College educators focus group, 2007): • Without consequences for failure, adults may become lax in their study habits and be ill-prepared to handle the rigors and pressures of college-level work. • Employers and colleges may not recognize programs with "no fail" polices.

Overview of program models

The program models identified through the research (Table 7) incorporate the curriculum and program best practices described in Table 5, along with other strategies to facilitate college success. Because HB 699 describes a statewide system of stackable certificates, the models include programs where the state has played an important role through funding, rule changes, or realigned systems of institutional governance.

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Table 7. National and Ohio Program Models for Stackable Certificates

NATIONAL MODEL	CURRICULUM BEST PRACTICE	PROGRAM BEST PRACTICE
Washington I-BEST (statewide)	Contextualized Learning	Integrated Remediation Student Success Career Pathways
Kentucky Remediation Bridge Pilots to Career Pathways (statewide)	Contextualized Learning Modularization	Workforce Bridge Integrated Remediation Career Pathways
Southeast Arkansas College Fast Track	Contextualized Learning Accelerated Learning	Workforce Bridge Career Pathways Student Success
Community College of Denver FastStart@CCD	Accelerated Learning	College Prep Bridge Student Success
Portland, Shoreline, & Maricopa community colleges	Chunking Modularization	Career Pathways
Oregon Pathways for Adult Basic Skills Transition to Education and Work (statewide)	Contextualized Learning Modularization	Workforce Bridge Career Pathways Student Success
Chicago Bridge Training Program Pilots	Contextualized Learning	Workforce Bridge Career Pathways Student Success
Connecticut College Transitions Initiative (statewide)		Workforce Bridge Student Success
OHIO MODEL	**CURRICULUM BEST PRACTICE**	**PROGRAM BEST PRACTICE**
Pickaway-Ross Career & Technology Center	Chunking	Career Pathways Student Success
Rhodes State College	Contextualized Learning Chunking	Workforce Bridge Career Pathways Student Success
Lakeland Community College		College Prep Bridge Career Pathways Student Success
Great Oaks Career Institute of Technology		College Prep Bridge Career Pathways
Cuyahoga Community College Pre-STNA and Plus programs	Contextualized Learning	Workforce Bridge Career Pathways Student Success
Owens Community College	Accelerated Learning	College Prep Bridge Student Success
Canton City Schools/ Stark State College		College Prep Bridge Student Success
Kent State University GED Scholars initiative		College Prep Bridge Student Success

National program models

The following highlights program models from outside of Ohio that are considered by experts to be among the most promising at helping adults enter and succeed in the postsecondary education system and acquire technical skills for employment. The research focuses on programs that lead to a technical certificate or degree. Some are state-level initiatives, while others are programs of community colleges or other local program providers. Appendix B includes additional information about the national models.

Washington I-BEST

Washington I-BEST, which integrates basic math and English into community college technical courses, is perhaps the best example of a program model focused on academics and job training. Geared toward adults in need of basic education or ESL, local I-BEST programs "contextualize" academics to a particular career field—students learn the reading, writing, and math within the context of job-related tasks. To achieve the dual purpose of delivering job training and academics, I-BEST programs are co-taught by an adult education instructor and a career-technical college faculty. The state of Washington requires community colleges to incorporate I-BEST programs into a one-year technical certificate or other occupational training program that has been proven to enable graduates to secure higher-wage jobs. ESL students who participated in I-BEST earned five times more college credits, and were 15 times more likely to complete workforce training, than adults in traditional ESL programs.

Southeast Arkansas College Fast Track

As part of Arkansas's TANF-funded Career Pathways initiative, Southeast Arkansas College has integrated basic concepts related to allied health careers in its Fast Track developmental education program. Fast Track compresses two semesters of remedial reading, writing, and math into one semester in order to move low-skilled students more quickly into allied health courses. Fast Track participants are four times more likely to complete developmental education than students in traditional remedial courses.

Kentucky remediation bridge pilots to Career Pathways

Kentucky is testing a number of strategies for connecting basic and developmental education students to the state's Career Pathways initiative. Ashland Community and Technical College has integrated remedial math and writing into a credit-bearing anatomy and physiology course to expedite transitions to healthcare degree programs. Jefferson Community and Technical College has partnered with the local adult education center to integrate academic tutoring into first-year HVAC courses. It builds on a small-scale study that found that full-time students, after completing one year of the HVAC program, raised their college entrance scores enough to bypass developmental coursework.

Maricopa Community College "chunking" model

In Arizona, Maricopa Community College has partnered with local healthcare providers to design a sequence of four credit-bearing certificates leading to an associate's degree in health information technology. As a result, Maricopa enables students to complete their degree in more doable "chunks," exiting and re-entering school after each certificate.

Common design features of national models

In addition to incorporating curriculum and program best practices, the review of national models identified similarities (Table 8) in how these programs were designed and implemented.

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Table 8. Common Design Features of National Models

Design Feature	Program Model
Linking academic and workforce education	• Washington I-BEST • Kentucky Remediation Bridges to Career Pathways • Oregon Pathways • Chicago Pilots • Southeast Arkansas College Fast Track
Innovative curriculum development	• Washington I-BEST • Kentucky Remediation Bridges to Career Pathways • Oregon Pathways • Southeast Arkansas College Fast Track • Community College of Denver FastStart@CCD
Cross-discipline faculty collaboration	• Washington I-BEST • Kentucky Remediation Bridges to Career Pathways • Oregon Pathways • Southeast Arkansas College Fast Track • Chicago Pilots
Faculty and staff professional development	• Washington I-BEST • Kentucky Remediation Bridges to Career Pathways • Chicago Pilots
State funding	• Washington • Kentucky • Arkansas • Oregon • North Carolina • Connecticut
State and institutional rule changes	• Washington • Kentucky • Arkansas • Oregon
Student support	• Washington I-BEST • Kentucky Remediation Bridges to Career Pathways • Southeast Arkansas College Fast Track • Community College of Denver FastStart@CCD • Oregon Pathways • Chicago Pilots • Connecticut College Transitions Initiative

Ohio program models

Model programs can also be found in Ohio, and a number of Ohio educational institutions have developed programs to engage low-skilled adults in postsecondary education. These models are part of foundation-funded, national and state initiatives to increase college access and outcomes for low-income and low-skilled students (Table 9).

Table 9. Ohio Initiatives for Improving Education Outcomes of Low-Skilled Students

INITIATIVE	PARTICIPATING INSTITUTION
Achieving the Dream A multi-state initiative, funded primarily through the Lumina Foundation, to improve state policies and program practices that affect access and success of minority and low-income students in postsecondary education (see Appendix C for program strategies)	• Cuyahoga Community College • Jefferson Community College • North Central State College • Sinclair Community College • Zane State College
Opening Doors A national initiative, funded through a consortium of funders, to test reforms in six community colleges aimed at helping students stay in school and earn credentials (see Appendix C for evaluation outcomes)	• Lorain County Community College • Owens Community College
Breaking Through A multi-year demonstration project, developed by Jobs for the Future and the National Council for Workforce Education with funding from the Charles Stewart Mott Foundation, to promote and enhance efforts of community colleges to help low-literacy adults prepare for and succeed in technical degree programs.	• Cuyahoga Community College
Ohio Bridges to Opportunity A career pathways initiative funded through the Ford Foundation, KnowledgeWorks Foundation, and the Governor's Workforce Policy Advisory Board.	• Great Oaks Institute of Technology • Lakeland Community College • Pickaway-Ross Career & Technology Center • Rhodes State College • Washington State Community College • Youngstown State University
QuickStart to College A three-year initiative, developed by the Ohio Learning Network with funding from the Lumina Foundation, to recruit and retain adults in the higher education system through 1) targeted recruiting, 2) transitional course, 3) math and English modules, 4) individual learning plans, and 5) mentoring. The three pilot sites are initiating programs in January 2008.	• Owens Community College • Rhodes State College • Zane State College
ABLE Transitions An Ohio Department of Education initiative to identify best practices in transitioning ABLE students into postsecondary education.	• Lima City Schools • Central/Southeast ABLE Resource Center • Middletown City Schools • Parma City Schools • Cuyahoga Community College • Great Oaks Institute of Technology • Southern State Community College • Jefferson Community College • Ohio Hi-Point Joint Vocational School • Marion Technical College • Miami Valley Career Technology Center • Ohio Literacy Resource Center • Pickaway-Ross Joint Vocational School • Canton City Schools • Trumbull Career and Technical Center • Owens Community College

The following highlight some of the Ohio program models, particularly those that connect pre-college academics to job training. Appendix C includes additional information about the Ohio models.

Cuyahoga Community College Pre-STNA and Plus programs

Cuyahoga Community College in Cleveland contextualizes basic writing, reading, and math to the healthcare field to prepare low-skilled adults to enter the college's State Tested Nurse Assistant (STNA) program. Students who enroll in the STNA program receive additional support to pass the GED test and to improve their soft skills, such as teamwork, communication, personal health, financial literacy, job search, resume writing, and interviewing.

Rhodes State College Advanced Manufacturing Career Pathways

Rhodes State College in Lima has created a manufacturing career pathway through a progression of three certificate programs. The basic skills certificate, which combines contextualized math and work readiness training, is designed to prepare workers for entry-level jobs and advanced training in manufacturing.

Pickaway-Ross Career & Technology Center Healthcare Career Pathways

Pickaway-Ross Career and Technology Center in Chillicothe has formed closer ties to several local colleges, including the Chillicothe branch campus of Ohio University, to ensure that its adult learners receive college credit for training in the healthcare field.

Canton City Schools college-prep bridge

Through a partnership with Stark State College, the Canton City Schools ABLE program offers a free basic education course on the Stark State campus for students needing to brush up on math and English before taking the college entrance exam.

Owens Community College "Transitions" course

The Toledo and Findlay campuses of Owens Community College are developing a free remedial course for college applicants who do not reach the cut-off score for acceptance into developmental education. The Perkins-funded course seeks to raise math and English scores to enable students to enter at the second level of developmental education.

4. A Framework for Ohio Stackable Certificates

Fortunately, Ohio does not have to "reinvent the wheel" in order to develop a system of stackable certificates that meets the academic and technical skills needs of adults. The national and state research identified successful program models that provide adults with both job training and pre-college academics to aid in their transition to college.

Based on the national and Ohio research findings, CRP developed a proposed framework for the Ohio Stackable Certificates initiative that would lead low-skilled adults on a pathway to improved employment opportunities and advanced education. The framework is targeted to adults whose math, reading, writing, or language skills fall somewhere between a sixth grade level and a high school credential. The sequence of credit-bearing stackable certificates is designed to take these adults to the "tipping point" (one year of college and an advanced technical certificate) and well on their way to two years of occupation-specific postsecondary education.

The framework takes into account: 1) the intent of the Ohio legislation authorizing a system of pre-college stackable certificates (H.B. 699); 2) gaps in the postsecondary education pipeline; 3) best practices for overcoming these gaps; and 4) the common design features of model programs.

Enhancing and filling the gaps in Ohio programs

The framework is intended to build on, enhance, and fill the gaps in existing Ohio programs. The research found a number of Ohio program models that use student success strategies and college prep bridge courses to help underprepared students enter college. Some institutions have developed career pathways to create a more streamlined career-technical pipeline that ties short-term job training to advanced certificates and degrees required for high-demand occupations.

However, only a few institutions were identified that explicitly connect basic academics to job training. Both Cuyahoga Community College and Rhodes State College have designed workforce bridge programs that provide entry-level job-specific competencies, supportive services, and "contextualized" basic education content for low-skilled students wishing to enter a college-level technical certificate or degree program. No Ohio programs were found that incorporate basic academics directly into credit-bearing career-technical courses (integrated remediation), the model being implemented in Washington and Kentucky.

Core values of the framework

The framework is designed to integrate basic and developmental education into a series of technical, credit-bearing certificates. By addressing adults' academic deficiencies as they acquire technical skills, the stackable certificates framework will offer adults the training they desire for better jobs and the academic foundation for an advanced certificate or degree, which further expands their employment opportunities.

The framework is built upon the following ten core values:

1. **Jump-starting the skilled workforce pipeline**

   Stackable Certificates will produce faster results for employers, because students will not spend time in basic academics-only classes before they can begin technical and degree-track courses.

2. **Collaborative effort among employers and education providers**

   Stackable Certificates curriculum will be developed and delivered by education providers across technical and academic departments and within and between institutions to address specific skilled workforce needs identified by local employers.

3. **Bridge gaps in the education pipeline**

   Stackable Certificates will help adult learners in need of basic and developmental education overcome barriers and advance through the education pipeline.

4. **All training counts**

   Stackable Certificates will provide college credit for career-technical coursework delivered across all institutions and systems. A series of technical certificates will "stack" on top of one another other, building to a two-year degree.

5. **Build career pathways**

   Stackable Certificates will provide adults with an education "roadmap" to higher-paid, skilled occupations.

6. **Contextualized, integrated academics**

   Stackable Certificates will integrate math and English instruction into for-credit career-technical curriculum to academically prepare adults to succeed in higher education while learning workplace skills.

7. **Competency-based**

   Stackable Certificates will require a mastery of core technical and academic competencies.

8. **Industry-recognized**

   Stackable Certificates will ensure that adults obtain core competencies needed by employers for in-demand, skilled jobs.

9. **Supportive services**

   Stackable Certificates will incorporate student success services for adults who need support in navigating college and overcoming personal barriers.

10. **Work readiness by doing**

    Stackable Certificates will stress attendance, attire, and workplace conduct as part of education and training, so that adults learn "soft skills" for job readiness as part of education coursework.

Implementing the framework

The following pages lay out the framework for the stackable certificates, in matrix and schematic format. It incorporates best practices from Cuyahoga Community College,

Pickaway-Ross Career & Technology Center, Rhodes State College, and Washington I-BEST in adapting the framework to three industry sectors: patient care, welding, and manufacturing engineering technology. These examples were developed in consultation with Ohio and national education and training providers.

These schematics are intended to illustrate the applicability of the framework to a variety of industries and occupational pathways. The curriculum for each certificate would be developed under the umbrella of the Ohio Skills Bank by regional partnerships of education providers and employers seeking skilled workers.

Potential providers and partners

At the regional level, the full range of postsecondary education systems and training entities could have a role in the design and delivery of stackable certificates curriculum and related services. Primary providers would include ABLE and ESL programs, adult career centers, and community colleges (i.e. for-credit, noncredit business and industry, and developmental education divisions). Other potential providers include four-year universities and their branch campuses, human services organizations, and employer/industry/labor organizations. One-Stops could fill the role of attracting program participants, delivering supportive services, and providing a source of training subsidies. The framework is also adaptable to fit within apprenticeship programs.

State role

As HB 699 mandates, the Ohio Board of Regents and the Ohio Department of Education are charged with creating a statewide system of stackable certificates. The following are examples of how the state can bring the initiative to scale throughout Ohio.

- **Program design standards**: Set statewide standards for the design of regional stackable certificates programs (e.g. rigor of academic and career-technical curriculum, credit articulation, and involvement of partners).
- **Technical assistance**: Provide access to ongoing training and technical assistance and exposure to best practices. Training sessions can serve the additional function of information sharing across local areas.
- **Funding**: Identify and allocate resources (e.g. AccelerateOhio, philanthropic funds, other state dollars) to support regional partnerships in the design and delivery of stackable certificates, including curriculum and staff development.
- **Rule changes**: Seek changes to regulations and laws to support innovations (e.g. recognizing certificates comprised of as few as 12 college credits).
- **Performance measurement**: Issue guidance laying out the initiative's critical elements for success (i.e. timelines, products, and performance measures) to ensure that regional stackable certificate programs are working toward the same statewide outcomes and goals. The state could take the additional step of awarding incentive funding to high-performing programs.
- **Alignment of state governance**: Continue the work of aligning statewide systems of postsecondary education and training, and coordinate regional efforts to establish cross-cutting credit articulation and transfer standards.

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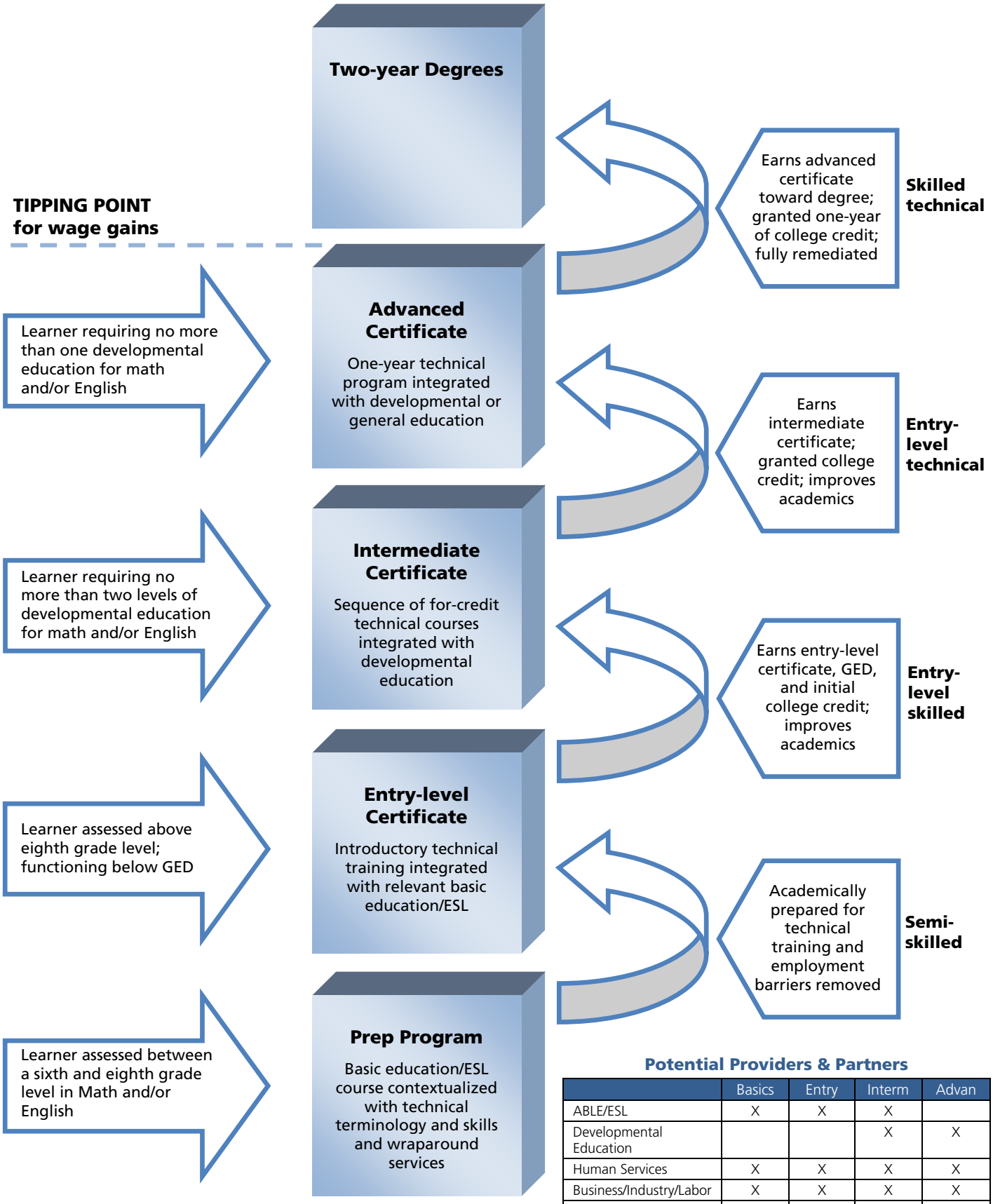
Table 10. Ohio Stackable Certificates Matrix

STACKABLE LEVEL	TARGET POPULATION	POTENTIAL PROVIDERS/PARTNERS	PROGRAM DESCRIPTION FOR EDUCATION PROVIDERS	PROGRAM DESCRIPTION FOR ADULT LEARNERS	INTENDED ACADEMIC & *CAREER* OUTCOMES
Prep Program	Assessed below eighth grade level in Math and/or English	• ABLE or ESL* • Adult Career Center • Community College • Human services organizations • Employer/industry/labor	• Basic education/ESL course contextualized with technical terminology and skills • Wraparound services include tutoring, advising, career exploration, work readiness, employment search, and work supports	Basic education courses geared to specific job skills to prepare students for technical training	• Academically prepared for job training • *Employability skills* • *Semi-skilled*
Entry-level Certificate	Assessed above eighth grade level; functioning below GED	• ABLE or ESL • Adult Career Center* • Community College* • Human services organizations • Employer/industry/labor	• Short-term, introductory technical course integrated with relevant basic education/ ESL curriculum • Wraparound services include tutoring, advising, college orientation, career exploration, work readiness, employment search, work supports, and GED prep (if needed)	Short-term, for-credit job training program enhanced with college-prep academics to prepare students for entry-level skilled jobs and college	• Granted entry-level certificate • Earn GED (if needed) • Earn initial college credits (if possible) • Academically prepared for college-level technical courses • *Employability skills* • *Entry-level skilled*
Intermediate Certificate	Requiring no more than two levels of developmental education for math and/or English	• ABLE or ESL • Developmental Education • Adult Career Center* • Community College* • Branch Campus • Human services organizations • Employer/industry/labor	• Sequence of credit-bearing technical courses integrated with relevant developmental education curriculum • Wraparound services include tutoring, advising, college orientation, employment search, and work supports	Series of college-level, degree-track technical courses enhanced with college math and/or English to prepare students for entry-level technical jobs, advanced training, and general education	• Granted intermediate certificate • Earn college credit • Academically prepared for one-year technical program • *Entry-level technical*
Advanced Certificate	Requiring no more than one level of developmental education for math and/or English	• Developmental Education • Adult Career Center* • Community College* • Branch Campus • Human services organizations • Employer/industry/labor	• One-year technical program integrated with relevant developmental or general education curriculum • Wraparound services include tutoring, advising, employment search, and work supports	One-year technical certificate enhanced with college math and/or English to prepare students for skilled technical jobs and a two-year degree programs	• Granted advanced certificate • Granted one year of college credit toward two/four-year degree • Fully remediated • *Skilled technical*

* Lead education providers at each stackable level.

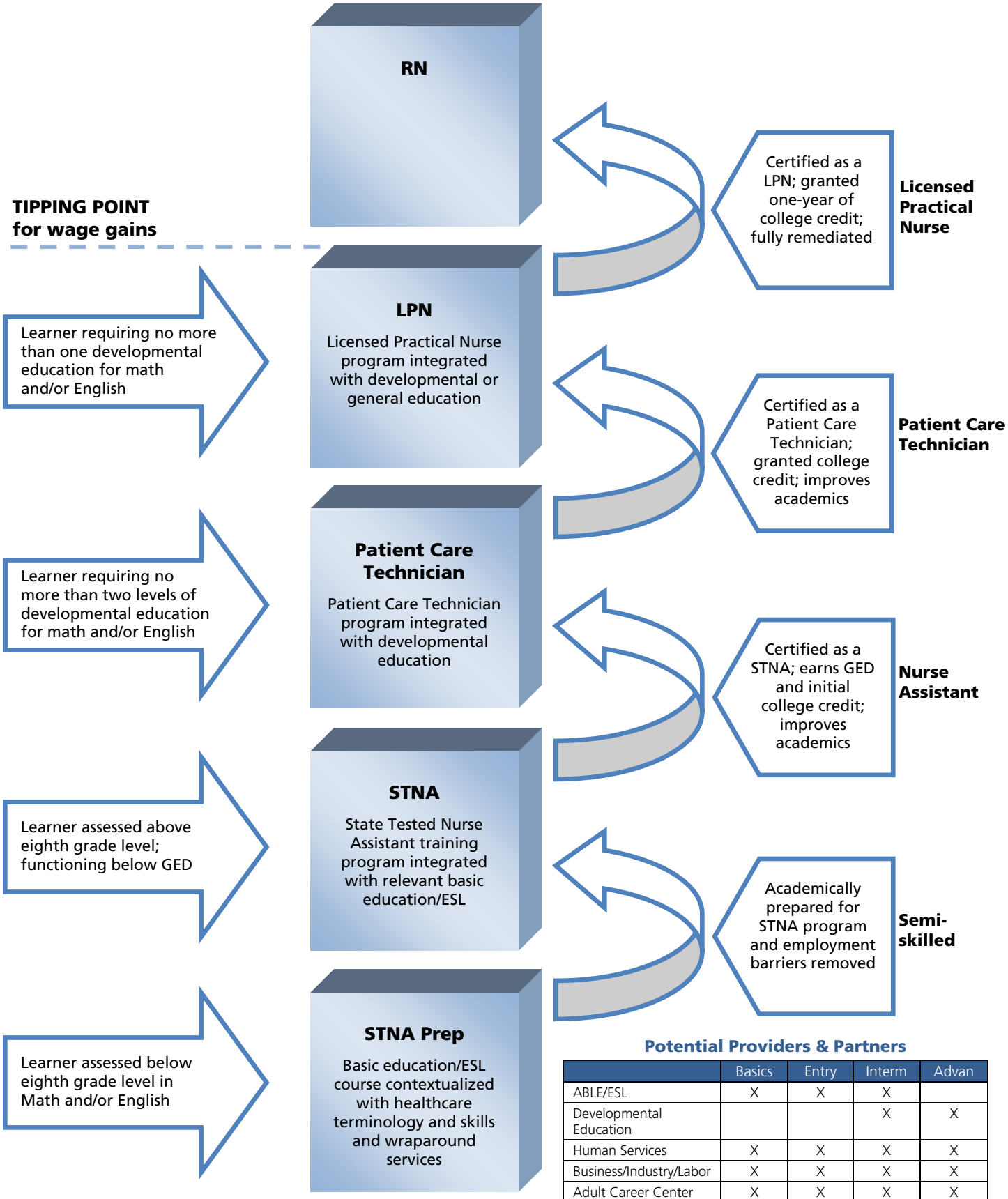
Figure 1. Ohio Stackable Certificates Schematic



Potential Providers & Partners

	Basics	Entry	Interm	Advan
ABLE/ESL	X	X	X	
Developmental Education			X	X
Human Services	X	X	X	X
Business/Industry/Labor	X	X	X	X
Adult Career Center	X	X	X	X
Community College	X	X	X	X
Branch campus			X	X

Figure 2. Ohio Stackable Certificates Schematic for Healthcare

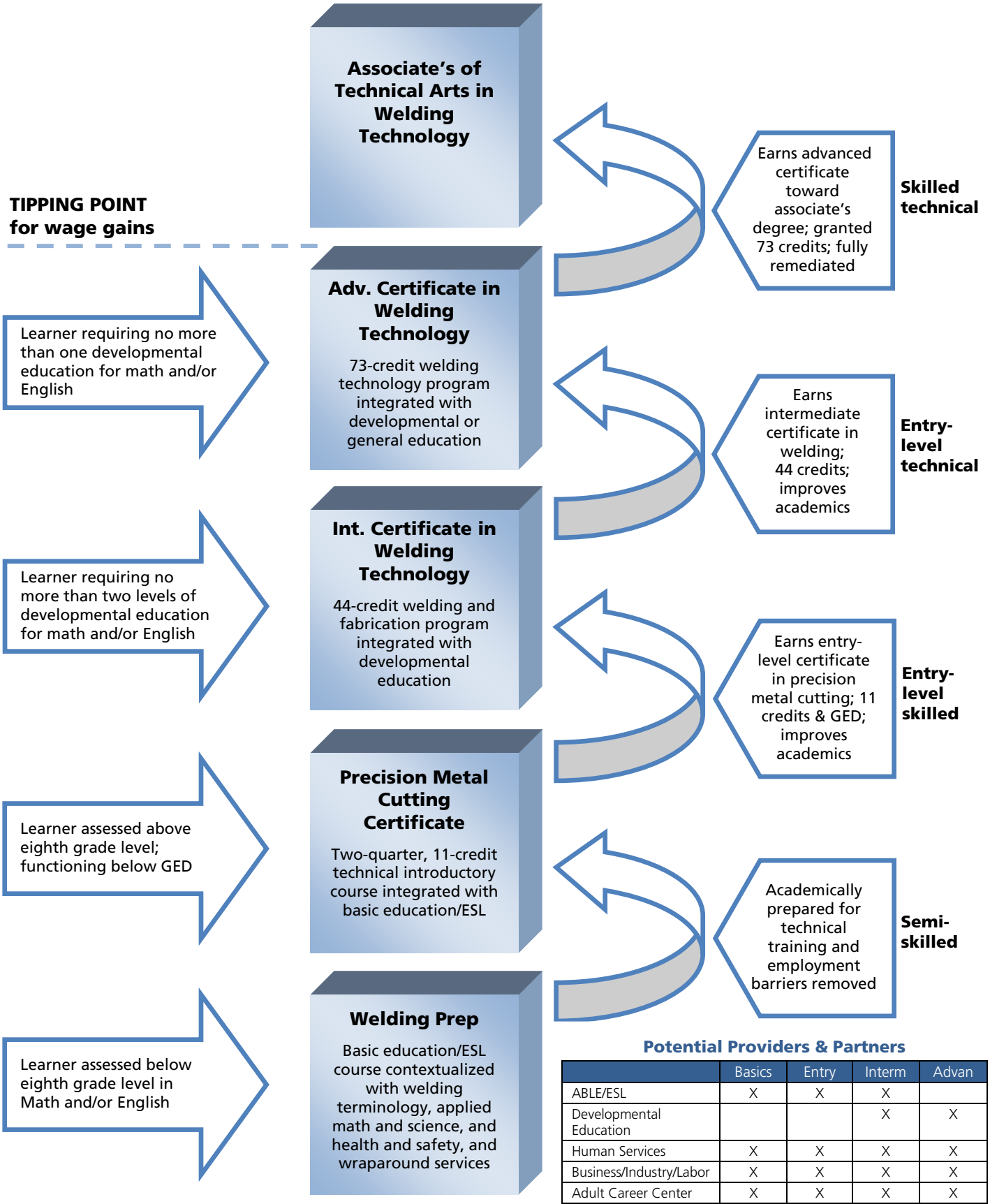


Adapted from the Pre-STNA and Plus program, Cuyahoga Community College and the Healthcare Career Pathways program, Pickaway-Ross Career & Technology Center

Potential Providers & Partners

	Basics	Entry	Interm	Advan
ABLE/ESL	X	X	X	
Developmental Education			X	X
Human Services	X	X	X	X
Business/Industry/Labor	X	X	X	X
Adult Career Center	X	X	X	X
Community College	X	X	X	X
Branch campus			X	X

Figure 3. Ohio Stackable Certificates Schematic for Welding

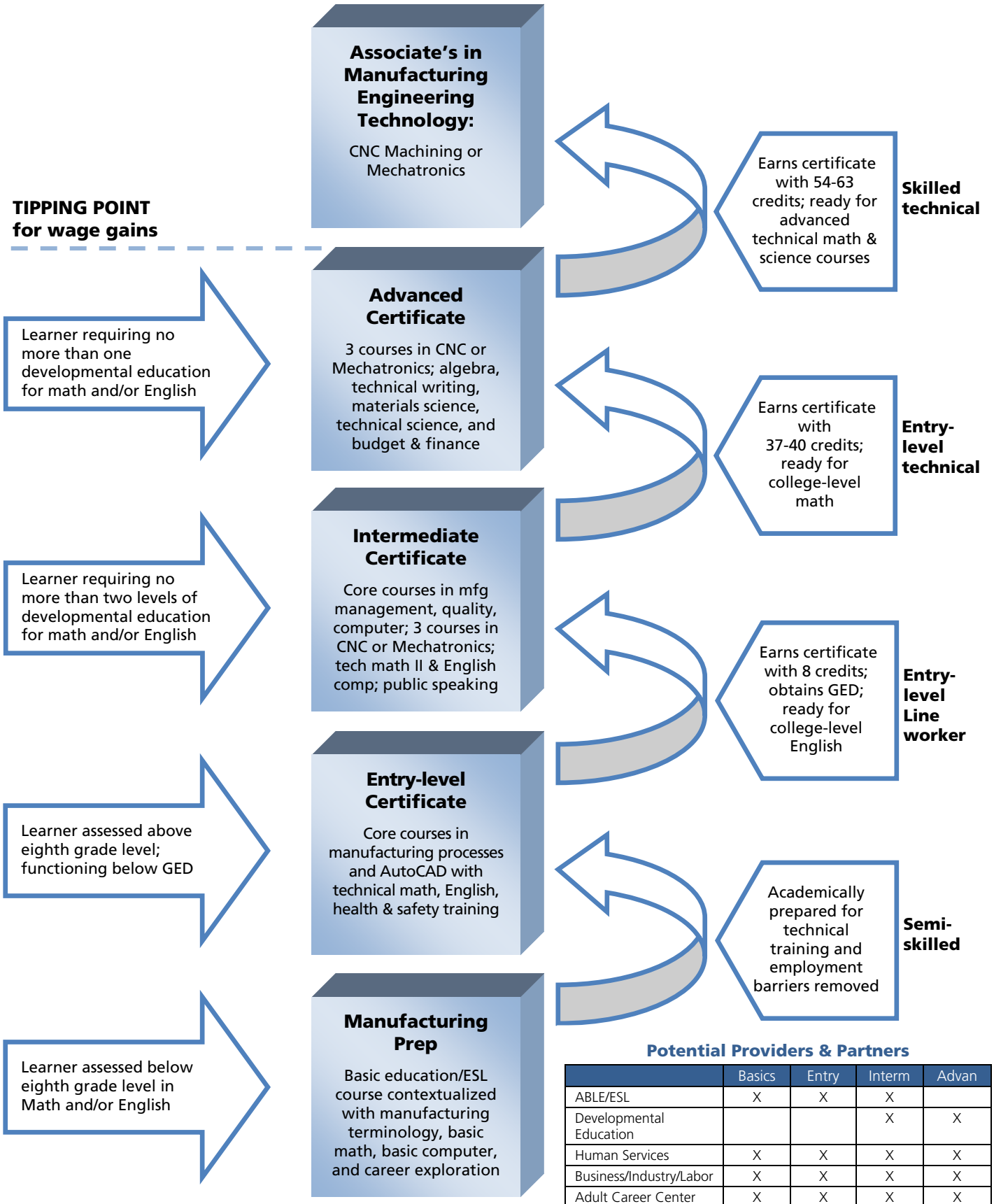


Potential Providers & Partners

	Basics	Entry	Interm	Advan
ABLE/ESL	X	X	X	
Developmental Education			X	X
Human Services	X	X	X	X
Business/Industry/Labor	X	X	X	X
Adult Career Center	X	X	X	X
Community College	X	X	X	X
Branch campus			X	X

Adapted from the Washington I-BEST Welding program at Olympic College in Bremerton, Washington.

Figure 4. Ohio Stackable Certificates Schematic for Advanced Manufacturing



Potential Providers & Partners

	Basics	Entry	Interm	Advan
ABLE/ESL	X	X	X	
Developmental Education			X	X
Human Services	X	X	X	X
Business/Industry/Labor	X	X	X	X
Adult Career Center	X	X	X	X
Community College	X	X	X	X
Branch campus			X	X

Adapted from the Manufacturing Career Pathways program at Rhodes State College in Lima, Ohio.

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Appendix A. Glossary

Table A1. Glossary of Frequently Used Terms

TERM	DEFINITION
Adult Basic Education	Adult Basic Education (ABE), also known in Ohio as Adult Basic and Literacy Education (ABLE), is a state and federally funded education program that seeks to increase the literacy and numeracy skills of adults lacking a high school credential or equivalent academic competencies. A primary source of federal funding is Workforce Investment Act Title II. ABE is delivered locally by a variety of organizations, such as K-12 school districts, community-based organizations, adult workforce education centers, and community colleges. Common services include GED preparation, basic literacy (in reading, writing, computation, and computer), family literacy, workplace literacy, and English as a Second Language (ESL). *Source: Owens Community College, Center for Law and Social Policy, and Community Research Partners, Average Isn't Enough*
English as a Second Language	English as a Second Language (ESL), also known as English for Speakers of Other Languages (ESOL), provides English language instruction (e.g. reading and writing) for non-English speakers. ESL is a common component of state and federally formula funds for ABE programs. A separate pot of federal funds is directed to civics Instruction for ESL students. *Source: Center for Law and Social Policy*
Developmental Education	Developmental education, also known as remedial education, is a set of courses at a college that is designed to increase the math and/or English skills of students who score too low on the college's entrance exam to enroll in a credit-bearing academic program. Underprepared students may be required to take one or more developmental education classes in math and/or English. *Source: National Center for Developmental Education, the National Association for Developmental Education, and Center for Law and Social Policy*
Academic Remediation	Academic remediation broadly describes adult basic education, ESL, developmental education, and other programs that seek to improve the education skills of students in one or more disciplines (e.g. English, math) in order to prepare them to enter and succeed in a more advanced course of study (e.g. college). *Source: Author*
Adult Career-Technical Education	Adult Career-Technical Education is a state and federally funded education program that delivers skills training to meet the needs of adults and employers. A primary source of federal funding is the Carl D. Perkins Vocational and Technical Education Act. Career-technical programs are offered in Ohio through community colleges and adult workforce education centers. *Source: Community Research Partners, Average Isn't Enough*
Certificate	A certificate is an official document affirming that a student has passed a test or reached a specific standard of knowledge in a particular field of study. Certificates may or may not be recognized by other institutions and may or not be transferable as credit toward longer programs. *Source: Wikipedia and Center for Law and Social Policy*

Table A1. Glossary of Frequently Used Terms (continued)

TERM	DEFINITION
Credential	A credential broadly describes diplomas, certificates, and degrees that are awarded by an education institution to attest to a student's qualification or competence. A credential may be given to a student to recognize his/her completion of a test, specific training, or entire education program. As in the case with certificates, credentials may or may not be recognized by other institutions and may or not be transferable as credit toward longer programs. *Source: Wikipedia and Center for Law and Social Policy*
Articulation	Articulation, or more specifically course articulation, refers to the process by which one postsecondary institution matches its courses or academic requirements to course work completed at another institution. Course articulation ensures that students will not have to repeat courses if they transfer to another institution. Institutions may articulate courses on an ad hoc basis for individual transfer students or through more formal articulation agreements. In the latter case, representatives of each institution compare their respective course curricula to determine which courses are comparable and which are not. Their consensus is then formalized in a written agreement which is used by students and advisors and is updated according to a mutual schedule. Course articulation should be differentiated from the process of accepting credit by one institution from another institution as applicable toward degree requirements, i.e. "transferring credit." *Source: Wikipedia and Center for Law and Social Policy*
Full-Time Equivalent	Full-time equivalent (FTE) is a common standard for measuring enrollment in K-12 and higher education. State departments of education and accrediting agencies have developed definitions of how many student hours/credit hours/days represent an FTE student. For instance, two half-time students may be counted a single FTE, equivalent to one full-time student. States may use FTE as part of a formula for determining the amount of funding to allocate to an education institution. *Source: Bibliographical Center for Research and Center for Law and Social Policy*
Work Readiness	Work readiness is a term generally used by employers to describe someone who possesses a baseline of basic skills (e.g., reading and math proficiency, computer literacy) and soft skills (e.g., customer service, problem solving, reliability, cultural competence, leadership, teamwork). In many cases, employers view this combination of skills as transferable from one position to another, across industries. *Source: Jobs for the Future*
Work Readiness Certificate	A work readiness certificate is intended to serve as a signal to employers that a person has the basic skills needed to perform, at minimum, entry-level work across sectors. Work readiness certificates come in many different forms, each with its own purposes, target populations, and competencies assessed. Some programs focus more on basic or soft skills, but the most prominent models incorporate both. *Source: Jobs for the Future*

Appendix B. National Program Models

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Table B1. Overview of Case Studies from outside Ohio

CASE STUDY	BEST PRACTICES	DESCRIPTION
Washington: **Integrated Basic Education and Skills Training (I-BEST)**	• Contextualized Learning • Integrated Remediation • Career Pathways • Student Success	Community colleges pair adult basic and literacy instructors and career-technical instructors to integrate basic English and math into entry-level, credit-bearing technical training. Instructors must jointly teach at least 50% of the class hours. Programs run between 1 and 3 quarters and are required to be part of at least a one-year certificate program or other occupational training with proven ability to place graduates in higher-wage jobs. Washington State allocates enhanced FTE funding to community colleges to fund I-BEST courses. *See Table B2 for more information.*
Kentucky: **Remediation Bridge Pilots to Career Pathways**	• Contextualized Learning • Modularization • Workforce Bridge • Integrated Remediation • Career Pathways	Kentucky has awarded funding to 12 community colleges for pilot projects that connect basic and/or developmental education to credit-bearing technical training programs participating in the state's Career Pathways initiative. The colleges collaborate with adult education providers to contextualize and integrate basic academics into technical courses, modularize courses, and deliver distance learning. The pilot projects follow a series a rule and funding changes at the state level. *See Table B4 for more information.*
Arkansas: **Southeast Arkansas (SEARK) College Fast Track Program**	• Contextualized Learning • Accelerated Learning • Workforce Bridge • Career Pathways • Student Success	Fast Track Developmental Education Program is co-taught by SEARK developmental education faculty and allied health faculty in a learning community format. The one-semester program covers reading, writing, and math in two 8-week courses each in the context of introducing students to the basic concepts and knowledge base for careers in allied health. Fast Track is funded with TANF money through Arkansas' Career Pathways initiative. *See Table B6 for more information.*
Colorado: **Community College of Denver FastStart@CCD**	• Accelerated Learning • College Prep Bridge • Student Success	FastStart@CCD combines in one semester a credit-bearing college orientation course with two levels of developmental coursework either in reading and English or in math. The course load would normally take students two semesters to complete. The college orientation course is intended to help students decide on a major and career, and includes self-reflection, career exploration, goal-setting, and educational planning. FastStart is funded in part through the Lumina Foundation and the Breaking Through initiative. *See Table B7 for more information*

Table B1. Overview of Case Studies from Outside Ohio (continued)

CASE STUDY	BEST PRACTICES	DESCRIPTION
Oregon: **Portland Community College** Washington: **Shoreline Community College** Arizona: **Maricopa Community College**	• Chunking • Modularization • Career Pathways	These three community colleges have redesigned technical degree programs into a series of certificates, each of which are connected to career opportunities. Employers typically provide input into designing certificate curriculum. The colleges have chunked degrees in the following technical fields: machine manufacturing technology, visual communications technology, health information technology, health enhancement, manufacturing technology, accounting/ bookkeeping, criminal justice and corrections, emergency telecommunicator, and medical lab assistance. *See Table B8 for more information.*
Oregon: **Pathways for Adult Basic Skills Transition to Education and Work**	• Contextualized Learning • Modularization • Workforce Bridge • Career Pathways • Student Success	Oregon is reforming its adult education system to create formal links to postsecondary education and to One-Stop career centers. Six pilot sites are engaged in (1) curriculum and module development, revision, and pilot testing, and (2) integrating occupational information focused on Oregon's high-demand occupations. The state expects the initiative to result in a series of courses (bridge, pre-bridge, and career/college readiness) with lesson plans based on a standard format that would be ready for use by other adult education faculty; teachers' guides; advising modules on topics that can facilitate adult learner transitions to postsecondary education, training, and/or work; and a module on referral of adult learners to One-Stop services.
Illinois: **Chicago Bridge Training Program Pilots**	• Contextualized Learning • Workforce Bridge • Career Pathways • Student Success	Through an array of funding sources, three organizations in Chicago have developed workforce bridge programs to prepare adults with limited basic skills for postsecondary education and training leading to career-path employment. • **Carreras En Salud**: (1) Bilingual pre-Certified Nurse Assistant; and (2) Certified Nurse Assistant to Licensed Practical Nurse. Students enter programs based on their literacy levels and each program prepares them to enter the next level of training. • **Olive-Harvey College**: Transportation, Warehousing and Logistics bridge program. Prepares students with a sixth to eighth grade literacy level for the GED exam and to enter the college's Commercial Drivers License program. • **Truman College**: Automotive bridge program. Prepares students to enter Truman's automobile repair certificate program and associate's degree program in automotive technology.

Table B1. Overview of Case Studies from Outside Ohio (continued)

CASE STUDY	BEST PRACTICES	DESCRIPTION
Connecticut: **College Transitions Initiative**	• Workforce Bridge • Student Success	Through state-funded bridge pilots, nine partnerships of adult education and postsecondary institutions have permitted students to dually or concurrently enroll in academic and technical courses. Students are offered basic education and career-related counseling combined with other student support services. Pilot sites have aligned academic assessments between transition programs and college entrance. The state plans to align transitions curriculum with entry requirements to state's 12 community colleges.
Washington	• Incentive funding	Each of Washington State's 34 community and technical colleges can earn incentive funds (from a pool of $500,000 statewide) for each student they help reach key "momentum points," which research finds are associated with going on to complete postsecondary credentials. The Student Achievement Initiative rewards progress in adult basic education/ESL, developmental education, and college credit coursework and includes such indicators as making significant gains in basic math, listening, or reading skills; earning a GED; passing a precollege writing or math course; and earning the 15 and 30 credits.
Kentucky	• Incentive funding	As a result of the Kentucky Adult Education Act of 2000, Kentucky now tracks postsecondary transition rates for all GED graduates and sets performance goals for increasing those transitions over time. The rate of GED graduates enrolling in postsecondary education rose from 12% in 1998-99 to 21% in 2005-06. Beginning in 2007-2008, local adult education providers will earn performance funding for GED-holders who transition to college.
North Carolina	• Incentive funding	The state awards performance funds for transitions from remediation into postsecondary education and training. The progress of basic skills students is one of the six state outcome indicators for which community colleges can earn performance funds. The most successful colleges have earned close to $1 million, which provides flexible money that can be used to support new program development or other special initiatives.
New Jersey **Pennsylvania** **California**	• Noncredit to Credit Articulation	Several states and postsecondary institutions are in the process of developing policies for awarding college credit for coursework and/or credentials students obtained from sources (career-technical centers, employers) other than colleges. States and institutions also are developing policies to more closely align noncredit and for-credit departments within an institution. *See Table B9 for more information.*

National Case Study #1:

Washington:
Integrated Basic Education and Skills Training (I-BEST)

- Curriculum Best Practices: Contextualized Learning
- Program Best Practices: Integrated Remediation; Student Success; Career Pathways

Table B2. Washington I-BEST

	INITIATIVE DESIGN	ROLE OF STATE	ROLE OF POSTSECONDARY INSTITUTION	THIRD PARTY INVOLVEMENT	SUCCESSES AND CHALLENGAGES
Washington: **Integrated Basic Education and Skills Training (I-BEST)** Contextualized integrated remediation program tying literacy education to technical training for fields such as: • Automotive • Welding • Commercial Truck Driving • Healthcare • Secretarial • Child care • Corrections • Information Technology	**Design**: I-BEST pairs adult basic and literacy instructors and professional-technical instructors to deliver occupational training curriculum supplemented by English language/basic skills instruction. The focus is to concurrently provide students with literacy education and workforce competencies needed for employment. Instructors must jointly teach at least 50% of the class hours. Programs run between 1 and 3 quarters. **Innovation**: Reframed the content and goals of basic education/ESL coursework around the occupational skills needed for work and for more advanced training; preparation for GED or developmental education alone is not considered sufficient goals. I-BEST programs are required to be part of at least a one-year certificate program or other occupational training with proven ability to place graduates in higher-wage jobs. **Objective**: Increase the number of adult education and ESL students who attain at least one year of college level credit plus a technical certificate. Research finds that students who reach this "tipping point" of education earn up to $7,000 more per year than students who did not attain this amount of credit. **Eligibility**: Students must qualify for federally supported levels of basic skills education. However, I-BEST programs are typically geared toward ESL and basic education students with English language proficiency at levels four and higher in six-level competency system. Continued work needs to be done on expanding the model to low-level students. **Assessment**: Students are assessed on both occupational and basic skills competencies using a variety of assessment tools. They are pre-tested using either CASAS ECS or Life and Work series and are post-tested upon program completion. **Articulation**: Programs are coded as professional-technical, not basic education. Must provide some college-level professional-technical credits toward a credential or fulfill prerequisites for selected program. Credits must be transcripted the quarter earned.	**Pilots**: Washington State Board for Community and Technical Colleges (SBCTC) Offices for Adult Basic Education and Workforce Education launched 10 I-BEST demonstration projects in Spring 2004.See Table B3. **Next Steps**: In Jan. 2006, SBCTC took I-BEST to scale by allocating planning grants to the remaining 24 colleges. Since then, I-BEST has served 570 students. The program has been expanded beyond ESL to include all adult basic education. **Funding**: Initially funded through an increase in FTE, from 1 to 1.75, to cover the cost of two instructors, coordinating instruction, curricula development, and student support. State recently approved 500 new FTEs to expand I-BEST, the equivalent of $9,800 per student ($5,600 is standard FTE rate.) **Tuition**: Students must pay tuition at professional technical rate, but may qualify for tuition assistance. **Technical Assistance**: SBCTC provides system-wide training, program criteria, planning documents, and coding guidance. **Approval Process**: SBCTC must approve program design before disbursing FTE allotments.	Community and technical colleges design and deliver I-BEST programs approved by SBCTC. **Expectations**: Colleges must incorporate planning, instructional delivery, and evaluation: ABE/ESL and professional-technical faculty and administrators must jointly evaluate student progress in attaining basic and occupational skills. Must also develop individualized plans for continued gains and reaching basic skills proficiency for students who transition into professional-technical programs without reaching proficiency. The plan must take into account ABE/ESL classes above the federally supported levels and beyond the program for which the college is applying.	**Employers**: Colleges must seek input from employers during curriculum design. **Workforce Development**: Colleges must partner with other agencies which may include local WIB. WIA funds may be used to cover tuition, if student qualifies. **Economic Development**: I-BEST programs must be developed for demand occupations identified with labor market information.	**Positive Outcomes**: Pilots reported that ESL students in I-BEST earned five times more college credits on average and were 15 times more likely to complete workforce training than ESL students in traditional programs during the same amount of time. I-BEST students made similar English language gains as traditional ESL students, but their language education centered on workplace literacy. ESL skill gains were largest in programs that conducted rigorous assessments of student language skills and used results to contextualize instruction. **Implications**: The finding suggests that ESL proficiency should be balanced with the acquisition of job skills with the purpose of learning just enough English to do the job. ESL instruction should continue if students continue in their training. **Future outcomes**: State plans to match UI wage data to measure whether students are reaching wage requirements and attaining degrees.

Sources: SBCTC (2005), SBCTC (2006). Tina Bloomer (2007)

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Table B3. Washington I-BEST Site Descriptions

COMMUNITY COLLEGE	SECTOR	SCALE	INTENDED OUTCOME BEYOND ABLE/ESL INSTRUCTION
Bellevue	Integrated Office Assistant Certificate for ESL		Certificate Satisfies pre-reqs for certificate/degree in administrative assistant, communications assistant, office manager
Bellingham	Transportation Core	1 quarter	Preparation for entry-level occupation as lube technician, tire service, and general service technician Career path for diesel technician and automotive technician upon completion of two-year degree.
Big Bend	Welding	Self-paced	Competency-based classes applied to welding certificate or degree
	Commercial Driving License		CDL Certificate Transferrable 100-level credit toward other certificates or degrees
Cascadia	Office Skills Integrated with ESL	3 quarters 19 credits	Certificate 11 credits apply to 36-38 credit-hour Computer Applications Specialist Certificate and advanced degrees
Clover Park	Nursing Assistant for ESL	2 quarters	Certificate in Nursing Assistant Third quarter academic pre-reqs for ABE and ESL students intending to enroll in LPN program
Columbia Basin	Medical Secretary Proficiency with NAC Training		Preparation for employment as medical secretaries, ward secretaries, and health unit coordinators Certificate in Nursing Assistant Credits apply to Health Unit Coordinator certificate and advanced degrees.
Edmonds	Electronics Technology	12 credits	Credits apply to 29-credit Basic Electronics Certificate and advanced degrees
Everett	Welding/Fabrication	13 credits	Credits apply to certificate or degree in welding
Green River	Child Development Associate Preparation with ESL		Preparation for Child Development Associates credential Job placement in child care facility Practicum credits apply to advanced certificates and degrees
Highline	Customer Service Certificate	1 quarter 14 credits	Certificate Preparation for entry-level employment in hospitality and tourism industry
	Introduction to Business Technology Certificate	15 credits	Certificate Credits apply to Associate of Applied Science and advanced degrees
	Early Childhood Education Certificate	13 credits	Certificate in Child care Assistant Credits apply to Associate of Applied Science in Early Childhood Education and advanced degrees
	Fundamentals of Allied Health	11 credits	Certificates in Fundamentals of Allied Health Credits apply to Associate of Applied Science degrees in Medical Assisting and Human Services
	Print Production	12 credits	Certificate in Introduction to Print Applied to 90-credit Associate of Applied Science in Offset Printing
	Nursing Assistant		Certificate in Nursing Assistant Preparation for professional courses, pre-allied health general education, or high-level developmental education.

Table B3. Washington I-BEST Site Descriptions (continued)

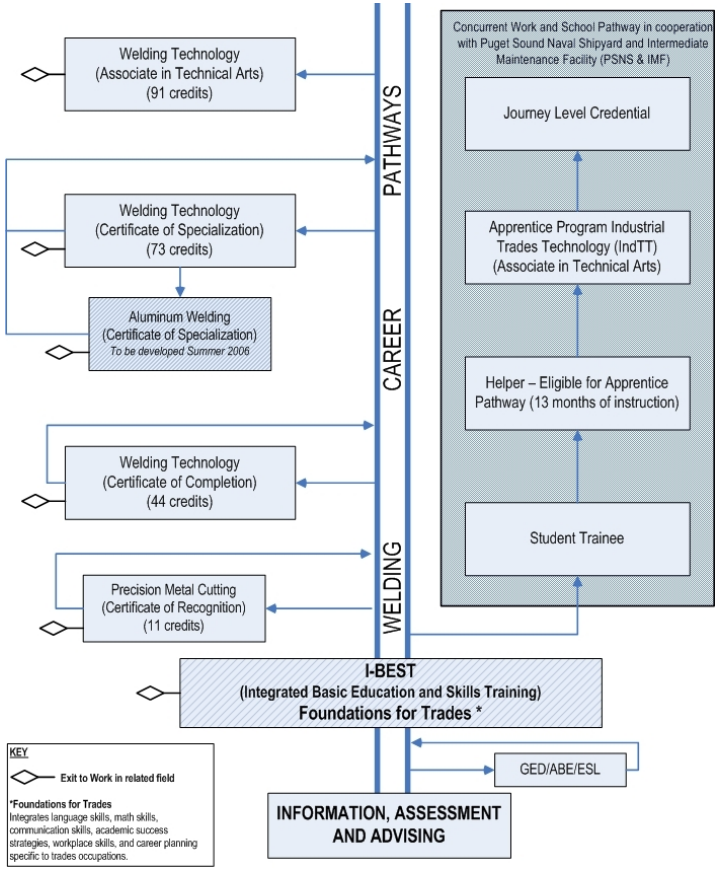
COMMUNITY COLLEGE	SECTOR	SCALE	INTENDED OUTCOME BEYOND ABLE/ESL INSTRUCTION
Spokane; Institute for Extended Learning	Integrated Trades Training	2 quarters	Preparation for job-specific coursework in welding and fabrication, computer numerical control machining, hydraulics and pneumatics.
Lake Washington	Business Applications Support		Adaptation of Business Applications Support Associate of Applied Science Degree for higher-level ESL students
Lower Columbia	Allied Health	4 classes	Credits apply to Associate Degree in Nursing
Olympic	Nursing Assistant	2 quarters	Certificate in Nursing Assistant
	Welding	2 quarters	Preparation for entry-level employment in welding Credits apply to advanced certificates and degrees in welding.
Peninsula	Medical Assistant		Certificate in Medical Assistant Qualify for medical assistant employment in Clallam and Jefferson counties
	Automotive Technology		Certificate in Automotive Technology Credits apply to advanced certificates and degrees in Automotive Technology
	Administrative Office Systems		Certificate in Administrative Office Systems to prepare students for work in clerical/administrative fields Apply credit to advanced degrees in AOS, AAS, Management
	Welding Technology		Certificate in Welding Technology Credits apply to Associate of Applied Science in Welding
Pierce – Fort Steilacoom	Administrative Assistant	34 credits	Certificate Seamless transition to Associate Degree in Administrative Assistant or International Business Assistant
	Corrections/Protection Officer	20 credits	Credits apply to advanced certificate in Criminal Justice
Pierce – Puyallup	Nursing Assistant	2 quarters	Certificate in Nursing Assistant program includes two quarters of instruction integrated with basic skills
Renton	Licensed Practical Nurse	2 years	Associate of Applied Science in Licensed Practical Nursing Pre-requisites toward Registered Nursing program
	Pharmacy Technician	1 year	Preparation for completing professional licensure and employment as pharmacy technician
Seattle Central	Information Technology Applications Support	8 credits	Fulfill pre-requisites and credit hours toward 62-credit Information Technology Applications Support Certificate
Shoreline	Automotive General Service Technician ESL/ABE	2-3 quarters 45 credits	Credits apply to factory-sponsored programs with Toyota, Honda, General Motors, Daimler Chrysler, Volvo
Skagit Valley	Early Childhood Education	1 year 45 credits	Certificate in Early Childhood Education Credits apply to Associate of Technical Arts in Early Childhood Education

Table B3. Washington I-BEST Site Descriptions (continued)

COMMUNITY COLLEGE	SECTOR	SCALE	INTENDED OUTCOME BEYOND ABLE/ESL INSTRUCTION
Tacoma	Automated Accounting		Certificate in Automated Accounting First of five levels in career pathway in Accounting Office Associate
	Receptionist	18 credits	Certificate in Receptionist-Clerk1 Credits apply to Office Professional Technologies Program
	Early Childhood Development Specialist	14 credits	Applied to one-year Para-educator certificate or two-year degree in Early Childhood Education
Whatcom	Medical Front Office Reception	23 credits	Basic skills instruction included in 23 of the 45 credits in the Certificate in Medical Front Office Reception Program

Sources: SBCTC (2005), SBCTC (2006). Tina Bloomer (2007)

Figure B1. Olympic College Welding Career Pathways



College-level welding program is enhanced with basic skills instruction through:

Foundations for Trades

- 10 credits, counts only as elective
- 10 hours a week, 10 weeks
- Co-taught 50% of time (Adult basic education instructor teaches 100% of class; professional-technical instructor attends 50% of classes)
- Work and college readiness, including study habits, job expectations, etc.
- Removal of barriers to job and school, teaching students crisis management, helping find housing
- Introduction to basic welding concepts, including reading blueprints
- Lab observation of welding tools

Precision Metal Cutting Certificate of Recognition

- 11 credits, counts toward degree
- Two courses: Blueprint Reading (classroom) and Welding (laboratory)
- Technical curriculum taught by professional-technical instructor
- Adult basic instructor teaches college success strategies, including note-taking and study habits; reviews welding vocabulary; emphasizes on-the-job safety by reviewing how to read dials and gauges properly; blueprint reading; and available for academic tutoring before and/or after class

National Case Study #2:

Kentucky:
Remediation Bridge Pilots to Career Pathways

- Curriculum Best Practices: Contextualized Learning; Modularization
- Program Best Practices: Workforce Bridge; Integrated Remediation; Career Pathways; Student Success

Table B4. Kentucky Remediation Bridge Pilots to Career Pathways

	INITIATIVE DESIGN	ROLE OF STATE	ROLE OF POSTSECONDARY INSTITUTION
Kentucky: **Remediation Bridge Pilots to Career Pathways** Remediation bridge pilot projects tying literacy education to technical training for such Career Pathway sectors as: • Healthcare • Manufacturing	**Design**: Community colleges collaborate with adult education providers to connect basic and/or developmental education to credit-bearing technical training programs participating in the state's Career Pathways initiative. **Innovation**: Team of developmental education faculty, adult education instructor, general education faculty, and career-technical faculty design projects, which may include all or some of the following elements: • Contextualized curriculum • Flexible course/content delivery through using multiple sites, online and web-enhanced delivery, self-directed pacing, problem-based learning, modularized courses, open-entry. • Coursework broken into manageable portions (i.e., modules) delivered at the same time or separately. • Open-entry/open-exit • Creative methods to integrate basic academic and occupational skills, such as service learning, workplace learning, problem-based, simulations, authentic assessments. **Objective**: Improve transitions from basic/developmental education to Career Pathways. Aid in reaching state goal that 40% of GED completers go on to postsecondary education (12% originally, 22% in 2004). **Eligibility**: Students in a Career Pathways track who need to complete at least one class in developmental education. Under Kentucky's open admission policy, students do not need high school credential (diploma or GED) to enroll in college. May dual enroll in adult basic education if scored below 12th grade level in reading, writing, or math. **Assessment**: Crosswalk of college and adult educational assessments. May include pre- and post-surveys of students, assessments of critical thinking and problem solving skills. **Articulation**: Credit-based training may be augmented with non-credit customized training as necessary. Programs are intended to articulate with certificates, diplomas, or degrees.	**Lead Agency**: Kentucky Community and Technical College System (KCTCS) **Funding**: KCTCS received a Ford Foundation "Bridges to Opportunity" grant to fund bridge projects. **Pilots**: Twelve projects have been awarded funding, ranging from $3,000 to $20,000, for a total of $166,000. Two rounds of RFPs. First round for Fall 2006 required career-technical faculty to partner with developmental education faculty. Second round for Spring 2007 expanded partnership to include adult basic education (see Table B5). Funding supports faculty work on designing curriculum by covering cost of professional development and technical assistance and faculty stipends. **Linkages to Career Pathways**: In 2004, KCTCS began awarding two-year, $100K-$300K grants to 16 community colleges to fund the design and delivery of Career Pathway curriculum. Financed primarily through KY WINS, a GRF workforce development fund. **Rule Changes**: Several policy changes support pilot projects and broader Career Pathways initiatives: *Kentucky Post Secondary Improvement Act of 1997*: Increased state funding for higher education by nearly 22% and created the KCTCS and the Council for Post Secondary Education to oversee programs and facilitate credit transfer. *Kentucky Adult Education Act of 2000*: Provided more money for adult education, tied incentive money to college going rate of ABE students, and called for a workplace readiness certificate. **Reforms include**: *Chunking*: Package existing courses (2-6 courses, 16 credits) into industry recognized credentials, embedded into associate degree. *Rapid course and program approval*: Pilot curricula (course, certificate) for one year with Chancellor permission without going through formal curriculum approval process. *Academic credit for workforce training*: Convert non-credit workforce training credits into academic credit leading to degrees. *Awarding of fractional credit*: Provide partial credit for customized training. *Incentives to develop and offer for-credit workforce development courses*: Employer fees for customized training on top of FTE funding.	**Expectations:** Colleges must include in RFP application a list of measureable student outcomes and track student progress through their Career Pathways reporting system. **Flexibility:** Colleges choose sector, structure of program. **Support Services:** As part of Career Pathways initiative, colleges may provide access to intensive case management, including access/referral to child care, transportation assistance, financial aid, tutoring, mentoring, academic advising, career coaching, and job placement. **THIRD-PARTY INVOLVEMENT** **Employers**: As part of Career Pathways initiative, employers provide input about the skills and competencies needed, as well as assist faculty with the design and sequence of curriculum. Provide referrals; financial support and in-kind donations, which may include use of clinical sites, clinical staff, and use of labs and training/classroom space; release time for employees, tuition reimbursement, employer funded/subsidized instructors, and flexible work schedules. **Other Career Pathway partners**: May include local Workforce Investment Boards, One-Stop career centers, economic development agencies, Chambers of Commerce, welfare agencies, high schools, universities.

Sources: Shauna King-Simms (2007), KCTCS (undated), JFF (2005)

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Table B5. Kentucky Remediation Pilot Descriptions

COMMUNITY COLLEGE	SECTOR	INTENDED OUTCOME BEYOND ABLE/ESL INSTRUCTION
FIRST ROUND (FALL 2006)		**INNOVATIONS WITH DEVELOPMENTAL EDUCATION**
Ashland	Healthcare	Integration of developmental math and writing with credit-bearing Anatomy and Physiology course to expedite transitions to health career degree programs and build workplace skills.
Elizabethtown		Use of Supplemental Instructor (SI) model, in which a teaching assistant attends class and tutors students, to improve student outcomes in critical gateway courses, student retention, and student success in career training.
Henderson	Nursing	Use of effective teaching and learning strategies in credit-bearing Anatomy and Physiology course to improve success of developmental and under-prepared students.
Jefferson, Downtown	Multiple disciplines	The SuccessNow project uses precision scheduling to place all incoming students needing one or more developmental classes into discipline-based learning communities. Cohorts of 20 students take contextualized general education courses and accelerated developmental courses. Educational case managers coordinate student learning and progress.
Madisonville	Nursing	A cohort of nursing-pending students testing into developmental reading courses participate in learning community that integrates two developmental reading courses, academic success course, and Anatomy and Physiology. The integrated curriculum is taught as a unit.
Somerset	Nursing	Learning community integrating developmental courses in math, English, and reading with general education course
SECOND ROUND (SPRING 07)		**REQUIRED COLLABORATION WITH ADULT BASIC EDUCATION (ABE) PROVIDER**
Big Sandy	Healthcare	College faculty and ABE personnel collaborate to provide ACT and COMPASS test preparation, as well as in-depth assessments, to identify current skills and knowledge gaps among students pursuing Career Pathways programs in Licensed Practical Nurse, Associate Degree in Nursing, or Medical Nursing Aid. College targets incumbent workers.
Elizabethtown	Healthcare	College faculty and ABE personnel refine Fall 2006 SI pilot to target healthcare field by integrating allied health gateway course, Anatomy and Physiology.
Gateway	Manufacturing	College faculty and ABE personnel redesign curriculum for three existing developmental math modules, from three 5-week sections to two 8-week sections, and contextualizes curriculum to prepare students for Career Pathways program in manufacturing.
Jefferson	HVAC	College and ABE personnel integrate academic tutoring into first-year HVAC courses, which bear no developmental prerequisites. Builds on small-scale study that found that full-time students, after completing one year of HVAC curriculum raised COMPASS scores enough to bypass developmental coursework. In addition, HVAC and English faculty are working with ABE personnel to develop and deliver a contextualized English 101 class along with HVAC coursework in students' second year.
Maysville, Licking Valley Campus	Practical Nurse	Replicating Washington's I-BEST model, college faculty and ABE personnel are blending developmental math and English courses with workplace skills training and ongoing tutoring for the for-credit Practical Nurse Program
West KY	Nursing Assistant	Personnel from ABE, local welfare agency, and college collaborate to contextualize Nursing Assistant program in learning community format for residents of subsidized housing complex. Program combines 100-level nursing assistant course with a reading-enhanced developmental writing course that is taught by ABE personnel. Learning community instructors, who include college faculty and tutors provided by the welfare-to-work program, teach study, life, and math skills either embedded in nursing assistant class work or in a workshop setting.

Source: Shauna King-Simms (2007

National Case Study #3:

Arkansas:
Southeast Arkansas College Fast Track Developmental Education

- Curriculum Best Practices: Contextualized Learning; Accelerated Learning
- Program Best Practices: Workforce Bridge; Career Pathways; Student Success

Table B6. Southeast Arkansas College Fast Track

	INITIATIVE DESIGN	ROLE OF STATE	ROLE OF POSTSECONDARY INSTITUTION	SUCCESSES AND CHALLENGES
Arkansas: **Southeast Arkansas (SEARK) College Fast Track** Contextualized, accelerated developmental curriculum to prepare adult learners for careers in: • Allied health	**Design**: Fast Track Developmental Education Program is co-taught by SEARK developmental education faculty and allied health program faculty in a learning community format. The one-semester program covers reading, writing, and math in eight-week courses each in the context of introducing students to the basic concepts and knowledge base for careers in allied health. **Innovation**: The curriculum is intense and intended to take students from as low as a sixth grade TABE (Tests of Adult Basic Education) level to college ready in one semester. This amount of remedial instruction usually takes two semesters. **Objective**: Prepare students needing college remediation for advanced college credit programs in allied health, including RN and LPN. **Eligibility**: High school diploma or GED is not required for enrollment, although student must obtain GED in order to earn any college credential. Students without a secondary credential are encouraged to enroll in SEARK's contextualized basic education program, called WAGE Bridge, to raise their academic proficiency. **Assessment**: Students are pretested using TABE; their financial aid needs, career interests and aptitudes, child care and transportation needs are also assessed. **Articulation**: No. **Support Service**: Students have access to a range of support services, including counseling, child care and transportation subsidies, tutoring, orientation, college survival skills, and job placement services, as part of the broader Career Pathways initiative funded through TANF. **Funding**: To date, SEARK program has been funded through a three-year $250,000 grant from the Mott Foundation, as part of the Breaking Through initiative. Program is estimated to cost $50,000 a year for instructor wages and curriculum development. TANF funded support services add to the overall program cost.	**Funding**: Arkansas allocated $12 million per year in TANF funds to finance Career Pathway programs in 25 postsecondary institutions, including all of the state's 22 two-year community colleges. **Programs in Planning**: Under state Career Pathways initiative schools are expected to fund pre-college bridge programs or otherwise experiment with innovative remedial curriculum. One school allows students enrolled in developmental education to take a for-credit class in their eventual program of study as a retention strategy. At least one school is developing a self-paced curriculum, in which students can progress to next developmental education course within the same semester provided they pass a test. **New Restrictions on Eligibility**: Students must be eligible for welfare, Medicaid, or Food Stamps or below 200% of poverty and have a dependent, under age 21. **Technical Assistance**: Five staff at the Department of Higher Education oversees Career Pathways, monitoring the flow of funds and offering technical assistance. **Approval Process**: Each college must complete an RFP and have it approved for funding every year.	Institutions are responsible for developing and delivering curriculum. **THIRD-PARTY INVOLVEMENT** **Employers**: Employers are asked to recommend employees who fit targeted population profile and give employees time off to attend class. **Workforce Development**: Overall Career Pathways program is coordinated with local One-Stop. **Economic Development**: Overall Career Pathways program is coordinated with growth industries and in-demand occupations.	**Positive Outcomes**: A total of 30 students have enrolled over the first two semesters of the program. Eleven completed program in first semester and 13 completed program in second semester. **Implications**: This completion rate is four times better than traditional developmental education completion rate.

Sources: Mike Leech (2007) and Southern Good Faith Fund (2006)

National Case Study #4:

Colorado:
Community College of Denver FastStart@CCD

- Curriculum Best Practices: Accelerated Learning
- Program Best Practices: College Prep Bridge; Student Success

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Table B7. Community College of Denver FastStart@CCD

	INITIATIVE DESIGN	ROLE OF STATE, THIRD PARTIES	SUCCESSES AND CHALLENGES
Community College of Denver FastStart@CCD Accelerated developmental education and case management, in learning community format with an emphasis on career exploration	**Design**: FastStart@CCD combines in one semester a credit-bearing college orientation course with two levels of developmental coursework either in reading and English or in Math. The course load would normally take students two semesters to complete. The college orientation course is intended to help students decide on a major and career, and includes self-reflection, career exploration, goal-setting, and educational planning. The program is geared for English and reading developmental education courses at the 060 and 090 levels (a total of four courses in one semester), or a combination of Math 030/060 or 060/090. Students are in class eight hours a week, including six hours of developmental coursework, one hour for college orientation, and one hour of study group, in addition to reading, writing, and math lab time. Students go through program as part of a learning community and receive case management. **Innovation**: The curriculum is intense (taking students through developmental education in half the time) and is contextualized around career exploration (students practice interviewing skills and write an essay on a career that interests them). **Objective**: Program seeks to successfully transition students into credit-bearing college curriculum by (1) reducing length of remedial education (2) helping students decide on a major and career track and (3) providing support as needed. **Targeted Population**: Students who test into any level of math or at least 030 English and reading. CCD has found that students needing 030 English and reading may have learning disabilities and would not succeed in accelerated, intense format. **Assessment**: CCD screens for students who have time to do heavy load of homework (about 75% of the accumulative homework of two semesters). **Articulation**: The developmental courses and the college orientation class are credit bearing, but only the orientation class counts toward degree. The developmental courses articulate credit in order to take advantage of credit-bearing FTE funding. **Funding**: The administration, curriculum development, and case management were initially funded through two grants: Lumina Foundation (which has declined from $120,000 in the first year to $50,000 in 2007) and Breaking Through ($100,000 a year). CCD is moving the program toward 100% institutional funding. Currently, the college pays for about half of salaries for the program coordinator and education case manager. **Next Steps**: College is developing programs for math, science, and allied health.	Institution-run program. No role for state, employers, workforce development, or economic development.	**Positive Outcomes**: 100 students are enrolled in FastStart@CCD. Students achieved higher rates of completion in developmental coursework and were more likely to succeed in credit-bearing coursework than a comparison group of development education students. Among the highlights: • 90% FastStart students completed one semester of developmental education. In contrast, less than 75% of comparison group did so. • More than half of FastStart students remained in college for three semesters, as opposed to a third of the comparison. • FastTrack students spent on average two semesters in developmental education, as opposed to four semesters by comparison group. • 50% of FastTrack students completed developmental math in two semesters, as opposed to 21% of comparison group in four semesters. • 23% of FastTrack students completed college math course over a period of two semesters, as opposed to 2% of comparison group over a period of four semesters. • 54% of FastTrack students complete college English course, as opposed to 44% of comparison group.

Source: Elaine Baker (2007)

National Case Study #5:

Portland Community College

Shoreline Community College

Maricopa Community College

- Curriculum Best Practices: Chunking, Modularization
- Program Best Practices: Career Pathways

Table B8. Case Studies in "Chunking" Technical Degrees

COLLEGE	PROGRAM	STRATEGIES	CERTIFICATE	OUTCOME	CAREER PATHWAYS	ROLE OF 3RD PARTY	OTHER EXAMPLES
Oregon: **Portland Community College**	Machine Manufacturing Technology (MMT)	• Open entry-open exit • Self-paced • Modules • Internships • Targeted at dislocated workers	Employment Skills Training (EST) certificate	• 12-44 credits • Skilled entry-level job • Tied to advanced certificates and degrees	• Machine Operator • CNC Machinist • Computer Assisted Machining Programmer • Mechanical Inspector	Oregon passed law to accredit EST certificates. Advisory Panel of educational institutions, industry, and associations developed model	Career Pathway programs developed by WIA-funded staff: • Accounting/ Bookkeeping • Criminal Justice and Corrections • Emergency Telecommunicator • Medical Lab Assistance
Washington: **Shoreline Community College**	Visual Communications Technology	• Modules • Recognize achievement	Certificate of Completion (completed in 1 term) • Print-on-Demand/Offset Printing • Computer Graphic Foundations	• 20 credits • Skilled entry-level job • Tied to certificate of proficiency and five associate's degrees • Rise in # of certificate completers	• Graphic Design • Offset Printing • Digital Photography/ Video • Interactive Media • Marketing	Industry provided input in program design.	Manufacturing Technology: • Basic Manufacturing • Computer-Numerical Control • Quality Technology • Manufacturing Process
Arizona: **Maricopa Community College**	Health Information Technology	• Modules • Compressed curriculum • Waive pre-requisites if experienced • Overlap in certificate curriculum to expedite completions	Sequence of 4 Certificates of Completion: 1. Physician-Based Medical Coding 2. Hospital-Based Medical Coding 3. Health Information 4. Medical Billing	• 17.5-19 credits first 2 certificates • Sequence of certificates lead to Associate's in Health Info Technology	• Allied Health positions	Local industry identified common competencies to be included in curriculum	Health Enhancement, creating pathway from CNA to LPN to RN: • Phlebotomy • Patient Care Technician • Medical Assisting • Laboratory Assisting/ Histology Technician

Source: Kate Dins (2005)

Benefits of "Chunking"

1. Marketing: Communication and marketing tool for students, employers, and community.
2. Increased completions: Increase number of students with credentials.
3. Motivator: Students motivated to continue school after realizing benefits of credentials.
4. Employer Buy-in: Credentials demonstrate to employers a jobseeker's skills.
5. Faculty satisfaction: Faculty report better connections with students and employers and improvements to curriculum.

Barriers to "Chunking"

1. Bringing model to scale: Examples only in career-technical fields.
2. Financing model: Start-up costs for curriculum development
3. Professional development: Training faculty to teach differently
4. Financial aid restrictions: No aid for less than part-time students

National Case Study #6:

Noncredit to credit articulation

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Table B9. Policies to Align Non-Credit and Credit-Bearing Programs

STRATEGY	STATE POLICY	COLLEGE POLICY	PROGRAM DESCRIPTION	EXAMPLES
State Articulation Policies	X		Guidance to strengthen the integration, coordination, and articulation of non-credit instruction within the community college system	• New Jersey: guidance for articulating customized training tied to industry credentials. Examples: Cumberland County College's insurance certificate. • California • Pennsylvania is drafting guidance for articulating industry-recognized certificates to college credit.
Financing	X		The allocation of state full-time equivalency (FTE) funds for non-credit college programs, which may result in a more integrated non-credit and credit system. Three approaches: • **Equal FTE funding**: Fund noncredit workforce training at same level as for-credit curriculum. • **Fixed allocation**: Provide fixed amount of funding for non-credit programs, lower than FTE amount for credit-side. • **Bundled**: Provide bundle of funds to college, which has the discretion to spend on non-credit programs.	• **Equal FTE funding**: Maryland, Texas, Oregon (California funds noncredit at 70% of credit) • **Fixed allocation**: New Mexico and Wisconsin. • **Bundled**: Florida and Kentucky.
Dual Listing		X	Listing a course on the credit-side and non-credit-side of the college. Non-credit course does not require final exam or for student to take college entrance assessment.	• Cypress College in the North Orange County College District in California
Integration with Credit side		X	Placement of non-credit and credit programs under the same administration and delivery structure.	• Anne Arundel Community College, Maryland • City College of San Francisco, California • Lorain County Community College, Ohio

Source: Michelle Van Noy (2007)

Appendix C. Ohio Program Models

Table C1. Overview of Case Studies from Ohio

CASE STUDY	BEST PRACTICES	DESCRIPTION
Chillicothe: **Pickaway-Ross Career & Technology Center**	• Chunking • Career Pathways • Student Success	Funded through the Ohio Bridges to Opportunity Initiative (OBOI), Pickaway-Ross has partnered with local healthcare providers, workforce agencies, and other educational institutions to align and expand a series of health technology programs to prepare students for careers in patient care and/or healthcare administration. The 12-month licensed practical nursing program provides 1 year of credit (including 10 transcripted lab credits) toward completion of the 24-month registered nursing program at Ohio University–Chillicothe branch campus. A high school diploma or GED is required for admission into pathway programs. Students in need of literacy education are referred to local ABLE program, which Pickaway-Ross operates. *See Table C2 for more information*.
Lima: **Rhodes State College**	• Contextualized Learning • Chunking • Workforce Bridge • Career Pathways • Student Success	Funded through OBOI, Rhodes State has partnered with a consortium of manufacturing companies, ABLE providers, workforce agencies, and other educational institutions to develop a sequence of three certificates to prepare students for careers in manufacturing. The basic skills certificate curriculum, delivered by ABLE providers, covers manufacturing terminology, contextualized math, health and safety, basic computer, soft skills, and employment search. An eighth-grade math and English level is required for admission into the basic skills program. Rhodes State and Apollo Career Center offer several intermediate certificates, which cover technical skills specific to manufacturing occupations. The advanced certificate is awarded to Associate's and bachelor's degree holders. *See Table C3 for more information.*
Cincinnati: **Great Oaks Institute of Technology**	• College Prep Bridge • Career Pathways	As part of the Health Careers Collaborative of Greater Cincinnati, Great Oaks delivers career pathway programs in healthcare (including nursing assistant, practical nursing, etc.) for low-skilled incumbent workers at local hospitals. Workers who score low on the WorkKeys assessment are referred to a 90-hour basic education course taught by Great Oaks ABLE instructors. The preparatory course incorporates basic math and English curriculum with KeyTrain's soft-skills instruction. Among the 30 students who enrolled in prep course, 14 went on to practical nursing program.

Table C1. Overview of Case Studies from Ohio (continued)

CASE STUDY	BEST PRACTICES	DESCRIPTION
Cleveland: **Cuyahoga Community College**	• Contextualized Learning • Workforce Bridge • Career Pathways • Student Success	Through funding from the national Breaking Through initiative, Tri-C has enhanced its State Tested Nursing Assistant (STNA) program with additional academic and work readiness support. STNA applicants who score below an eighth-grade math or reading level are assigned to an eight-week "Pre-STNA" course taught by ABLE instructors. The course contextualizes basic writing, reading, and math curriculum to the healthcare field. After completing the pre-STNA course, students concurrently enroll in the traditional STNA course and the "Plus" program, which combines GED test preparation and soft-skills training. Tuition is free or reduced for students who qualify for available grant money (most students are eligible for public assistance and referred by the local One-Stop career center). Throughout the entire program, students receive intensive case management to breakdown employment barriers. *See Table C4 for more information.*
Kirtland: **Lakeland Community College**	• College Prep Bridge • Career Pathways • Student Success	Funded through OBOI, Lakeland Community College has partnered with Auburn Career Center and Willoughby–Eastlake Tech Center to align and expand healthcare-related program offerings. Programs are divided into three streams: (1) direct patient care; (2) medical administration; and (3) allied health. Students are referred to ABLE programs in Lake and Geauga counties for remediation before taking entrance tests or if they do not have a high school diploma or GED (they may enroll in pathway program without a secondary credential, but cannot earn a pathway-related certificate without one). Pathway participants receive intensive advising, including financial aid assistance, childcare, and tutoring. The Pathways program secured WIA 10-percent Waiver for Incumbent Worker training funds from the Lake County Department of Job and Family Services. Of the $174,000 for FY2007, $97,000 was allocated as Individual Training Accounts for 97 students to pay full amount of tuition, fees, and books; remaining $40,000 was spent on customized workplace training for three employers. In FY 2008, tuition assistance will be capped at about 20% of cost for Lakeland and Willoughby programs, but still fully cover $800 STNA program at Auburn. Tuition assistance is not means-tested, but students must work at least one hour a week to qualify.

Table C1. Overview of Case Studies from Ohio (continued)

CASE STUDY	BEST PRACTICES	DESCRIPTION
Canton: **Canton City Schools and Stark State College**	• College Prep Bridge • Student Success	**College Success course for ABLE students**: Through a partnership with Stark State College, the Canton City Schools ABLE program offers a credit-bearing college orientation course for ABLE students. Stark State covers the cost of the ABLE instructor and tuition for students, while the Canton ABLE program pays for books. Seventeen of 18 students in class are expected to finish course. **College Prep Bridge**: The Canton ABLE program offers an ABLE class on the campus of Stark State. The ABLE-funded course targets Stark State students with a high school degree or GED who score below the 11th or 12th grade level in reading and/or math. In fiscal year 2006, a total of 53 students enrolled in course. Many of the students are nursing school applicants who failed the admittance test or need to brush up before taking test. In addition, several dislocated workers have taken the course before entering short-term occupational training programs. ABLE reports high rates of job gains, postsecondary entries, and literacy improvements for students who have identified those specific goals.
Kent: **Ohio Literacy Resource Center at Kent State University**	• College Prep Bridge • Student Success	Through funding from the U.S. Department of Education and the Ohio Dominion Foundation, the Ohio Literacy Resource Center at Kent State University developed the "GED Scholars" initiative to provide outreach and academic support to GED-holders enrolled at Kent State University. The initiative includes 1. Intensive workshops and tutoring referrals to prepare incoming students for developmental education 2. Computer training 3. Mentorship and shadowing, which matches incoming students with current KSU students who hold a GED 4. College orientation for incoming students and for GED graduates who may be interested in continuing their education 5. Stipends and scholarships, ranging from $300 to $600 6. Student organization The program is in partnership with KSU's Academic Success Center. Since summer 2002, 250 GED-holders have visited the GED Scholars office to receive services. Thirteen GED Scholars participants are known to have graduated from KSU. The U.S. Department of Education has provided a total of $1 million to support the initiative.

Table C1. Overview of Case Studies from Ohio (continued)

CASE STUDY	BEST PRACTICES	DESCRIPTION
Toledo: **Owens Community College**	• Accelerated Learning • College Prep Bridge • Student Success	**College courses at The Source**: Starting the fall 2007 term, Owens opened a learning center at The Source, the One-Stop career center in downtown Toledo, to offer day and evening classes. Courses include credit-bearing general education; short-term, non-credit job training; and developmental education. An accelerated developmental class (combining 2 levels in one semester) is available. The learning center is accessible to central city residents who lack transportation to Owens campus (advertisements were posted a bus stops to promote course offerings). About 300 students have registered for fall classes, of which approximately 40% are enrolled in developmental education. Others have enrolled in noncredit certificate programs in truck driving, nursing assistant, etc. Learning Center staff informs students about One-Stop services. **Transitions Class**: Owens has established a "transitions" course for college applicants (with a high school credential) who score too low on college entrance exam to be accepted into developmental education. Low scorers are referred to free class on campus taught by ABLE-trained instructor and receive additional case management. The Perkins-funded, zero-credit course is designed to raise Math and English scores to the level needed to enroll in second-tier developmental education courses. ABLE also has plans to develop a "GED-plus" class to prepare basic education students to pass the GED and the college entrance exam. **Opening Doors**: Owens provided enhanced student services and modest scholarships to at-risk students to test whether they were more likely to stay in school and earn credentials. During the demonstration project, which lasted from 2004 to 2006, program participants were expected to meet with a team of advisers to discuss academic progress. Those who did received a $150 scholarship each semester, for a total of $300. The Opening Doors intervention, with relatively small advising caseloads, was designed to allow more intensive, personalized, and comprehensive advising than what students would typically receive. *See Table C6 for more information.*
Elyria: **Lorain County Community College**	• Student Success	LCCC provided enhanced student services and modest scholarships to at-risk students to test whether they were more likely to stay in school and earn credentials. During the demonstration project, which lasted from 2003 to 2006, program participants were expected to meet with a team of advisers to discuss academic progress. Those who did received a $150 scholarship each semester, for a total of $300. *See Table C6 for more information.*

Ohio Case Study #1:

Chillicothe: Pickaway-Ross Career & Technology Center Healthcare Career Pathways

- Curriculum Best Practices: Chunking
- Program Best Practices: Career Pathways; Student Success

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Table C2. Pickaway-Ross Healthcare Career Pathways

	INITIATIVE DESIGN	ROLE OF STATE/FUNDER	THIRD-PARTY INVOLVEMENT	SUCCESSES AND CHALLENGES
Chillicothe: **Pickaway-Ross Career & Technology Center** **Healthcare Career Pathways** Series of career pathway programs in health technology that prepare students for careers in patient care and/or administration: • Nurse aide • Patient care technician • Practical nurse • Medical terminology • Medical billing • Medical assisting • Phlebotomy • Medical transcription • ICD-9 coding • CPT coding	**Design**: A series of health technology training programs, ranging from individual courses to 12-month programs, which build upon each other to create career ladders and prepare adults for advanced certificates and degrees. Includes four pre-program workshops to familiarize applicants with career opportunities. Coursework is divided roughly into two tracks: patient care and administration. In patient care, pathway includes 1-month nurse aide, 6-month patient care technician, and 12-month practical nursing program. Students completing lower-level program receive partial credit toward subsequent program. **Innovation**: Pathways program changed how Pickaway-Ross worked with healthcare employers, public-sector agencies, and other educational institutions. Increased emphasis on case management to reduce barriers. **Objectives**: (1) Raise awareness of healthcare career opportunities for low-wage workers in community. (2) Provide clear pathways for students to transition into more advanced training programs. (3) Create systemic change in how deliver curriculum and work with local partners. (4) Provide a trained workforce for local healthcare employers. **Eligibility**: No background in healthcare required or expected. Applicants must hold a high school diploma or GED to enroll in program tracks. Those lacking secondary credential and/or score low on WorkKeys assessment are referred to ABLE (which Pickaway-Ross operates) for remediation. ABLE students likely to earn GED (recent high school dropouts needing review) may enroll in pre-program workshops while preparing for GED. **Assessment**: Applicants pre-assessed using WorkKeys. **Articulation**: Within Pickaway-Ross, pathway students completing a lower-level program receive partial credit toward a subsequent program. Through a partnership with Ohio University–Chillicothe branch campus, students completing 12-month Practical Nursing program (and passing licensure exam) earn 1-year of credit, along with 10 transcripted lab credits, toward associate's degree in Registered Nursing. Pathway participants take five-week summer bridge course on medical administration before joining OU–Chillicothe class at start of second year.	**Pilots**: With the support of the Ford Foundation, KnowledgeWorks Foundation launched the Ohio Bridge to Opportunity Initiative (OBOI). In 2005, the Foundation joined with the Governor's Workforce Policy Board to fund three-year pilots at six sites, including • Great Oaks • Lakeland Community College • Pickaway-Ross • Rhodes State College • Washington State Community College • Youngstown State University All but one site set up pathway programs for healthcare. Rhodes State developed an advanced manufacturing program. **Funding**: Each site received $30,000 planning grant and $75,000 each year for implementation. Sites have leveraged a total of $1.6 million from other funding sources (including WIA). Funding has paid for program promotion, professional development, administration, and data collection. **Tuition**: Students pay regular tuition rate at their enrolled institution, unless they qualify for financial assistance. **Technical Assistance**: KnowledgeWorks conducted statewide learning sessions and ongoing technical assistance to sites. $25,000 set aside. **Evaluation**: The Center on Education and Training for Employment, at The Ohio State University, is conducting an implementation and outcome evaluation.	Pickaway-Ross partnered with several local agencies, educational institutions, and healthcare employers to operate Pathways program. Partners attend regular meetings. **Employers**: Local healthcare providers refer jobseekers to Pickaway-Ross; develop and lead workshops free-of-charge; provide use of facilities and in-kind support; provide job shadow and unpaid work experience opportunities; and recruit program completers. **Education institutions**: Pickaway-Ross established articulation agreements with OU–Chillicothe, Franklin University, Hocking College, and Rio Grande Community College. OU refers RN applicants below ACT cutoff score to Pickaway-Ross program. **Workforce development**: One-stop staff refers jobseekers interested in healthcare to Pickaway-Ross; hosted workshops. **Other partners**: Pickaway JFS, Ross JFS, Chamber of Commerce Ross County, Ross County ABLE, Pickaway County Commissioner.	**Enrollment**: Approximately 130 to 150 adults have enrolled in Pickaway-Ross program (a total of 1,000-1,200 adults across all six pathway sites). **Positive Outcomes**: Data on program completion rate, advancement to higher degrees, employment outcomes are not yet available. Preliminary findings include: • Increased awareness of healthcare professions and training opportunities. As a result PRCTC, added a second section to LPN program; lower-level courses are now at capacity. • Improved relationship with other educational institutions. On onset of OBOI, had minimal contact and adversarial relationship with OU–Chillicothe. Now, set up articulation agreement. • Increased buy-in from local healthcare employers. Employer-run workshops provide way for jobseekers to learn about healthcare professions. • Now embedding career pathways and case management piece into other career-tech disciplines. **Challenges**: Staff turnover at Pickaway-Ross and partner sites. **Sustainability**: With the loss of OBOI funding, Pickaway-Ross predicts program will continue without major changes (besides cutbacks in promotion and data collections).

Sources: Franks (2007); Endel (2007)

Ohio Case Study #2:

Lima: Rhodes State College
Manufacturing Career Pathways

- Curriculum Best Practices: Contextualized Learning; Chunking
- Program Best Practices: Workforce Bridge; Career Pathways; Student Success

Table C3. Rhodes State Manufacturing Career Pathways

	INITIATIVE DESIGN	ROLE OF STATE/FUNDER	THIRD-PARTY INVOLVEMENT	SUCCESSES AND CHALLENGES
Lima: **Rhodes State College Manufacturing Career Pathways** Sequence of three career pathway certificates in manufacturing that stack on top of one another to prepare students for entry-level and skilled positions in manufacturing sector	**Design**: A sequence of three certificate programs – basic, intermediate, and advanced – that provide students with the technical competencies and/or foundational and soft skills to obtain manufacturing employment. The 40-hour *basic skills certificate* program combines manufacturing terminology, applied math (measuring tools & formulas), health and safety, basic computer, and job readiness to prepare low-skilled students for entry-level manufacturing jobs. The *intermediate certificate* entails a series of technical courses (see Figure C1 & C2). The *advanced certificate* is an Associate's and bachelor's degree in a technical field, such as CNC machining and Mechatronics. **Innovation**: Local manufacturers drove the process of developing certificates and consider certificates in hiring decisions. Through surveys, employers identified key skills and competencies for entry-level, intermediate, and advanced careers in manufacturing. Rhodes State, Apollo Career Center, GED/ABLE and others have designed the sequence of certificates to provide these skills to students. **Objectives**: (1) Prepare a pool of jobseekers with the requisite skills to attain manufacturing jobs. (2) Provide clear pathways for students to transition into more advanced training programs. **Eligibility**: Depends on certificate program. For entrance in basic skills program, student must hold an eighth-grade math and English level. No secondary credential is required; however, students with a GED or high school diploma have enrolled in the program. Intermediate and advanced certificate programs follow Rhodes and Apollo general enrollment requirements. **Assessment**: For basic skills program, TABE is used to pre-assess students; soft-skills assessment; competency-based final exam (must score above 70% to earn certificate). Students can test out of basic skills certificate program and enroll directly into intermediate program. **Articulation**: Basic certificate equates to 4-credit IET-109 Manufacturing Concepts course. Rhodes State is currently working on articulation agreements for intermediate certificate programs delivered at Apollo Career Center. The intermediate program at Rhodes State automatically articulates to advanced degrees.	**Pilots**: With the support of the Ford Foundation, KnowledgeWorks Foundation launched the Ohio Bridge to Opportunity Initiative (OBOI). In 2005, the Foundation joined with the Governor's Workforce Policy Board to fund three-year pilots at six sites, including • Great Oaks • Lakeland Community College • Pickaway-Ross • Rhodes State College • Washington State Community College • Youngstown State University All but one site set up pathway programs for healthcare. Rhodes State developed an advanced manufacturing program. **Funding**: Each site received $30,000 planning grant and $75,000 each year for implementation. Sites have leveraged a total of $1.6 million from other funding sources (including WIA). Rhodes State program has an annual budget of approximately $150,000. **Tuition**: Students pay regular tuition rate at their enrolled institution. At Rhodes, basic skills certificate program is free through the grant or a CBG block grant for lima residents. The GED/ABLE programs are also imbedding the basic curriculum in their traditional offerings to the public. **Technical Assistance**: KnowledgeWorks conducted statewide learning sessions and ongoing technical assistance to sites. $25,000 set aside. **Evaluation**: The Center on Education and Training for Employment, at The Ohio State University, is conducting an implementation and outcome evaluation.	Rhodes State partnered with several educational institutions and manufacturing employers to develop and run Pathways program. **Employers**: Manufacturers are part of a 24-member consortium that pays dues for operations and marketing of Pathway program. Employers have contributed approximately total of $80,000. Employers refer jobseekers to Rhodes State; recruit program completers; give input into curriculum design; approve programs; and pay the salary of Consortium director. Employers also have identified pay ranges for certificate holders: $10-13/hr for basic; $13-19/hr for intermediate; and $18-29/hr for advanced. **Education institutions**: Rhodes State is creating articulation agreements with Apollo Career Center and Miami University. Through a partnership with Miami, Rhodes State students can videoconference into courses toward a bachelor's degree in electrical mechanical engineering technology. Basic skills certificate is delivered by the Lima City Schools-run ABLE program and other sites. Partnerships with Wright State University–Lake and Edison State Community College are in the offering. **Workforce development**: One-stop staff refers jobseekers interested in manufacturing to Rhodes State; sponsor jobseekers to take coursework. Consortium director attends WIB meetings.	**Enrollment**: Approximately 140 adults have formally enrolled in Rhodes State program (a total of 1,000-1,200 adults across all six pathway sites). Most enrolled in basic skills program; Rhodes and Apollo are currently working on formalizing intermediate certificate programs and integrating incumbent students into the pathway. **Positive Outcomes**: Data on program completion rate, advancement to higher degrees, employment outcomes are not yet available. Preliminary findings include: Approximately 20% of pathway participants have become employed by a consortium member. Over 30 students have progressed into intermediate or advanced levels **Sustainability**: Rhodes State is trying to fill funding gap by increasing consortium to 40+ members.

Sources: Kinkley (2007); Endel (2007); Durliat (2007)

Figure C1. Rhodes State Courses for Intermediate Certificates:
Electrical, Environmental Health and Safety, PLC, CNC Machining, Robotics, and Quality

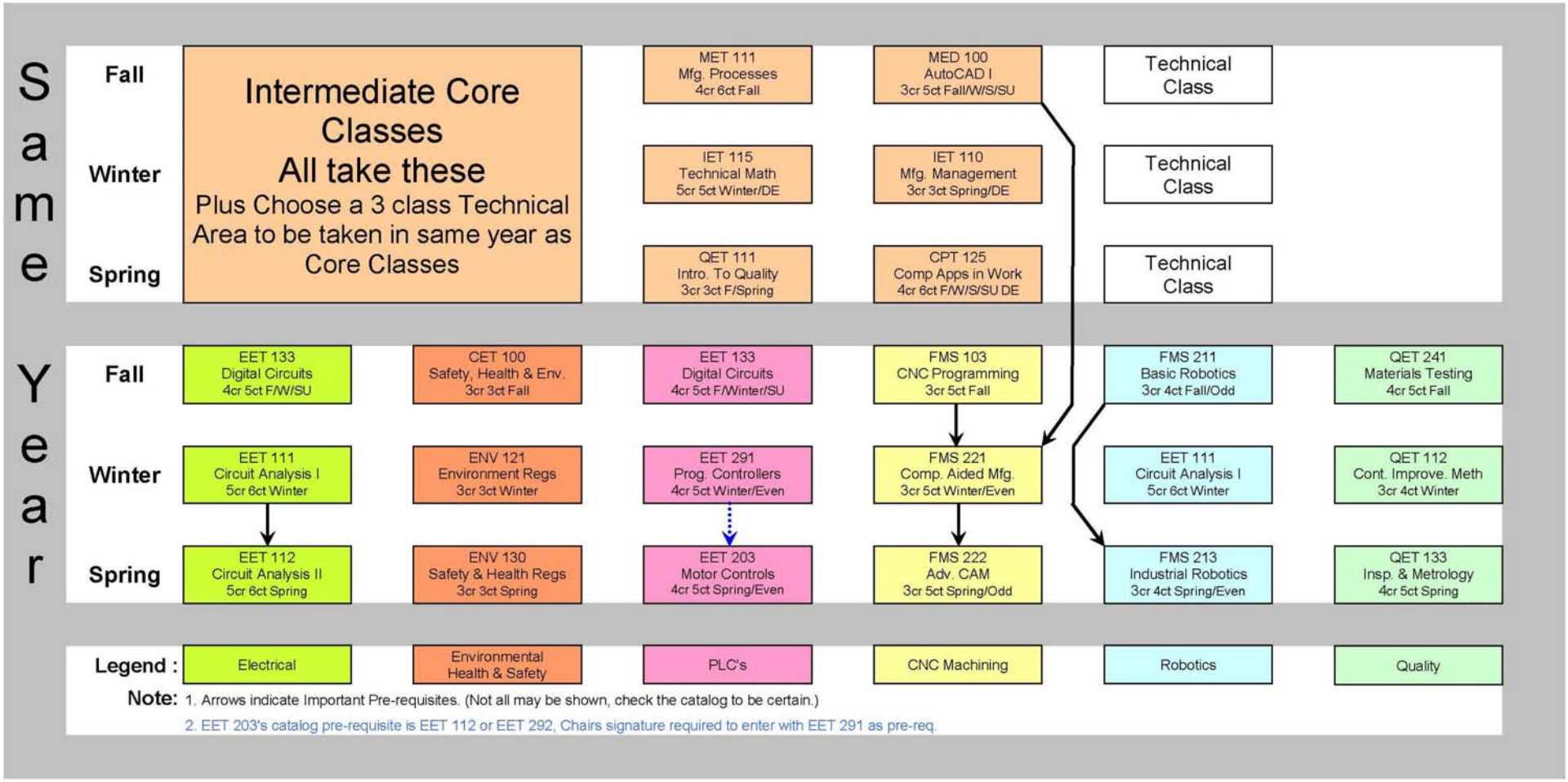
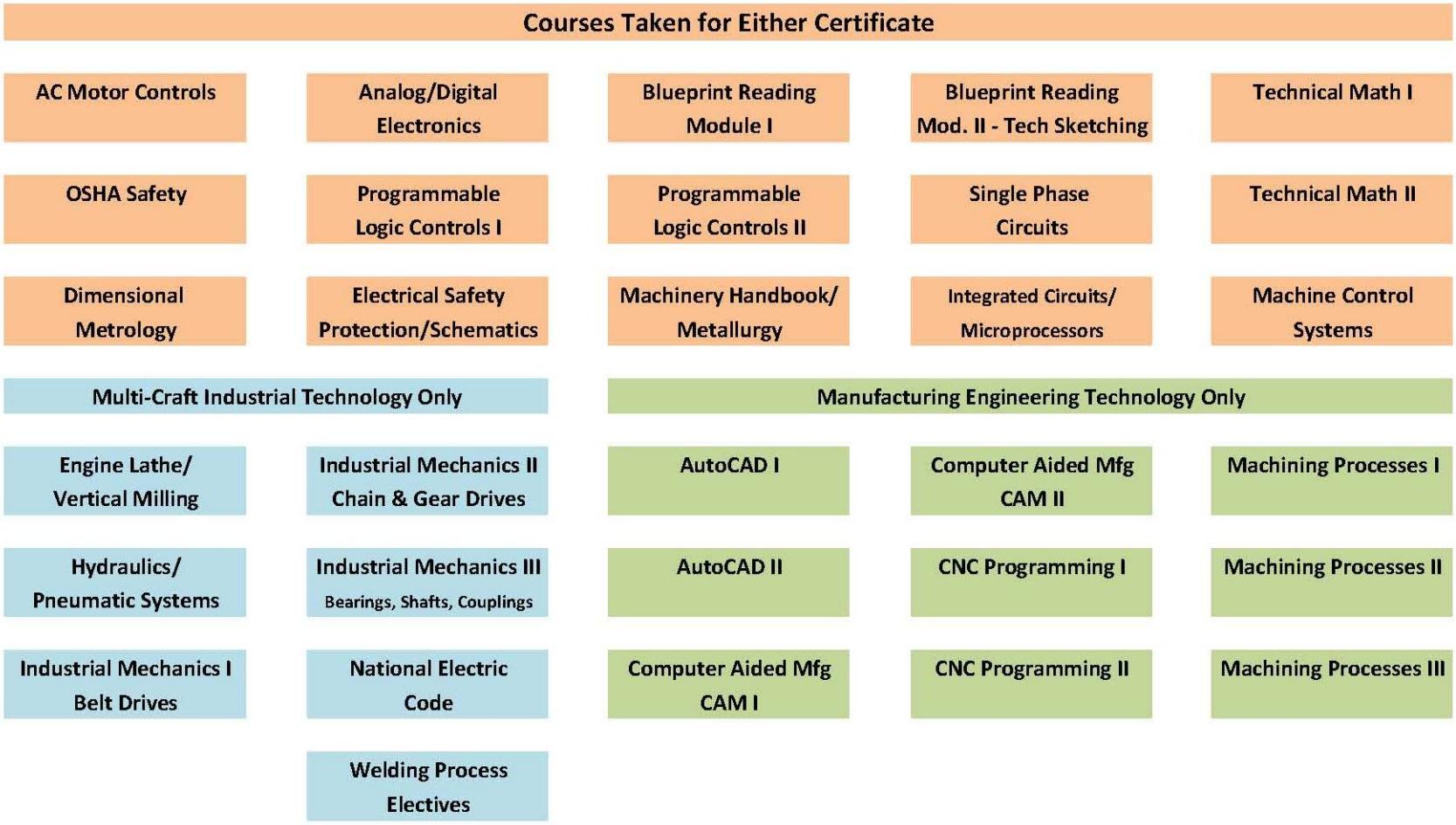


Figure C2. Apollo Career Center Courses for Intermediate Certificates: Multi-Craft Industrial Technology and Manufacturing Engineering Technology



Ohio Case Study #3:

Cleveland: Cuyahoga Community College
Pre-STNA and Plus programs

- Curriculum Strategy: Contextualized Learning
- Program Strategy: Workforce Bridge; Career Pathways; Student Success

Table C4. Cuyahoga Community College Pre-STNA and Plus Programs

	INITIATIVE DESIGN	ROLE OF FUNDER	THIRD-PARTY INVOLVEMENT
Cleveland: **Cuyahoga Community College (Tri-C) Pre-STNA and Plus programs** Contextualized workforce bridge program that links basic education to technical training to create healthcare career pathways within community colleges for students with low literacy skills.	**Design**: Delivery of contextualized basic education, case management, and career readiness instruction for literacy deficient applicants of the college's State Tested Nursing Assistant (STNA) program. Program participants needing remediation go through eight-week "Pre-STNA" class, taught by an ABLE instructor. The 120-hour course (three hours a day, five days a week) combines (1) GED-preparatory reading instruction; (2) writing curriculum that exposes students to anatomy and healthcare terminology; and (3) practical math problems contextualized for healthcare tasks, including billing calculations, timekeeping, and measurement equivalents for weight, liquid, and distance. Upon completion of Pre-STNA, participants concurrently enroll in traditional seven- to nine-week STNA course and the "Plus" program. Participants attend STNA course in morning and Plus in the afternoon. Plus is divided into three segments: (1) additional academic support to prepare participants for the GED; (2) employability training, including conflict resolution, teambuilding, communication, and personal health and finance; and (3) job readiness training, including resume and job application preparation, interviewing practice, and employment searches. The Plus program utilizes soft-skills curriculum developed by Aztec, Key Train, and Cleveland-based Towards Employment. Program completers receive a workplace success certificate. **Innovation**: Program encompasses case management and instruction in basic education, soft skills, and STNA through a partnership between ABLE, career-technical education, and supportive-services staff. **Objectives**: (1) Prepare adults with literacy and soft-skills deficiencies to succeed in STNA course and attain entry-level employment as a nurse assistant. (2) Prepare program completers to pass the GED and enroll in community college to pursue advanced training, such as practical nursing or medical billing. **Eligibility**: Program is not open to all students enrolled in Tri-C's STNA course. To participate in the Pre-STNA and Plus classes, students must score below an eighth-grade reading and/or math level on the TABE test. (Higher scorers go directly into STNA/Plus.) Most program participants are referred to Tri-C by the local One-Stop career center or welfare office. **Assessment**: Pre- and post-tested with TABE. **Articulation**: Pre-STNA and Plus courses do not articulate to credit. **Case Management**: Career Path Leader monitors student progress, helps to remove barriers to program and employment success (by helping eligible students secure public assistance), and assists with employment searches.	**Funding**: Development and delivery of Pre-STNA, Plus, and case management are funded through the national Breaking Through initiative underwritten by the Charles Stewart Mott Foundation. Tri-C is expected to receive a total of $250,000 over three years. **Tuition**: Program has a per-person cost of $1,300. Depending on personal income, dependents, and availability of funding, participants may qualify for free or reduced tuition and assistance with test-taking and uniform fees. **Technical Assistance**: Jobs for the Future, in conjunction with the National Council for Workforce Education, hosts periodic peer learning sessions for colleges participating in Breaking Through. The sessions allow practitioners to share best practices with one another. **Evaluation**: Report is due summer 2008.	**Employers**: Participate in job fairs and were asked to identify key skills for entry-level workers. **Education institutions**: Partnership between ABLE and career-technical instructors within Tri-C. **Workforce development**: One-Stop staff refers jobseekers interested in healthcare to Tri-C. **SUCCESSES AND CHALLENGES** **Enrollment**: Four cohorts of students have enrolled in program, ranging from four to 15 participants at a time. A total of 33 have completed the program. Ten students are currently enrolled, including three in Pre-STNA. **Outcomes**: *Persistence*: Among recent attendees of orientation, 10 students qualified for Pre-STNA, five actually enrolled, and three persisted in program. Students with poor attendance are removed from program. *Postsecondary transitions*: Four program completers have enrolled in college. Five are currently applying to college. Program staff expects all seven currently in STNA/Plus to enroll in college.

Sources: Manley (2007); Burkette (2007); and Taylor (2007)

Achieving the Dream Program Strategies

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Table C5. Achieving the Dream Program Strategies

	DEVELOP-MENTAL EDUCATION	GATE-KEEPING	STUDENT SUCCESS	FIRST-YEAR EXPERIENCE	LEARNING COMMUNITY	ADVISING	TUTORING	K-14 STRATEGY	STUDENT SUPPORT SERVICES	IMPROVED USE OF DATA	COMMUNITY ENGAGE-MENT	OTHER
Cuyahoga Community College	X	X	X	X	X		X					
Jefferson Community College	Math	X		X	X	X	X					
North Central State College	X	X				X	X		Financial Aid			
Sinclair Community College	Math					X			Financial Aid	X	Financial Aid	Class Scheduling
Zane State College	X			X		X			X			Faculty/ Staff Education

Source: AchievingtheDream.org (2007)

Opening Doors Demonstration

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Table C6. Opening Doors Demonstration

	OWENS COMMUNITY COLLEGE	LORAIN COUNTY COMMUNITY COLLEGE
TIMEFRAME	2004-2006	2003-2006
ADVISER CASELOADS	Less than 185	Less than 110
OTHER ACTIVITIES	Free one-on-one tutoring in college's Learning Center.	Enhanced college orientation course.
# SERVED	~1,200	~800-900
PROGRAM DESIGN	Tested the impact of enhanced student services and modest scholarships. Program participants were expected to regularly meet with a team of advisers to discuss academic progress and issues that might affect their schooling. Those who did received a $150 scholarship each semester, for a total of $300. Students in the control group received the college's standard advising services and were not eligible for the special scholarship. Advisers typically have student caseloads of 1,000 or more.	
INNOVATION	Provide more intensive, personalized, and comprehensive advising that what students would typically receive at college.	
GOAL	Increase the number of students who stay in school and earn credentials.	
ELIGIBILITY	Students, 18 to 34, whose family income as below 250% of the federal poverty level and who were either incoming freshmen or returning students who had completed fewer than 13 credits and had a history of academic difficulties. Must hold a high school diploma or GED.	
SUMMARY OF OUTCOMES	• Opening Doors students were more likely than students in control group to reenroll in college after one semester. • The magnitude of the impacts on enrollment at Lorain was nearly double that found at Owens. • Also in contrast to Owens, Lorain students saw improvements in some select academic outcomes, including credits earned and courses passed. • At Owens, students registered for more credits, but because they were more likely to withdraw from at least one course, they did not earn any more credits than students in the control group.	
SUSTAINABILITY	The positive effects on enrollment and course registration rates at both Lorain and Owens were short-lived and disappeared once the Opening Doors program ended.	

Sources: MDRC (2007)

315 Cleveland Ave.
Columbus, Ohio 43215
614-287-5000
www.cscc.edu/Workforce/bits/index.htm

Cheryl Hay, Administrator, Business & Industry Training Department
chay3@cscc.edu

300 E. Broad Street, Suite 490
Columbus, Ohio 43215
614-224-5917
www.communityresearchpartners.org

Roberta F. Garber, Executive Director, rgarber@communityresearchpartners.org

David R. Altstadt, Senior Research Associate - Workforce Policy
daltstadt@communityresearchpartners.org