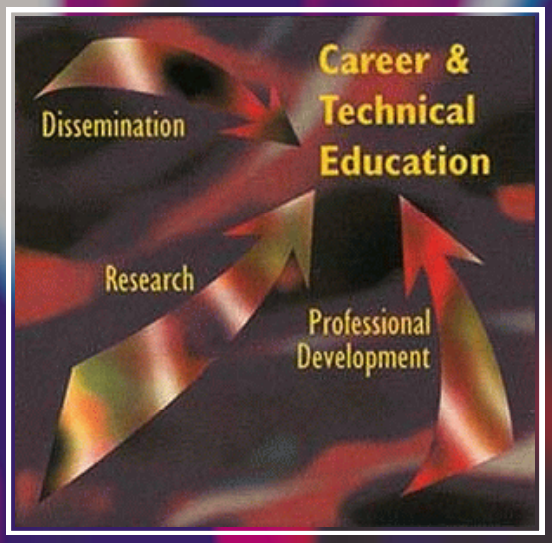

A Cross-Case Analysis of Career Pathway Programs that Link Low-Skilled Adults to Family-Sustaining Wage Careers

National Research Center for
Career and Technical Education
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October 2007

Funding Information

Project Title:	National Research Center for Career and Technical Education
Grant Number:	V051A990006
Act under Which Funds Administered:	Carl D. Perkins Vocational and Applied Technology of 1998 P. L. 105-332
Source of Grant:	Office of Vocational and Adult Education, U.S. Department of Education Washington, DC 20202
Grantees:	National Research Center for Career and Technical Education University of Minnesota 1954 Buford Avenue St. Paul, Minnesota 55108-6197
Director:	James R. Stone, III
Percentage of Total Grant Financed by Federal Money:	100%
Dollar Amount of Federal Funds for Grant:	$2,400,000
Disclaimer:	The work reported herein was supported under the National Dissemination for Career and Technical Education, PR/Award (VO51A990004) and/or under the National Research Center for Career and Technical Education, PR/Award (VO51A990006) as administered by the Office of Vocational and Adult Education, U.S. Department of Education. However, the contents do not necessarily represent the positions or policies of the Office of Vocational and Adult Education or the U.S. Department of Education, and you should not assume endorsement by the Federal Government. Discrimination: Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Title IX of the Education Amendment of 1972 states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance." Therefore, the National Dissemination Center for Career and Technical Education and the National Research Center for Career and Technical Education, like every program or activity receiving financial assistance from the U.S. Department of Education, must be operated in compliance with these laws.

ACKNOWLEDGMENTS

The quality and utility of this report is a result of the careful and coordinated work of many. First, we are indebted to members of the national advisory panel who helped guide the design of the study. Second, we thank the administrators, faculty, employers, and students who generously gave their time to explain the sometimes complicated interrelationships among the many partners who make career pathways possible. This cooperation extended beyond the site visits, including the follow-up necessary to ensure that this report contained accurate and timely information. Thus we thank our contact persons for their patience and shared interest in a comprehensive portrayal of their programs. Third, we are grateful for the acuity and depth of comments provided by the three anonymous reviewers of the initial draft of this report, which resulted in numerous improvements to the final manuscript. Finally, the research team and authors of this report, who represent diverse backgrounds and differing educational institutions, are gratified by our successful efforts to achieve a common goal: to gain new insights into career pathway programs and consider their potential for community colleges, their multiple partners, state policies, and ultimately for the adult learners whose lives they seek to affect.

EXECUTIVE SUMMARY

In recent years, access to community colleges has stretched beyond its initial conception in the 1960s when most community college students were traditional-age learners who sought to transfer to a four-year college or pursue career preparation to enter the workforce. Today, nearly half of the nation's college students enroll in community colleges in which the student body is equally or more diverse than the communities in which they reside, where the average age of students is over 25, where students enroll in non-credit coursework and stop in and out routinely, where the preponderance of students are unemployed or working in low -wage jobs, and where an ever-growing proportion of these students are immigrants and English language learners (ELLs). Recognizing these trends, scholars have argued that community colleges should contribute to an equity agenda that enhances educational and economic opportunity for low-skilled learners. Career pathways can serve as a primary means of meeting low-skilled learners' needs by systematically linking disparate education and training systems using the community college as the nexus for partnerships and program delivery.

Little is known about educational programs referred to as *career pathway programs,* which attempt to integrate adult literacy, adult basic education (ABE), General Equivalency Diploma (GED) instruction, English language literacy (ELL), and pre-collegiate developmental education with postsecondary career and technical education (CTE) certificate and associate degree programs, and potentially with the baccalaureate degree. By conducting case study research, we sought to provide detailed description of local curricular, instructional and support programs, policies and practices that seek to engage low-skilled adults in adult education and literacy programs that are linked to postsecondary CTE and ultimately to family-sustaining wage employment.

The overarching research question for this study was: What programs, policies, and practices, particularly curricular, institutional and support strategies, are currently being implemented to support the transition of low-skilled adults through career pathways that align with postsecondary CTE? Several sub-questions were posed to investigate program and policy components and implementation strategies and to provide insights into sustainability. It is important to emphasize that this study was designed as a descriptive analysis of career pathway programs. The relative newness of career pathway programs targeting low-skilled adults, the charge from the study's national advisory panel, and the relatively short timeframe allowed for data collection did not support an outcomes evaluation. Even so, interesting and potentially promising practices are described in this report, providing a baseline for future policy and program development and outcomes evaluation studies.

The study design was multi-phased, beginning with a review of literature conducted by Park, Ernst, and Kim (forthcoming) and the convening of an advisory panel of experts from throughout the United States. In the second phase of the study, the research team conducted telephone interviews with educational administrators at all levels, including state agency personnel knowledgeable about state and local career pathway initiatives. The third phase of the study involved data collection through site visits to three career pathway programs that emerged during

the previous phase, with these three sites selected by the research team in collaboration with personnel employed by the United States Office of Vocational and Adult Education (OVAE) and the national advisory panel. The three programs and sites are Carreras en Salud–Instituto del Progreso Latino (IPL), Chicago, Illinois; General Service Technician (GST)–Shoreline Community College, Shoreline, Washington; and Career Pathways Initiative (CPI)–Ouachita Technical College, Ouachita, Arkansas. The final phase of the study focused on data analysis and report writing, culminating in the production of this technical report and other dissemination activities.

Results show that the selected career pathway programs demonstrate a clear commitment to enrolling and serving low-skilled adults. Leadership support was evident at each site, with local leaders displaying a keen ability to leverage existing local strengths through internal relationships and external partnerships with employers, community-based organizations (CBOs), and others. By building on local strengths, the leaders exhibited sophistication in developing policy and program components identified by key stakeholder groups as instrumental to program delivery. At one site, administrators were able to leverage their knowledge of curriculum contextualization and of existing partnerships in the manufacturing sector to the creation of a health care pathway serving primarily Latino learners. At another site, a large, well-respected associate degree automotive program aided by local industry and employer support was extended to low-skilled adults. At the third site, a rapidly evolving technical college was supported by the state's career pathway initiative to develop relationships with a comprehensive One-Stop Center to develop multiple pathways for Temporary Assistance for Needy Families (TANF) recipients. In all three cases, the local leadership had a deep knowledge of resources that could be used to facilitate the development of career pathway programs, and they mobilized those resources on behalf of low-skilled adult learners.

Though the characteristics of students targeted for the three career pathway programs varied (e.g., ELL, TANF, unemployed, low-skill), some characteristics were shared across the three programs. For example, all three pathway programs enrolled immigrants, particularly Carreras en Salud–IPL and GST–Shoreline Community College, and many of these immigrants were English language learners (ELLs) who benefited from the integration of language instruction into the adult literacy and CTE curricula. Through an urban partnership involving a community-based organization (CBO) called Instituto del Progreso Latino (IPL), the City Colleges of Chicago and other partner organizations, Latino students were identified to participate in career pathways in the city of Chicago. The ELL population was also evident in the GST–Shoreline program that evolved through a pilot of Washington state's Integrated Basic Education and Skills Training (I-BEST) program that emphasizes the integration of English as a second language (ESL) and adult basic education (ABE) with CTE instruction. Through a co-teaching arrangement, the I-BEST approach emphasizes the integration of literacy education with workforce skills. Besides not being native-born speakers of English, many adult learners in the three programs lacked a high school diploma and functioned at very low literacy levels. Moreover, many students in the three programs were unemployed or employed in low-wage jobs, and some were TANF recipients, particularly the Ouachita Technical College students who were targeted for participation in an array of career pathway programs stimulated by Arkansas' statewide Career Pathways Initiative (CPI).

The organizational infrastructure and partnerships designated to support each career pathway program were unique, though common features existed. All three programs drew upon the resources of a local community college for some aspect of program administration and delivery, but the specific use of college facilities and administrative support varied with the involvement of external partners. Most notable of the three cases, in the Carreras–IPL program, where the administrative leadership was situated in a community-based organization (CBO), we observed commitment to the career pathway similar to the other two sites where community colleges were in the lead, but the added benefit of having the CBO as a lead organization enabled it to capitalize on longstanding commitments to serve a particular student population, in this case Latinos. The CBO's long history and commitment to open access; integrated ESL, adult literacy, and CTE curriculum; and wrap around services was a particular strength of the Carreras–IPL program.

The demographic and educational characteristics of adult students participating in the three programs precipitated an array of support services. All three offered students assistance with financial aid, academic and career guidance, counseling services, and job placement, but they also offered intensive support services directed at fulfilling the unique needs of their students. These included case management, transportation and child care assistance, mental health services, addiction counseling, and in at least one site, support for students with disabilities. In all three programs, a comprehensive portfolio of support services was described by local administrators as essential to students' progressing through and being retained in the programs, and students themselves mentioned the support services as important contributors to their persistence.

Common curricular and instructional features of the career pathway programs included an initial entry point involving adult literacy programs such as ABE and GED. All three programs also offered English as a second language (ESL) instruction, especially Carreras en Salud–IPL and GST–Shoreline. A contextualized curriculum emphasizing occupational content integrated with ESL, ABE, and developmental/remedial education and a stackable, modularized curriculum provided students with multiple entry and exit options. Certificates and degrees were available at various exit points, depending on how the curriculum was aligned with the occupational ladder. Besides these approaches, all three programs supplemented the curriculum with some type and level of technology-enhanced curriculum including computer-aided design to individualize instruction and allow students to accelerate through foundational aspects of the curriculum, including some areas of developmental/remedial education (math in particular). Instructional innovations such as team teaching and project-based assignments were evident in some classrooms in all three sites.

Consistently, developmental/remedial education was viewed a supplement to the career pathway programs because all three sought to emphasize adult education and literacy instruction to reduce or eliminate developmental/remedial education so that students could enroll directly in college-credit courses once they completed the adult literacy portion of the curriculum. Despite this intention, all three programs utilized the community college developmental/remedial curriculum when students were unable to matriculate directly from the adult literacy level to postsecondary CTE. Because none of the programs focused on modifying existing community college developmental/remedial education, administrators expressed concern about students who did not meet the

college placement cut-off scores because of the added cost and time to complete developmental/remedial instruction and the resulting possibility of students' using up student financial aid and accumulating debt, which could contribute to non-completion and economic hardship in the future.

Finding a means of assisting low-skilled adults to persist in postsecondary education is a substantial challenge. Although the sites served similar but different low-skilled student populations, the programs offered a number of similar strategies to serve these students' needs, including job readiness training, either as an initial stand-alone course or through integrating content into the career pathway curriculum. Either way, the intention was to help students understand and value fundamental employability and job readiness skills that would allow them to be successful in the classroom and on the job. Drawing on their partnerships with local employers, each pathway program heeded employers' calls for such instruction and in some cases employed their help in determining specific content offered in the curriculum. In addition, the programs tended to offer flexible scheduling, including multiple entry and re-entry points, recognizing that adults have competing responsibilities for family, work, and school. Cohort groups, learning communities, and other groups were seen as a way of encouraging support among small groups of learners, most notably in the deliberate efforts of the First Year Interest Groups (FYIGs) offered by CPI–Ouachita. Although quantitative results establishing a definitive relationship between small group activities and student outcomes are not available, local program leaders and students were convinced that these activities encouraged persistence.

Each program operated with multiple external partners: employers, CBOs, chambers of commerce, state agencies, industry groups, and others. Relationships with these partners were central to the sustainability of all three programs, though they varied substantially from one another. For example, the presence of external partners helped provide the cachet that is needed to garner support for career pathways within community colleges, with employer and community-based partners, and with the community at large. The creation of these programs was not easy because the partners had to overcome entrenched organizational policies and operations, including space and scheduling concerns, rigid curricular and assessment rules (particularly in the area of college placement testing and developmental/remedial education), faculty contractual agreements (including concerns with differential pay scales for full- and part-time instructors), and inflexible local and state-level curriculum approval processes. In one case, accreditation was viewed as a major impediment to growing career pathway programs because of the limitations it placed on the ratio of certifications to associate degrees. While community colleges offer advantages in terms of their centrality to communities and strategic mission to serve local needs, their organizational structure and formal policy orientation (local and state) may mitigate implementation of the full array of curriculum and support services needed for low-skilled adults to be successful.

Despite various challenges to their implementation, all three career pathway programs showed signs of growth (scalability), continuation within the community college and larger local community (sustainability), and replication (transferability) beyond their initial connections to particular CTE curriculums within single institutions. The establishment of partners (internal and external) contributed significantly to scalability and sustainability, providing a diversified

means of funding the programs in their original form and for growing them into new permutations. Replication often occurred first internally by transferring the models from one CTE area to another, then attempting to replicate the ideas in other communities and with other community colleges and partners. Transparency in the development of local and state policies, procedures, and support materials was crucial for the transfer of ideas from one site to another. Enhancing outcomes assessment was a goal of all three sites so that additional information could be shared internally and externally to promote program replication.

Despite these positive signs, local leaders continued to be challenged in their efforts to weave together modest and disparate funding streams. The administrative rules associated with various funding sources – e.g., when and how dollars can be spent, how they can and cannot be co-mingled – were cumbersome and sometimes also incomprehensible. Practitioners wondered about the purpose of these rules and whether ultimately students were helped or hindered by them, despite the programs' dedication to following the rules and their efforts to comply with guidelines in order to meet student needs. Bureaucratic hurdles that impede the implementation of career pathway programs need careful study. Assuming that the needs of low-skilled adults are not going away and in fact are growing, the importance of finding ways to serve diverse low skilled, low income adult populations becomes an increasingly important endeavor.

Last, this study offers an important lens through which to observe the community college as a nexus for enhancing America's equity agenda and finding ways to enhance access and opportunity for second-chance learners who have heretofore experienced limited success in postsecondary education. Though a great deal of information is still missing on the effectiveness and benefits of career pathway programs, a growing body of qualitative evidence documents a sincere commitment by community colleges and other partners to serve low-skilled adults in selected programs. Results of this study reveal carefully constructed, articulated, and contextualized curricula; productive relationships with employers and partner organizations; and comprehensive support services, all of which show promise for meeting the needs of low-skilled, low-wage learners. Through concerted efforts to implement career pathways, access to postsecondary education and to family-sustaining wage careers may be within the reach of more adults. As these programs evolve, rigorous research to assess program and student outcomes needs to become a high priority.

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INTRODUCTION

Community colleges take pride in being responsive to the changing demographics and diverse needs of their communities. Their commitment to new educational programs to serve diverse student populations is, in fact, one of their defining characteristics (Bailey & Morest, 2006). Curriculum designed to facilitate student transition to college and careers is evolving in the United States in association with the development of "career pathways" or "career pathway programs" (Lekes et al., 2007). A growing number of career pathway programs affiliated with community colleges focus on the needs of low-skilled adults, assisting them to advance through a tightly linked curricular continuum that begins with adult literacy, progresses to and through developmental or remedial education,[1] and extends to postsecondary education (Alssid et al., 2002). Certificates, associate degrees, and sometimes baccalaureate degrees are the culmination of career pathway programs. Many of these types of programs operate through partnerships between educational agencies, community-based organizations (CBOs), and business and industry (Hinckley & Hull, 2007; Hughes & Karp, 2006; Women Employed, 2005). An important goal of career pathway programs is to enable students to attain educational and economic benefits not possible through the existing educational system.

In recent years, access to the community college has extended beyond its initial conception in the 1960s when most new postsecondary students were of traditional college age and sought transfer to 4-year colleges or career preparation programs (Cohen & Brawer, 2003). Trend data show that the community college student population is diversifying in a myriad of ways (Phillippe & Patton, 2000), including new students who have had little or no experience or success with education beyond the middle or high school levels (Bragg & Barnett, 2006).

Today, nearly half of the nation's college students enroll in community colleges, where the student body is as diverse as the communities in which they reside (Williams, 2002). Many students enrolling in community colleges have little or no experience with higher education, nor do they have members of their immediate families who have enrolled in college, thereby defining the community college population as largely first-generation college students. Also, a sizeable proportion of community college students are older, well beyond 18 to 22 years of age, and many are considered "at risk" because they enroll in non-credit course work and stop in and out of college (Pusser et al., 2007, p. 5). In addition to older students, some community colleges enroll students younger than traditional college age, including high school students who are at risk of dropping out or who have already done so. Community colleges enroll both youth and adults who are unemployed or working in low-wage jobs that do not lift them above the poverty level, including some students who have been chronically unemployed or incarcerated (United States Department of Education, 2006).

1 *Developmental education* and *remedial education* are referred to as *developmental/remedial education* in this report because, although these functions can be and sometimes are distinctive, they tend to be used indiscriminately in the literature and are therefore difficult to disentangle with respect to reviewing literature on community college education.

Another growing segment of the postsecondary student population is immigrant students. Because of the dearth of literature on immigrants participating in higher education in the United States, Szelenyi and Chang (2002) were forced to draw upon literature more than a decade old to show the number of immigrants and students who are English Language Learners (ELLs) in higher education is growing, including immigrant enrollments in community colleges. Bailey and Weininger (2000) focused on the New York City metropolitan area, still a major gateway for immigrants to the United States, and found that the student population of the College of New York (CUNY) community colleges and associate degree programs in senior colleges mirrored the growth of the immigrant population in general, and that of the immigrant population, those from South and Central America were more likely to be enrolled in programs resulting in an associate degree than students of other national origins.

Students with disabilities are yet another student population that is frequently overlooked at the postsecondary level. Despite the scarcity of data on disabled students, Henderson (2001) and Phillippe and Patton (2000) showed that the number of postsecondary students with learning disabilities was rising, while the number of students with mild to severe physical, mental, and emotional disabilities remained relatively stable. In addition, community colleges are experiencing increased enrollment by returning veterans as a result of the Gulf (Whitney, 2007) and recently the Iraq wars, though the literature provides very little discussion of these students.

Recognizing these demographic and societal trends, scholars argue that community colleges should embrace their calling as America's preeminent "second-chance" higher education institutions (Grubb, Badway, & Bell, 2003, p. 232). Here the notion of second-chance refers to education for students who have failed in the K-12 system or their initial enrollment in higher education and have often experienced disadvantaged life circumstances that complicate college-going. The term also suggests that community colleges should be applauded for their role in serving the needs of students who experience substantial challenges to entering into, persisting in, and finishing their postsecondary education. Through non-credit education that is aligned with college credit-bearing coursework, Grubb et al. (2003) argue that community colleges can contribute to an equity agenda that equalizes educational and economic opportunities for low-skilled, low-income learners. Though not referring to career pathways specifically, Grubb (2001) and Grubb et al. (2003) discuss the importance of meeting the needs of low-skilled, low-income adults by systematically linking disparate education and training systems using the community college as the nexus point for partnerships and program delivery.

Despite the growing appeal of such programs, gaps exist in the knowledge base about how community colleges contribute to career pathway programs, including curricular and instructional strategies that lead to beneficial outcomes for diverse learners, particularly retention in postsecondary education and placement of graduates in related employment. Despite the growing need for adult literacy education, adult basic education (ABE), and the General Equivalency Diploma (GED) nationwide, little is known about educational programs that attempt to integrate adult literacy, ABE, GED, English language literacy (ELL), and sometimes also developmental/remedial education with postsecondary career and technical education (CTE) certificate and associate de-

gree programs. More evidence is needed to understand whether and how community colleges implement career pathway programs for low-skilled adults who seek family-sustaining wage careers.

This study sought to deepen our understanding of an emerging trend that may change the way low-skilled adult learners engage in, enter into, and persist in postsecondary education and employment. Specifically, this research sought to describe policies and practices associated with career pathway programs operating within or in association with community colleges in the United States. The overarching research question was: What programs, policies and practices, particularly curricular and institutional strategies, support the transition of low-skilled adults into career pathways linking adult education and literacy instruction to postsecondary CTE? Several sub-questions were posed:

1. What student populations are career pathway programs targeting and serving?
2. What program components and curricular elements are associated with career pathway programs?
3. What support services, such as counseling, mentoring, tutoring, and financial aid, are offered and tailored to meet the needs of low-skilled adult learners?
4. What organizational structures within community colleges and partner organizations provide an infrastructure to support career pathway programs?
5. What processes and practices are implemented to facilitate student persistence and completion as a part of career pathway programs?
6. What barriers and challenges impede the implementation of career pathway programs?
7. What lessons emerge that could be useful to scaling up, sustaining, and transferring career pathway programs to other organizations, particularly community colleges?

RELATED LITERATURE

Measuring the impact of adult literacy has vexed the educational community, policy makers as well as researchers, for many years. Early studies were dismissed as too simplistic, whereas current studies are criticized for judging literacy by arbitrary standards. Despite these serious concerns, measures of adult literacy in the U.S. consistently point to gaps in functional literacy, that is, literacy that pertains to adults' performing a wide range of tasks associated with daily life. Over a decade ago, the 1992 National Adult Literacy Survey (NALS) (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993) surveyed over 13,000 adults (defined as age 16 and over), with results weighted to represent adult persons in the entire U.S. population. Results showed about 14% of respondents fell into the *below basic* literacy level, while another 21-23% demonstrated skills in the *basic* proficiency level in prose, document, and quantitative literacy.[2] While noting that the NALS findings should be interpreted with caution because of the complexity of determining the exact literacy levels needed to function in today's society, these findings reveal a large adult population with deficiencies sufficient to compromise their ability to participate fully in personal, employment, and civic situations. Although a quarter of this group consisted of immigrants with limited English-speaking experience, the majority consisted of native-born speakers, with nearly two-thirds having dropped out of high school and 41-44% living in poverty.

Research findings also suggest that adult literacy is related to social and economic circumstances. The 1992 NALS revealed that higher levels of literacy are positively related to higher incidence of and greater involvement in employment (i.e., hours worked per week) and higher wages. For example, adults working at the lower literacy levels reported working fewer hours, on average, and receiving lower weekly earnings than individuals performing at the higher literacy levels. Further, adults in the lowest proficiency level were more likely to report receiving food stamps and less likely to report receiving interest from a bank account or voting in a recent state or national election than adults performing at higher literacy levels

Recent research associated with the 2003 National Assessment of Adult Literacy (NAAL) survey (Kutner, Greenberg, Jin, Boyle, Hsu, & Dunleavy, 2007) shows that the number of adults lacking functional literacy has remained constant over the last decade. Specifically, the 2003 NAAL found that 14% of the population (30 million people) function at Level 1, the *below basic* category, in prose literacy, 12% in document literacy, and 22% in quantitative literacy. These data also show that 57% of persons at the lowest literacy level are unemployed, with only 35% being employed full time. Compared to the entire population tested, several demographic groups are overrepresented in the *below basic* category: adults who did not graduate high school, adults who

2 In the NALS study, researchers used a broad definition of literacy deemed appropriate for the adult population's diverse demographics and experiential characteristics. The NALS study developed three scales to determine the literacy status: prose literacy, document literacy, and quantitative literacy. Within each scale the levels of proficiency ranged from Level 1, the lowest, to Level 5, the highest. Adults' scores tended to fall at the same proficiency level across all three scales, even though the skills measured differed across the scales. Noting variability within each group, Kirsch et al. (1993) described certain subpopulations as falling within specific levels of proficiency.

did not speak English before entering school, Hispanic and African American adults, and adults with multiple disabilities. Further, results related to education indicate that adults who discontinued schooling and received their high school diploma or GED between the ages of 20–24 scored lower in literacy than those who completed by age 19. These findings reinforce the importance of better educating adults who would not otherwise find a way to enter into the workforce and find employment so that they can support themselves and their families.

The social and economic impact on the United States of having a large number of adults with low literacy levels is enormous. As the national adult literacy research shows, getting and retaining employment is a major challenge for low-skilled adults. The research of Levy and Murnane (2006) reinforces findings from 1992 and 2002 adult literacy surveys which show that adults with the lowest levels of literacy work fewer hours, earn lower wages, and are more likely to live in poverty than adults having higher literacy levels. Levy and Murnane found that workers with the lowest levels of literacy have the fewest opportunities for training and employment, and the jobs they obtain are less stable and seldom pay a self-sustaining wage. Based on their review of the literature, Park, Ernst, and Kim (forthcoming) conclude that the lack of literacy skills is a major barrier for low-skilled adults who live in poverty and seek to secure meaningful employment. They cite Jenkins (2006), who argues for career pathways as a means of enhancing the nation's economy and democracy, suggesting that "In a global economy, communities will thrive or decline based on how well they do to ensure sufficient numbers of high-value jobs and an ample supply of 'knowledge workers' to fill them" (p. 4).

Meanwhile, the United States is raising the skills requirements of the workforce to address workplace changes, technology innovations, and global competition (Jacobs & Dougherty, 2006). It is estimated that by 2014, more than 63% of all U.S. job openings will require at least some postsecondary experience, such as occupational certificates or associate, baccalaureate, or graduate degrees (Hecker, 2001, 2005). The need for formal and advanced schooling, including postsecondary education, is indicative of the transformation of the workforce to a knowledge-driven economy that requires high skills and the strategic orientation of individuals and organizations toward lifelong education (Carnevale & Desrochers, 2001). As the current labor force ages, with the baby boom generation advancing in years, the pressure to find workers with high-level skills is expected to intensify.

Given these changes, even adults performing in higher levels of literacy proficiency are likely to have difficulty keeping pace with advances in technology and problem-solving tasks that are needed to thrive in an increasingly complex globalized world. The magnitude of the population currently in need of adult literacy training, coupled with the growing demand for increased literacy levels, presents a challenge to policy makers, educators, and institutions that seek to close the skills gap (Mazzeo, Rab, & Alssid, 2003). Educational programs derived from past models based on traditional-aged and homogenous student groups do not serve low-skilled adult learners well. Multiple public and private agencies and educational institutions need to work in tandem, and new policy may be needed to implement and sustain new career pathway programs for low-skilled adults.

Adult Basic Education and Literacy Programs

Participation in adult basic education (ABE), English literacy, English as a second language (ESL), and adult secondary education (ASE) programs[3] that include the adult high school diploma and GED is reported to the U.S. Congress each year (Office of Vocational and Adult Education, 2006). Figures available from the 2003-2004 fiscal year reveal over 2.6 million adult learners entered these programs. Of these, slightly less than 40% were enrolled in ABE, 16.5% in ASE, and nearly 44% in ESL. Over 1.2 million of these learners (45%) were between the ages of 25 and 44 years old, and nearly 700,000 (25%) were 19–24 years of age. The largest racial/ethnic group is Hispanic (over 1.1 million), followed by White (over 700,000), African American (over 500,000), and other groups reported in far fewer numbers. Among adult learners who entered with a goal of transitioning to postsecondary education or training, 30%, or just under 50,000, entered a postsecondary institution after exiting the program in academic year 2003–2004, reflecting an increase from the 25% and 29% of adults entering postsecondary education in 2000–01 and 2001–02, respectively. With respect to employment, the number and percentage of enrolled adults who had a goal of obtaining employment and were employed one quarter after exiting the program decreased to about 116,000 students (36%) in the most recent federal report by the Office of Vocational and Adult Education (OVAE). For those who completed these programs, job retention was relatively stable, as reflected in 6% of students being retained in employment. (This is consistent with program year 2001-02.)

The GED is often regarded as a first step for individuals who would not otherwise complete secondary education, including teenage and adult learners who are dropouts, at-risk, ELL, or disabled (Scanlon & Lenz, 2002; Tyler, 2004; Tyler, Murnane, & Willett, 2000). According to the American Council of Education (ACE), who administers the GED test, slightly more than 700,000 people took the GED test in 2003 and over 400,000 successfully passed it. A claimed benefit of the GED is that it offers recipients a credential that opens doors to further education and training and increased labor market potential (Brown, 2000). Even so, postsecondary education, considered important to social mobility and economic success, is completed by few GED graduates (Tyler, 2003). Although 65% of individuals who passed the GED aspired to pursue postsecondary education and 30%–35% proceeded to enroll in college, only 10–15% finished 1 year and a mere 4% earned an associate degree (Reder, 2000). Studies by Boesel, Alsalam, and Smith (1998) and Cameron and Heckman (1993) corroborate these results, projecting that no more than 6% of GED holders go on to complete 4 years of college or earn bachelor's degrees.

English as a Second Language (ESL) programs are the largest and fastest-growing ABE

3 The U.S. Department of Education's Office of Adult and Vocational Education (2006) defines *adult basic education* (ABE) as instruction in basic skills designed for adults functioning at the lower literacy levels to just below the secondary level; *adult secondary education* (ASE) as instruction for adults whose literacy skills are at approximately the high school level and who are seeking to pass the General Educational Development (GED) tests or obtain an adult high school credential; and *English literacy* (EL) as instruction for adults who lack proficiency in English and who seek to improve their literacy and competence in English.

programs at many community colleges (Crandall & Sheppard, 2004), reflecting the increase in immigrants at the two-year postsecondary education level. About 25% of students enrolled in community colleges are immigrants and English Language Learners (ELLs), an increasing percentage of the community college student population. According to a 2003-04 survey conducted by the U. S. Department of Education, nearly 3 % of students entering community colleges enroll without a diploma or GED (Arenson, 2006). The largest ethnic group participating in ESL programs is Hispanic, with 1,142,912 participants, followed by African American, 540,227; Asian, 203,732; and American Indian or Alaskan Native, 35,996. With respect to gender, more slightly women enrolled than men (OVAE, 2006).

Community Colleges' Role in Serving Low-Skilled Adults

For a number of decades, community colleges have positioned themselves to be a preferred provider of workforce and economic development for their communities. These institutions have a historical orientation to offering local, low-cost, and accessible educational options for disadvantaged populations (Alssid et al., 2002). Even so, empirical research on the impact of various forms of community college education on low-skilled adult populations is scarce, and what little exists reports mixed results. For example, Prince and Jenkins (2005) found that low-skilled adults in community colleges in the state of Washington experienced significant barriers to program or degree completion, with only 13% of non-native speakers who started in ELL programs persisting to earn college credits. This study also showed that less than 30% of ABE students made the transition to college-level courses, a figure similar to that in the OVAE report to Congress on matriculation from ABE or GED to postsecondary education. Fewer than 30% of students who started with a high school equivalency or GED diploma earned a postsecondary credential of any kind within 5 years. In another study in Washington state, Hollenbeck and Huang (2003) showed similar findings in that adults enrolling in ABE or only a limited number of courses received few benefits associated with employment or earnings, while adults who enrolled in community college CTE degree programs were 8% more likely to be employed and averaged over $4,400 more per year than those who did not reenroll in training programs.

For a growing number of students who matriculate to the community college and who lack college-level academic competencies, developmental or remedial education is almost always an institutional requirement and sometimes also a mandate of the state (Perin, 2006). A decade ago, Lewis, Farris, and Green (1996) estimated that 30% of new entrants to community colleges were required to enroll in developmental/remedial education, but a more recent study by Adelman (2004) showed remediation rates of community college students as high as 60% to 80%. A newer study by Adelman (2005) focusing on recent high school graduates showed that approximately 60% take more than one remedial course, usually math along with reading or writing and occasionally all three. Questions have been raised about the wisdom of building curriculum pathways that include developmental/remedial education because of claims of poor quality, the extended time that it can take students to complete developmental coursework, and the potential drain on financial aid because of extended time to degree (Office of Vocational and Adult Education, forthcoming). Many kinds of obstacles impede the ability of low-skilled adults

to improve their skills to progress through the educational system. Individual limitations tied to economic, cultural, social, or other factors can impede transition to college for low-skilled adults. Further, institutional barriers associated with community colleges and other partner organizations, although unintended, can marginalize low-skilled workers and magnify individual hardships and disadvantages. Moreover, a lack of opportunities for skill development in the workplace inhibits chances for advancement (Mazzeo, Roberts, Spence, & Strawn, 2006).

Through credit-granting instruction for postsecondary-qualified learners and non-credit instruction for students who lack foundational skills, community colleges can play an important role in aligning programs and services that are disconnected and misaligned internally and with external providers (Bragg, 2001; Carnevale, 2000). With non-credit ABE sometimes housed within the community college, in addition to GED, ELL, developmental/remedial education, and credit-bearing college-level instruction operating under their auspices, community colleges are one of the only forms of postsecondary education that can coalesce a comprehensive array of programs and services for low-skilled adults (Grubb et al., 2003). Despite their modest funding relative to 4-year institutions and competing priority of educating traditionally prepared student populations, community colleges offer the potential to serve low-skilled learners currently and more extensively in the future. Like Jenkins (2006), Jacobs (2007) notes that this agenda is not only economic, and he charges community colleges with a broader social agenda: "The task ahead is not simply to respond to the labor market, but to help construct and defend the significance of work and employment as the generator of social wealth in this country" (p. 23).

In conjunction with adult literacy programs, community colleges often collaborate with local education agencies, CBOs, and public and private organizations to help low-skilled adults attain their GED and transition to postsecondary career-technical education (CTE). Partnerships offer advantages in aligning resources and delivering programs and services for low-skilled student populations (Matus-Grossman, Gooden, Wayelet, Diaz, & Seupersad, 2002). LEP students, individuals with physical and/or learning disabilities, high school dropouts, the formerly or currently incarcerated, and those with low employability skills are often targeted for these programs (Gomez, 1999). Increasingly, a continuum of instructional opportunities is offered, from adult literacy to developmental/remedial education to postsecondary CTE. This continuum of educational and training opportunities is referred to as *career pathways* or *career pathway programs* that are envisioned to meet the needs of low-skilled adults.

Career Pathways

The need for clear, sequential curricular pathways to assist low-skilled adults to matriculate into college and obtain education for family-sustaining wage employment is well documented in the literature (see, for example, Alssid et al., 2002). The role of community colleges as providers of low-cost and accessible education in local settings provides these institutions with a unique opportunity to serve as focal points for programs for individuals on the margins of society. Aside from fulfilling the goal of enhancing access and expanding enrollments, community colleges appear to have made an organizational commitment to provide education and training services

that can assist low-skilled adults to complete training and secure stable, full-time employment that offers higher wages and greater career advancement than would be available otherwise.

Career pathways attempt to provide low-skilled adults with a seamless system of coordinated, integrated, and focused steps leading to specific careers that offer labor-market benefits. They have been described as a new "systemic framework" for reforming the educational system. In a concept paper prepared by individuals associated with the College and Career Transition Initiative (CCTI) of the League for Innovation for Community Colleges and an initiative named Breaking Through affiliated with the National Council for Workforce Education and Jobs for the Future (JFF), the following definition was provided for career pathways: "A career pathway is a framework for connecting a series of educational programs with integrated work experience and support services, thereby enabling students and workers to combine school and work and advance over time to better jobs and higher levels of education and training" (Agrawal et al., 2007, p. 3).[4]

Researchers have employed metaphors to describe career pathway programs, including a pipeline (Ewell, Jones, & Kelly, n.d.) or ladder to represent the steps leading from one level or phase of the educational pathway to another. They also use bridges to describe ways adults enter the pathway at defined points that lead to occupational credentials (e,g., certification, degrees). Lattices can offer a more sophisticated picture because they recognize that career progression can move along a particular sequence and then shift and move in another direction, offering opportunities for lateral and longitudinal movement. Other metaphors that can be useful in elucidating the multiple points of entry and exit found in career pathways are a subway, highway, or train system, in which individuals enter and exit depending on their situation, needs, and goals. These metaphors represent useful images to help students, educators, employers and other stakeholders understand multiple opportunities for the learner to move forward in pursuing their education and also in linking their education to careers.

Career pathways often involve partnerships to facilitate relationships with employers to contribute to a comprehensive local workforce system; Jenkins (2006) considers employer partners equal to education providers in sharing responsibility for the preparation of these adult learners. Sometimes career pathways programs are tied to programs offered by one-stop centers and other Workforce Investment Act (WIA) programs. Where states are involved in policy implementation, the potential to effect change may be broadened, as has been evidenced in Arkansas, Kentucky, North Carolina, Oregon, Washington, and others that have engaged in initiatives dedicated to improving the economy by meeting the dual needs of businesses and low-skilled adults (Jenkins & Spence, 2006; Mazzeo, Roberts, Spence, & Strawn, 2006). States draw on federal resources to facilitate new or reformed systemic approaches, with the following federal policies providing potential funding and support: the Adult Education and Family Literacy Act, the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV), Temporary Assistance to

4 In its work with Breaking Through, an initiative funded by the Charles Stewart Mott Foundation, Jobs for the Future (JFF) does not refer to these programs as "career pathways" but instead uses the phrase "programs to link low-skill adults to college-level certificate and degree programs in professional and technical areas."

Needy Families (TANF), the Federal Pell Grant Program, the Montgomery GI Bill, and Jobs-Plus. In addition, a series of federally funded programs for out-of-school youth may be affiliated with career pathways for younger learners (Brustein & Bond, 2007).

A national initiative funded by the Charles Stewart Mott Foundation and administered by Jobs for the Future (JFF) and National Council Workforce Education (NCWE), mentioned briefly above, is called Breaking Through. Not limited to the implementation of career pathways in particular, this project spotlights the issue of education and training for low-skilled adults by facilitating the development of local programs that implement four "high-leverage" strategies as a centerpiece of sequential curriculum for low-skilled adults in community colleges (Liebowitz & Combes Taylor, 2004). The project involves seven implementation sites (referred to as leadership sites) and 19 peer-learning sites located throughout the nation. The high-leverage strategies encouraged by these sites are (a) integrated institutional structures and services, (b) curriculum and instruction that encourage acceleration of the pace of learning, (c) wide-ranging activities focused on labor market payoffs, including enrollment in credit-generating occupational-technical education, and (d) comprehensive "wrap-around" support services.

An evaluation of the Breaking Through initiative by Bragg and Barnett (2007) concluded that these high-leverage strategies are evolving in leadership colleges that are affiliated with Breaking Through. They noted that these strategies are employed to a lesser or greater degree, with accelerating the pace of learning being particularly challenging in implementing programs to meet the needs of low-skilled learners. The extent to which the sites focus on the four high-leverage strategies was found to depend on the characteristics of the students served, local employment circumstances, the resources and capabilities of local educational providers, and other factors. Most important, they reported, implementation is contingent on what the sites seek to accomplish for low-skilled learners, with some sites seeking to move low-skilled students into the initial phase of the curriculum at the adult literacy stage and then bridging and accelerating them into or through developmental/remedial education, while other sites concentrate on smoothing the transition from developmental/remedial education to postsecondary CTE that is tied to occupational credentials and employment. Efforts to engage in both of these lofty goals were anticipated by the sites, but none had as of yet advanced students through the full spectrum of their career pathway programs, from adult literacy through developmental/remedial instruction through CTE.

In a report of research and best practices for improving postsecondary policies and creating advancement opportunities for low-wage workers, Mazzeo, Roberts, Spence, and Strawn (2006) found that their transition can be hindered by the misalignment of curriculum and a lack of institutional commitment to transforming its internal operations. Henle, Jenkins, and Smith (2005) reported that bridges and other curricular strategies that connect noncredit, developmental/remedial, and credit-granting CTE coursework can be created with the explicit intent of improving student progress and promoting persistence. After conducting student focus groups at six community colleges, Matus-Grossman et al. (2002) found that flexible scheduling options that included modular programs, linked career ladders, and comprehensive support services were important to supporting student retention, program completion, and credentialing. Agrawal et al.

(2007) argued that comprehensive data and accountability systems are needed to provide indicators of the outcomes of the low-skilled students matriculating into regional labor markets and suggest that enhanced institutional goal setting and reporting systems could enhance communication with federal, state, and community partners and provide the knowledge base to engage local constituents in continuous improvement and sustainability.

Finally, Park, Ernst, and Kim (forthcoming) reviewed eight studies on career pathways and related programs for low-skilled adults and identified four categories of program components and services that emerged from the descriptive and empirical research. These categories, identified as representing promising strategies for serving low-skilled adults, were (a) institutional factors, including institutional structures and policies, (b) vocational and business linkages, ranging from partnerships to individual labor market payoffs and advancements in employment, (c) instructional features, including cohorts, learning communities, contextualized and accelerated learning, and (d) counseling and support services, such as case management and academic and career counseling.

METHODS

The design of this study was multi-phased, beginning with a review of the literature conducted by Park, Ernst, and Kim (forthcoming) and the convening of a national advisory panel that included practitioners, federal and state agency personnel, and scholars. In the second phase of the study, the research team conducted telephone interviews with educational leaders at all levels, knowledgeable government agency personnel, and local providers of career pathway programs. The third phase of the study involved data collection through site visits to three career pathway programs that emerged during the previous stage of the study, selected in collaboration with OVAE personnel and the national advisory panel. The fourth and final phase of the study focused on data analysis and report writing, culminating in the production of this report and other dissemination activities.

Review of Literature

Phase 1, a review of literature, was conducted by Park, Ernst, and Kim (forthcoming) to examine a broad range of literature, including conceptual, theoretical, and empirical material extending from adult literacy to career-technical education to workforce and economic development in association with community colleges. The synthesis of the literature was completed during Summer, 2006 and transmitted to the National Research Center for Career and Technical Education at the University of Minnesota in early fall, 2006. The synthesis of the literature provides a description of relevant literature and a brief discussion of conclusions and recommendations.

National Advisory Panel

Phase 2 commenced shortly after the study began, concurrently with the literature review, as the members of the research team identified and convened a group of national experts to help focus and guide the empirical aspects of the study. (See Appendix A for a list of the national advisory panel members.) These individuals were invited to participate in a 2-day meeting held in Washington, DC in late March 2006. Members of the advisory panel were selected jointly by the research team and OVAE staff. This phase gathered informed opinion from the national panel members on a wide range of policy, programmatic, and research-related topics and issues related to the implementation of career pathways throughout the nation. Members of the panel were invited to share their knowledge of the literature, including helping the research team capture fugitive literature, which is endemic to this field; obtain nominations of programs for further data collection via telephone interviews or site visits; and contribute to efficiencies in sharing information and enhancing networking among key stakeholders who may have a keen interest in the implementation of career pathways and information gathered through this study.

Data Collection

In Phase 3, the research team developed a telephone interview protocol and searched potential sites via the Internet and print documents found in the literature to identify potential career

pathway providers to involve in a semi-structured telephone interview (Bogdan & Biklen, 2003; Kvale, 1996). Specifically, over 100 organizations, primary community colleges, were identified as offering some form of career pathway for low-skilled adults. These programs were identified by seeking recommendations from the national advisory panel and federal and state-level agency personnel and other experts and by investigating Web-based documentation and gathering input from the literature. By narrowing the nominations and literature, members of the research team were able to identify a small set of programs that had characteristics relevant to career pathways. Many of these programs were initiated and funded, in part, by foundations (e.g., Charles Stewart Mott, Joyce, KnowledgeWorks, Lumina) or by state governments seeking to facilitate adult transition to college and employment. Although a good number of recommendations were received, when the research team scrutinized the potential programs, they found fewer than 100 career pathway programs, as a number of programs were recommended multiple times and some programs, upon scrutiny, did not reflect the fundamental intent or elements of career pathway programs or did not serve the low-skilled adult population to which our study was targeted.

After this initial search, including reference checking by triangulating sources, a total of 27 career pathways were selected for in-depth interviews. These sites offered evidence that they were serving low-skilled adults and were offering program components linking adult literacy, including or attempting to integrate or by-pass development/remedial education, and postsecondary CTE with the goal of transitioning low-skilled adults to employment or further education. Though the intention of this study was not to focus on English Language Learners (ELLs), it is noteworthy that a large proportion of the identified sites represented their programs as having a large and/or growing ELL population, particularly Latino immigrants and descendants. This finding was evident in all geographic locations, including suburban but particularly rural and urban locales.

Data were collected from these sites through 30- to 60-minute telephone interviews conducted by trained research team members at the University of Illinois at Urbana-Champaign and the University of Minnesota. The interviews were conducted with program leaders who possessed substantive knowledge of the career pathway programs. These contact people were asked to answer a range of semi-structured interview questions about program context, organization and goals, student enrollment, curriculum and instruction, support services, barriers to implementation, student outcomes, and scalability, sustainability, and transferability.

From these telephone interviews, the research team created a database with descriptive information about the selected career pathway programs and ultimately chose three sites for field visits, following more telephone interview conversations with the sites and other informants familiar with the programs, including state-level administrators. Again, these local sites were vetted with the Office of Vocational and Adult Education (OVAE). Criteria used to select the sites were consistent with advice gathered from the national advisory panel and preferences of OVAE staff in that the selected sites were thought to emphasize models or approaches having the potential to be scalable, sustainable and transferable.[5] The sites were also representative of different

5 We draw on literature on systems theory to define *scalable* or *scalability* as pertaining to the expansion of a program to new student enrollments as well as expansion to new program areas and sites

geographic regions of the United States, community types (urban, rural, and suburban/urban), and occupational (career cluster) foci. While the programs were relatively new, each was thought to have matured sufficiently to provide the opportunity to document a model or models that had the potential to be sustained and replicated.

Site visits were conducted between August and December of 2006, preceded by an initial pilot visit conducted in Chicago, Illinois in June 2006. The selected career program sites were located in Chicago, Illinois; Malvern, Arkansas; and Shoreline, Washington, a suburb of Seattle. The research team collected the case study data during 3-day site visits to each of the selected communities, concentrating on interviews with personnel of the local community college and/or partner organizations. One-on-one and small group interviews were conducted with program administrators, faculty, students, employers, counselors, other support personnel, and other stakeholders. When possible, the research team also observed classroom sessions and local meetings involving key stakeholders. Most of the information on student enrollment, matriculation, and employment included in this report was provided by the selected sites because of time and resource constraints that precluded the execution of a full-scale outcomes evaluation.

Interview guides were developed specific to this study and used to collect the following types of information: (a) *contextual factors,* the environment within which the program operates and extent to which the factors in the environment support policy, programs and practices; (b) *organizational and administrative factors,* the capacity of the community college and partner organizations to create a supportive administrative infrastructure (policies, finances, support services, faculty training, etc.) necessary to promote and support innovation and exemplary practices; (c) *curriculum and instructional policy and practice,* integrated academic and CTE curricula and independent/self-paced, computer-assisted, project-based, and small group/cooperative learning, cohorts, and learning communities; (d) *support services*, accommodations and support for low-skilled adults exhibiting disabilities; (e) *community college capacity for innovation and excellence,* the perceived administrative, faculty, and staff capacity, skills, and commitment to promote and sustain innovations that lead to improved student outcomes; and (f) *barriers and success factors* associated with implementation. These general components were woven into a larger framework that guided data collection involving the three selected sites. The framework that guided the development of interview guides for program administrators, faculty and support staff, students, and employers appears in Appendix B. This framework was constructed subsequent to the national advisory panel meeting, based on their input in late March, 2006.

Throughout the study, the research team paid close attention to data quality issues, seeking to triangulate results gathered through various information modalities and sources (Lincoln & Guba, 1985). Further, the team engaged in member checking at involved returning drafts of the case study reports to local program administrators and stakeholders for review, reflection,

without sacrificing quality and effectiveness (Bondi, 2000). *Sustainability* refers to the continuation of the program beyond the initial funding and the integration of the program into an organization's on-going functions (see, for example, Scheirer, 2005). *Transferability,* as defined by Lincoln and Guba (1985), refers to ideas, in this case program innovations, transferring from one setting to other settings.

and comment. The commentary of local officials resulted in the clarification and occasionally the correction of the detailed narratives presented in the case study reports. In addition, the research team engaged in peer debriefing, utilizing members of the group and other knowledgeable experts to read, reflect upon, and offer feedback on the case reports, verifying the credibility of descriptive results presented in each report.

Data Analysis and Report Writing

The fourth and final phase of the project analyzed data collected from site visits to the three selected career pathway programs and in-depth telephone interviews with five additional sites that displayed intriguing aspects of career pathways but were inaccessible for visits due to resource constraints. (For profiles of the five additional career pathway programs, see Appendix C.) The content of all interview data were analyzed, along with notes of the observations and document reviews. Emerging patterns and themes were documented in relation to each of the community college settings with a case study report produced for each site. After individual reports were prepared, cross-case analysis was conducted by members of the research team to examine common and unique themes and patterns. The emergent themes reflected the collective wisdom of the researchers operating independently but also in conjunction with one another through an on-going dialogue during the period of December through March, when the qualitative data were being analyzed. Finally, the data were summarized and conclusions and implications were drawn from the individual and cross-case results.

Limitations

The study had a number of limitations. First, the study was commissioned with a very short timeframe for data collection, with initial funding commencing on April 1, 2006 and a scheduled completion date of December 31, 2006, providing limited opportunity for the research team to select sites and engage in data collection and report writing. Further limiting the overall time period for the study was the review process of OVAE, with OVAE staff taking approximately 2 months for the review of potential candidate sites during Summer, 2006. These constraints led the research team to concentrate on collecting descriptive data because of their inability to engage local sites in an original student outcomes-oriented evaluation. Second, very little empirical information about career pathways and career pathway-related programs for low-skilled, low-income adults exist in the literature, limiting the research team's ability to build an empirically based conceptual framework to conduct (or test) new research. This limitation was also found during the initial phase of the study when Park, Ernst, and Kim conducted their review of the literature. Third, whereas there was a recognized need to understand how models relate to student enrollment and outcomes, this study does not offer new insights on program effectiveness because of its focus on existing programs and practices, without random assignment of subjects to treatment. However, when program administrators and faculty shared perceptions of how their programs were influencing program and student outcomes and the research team observed similar findings that confirmed those perceptions, they were included in this report.

ORGANIZATION OF THE REPORT

The next section of this report presents the individual case reports for each of the selected career pathways, each located in a different setting in the United States. The next section presents the emergent themes that represent cross-case findings on career pathway policies and practices. Finally, in the last section of the report, the research team offers a summary, conclusions, and implications for future policy and practice.

CAREER PATHWAY PROGRAM CASES

This section presents case study reports on the three local career pathway initiatives selected for this study: Carreras en Salud–Instituto del Progreso Latino, General Service Technician (GST)–Shoreline Community College, and the Ouachita Technical College Career Pathways Initiative. The cases are sequenced from the most to the least fully developed career pathway initiative as measured by the degree to which core academic and support services were developed to facilitate student transition from the adult education and literacy level to the postsecondary CTE level. Each case presents context; program goals, organization, and administration; student population, recruitment, and placement; curriculum and instruction; support services; program evaluation and outcomes assessment; implementation barriers; success factors; and scalability, sustainability, and transferability.

Carreras en Salud, Instituto del Progreso Latino[6]

Context

The Carreras en Salud[7] is a health career pathway program for adult Latinos. The program emerged in April, 2005 through a network of social service, educational, and workforce agencies who assumed shared responsibility for this ESL-to-health occupations pathway. The organization responsible for leading Carreras en Salud is the Instituto del Progreso Latino[8] (IPL), a CBO that has served the Chicago area Latino community since 1977. IPL is envisioned as an "adult high school," a place to learn English and receive counseling, job placement services, citizenship instruction, and financial education. It is looked upon as an advocate for the Latino population's economic advancement.

The Association House, located in another section of the city, is a CBO that often partners with IPL to offer health and education services to economically disadvantaged families. IPL and the Association House are both affiliated with the National Council of La Raza (NCLR), a Latino civil rights and advocacy group. Committed to providing opportunities for adults to prepare for the workforce, IPL and Association House asked NCLR to conduct an economic scan of Chicago to identify high-growth occupations. NCLR's research identified the health care sector as having substantial unmet workforce needs, and NCLR partnered with IPL and Association House to obtain funds to start Carreras en Salud (here called Carreras–IPL) to address the low academic and English language skills that limit Latino employment opportunities. The 2000 Census revealed that although Chicago's Latinos accounted for 25% of the population, only 1% was employed as an LPN or Registered Nurse (RN). The health care pathway was created in part to close this gap by preparing new as well as current CNAs and LPNs to move up the career ladder into higher-paying positions as LPNs and RNs, respectively.

6 This case study report was drafted by Catherine Kirby and Debra D. Bragg, with review and comment by Chris Bremer and Marisa Castellano, who participated in an initial site visit in June 2006.

7 English translation is *Careers in Health*.

8 English translation is *Institute for Latino Progress.*

IPL's implementation of the Carreras–IPL health care pathway was facilitated by lessons learned from their earlier development of a manufacturing career pathway program for the Latino population. In that project, an administrator had been made aware of a local expert who encouraged him to explore a manufacturing education program by using a contextualized curriculum created by the Center for Occupational Research and Development (CORD). The IPL director found that this approach had promise for adaptation to its population's needs by combining ELL with applied academics (contextual learning), workplace skills, and technical training.

Program Goals, Organization, and Administration

Carreras–IPL was created to "provide local healthcare providers with bilingual healthcare professionals who can improve these organizations' competence and cultural sensitivity when serving the large and rising numbers of Latinos in the Chicago metropolitan area", according to a local administrator. The current high demand for health care workers offers this population a route to family-sustaining wages and economic independence through the nursing pathway.

Leadership and Partnerships

The key member of the local program administration came to IPL from the nearby technical training center at Daley College, one of the seven 2-year City Colleges of Chicago. The IPL leadership, committed to creating Carreras–IPL through active partnerships, chose partners from other providers who shared their dedication to serving the target population. Partners include IPL; Association House; the Humboldt Park Vocational Education Center (HPVEC), which is a part of Wilbur Wright College (another of the City Colleges); the NCLR; and the Metropolitan Chicago Healthcare Council, consisting of over 300 hospital and nursing home members. The employer partner role in the Carreras initiative was described as addressing four major functions necessary for program success: (a) initially helping to develop the curriculum, (b) providing clinical and practicum sites, (c) providing a pool from which Carreras recruits practicum instructors with the cooperation of the hospitals, and (d) helping to place graduates in employment and providing post-employment feedback for purposes of program improvement.

In addition to its employer partners, Carreras–IPL also counts among its supporters multiple industry associations, chambers of commerce, religious organizations, labor organizations, and the local Spanish-language media. A program administrator credits much of the success of the program to IPL's history of developing and sustaining "win-win" relationships with all its partners, an effort that requires genuine and active commitment to career pathway program goals and finding intersections among the individual and sometimes diverse goals of the partners. Table 1, adapted from information provided by local educational leaders, describes the primary roles that Carreras–IPL's partners play in the implementation of the career pathway program.

Funding

The Carreras–IPL partnership obtained funding from a multitude of agencies and sources.

Table 1. Primary Roles by Partner Type for the Carreras–IPL Career Pathway Program

Partner Type	Primary Role	Description of Role
Educational institution	Customize curriculum	Provide curricula that are customized to the needs of non-traditional, low-skill students.
	Provide educational resources and support to students	Provide computer labs and programs that help the students improve their basic skills at their own pace, tutoring and technical assistance, financial aid, and career planning counseling.
	Schedule	Schedule classes at times convenient to non-traditional, low-skill students; provide assistance to adult educators to create contextualized curricula based in the adult learners' basic skills levels.
	Articulate and contextualize courses	Articulate basic skills and contextualized courses with technical certificates and occupational degree programs with input from employers and industries in the field.
	Develop advisory councils	Develop advisory council committees for vocational and occupational certificate and degree offerings in which CBOs and local employers are included.
Employer	Skills assessment	Provide data for the needs analyses of programs and projects. Play a crucial role in any activity related to data that will demonstrate needed skills (basic, technical, and transferable) to be incorporated in a contextualized curriculum.
	Curriculum review	Review contextualized curricula; provide the expertise to determine skills needed at the different stages in career bridges and pathways and resources to effectively learn those skills; predict what the workers will gain in earnings as they move up the academic and career ladders within a pathway.
	Work-based learning	Provide opportunities for real-life learning experience: fill the need for practicums, clinicals, internships, job shadowing, apprenticeships, and other means for students to practice and learn in the workplace.
	Project-based assessment	Serve as expert evaluators of the objectives of a course by assessing the projects developed by students in a training program. Employers see the students' projects as a part of their finished product before sending them to the users or customers.
	Job placement	Provide employment to the graduates, including assistance and opportunities to grow throughout their employment.
Community-based organization (CBO)	Contextualized ESL	Provide methods and curricula for teaching English not commonly found in traditional community colleges and other providers of ESL classes. Constantly evaluate the contextualizing and vocationalizing of basic skills curricula for effectiveness and efficiency.
	Case management	Supplement traditional training systems that concentrate only on academic-related services with a variety of non-academic services, including child care, shelter, food assistance, transportation assistance, social and psychological assistance and referrals, and domestic and addiction prevention assistance, that address non-academic reasons why students are not pursuing their desired careers.

Community-based organization (CBO) *(continued)*	Recruitment and placement	Assist graduates of training programs in seeking jobs (e.g., resume writing, interview skills, job searching) and negotiating benefits and earnings with employers.
	Collect data	Provide important data not usually collected by traditional schools or employers.
Industry association	Certification	Act as a certifying agency by confirming and habilitating graduates to find employment in the regulated field.
	Data management	Help with data collection, analyses, and dissemination in determining the need for technical skills generated by different trends in the industry.
	Recruitment and communication	Provide access to industry bulletins or newsletters that include and promote training programs as an effective way to publicize and recruit students for a specific sector.
Workforce board	Relationship building	Maintain close and active relationships with local employers, facilitating the formation of employers' advisory councils for training programs.
	Needs analysis	Support the needs analysis stage of a training program by providing and facilitating focus groups and surveys with local employers and employees.
	Data collection	Collect current, locally specific data.
	Marketing	Promote training programs in bulletins or newsletters to reach a large number of employers in the same industry.
	Advocacy	Provide support letters for policy and grant proposals.
Commercial clubs	Partnerships	Actively support legislative agendas that will benefit funding for programs.
	Funding	Serve as fiscal agents and active members of regular implementation meetings and program evaluation.
	Program advocate	Advocate for program with key stakeholders.
Locally elected officials	Policy	Modify criteria for program development, licensing, or certification that may unwittingly eliminate non-traditional students or become obstacles for the career objectives of such students.
	Funding	Allocate a portion of discretionary funds to the development of local training programs; influence city and state decisions on budget allocations for education of non-traditional low-skilled workers.
Faith-based organizations	Dissemination and recruitment	Disseminate information and recruit non-traditional low-skill workers for vocational training programs.
	Incubator	Serve as incubators of CBO partners that can become an essential part of the community.
Local media	Marketing	• Inform the community about training opportunities, especially through ethnic media (radio, television, print), as most of the training programs have very little or no money for marketing and promotion. • Serve as representatives on the program advisory council to help keep the public informed about the program and the success of its graduating students.

Like many other CBOs, the IPL continually solicits funds to support the programs that address their clients' diverse needs, recognizing that not meeting students' essential needs can derail even the most persistent student. Their extensive grant writing provides critical resources for the Carreras–IPL initiative, including covering the tuition and fees for some students. Maintaining this level of support requires vigilant investigation of potential sources and coordinated effort among partners.

At the inception of this program, the state provided support in the form of seed money from the Illinois Community College Board (ICCB) for IPL to work with City Colleges of Chicago to develop the ESL for health care and pre-CNA curricula. Additional initial operating funds came from the state's Critical Skills Shortage Initiative (CSSI), a program of the state's Department of Commerce and Economic Opportunity to direct state dollars to education and industry sectors where worker shortages exist. According to a local administrator, the various state funds helped leverage additional assistance from private foundations. The NCLR also supported the initial program development by conducting the economic scan that revealed the gap between the Latino population and its representation in health care jobs. This scan resulted in the NCLR securing additional funding that contributed to the project. Current external funding is derived from the following:

- Chicago Community Trust
- Chicago Mayor's Office of Workforce Development (MOWD)
- Employers' tuition reimbursement programs
- Illinois Department of Commerce and Economic Opportunities (DCEO) – Workforce Investment Act (WIA) funds
- Lloyd A. Fry Foundation
- Local Initiative Support Corporation (LISC)

Faculty

According to administrators, the Carreras–IPL is the only nursing preparation program in the city that has bilingual instructors who help students learn both English and technical subject matter in a culturally sensitive manner. Bilingual instructors are employed to teach the lowest-level ESL course and the pre-CNA course; most instructors in other courses are not bilingual. The ESL faculty affiliated with the Carreras–IPL program emphasize a contextualized approach to ESL instruction, integrating medical terminology and concepts into the students' ELL. Employer partners have been described as generous in providing their own employees to serve as Carreras CNA instructors; in fact, program administrators did not indicate any difficulty recruiting faculty to teach courses at the pre-college credit level. The nursing faculty who are part of the Wright College faculty at HPVEC are highly committed to the population they serve. The selection of trained faculty, some of whom come from the Latino community, and a curriculum designed around adult learning principles support adult students' learning and address the complexity of their lives. Although career guidance is offered at IPL and the colleges, students often turn to their instructors, typically other women, for day-to-day advice and support, which helps

the students develop the self-efficacy often cited as an important ingredient for persistence. As a result, close and caring relationships often develop between teachers and students.

Student Population, Recruitment, and Placement

Over 90% of the Carreras–IPL students are women, many of whom have children. Some are single and have part- or full-time jobs to support their families. Many depend on extended family to help with child care and transportation. At the same time, local administrators explained that for many, seeking an education and a career that takes them out of the home and provides some economic independence results in a lack of family support based on the cultural norms of their families and community.

Of the entire population of Carreras–IPL students served so far (approximately 350 as of Summer, 2007), most had not earned a high school diploma in the United States or the GED. According to a program administrator, most students had the equivalent of an 8th grade education or less (sometimes far less) and had limited English proficiency that precluded them from entering postsecondary technical coursework. Another group of students that Carreras–IPL serves are younger students of Latino descent, many of whom were born and raised in Chicago. Program administrators reported that in addition to their predominant population of under-educated adults, a small number of Carreras students (5) had been nurses or veterinarians in their home countries and were working at low-paying jobs because of their limited English language skills. Carreras teachers described their students as highly motivated in spite of their lack of education and familiarity with the U.S. education system.

Carreras–IPL takes a multi-faceted, well-developed approach to recruitment. The program is publicized through broadcasting interviews with students and administrators and public service announcements on Spanish-language television and radio stations. This exposure is thought to be an effective recruiting tool, resulting in an occasional surge in interested, potential students and at no cost to the program. In addition, Carreras–IPL searches for students for their pre-LPN bridge among working CNAs at local hospitals and students applying for admission to the HPVEC LPN program who do not meet entrance requirements or who are on the LPN program waiting list. Word of mouth also helps grow the applicant pool. Members of the Carreras–IPL staff speak to potential students in the community via schools and places of worship and by contacting city aldermen and other community leaders. The religious sector has provided Carreras an extensive means to reach potential students; in one Sunday alone, administrators spoke to over 3,000 persons about the program.

Although the Carreras program has been able to grow to accommodate all interested students its first 2 years, it is now experiencing bottlenecks at both the CNA and the LPN levels of the academic ladder. Wright College, one of the City Colleges, holds about 20 slots for Carreras students in its entering cohort of LPNs each year. As of Summer, 2007, there were 50 students on a waiting list. With four cohorts of students currently at various steps in the career pathway, a weekend and a second daytime course were added to increase capacity. In addition, local admin-

istrators were writing a proposal to seek funding to replicate the program at another college.

Selection and Placement Process

Carreras-–PL's philosophy of placement is inclusive, and as a result it does not turn students away, regardless of their educational readiness. Rather, they try to place all interested students at a point on the pathway[9] that is most appropriate for their level of need. The program coordinator explained, "That is the beauty of the [career] pathway model; there is a place for everyone. The lower bridges are not perceived as 'lesser' than others but instead 'most appropriate,' based on the client's needs." Those who are not successful at their level of entry are allowed to repeat courses until they reach proficiency or, on rare occasions, decide to withdraw. This philosophy not only supports increased access and inclusiveness but also encourages persistence by giving adult students a larger role in determining their success.

Students take the Test of Adult Basic Education (TABE) to determine their ELL level and are placed in the appropriate health-themed ESL course, CNA course, or pre-LPN course, depending on their score. Because the focus of this pathway model is on preparation for the CNA credential and on pre-LPN courses that prepare students to enter college to obtain the LPN credential, the GED or high school diploma is not required for initial placement. However, faculty and administrators recognize the importance of their students' eventually obtaining the GED and infuse GED content into their CNA course, a strategy designed to ease transition to further learning.

The entry-level bridges[10] range from the lowest level—an ESL course with health context for those with a TABE equal to or less than 6—to a pre-LPN A course for students with a TABE of 8–10 and who already have the CNA credential. Entry into the health care pathway at the college level requires that students have a GED or high school diploma and pass the COMPASS, the college placement exam used by the CCC system.

In Carreras, bridges are the three 16-week courses that lead to the credential programs (CNA, LPN). The bridge courses include vocational ESL (VESL) integrated with a pre-CNA curriculum leading to the CNA program at HPVEC. Pre-CNA classes meet 4 nights per week for 4 hours. Entry into the CNA program requires a TABE score equivalent to the 10th grade. However, Carreras–IPL students may enter with an 8th grade score, because HPVEC recognizes that these students will receive tutoring and support services from IPL.

The pathway also includes two pre-LPN bridge courses, A and B. Students who success-

9 According to Carreras' published information, a *pathway* is a structured set of academic courses and bridges that is articulated to prepare students to acquire the skills and earn the credentials to successfully enter a specific level of an industry's career ladder and to advance within it.

10 According to Carreras, a *bridge* is a contextualized curriculum focused on skills needed to enter the career ladder's step and directed toward industry certifications, including academic content required to advance in the educational plan; internships, job shadowing, or practicums; and curricula that include project-based activities and assessments.

fully complete the pre-LPN A course, as determined by post-test scores, have several options as they progress vertically on the pathway. One is to take the COMPASS, and if they pass it, enroll in the credit-earning prerequisites for the LPN program at the community college. Students who do not pass the COMPASS have several options for obtaining the skills necessary to advance in the Carreras–IPL ladder. They can repeat the pre-LPN A course or they can take the pre-LPN B course until their post-test scores indicate they are ready to re-take the COMPASS for college entrance. Anecdotal evidence suggests that most students who enter the pathway at the lower ESL levels need the pre-LPN B course. Another option outside the Carreras–IPL pathway is to enroll in college developmental education courses at HPVEC to achieve college-level proficiency in English and math and continue on to the LPN program.

While enrolled in the pre-LPN A or B courses, students also have the option to obtain EKG and phlebotomy training so that they can be employed as a Patient Care Technician (PCT). This optional training is offered on weekends; the certifications are relatively quick to obtain, result in a slightly higher per-hour salary, and add to their employability skills should they choose to step out of the pathway to enter the workforce. All students can step out of the pathway at any point and return to work if necessary, knowing that they will be able to return to their place on the educational ladder. The curriculum is designed to prepare students to pass the exams that allow them to enter the next phase of the ladder but is also built with safety nets to catch those who falter and support their return to or continuation in the pathway.

IPL students who have a GED and a high English proficiency level can proceed to take the college's entrance exam and, with successful scores, can proceed to take the credit-earning prerequisites for entry into the LPN program. As mentioned previously, there are currently 50 Carreras graduates on a waiting list to enter the LPN program after having successfully finished their prerequisite courses. The top-most rung on the career ladder[11] is the RN program, available at nearby Truman College. Truman, along with other City Colleges that offer associate degree nursing programs, has an articulation agreement to accept Carreras LPN graduates (and other LPN graduates) as second-year students in their 2-year associate degree programs.

Curriculum and Instruction

A hallmark of this curriculum is the contextualized ESL that is integrated with technical training. The Carreras–IPL staff has adapted the traditional ESL curriculum for health care careers. This contextualization of ESL content with the pre-CNA or pre-LPN course content begins with the first courses offered in the pathway in order to abbreviate the length of time spent in non-credit coursework, capture students' interest in the chosen profession, and assimilate technical knowledge and its relevance. Classes are taught in English, but students' questions are responded to in Spanish, if necessary, to facilitate comprehension. Carreras–IPL students reported that having bilingual instructors has been important to their success. Administrators explained

11 According to Carreras, a *ladder* is a map showing the specific positions, titles, and compensation within a range of functions in a profession. Each position shows the skills and credentials required to perform the required duties and the methods used to evaluate the presence of those skills.

they have little difficulty finding bilingual instructors; the harder task is finding instructors who are willing to learn to teach using a contextualized curriculum, although the director has developed a model and tutors those who are willing to learn. The contextualized ESL courses span 16 weeks; the difficulty of the vocabulary and technical information increases with each higher-level ESL course. Contextualized curriculum was cited by the program leadership as one of the main reasons for the program's success. Students are motivated to learn English because they see its immediate relevance to their chosen occupation. Some students report having taken English language courses before coming to the United States; all suggest learning in the context of a profession that offers upward mobility is motiving. Knowing that the LPN/Registered Nurse (RN) is a real goal (not the CNA alone) is an important factor in engaging and sustaining the students.

HPVEC staff estimate that students entering the pathway at the lowest level can take 3-4 years to complete the program, especially if they need to re-take some courses. Though this time period seems long, students are advancing from literacy levels at the 5th grade level or below through the initial year of community college. No matter where the students enter the pathway, they are able to move up the ladder of articulated courses, earning "stackable" credentials along the way. For a graphic depiction of the Carreras–IPL career pathway, see Figure 1.

Credentials

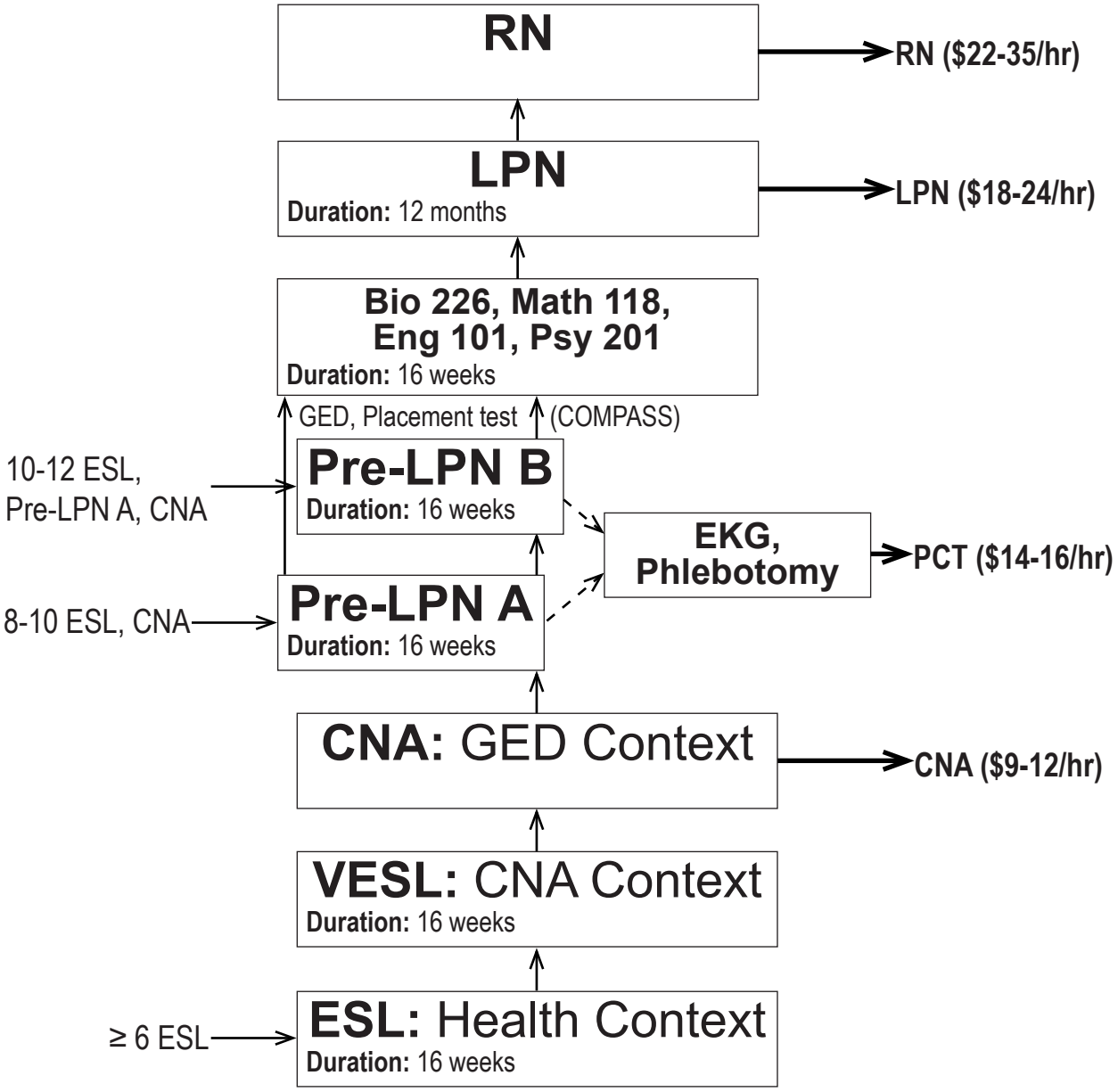
The Carreras–IPL program is designed to prepare students to enter the health care profession as either CNAs or LPNs. The program includes optional training to obtain work as a patient care technician (PCT), a valuable credential in the local health care industry. The pathway is aligned with RN training at Truman College. According to administrators, the pathway allows for but does not necessarily "encourage students to go all the way from CNA to RN for academic, experiential, and economic reasons." If students successfully complete the LPN and work in that position for a period of time, they are encouraged to return to college to take two prerequisite courses and go on to obtain their RN training, which only takes 1 additional year for LPNs versus 2 years for students without that credential.

The courses take a participatory, hands-on, student-centered approach to teaching and learning. Clinical practical and internship experiences are arranged by CNA and LPN program instructors at HPVEC with the critical assistance and cooperation of the employer partners. Work-based learning experiences, a requirement of most health care occupations, provide Carreras students the opportunity to practice and demonstrate industry-aligned skills training and proficiency in the workplace "soft" skills considered critical by the employer partners that are also an essential part of this curriculum.

Team-Based Activities

Team-based projects are infused throughout the curriculum, and students appear to enjoy the group learning experience. The students create a learning community within courses, and many students credit this type of learning with helping them absorb the technical content more

Figure 1. Carreras–IPL career pathway (ESL to RN).



quickly and as a fun way to learn. Administrators and faculty recognize that it is important for this adult population to apply their skills quickly in project-based assignments to acquire knowledge, develop community among students, and perpetuate interest in completing education.

Administrators emphasize that the curriculum is flexible and responsive, continuously modified based on student needs, yet consistent with parameters set by the skills needed for certification and employment. The curriculum is also modularized; each component is closely aligned

with other parts of the career ladder with the goal of encouraging and supporting students to the highest level of academic credential they seek to achieve.

Support Services

IPL coordinates support services for Carreras students, including case management and counseling for non-academic needs provided by Association House and IPL, particularly for WIA registrants. Non-academic support is offered within the typical academic daily schedule so as to not burden the students' busy schedules. IPL student advisors telephone students who stop coming to class to encourage them to continue. Because many Carreras students are single mothers who work to support their families, support services include child care vouchers, transportation assistance, tuition, and books. Students eligible for and needing financial aid are referred to the community college, with a substantial proportion receiving Pell grants. Also, faculty and counselors are well versed in this population's educational barriers, specifically those related to combining school, work, and family. When students are ready to exit the pathway and enter the workforce, job placement is coordinated and shared between staff at HPVEC and IPL. The high level of industry (employer) partner participation in program planning, curriculum development, and instruction was designed, in part, to aid this placement process.

Program Evaluation and Outcomes Assessment

The Carreras–IPL program has dedicated resources to track student participation and maintains a database containing student enrollment, outcomes, and matriculation information. Data reporting to assess student outcomes once they move beyond the Carreras program is aided by the close working relationships between the college and employer partners. At present, Carreras does not have direct access to Unemployment Insurance (UI) data, but one of its partners can access these data as needed.

Since its inception, the program has enrolled a pilot group and five cohort groups at the LPN level. In addition, it has enrolled five pre-LPN cohorts, three CNA cohorts, four VESL-CNA cohorts, and five ESL-Health cohorts. As of June 2007, 423 students have participated in Carreras–IPL, beginning the program at their optimal entrance bridge, with many of the first students entering the health pathway at or near college-level coursework. Completion, licensure, and employment of the pilot group and first cohort were very high, at 73%. Another 56 students have continued their enrollment in the program, demonstrating a retention rate of 94%. Program administrators plan to conduct further evaluation of learning outcomes, though limited funding has derailed these efforts thus far.

Resources from the Joyce Foundation, located in Chicago, have enabled the Carreras–IPL program to engage in formative evaluation, drawing on the expertise of evaluators external to the program. These results confirm the focus of the Carreras–IPL program on high-need students who are unemployed or who have low-skill, low-wage jobs without benefits and opportunities for advancement. Interviews with students revealed that their academic experiences were highly

satisfactory. The students praised their instructors for their patience, the bilingual emphasis of classroom instruction in critical courses, and the varied and active teaching and learning strategies. The students felt challenged by the fast pace of instruction, but they persevered.

In addition, the availability of support services was commended by the Joyce Foundation evaluators, recognizing the necessity for financial assistance for such fundamentals as transportation, child care, and case management. Graduates observed that through these various services, they had a better idea of the career opportunities in their chosen field and the education and training required for advancement. Concluding their evaluative comments, the Joyce Foundation evaluators reported that the program had been an important milestone in the lives of several of the students, who described "the experience as a major turning point in their lives."

Implementation Barriers

A barrier to the Carreras–IPL program has been aligning the curriculum with existing educational systems so that students can matriculate sequentially from one level to the next. Building a career pathway that taps into the existing public education system has been challenging, partly because of the different delivery systems, administrative structures, and funding streams that emanate from federal or state governments and flow to the various urban educational systems. The bilingual curriculum and instructional strategies of the Carreras–IPL program at the lower-level bridges appear to be essential to the success of the student population, but have not been well integrated with adult education or CTE. The entrenched policies and procedures of the existing system, including the parameters negotiated in faculty union agreements, influence the adoption of innovative teaching and learning strategies that require additional preparation and course development that is not compensated. As a result of these challenges, the Carreras–IPL and its CBO partners indicated they often have more success working with individual colleges and instructors than system-level offices. Administrators believe that faculty members who are involved are a very committed group of teachers.

Also evident were difficulties with curricular alignment between the adult education curriculum and the community college's developmental program, with pre-college instruction not always aligning with COMPASS college placement exam cut-offs. Understanding how to align and link curriculum sequentially so that students are able to complete one level and advance to the next is crucial to career pathways. When alignment does not facilitate student advancement, students can get stuck, particularly at the point of advancing into college-level curriculum.

Another barrier to students' progress through the career pathway is related to program growth and the system's capacity to provide the necessary classes to accommodate that growth. Administrators stated that the early success of the program has resulted in a waiting list for students who are ready to enter the LPN program at the college. Although the college reserves 20 slots for Carreras graduates per entering class, there are currently 50 additional students who are ready to enter the college's program but cannot, due to capacity issues. Administrators continue to address these needs and are in the process of writing a proposal to replicate the LPN pro-

gram at another community college in the area. There is also a bottleneck at the CNA level, and Carreras administrators have added a weekend class to accommodate more students. Program administrators are aware that such delays cost students time and money, jeopardizing completion because of the resulting depletion of financial aid dollars.

Another barrier relates to the level of support services that students require to be enrolled and remain engaged in the program. Though the support services of IPL and Association House are extensive, the extreme personal challenges that some Carreras–IPL students face often have a high price tag, including financial assistance, case management, child care, and transportation. Such services go well beyond what is normally associated with collegiate-level programs.

Further, arranging the necessary financial assistance is problematic in itself. Students often do not often qualify for the federal assistance programs offered, even though they are considered low-wage adults by most operational definitions. For example, qualification for assistance under a program such as the Workforce Investment Act (WIA) does not apply to the typical Carreras student. Administrators reported that in the instance of income eligibility requirements, of 150 students who applied for WIA, only 8 qualified, explaining that a single person who makes over $15,000 a year (or $4.37 an hour for full-time work) exceeds WIA qualifications for funding. Further, professional development for instructors, counselors, and administrators can be expensive, yet specialized training is needed to help educators understand the needs of the target population and how best to address them.

Finally, finding ways to sustain financial support is an ongoing challenge for IPL and other CBO partners. Maintaining funding is a constant need for non-profit organizations such as these, making efforts to secure resources a constant activity. Carreras partners send representatives to a monthly meeting to discuss and assign proposal writing responsibilities so that a continuous stream of funds is available to meet student and program needs. The Carreras pathway enjoys strong partnerships that strive to sustain the college's capacity to offer additional sections of courses as more students enter the pathway program.

Success Factors

Having recognized these challenges, it is important to reiterate the success factors of the program. First, the IPL leadership is highly skilled at creating and sustaining partnerships through efforts to seek and sustain win-win relationships. Individual partners fall into four categories, as described by an administrator: (a) industry, (b) training, (c) CBO, and (d) public sector, with all entities making the commitment to work together, from performing relatively simple administrative functions to delving into larger systems alignment. Constant effort is required to nurture partnerships, and IPL administrators are highly committed to this work.

A second area of strength is the sincere devotion of the administration and faculty to serving the target population. Educational leaders associated with the Carreras–IPL program and partnership themselves immigrated to the United States, and they bring their own personal

experiences and passions to their professional career. Many of the ESL faculty affiliated with Carreras–IPL and the Wright College nursing faculty come from the Latino community or have extensive experience working with that student population. They are also experienced in adult learning principles as well as contextualized teaching and learning.

The selection of trained faculty and a curriculum designed around adult learning principles help address the complexity of adult students' lives. Carreras–IPL students are described as highly motivated but often lacking in self-confidence. Students report that taking the step toward independence via higher education and gaining employable credentials is not always condoned in the Latino culture, where, as study participants explained, women traditionally remain in the home. While career guidance is offered at the IPL and the colleges, students often turn to their women instructors for advice and develop close relationships with them. Instructors are described as willing to do "whatever it takes" for the students to succeed. To reach that goal, they extend the role of a traditional teacher to include academic and personal counseling and career coaching.

Scalability, Sustainability, and Transferability

The ability of Carreras–IPL to sustain itself hinges on the dedication and support of its current partners and eventually its ability to demonstrate effectiveness with program and student outcomes. The broad base that Carreras–IPL has developed to coordinate services and find external funding provides momentum that aids the program's potential scalability and sustainability. Carreras–IPL has attracted the interest of civic and educational groups, such as the Aspen Institute, the Joyce Foundation, and the President's Council of the Illinois Community College Board, that are interested in models that focus on the needs of low-skilled adult learners. Also serving this population is the City Colleges of Chicago system, which is increasingly interested in the city's growing Latino population. As more graduates of Carreras–IPL seek further education at the postsecondary level, greater alignment between Carreras–IPL and colleges within the seven-college City Colleges system is needed to facilitate student success at the postsecondary level. To their credit, local leaders understand the importance of assessment, evaluation, and outcomes data and are working to improve that effort.

General Service Technician, Shoreline Community College[12]

Context

Shoreline Community College (SCC) is located 10 miles north of Seattle, Washington. Like many states, Washington has seen a growth in Latino and Asian immigration over the past 2 decades. Where previously these populations were limited to inner cities, they now live in the close suburbs as well and are increasingly accessing services there. SCC's mission statement reflects this demographic shift (from http://www.shoreline.edu/aboutus.html):

12 This case study report was drafted by Marisa Castellano, with review and comment by Catherine Kirby, a member of the site visit team.

> *Mission*: Shoreline Community College demonstrates dedication to student success by providing rich opportunities to learn, excellence in teaching, and comprehensive support services, in close collaboration with its diverse community.

The SCC campus houses the headquarters of the Puget Sound Automobile Dealers Association (PSADA), a regional industry group. This long-standing partnership between SCC and PSADA allowed SCC to become the area's sole provider of five factory-specific (e.g., Toyota) service training programs. Students must be sponsored by one of these auto dealers to gain access to these programs. When a regional industry skill panel reported a shortage of entry-level service technicians, both SCC and PSADA planned to develop a program that would provide broader access to the high-wage, high-demand automotive sales and service careers. They began to search for funding as they were developing ideas for a new automotive program.

Circumstances converged in 2004 to allow for the development of an entry-level automotive training program. First, the National Institute for Automotive Service Excellence (ASE) directed its sister organization, the National Automotive Technicians Education Foundation (NATEF), to develop the certification requirements for an entry-level automotive program. The Instructional Materials Laboratory at the University of Missouri-Columbia subsequently developed the General Service Technician (GST) curriculum and made it available on their Web site (http://iml.missouri.edu/). The GST curriculum is more general than ASE's better-known certification programs in specific automotive areas such as brakes or suspension, and thus provided a broad entry-level curriculum.

Second, the U.S. Department of Labor's Employment and Training Administration (DOL/ETA) began to seek proposals for its High Growth Job Training Initiative, which was designed to fund worker preparation in "high growth, high demand and economically vital sectors of the American economy" (http://www.doleta.gov/BRG/JobTrainInitiative/). Among the projected outcomes of this initiative were building career ladders and accessing new or untapped labor pools. SCC received one of the DOL/ETA grants, which supported the adaptation of the GST curriculum into ABE and ESL strands and to conduct the pilot classes.

Third, in spring 2004, SCC was named a demonstration site for the state's Integrated Basic Education and Skills Training (I-BEST) program that pairs ESL/ABE instructors and CTE instructors to co-teach literacy education and workforce skills in the same classroom. An evaluation report by Bloomer and Prince (2005) on the I-BEST pilot programs showed promising results: Students earned 5 times more college credits, on average, and were 15 times more likely to complete workforce training than were traditional ESL students during the same time period. Based on the results, the researchers recommended that I-BEST receive additional funding so that the programs could be implemented statewide. Subsequently, I-BEST has received state legislative and financial support, placing SCC as well as other pilot programs in the state in the spotlight.

Program Goals, Organization, and Administration

The goal of the ABE and ESL GST–Shoreline program strands is to expand access to the automotive sales and service industry sector to such groups as dislocated workers and limited English proficient workers through a training curriculum that embeds foundational and employability skills with automotive content.

Leadership

The director of education and development at PSADA built industry support for the GST program, and convinced employers to pay the interns that the program would send to them. He speaks to the ABE and ESL GST classes about how students can get into the factory-specific automotive programs. He forged the partnerships that serve GST–Shoreline students, which he spoke of as key to delivering a certified, screened, qualified product (i.e., a trained student) to the employer.

The director of the Automotive Training and Career Opportunities project (ATCO, http://www.atcojobs.com/) develops training and other industry-led activities, such as the GST–Shoreline program. He promotes public awareness of high-tech, high-salary automotive sales and service career options and of the workforce needs of the automotive sector. While PSADA already had an industry panel composed of auto dealers, the ATCO director convened a broader skills panel that also included independent repair shops, tire stores, and the like. This panel reported the shortage of skilled entry-level workers noted above.

The GST pilot project manager coordinates the work of the CBOs, teachers, and students. He is involved in the recruitment and case management of students as well. His background is in instruction and support services for out-of-school youth.

According to the automotive department chair, the president of SCC and the relevant deans all "bent over backwards" to support the department's application for the DOL/ETA grant and to make the pilot programs work. The college leadership is committed to seeing the GST programs continue and to finding other ways to serve nontraditional students.

Partnerships

The main partnership in support of this program is the pre-existing one between SCC and PSADA, which had already developed high-quality automotive programs at SCC for the auto dealers. SCC also partners with the major auto manufacturers, who provide late-model cars for the automotive programs. The automotive industry also provides the training content and certification. SCC pays the instructors and support staff, provides supplies and other resources, and maintains the facilities.

Other crucial partnerships involve the agencies that provide recruitment, case management, and job placement and retention services. Some of these partners, such as the local

WorkSource center, are located on the SCC campus. Others are located in the city of Seattle, along with the largest numbers of immigrants and low-income people who might be eligible for the GST–Shoreline programs. The workforce agency representative reported no turf issues in the relationship with SCC and lauded their proactive stance toward making the program work for students. After the pilot programs, however, the GST program was slated to be offered at community colleges within Seattle proper, and at that point, the Seattle agencies could no longer extend their services to Shoreline. Their mission was to serve the colleges in Seattle, and they did not have the capacity to do both. Therefore, after the pilot programs, SCC began to pursue additional recruitment and case management services.

Table 2 provides a listing of partners by type, with a description of the primary roles they play. One of the partners maintained that when a partnership is successful, it is not always clear for whom a given partner is working, since all partners are willing to fill any unmet needs they perceive, not just those goals that fill their own organization's needs. This partner noted that such was the case for the partnerships involved in the GST–Shoreline program.

Funding

The DOL/ETA grant expired after delivery of the pilot ABE and ESL program strands. SCC itself supports the program by operating and maintaining the facilities and providing the salaries for faculty. Other sources of funding helped sustain the GST–Shoreline programs, including two grants from the State Board for Community Colleges: the I-BEST Grant and the Opportunity Grant. According to the local administrators, a particularly important feature of I-BEST is team teaching supported through an enhanced funding formula equivalent to 1.75 FTEs per each full-time student.[13] The state's Opportunity Grant is targeted at low-income students. It provides comprehensive support (e.g., tuition, supplies, books, child care, transportation) for 3 years as students move in and out of educational institutions. The funding follows the student to other colleges if necessary. In this state, *low income* has been defined as earning no more than 200% of the federal poverty standard or the regional self-sufficiency index, whichever is higher.

Faculty

The GST–Shoreline programs are team-taught by an automotive instructor and either an ABE or ESL instructor. The automotive instructors are full-time tenured faculty at SCC who have traditionally taught in one of the factory-specific programs. Several have been chosen as outstanding instructors in the nation by the manufacturing programs in which they teach.

The ABE and ESL teachers are adjunct instructors. The first ABE and ESL instructors were brought on early in the program to develop curriculum for the two courses by adapting the

13 FTE, or *full-time equivalent,* is the basis upon which many community colleges are funded. On this basis, two students who each attend only half-time would add up to one FTE. In Washington's I-BEST program, per-student funding is provided at the equivalent of one-and-three-quarters full-time equivalent, which results in the extra funding needed to support the two instructors and other program needs.

Table 2. Primary Roles by Partner Type for the GST–Shoreline Career Pathway Program

Partner Type	Primary Role	Description of Role
Educational institution	Supporter	Support regional industry association by housing the headquarters on campus.
	Training site	Provide site for factory-specific (e.g., Toyota) automotive service training programs.
	Partnership	• Partner with industry associations to seek funding to develop program to address regional labor market need. • Partner with the major automobile manufacturers, who provide late-model cars for the program.
	Funding	• Apply for and receive pilot program funding from U.S. Department of Labor/Employment and Training Administration's President's High Growth Job Training Initiative. • Pay instructors and support staff. • Provide financial aid to qualified students. • Raise funds to enlarge the automotive facilities to better accommodate program.
	Leadership	• Support the grant application and the pilot programs. • Remain committed to seeing the program continue and to find other ways to serve non-traditional students.
	Scheduling	Schedule classes at times convenient to working adults.
	Counseling	Offer counseling and other services to program participants.
	Resources/ supplies	Provide supplies and other resources and maintain the facilities.
	Curriculum and instruction	• Oversee curriculum and instructional activities to meet college standards. • Have instructors adapt industry curriculum for ABE and ESL students. • Have instructors add SCANS skills to the curriculum. • Teach the program onsite, using college classroom and service bay space, and providing laptop computers during class time. • Develop distance learning version of the program.
	Coordination	Coordinate the work of the CBOs, teachers, and students.
	Recruitment and case management	Recruit and provide case management.
	Certification	• Provide advanced training and certification opportunities (i.e., post-program). • Apply for program certification from the industry certification-granting body.
	Remediation	Offer the separate developmental education that may be necessary for students to advance in the automotive career pathway.
Employer	Advisory board	Serve on advisory board (e.g., ensure that the skills taught are relevant and necessary on the job).
	Work-based learning	Provide paid internships.
	Employment	• Refer/recommend potential GST students. • Hire program completers.

Employer *(continued)*	Evaluation	Evaluate and provide feedback on technical and workplace skills of GST interns/employees.
Community-based organization (CBO)	Recruitment and placement	Provide orientation, career counseling, job readiness, assessment of academic skills for proper placement.
	Case management	Support students and instructors to make sure students receive accommodations and support services they need, such as child care, food assistance, transportation assistance, mental health services and referrals, even part-time jobs.
	Job placement and retention	Place students in jobs, continue to provide support services, and monitor job placement and retention for 1 year.
Industry association	Program development	• Develop existing automotive programs at college for specific auto manufacturers. • Convene skills panels to determine need for skilled entry-level workers. • Create Automotive Training and Career Opportunities project (ATCO), which develops training and other industry-led activities.
	Funding	• Recognize labor market need, untapped labor pool, and seek funding to address them. • Apply for and receive pilot program funding from U.S. Department of Labor/Employment and Training Administration's President's High Growth Job Training Initiative. • Raise funds to enlarge the automotive facilities to better accommodate program.
	Partnership	• Forge and foster partnership reflected in this table. • Build regional industry support to ensure that program includes paid internships.
	Recruitment	Encourage program students to continue career advancement. Promote public awareness of automotive sales and service career options and of the workforce needs of the automotive sector.
	Dissemination	Disseminate the curriculum to other interested educational institutions.
Government agency	Recruitment and placement	Provide orientation, motivation, career counseling, job readiness, assessment of academic skills for proper placement.
	Job placement and retention	Monitor placement and retention for 1 year.
	Promotion	Educate CBOs, jobseekers, and schools on automotive careers training programs and earnings potential.
State policymakers	Supporter	Provide strong support for workforce development, including state research identifying a minimum level of education and training required for a family-supporting wage and developing programs to help adults reach that "tipping point."
	Grant making	• Offer I-BEST to accelerate learning of both academic and career content so adults could more quickly access family-supporting jobs. • Offer the Opportunity Grant targeted at low-income students, providing comprehensive support service for 3 years as students move in and out of educational institutions.

original GST curriculum for ABE and ESL populations. They also created instructor guides with teaching tips. Program administrators reported that part-time faculty are often more flexible than full-time tenured faculty, so they were the right choice to develop and pilot a new program, where flexibility and collaboration were crucial. The ABE instructor noted that for team teaching to be effective, teachers have to enjoy working with other teachers, thinking on their feet, and supporting each other in the classroom in order to model the kind of teamwork they want to see in their students. These teachers also spent many hours outside of class time refining curriculum, planning ahead, and discussing student progress. One called the relationship "labor-intensive but effective." All the teachers we spoke with appreciated the rigor of the program, connected as it was to the ASE certification system. The target proficiency levels were not negotiable, and this made teachers and students work hard to meet the goals. In an effort to capture lessons learned by SCC instructors, an extensive guide was developed to provide support for delivery of the curriculum.

Student Population, Recruitment, and Placement

The ABE strand of the GST–Shoreline program was designed for out-of-school youth, dislocated workers, veterans, and others interested in a career in the automotive industry. From the greater Seattle area, this program attracted mostly White males aged 18–30 who might have had some experience working on cars, and perhaps some college experience, but had not yet earned a degree or a living wage (or perhaps had been laid off). The ESL strand of the GST–Shoreline program reached out to people interested in a career in the automotive industry for whom English was not their native language. This included immigrants, mostly from Latin America, who were for the most part older than the ABE-strand students. Table 3 provides detail on the background characteristics of the pilot strands of the ABE and ESL GST–Shoreline programs.

Recruitment

Students are recruited through CBOs, worker retraining programs, and the college's workforce partners. Posters, brochures, and advertisements appear in housing authority facilities, in English-language and ethnic community newspapers, and even on Craigslist. Students may also hear about the GST–Shoreline programs while attending other SCC programs, such as those targeting out-of-school youth, or ESL or ABE programs.

Selection and Placement Process

Prospective trainees often access the program through a workforce intermediary agency, or the area Workfirst chapter, which is located on the SCC campus. The screening process is conducted by these partners. Clients attend an orientation where they learn about barriers to success and, if necessary, attend a job readiness class. This class teaches workplace behaviors and help with job interviews and resumes. Staff members from the organizations try to provide each individual with a career path to work toward, although sometimes it can take a year to complete the requirements for entry into the programs of interest to the clients. Agency staff come to know the clients and gain insight into whether they will be successful in various training opportunities

Table 3. Students Served by the Pilot ABE and ESL GST–Shoreline Programs

	ABE GST		*ESL GST*	
Characteristics of Students Served	n	%	n	%
Male	10	91	7	100
Female	1	9	0	0
Latino	0	0	3	43
White	8	73	1	14
Asian/Pacific Islander	1	9	1	14
African American	1	9	1	14[a]
Other	1	9	0	0
Approximate median age	18-21	--	22-30	--

[a] Percentages do not add up to 100% due to unreported data.

(e.g., whether they show up on time).

For entry into the GST–Shoreline program, the agencies screen clients for motivation because this is a demanding, content-heavy program, and they are screened for histories that might prevent them from being successful, such as back injuries or drunken driving arrests. Prospective trainees also take the Comprehensive Adult Student Assessment System (CASAS), a standardized basic skills test of reading, listening, and math abilities. The original GST curriculum was written at an 8th-grade level. If students do not test at this grade level, they are referred to more basic ABE or ESL programs that do not incorporate automotive themes.

Curriculum and Instruction

Career Pathway Model

The first step on this career pathway is either the ABE or ESL GST–Shoreline program (see Figure 2). Both strands consist of 36 credits of class and lab, and 9 credits of paid internship.[14] However, due to scheduling issues, the ABE strand runs for two quarters and the ESL strand runs for three. Classes meet for several hours each evening and on Saturdays, accommodating the schedules of adults, most of whom must work full time.

The curriculum provides basic automotive diagnosis and repair skills as laid out by and for industry, with employability skills and either basic academic or English language skills embedded into the curriculum. The program covers the first 20% of tasks from each ASE certification area, such as brakes or suspension. At the end of the program, students can become employed earning wages between $14-17 per hour. Workplaces in which program graduates are qualified to work include factory-specific car dealerships, independent repair shops, and public or private organizations that maintain fleets of vehicles. The career ladder for automotive oc-

14 Due to the basic level of the courses, these credits earned do not count toward a postsecondary degree.

cupations in general is extensive, however, and with enough motivation, it is possible for successful students to access many high-paying careers (see http://www.atcojobs.com/documents/CareerLadders.pdf).

Another component of the curriculum is familiarizing students with the programs and services available on the SCC campus. For instance, the WorkFirst representative visits the class to make students aware of campus services they may qualify for. A campus scavenger hunt activity teaches all students where these resources are located. All students fill out the federal financial aid application, whether they qualify or not, to show them what they would need to report if and when they do qualify.

After the GST–Shoreline program, the next steps in the pathway are advanced automotive training in the form of stand-alone certifications or an associate degree program. Additional industry training is available through non-credit extended learning classes in various aspects of the auto sales and service industry. These courses are also offered at SCC, where PSADA is located. See Figure 2 for a detailed graphic depiction of the GST–Shoreline career pathway.

Students interested in the factory-sponsored programs at SCC are encouraged to build relationships with their instructors and to seek employment at a factory-specific dealership, with the goal of becoming sponsored by that dealership into the factory training programs. These programs grant an Associate in Applied Arts and Sciences (AAAS) degree. Program staff provide information about opportunities at other colleges, such as a Harley-Davidson repair program, or more generic automotive programs, many of which are "modularized" into the eight service areas certified by ASE. Each module lasts one quarter, allowing GST students to sign up for them individually as their schedules permit.

The training provided in the associate degree programs opens up a new level of jobs for which students qualify, including managerial and advanced technician positions. Students can also specialize in servicing other vehicles, such as boats or motorcycles. Continued job experience and ASE certifications, as well as the option of earning an articulated baccalaureate degree in automotive technology, lead to the highest-level positions shown in the pathway (Figure 2).

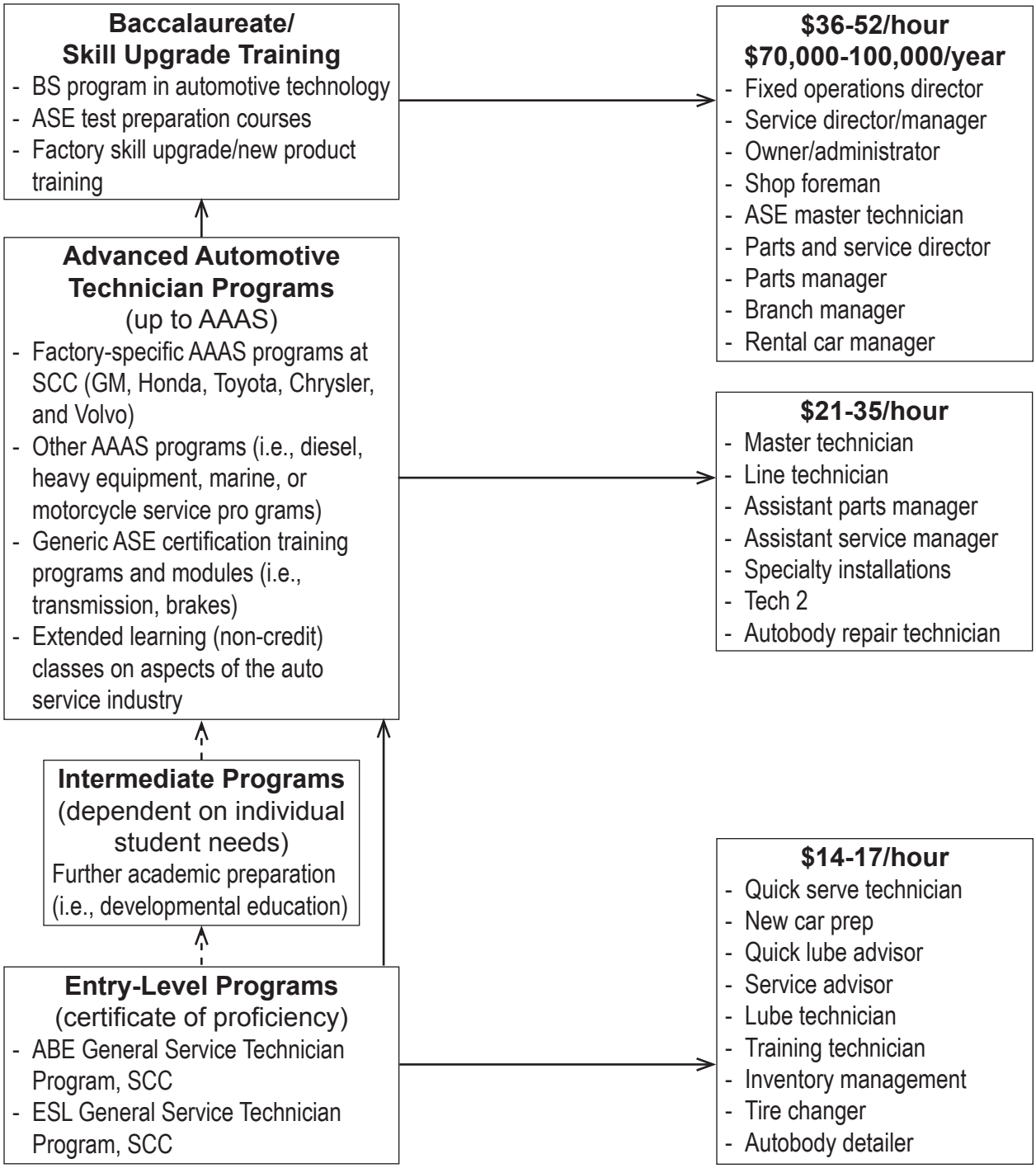
ABE and ESL

The ABE and ESL instructors are in their respective classrooms every day, team teaching with the automotive instructors. Foundational or language skills are addressed in the context of automotive themes. This fits a common definition of accelerated learning, wherein students are mastering basic skills while they are being prepared for work, making both happen more quickly.

Both the ABE and ESL instructors augment the original GST curriculum with newspaper articles that students read (usually looking up words) and discuss in small groups. Then students write on the topic and present what they have written. The instructors design every assignment so that students use all of their language skills and practice new vocabulary. Teachers also try to

balance the challenge of the industry-developed job sheets and homework assignments with human-interest assignments, such as writing about their first car or the longest distance the students had ever driven in one day. In the ESL class, these writing assignments often yield stories from

Figure 2. GST–Shoreline career pathway (entry-level to baccalaureate).



the writers' native countries, so sharing these with the class prompts discussions that shed light on automotive-related differences between other countries and the United States.

Credentials

Students completing either the ABE or ESL GST–Shoreline program receive a certificate of proficiency from SCC. Once the GST–Shoreline program has been in existence for 1 year, it can apply for certification from ASE, upon which it can grant GST certificates to completers. As completers gain work experience, they can prepare for more specialized ASE certification, such as in transmission or brakes systems.

GST–Shoreline program students are also involved in pilot testing the Work Readiness Credential (WRC) from the National Institute for Literacy (NIFL) and the University of Tennessee Knoxville (see http://eff.cls.utk.edu/resources/home.htm). Based on the Secretary's Commission on Achieving Necessary Skills (SCANS) skills, the NIFL developed a work readiness curriculum, assessment, and credential. Washington is one of seven states that is working with NIFL to develop this assessment of work readiness by piloting the test and curriculum on students from programs like the GST–Shoreline programs. Students in the pilot programs use these NIFL work readiness materials, although because the WRC is still a pilot, they are not assessed for the credential.

Developmental/Remedial Education

Students' skills are assessed before and after the program, and all students create an individual pathway outlining their continuing educational needs. Some students who complete the GST–Shoreline program may need to improve their academic skills before continuing on to college-level automotive programs. If students need further academic preparation, they may attend developmental/remedial education classes at SCC, which are not an embedded part of this career pathway. If students choose to go directly to work, there is no way to know of their further academic needs until they return to the education pathway.

Instructional Strategies

The syllabus is presented to students as a contract. They sign the bottom, agreeing to its attendance terms and other policies. Instructional strategies include lecture, discussion, group work, computer work, and hands-on work in the shop. There are tests twice a week and a steady amount of homework. Students write in journals, collect their work in portfolios, and fill out work orders. They use wi-fi laptops nearly daily to access information and conduct research on the Internet that is later presented to their classmates. Employability skills, such as teamwork and speaking and listening skills, are practiced daily because of their importance in the automobile repair industry.

In both the classroom and the service bay, learning strategies reinforce the hands-on critical thinking and troubleshooting processes that are necessary on the job. For example, students

might have a particular service assignment on an automobile, but they do not know that the instructor has "bugged" the car in some way. The assignment cannot be completed until the bug is worked out, but students must realize this for themselves and find a solution in order to proceed.

Work-Based Learning

The last quarter of the program consists of a paid internship. Due to the high demand for workers in this industry, GST–Shoreline program staff received more offers by employers to hire interns than there were available interns during the pilot phase. This bodes well for providing internships for future participants. Several students were permanently hired by their internship employers, making the internships good stepping-stones into the industry.

Support Services

Support services are provided by the workforce intermediary organizations that work with the GST–Shoreline program and by the GST staff itself. Full-service case management is provided, in the form of transportation (bus passes, gasoline vouchers), child care, and mental health services, and even part-time jobs to ensure income stability. As noted above, career counseling is provided by these organizations before students enter the GST–Shoreline program. Individualized case management is provided through weekly advising meetings held at the SCC automotive facilities. These are brief unless there are issues to attend to, such as child care. Case managers interact with the instructors to monitor student progress. Sometimes students are referred to SCC counseling services. The case managers also ensure that accommodations are provided to students with disabilities, including using Opportunity Grant funding to pay for learning disability diagnostic testing.

The workforce development agency partners and the Workfirst chapter are involved in job placement services. These agencies track for 1 year all students placed in a job to monitor their retention. The support agencies continue their case management (e.g., day care support) during this time, and they will help the worker find another job if necessary.

Program Evaluation and Student Outcomes Assessment

Because the GST–Shoreline pilot programs were funded by DOL/ETA, the program was able to use the DOL's adult common measures to track program graduates. These measures are entered employment, retained in employment, and average earnings. GST–Shoreline program graduates completed the pilot programs less than 6 months prior to the writing of this report. Therefore, there are no long-term results, although interim results are available. The pilot cohorts will continue to be monitored, as will the subsequent cohorts that pass through the GST–Shoreline programs.

The pilot ABE GST–Shoreline program strand began with 14 students, 11 of whom completed. Of the 11 students, 4 began to work at a factory-sponsored dealership. Six of the remaining seven students worked at independent repair shops. A later follow-up showed that one of the grad-

uates at a dealership and four of the graduates at independent shops had moved on, leaving six graduates still working in a training-related job. Based on contact with the support service agencies, some of the other graduates were known to be in college or employed in an unrelated field.

The pilot ESL GST–Shoreline program strand began with 10 students, 7 of whom completed. Of the 7 graduates, 4 began to work at a factory-sponsored dealership. Two graduates are working at independent repair shops. The seventh student continues to struggle with English language proficiency, despite improvement over the course of the program. Overall, 6 of the 18 pilot program completers have entered the factory-sponsored associate degree programs. No students were reported to be taking developmental education, which might be a prerequisite for some students before entering these programs. All students who were placed in jobs as a result of this program started at a wage of between $14 and $17 per hour.

Implementation Barriers

The program staff with whom we spoke reported several barriers to successful implementation of the GST–Shoreline programs. The first had to do with the economy in the greater Seattle area, which is currently quite healthy. Ironically, this creates a hardship for job training programs and the workforce intermediary and CBOs that recruit for them, as the high demand for workers means that individuals can find jobs and go directly to work rather than engage in training for the longer term. For this reason, student recruitment has been more challenging than expected.

A second barrier to implementation had to do with campus space and scheduling. Adding these programs to an already full automotive department led to serious scheduling problems for the classrooms and shops. A short-term and a long-term solution were found. First, the ABE and ESL strands were scheduled outside of the normal workweek schedule. This was because the existing programs were already scheduled at those times, but it also fit the schedules of ABE and ESL students, who tended to have day jobs. Thus their classes met in the evenings and on Saturdays. The long-term solution for the space shortage was to enlarge the automotive facilities. SCC and PSADA have begun to raise funds and are well on the way to expanding their capacity to include GST-dedicated classrooms and service bays.

Third, the contracts for occupational and academic instructor salaries are different, originally stemming from the instructional distinction between lab and lecture. As noted above, the classes are team-taught with an automotive and an ABE or ESL instructor. Breaking out of the respective course loads so as to pay each instructor equitably was challenging. This took negotiation and an understanding of the division of labor, but was resolved to the satisfaction of the faculty.

Finally, the adapted GST curricula had to go through the SCC curriculum approval process, whose committee met only every other week, 9 months of the year. The DOL/ETA grant expected quicker progress than program staff was able to make, given the schedule of the curriculum committee at SCC. These community college issues—the lack of space, the difficulty of scheduling yet another program, the issue of equitable pay, and the curriculum approval pro-

cess—are fairly common in community colleges and cited in the literature (see, for example, Bragg & Barnett, 2007). They are not unique to SCC, and exemplify the challenges of implementing career pathway programs like GST.

Success Factors

One factor contributing to the success of this program is a well-established partnership with the regional automobile sales and service industry. PSADA headquarters is located on the SCC campus, and the industry is committed to hiring a workforce that is representative of the diversity of the greater Seattle area. Having goals and facilities in common helps the partners "remain on the same page" and ensure the success of new ventures.

Another factor in the success of the GST–Shoreline programs is the strong support for workforce development in the state of Washington, a leader in such efforts. This state support is manifest in the grant programs of the Washington State Board for Community and Technical Colleges that target accelerated learning and low-income students. To provide this support, Washington policymakers had to first recognize that adults interested in increasing their earning power often face such a large amount of remedial or ESL instruction that it tends to stifle that interest. State policymakers identified a "tipping point," or minimum level of education and training beyond which adults can earn a family-supporting wage. For Washington, this was determined to be 1 year of college-level credits and a credential. Thus the grant supports programs that accelerate such learning by providing it simultaneously and in an integrated fashion. The state anticipated that such a program would require the expertise of more than one instructor, and thus the support provided is meant to offset the cost of having more than one instructor in the classroom.

Finally, another success factor noted by the project team was the dedication of the teachers and staff. We were impressed by the commitment of both the automotive and academic instructors. The automotive instructors were glad to broaden their student base to nontraditional populations and claimed that the new program had reinvigorated them. The former ABE and ESL instructors made themselves available to answer our questions even though they had moved on to other teaching posts. Both of these instructors told us of the flexibility that was necessary to make the pilot programs work: providing teacher case management for students who might not have the language proficiency to advocate for themselves, staying late or arriving early to confer with the automotive teacher before class, and changing course during class if it was clear that the planned lesson was not working.

Scalability, Sustainability, and Transferability

To facilitate transferability, a stated goal of the DOL/ETA grant was to create curricula available to other interested parties. Thus secondary and postsecondary educators can visit http://www.workforce3one.org/, create an account, and access many resources, including both the original GST curriculum and the teacher's guides for adapting the curriculum for ABE and ESL students. To date, the ABE and ESL GST curriculum are being used at other community colleges

in Washington, at Job Corps sites, and even at high schools (where alignment with state academic standards is underway). It is also being implemented at Fort Simcoe, an Indian reservation in Washington that has an onsite Job Corps center.

In addition to its commitment to transferring the curriculum to other interested institutions, SCC is also exploring using the program model of integrating ABE or ESL with training content for other occupational programs at SCC, such as business and life science. These explorations are still in the beginning phases.

Finally, the GST–Shoreline programs are not remaining static. As mentioned above, SCC is expanding the capacity of the automotive department to be able to serve more students and thereby attempting to enhance the scalability of the program. There are also plans to add a unit on servicing alternative fuel vehicles, and SCC is developing distance learning versions of the program to better serve students who would otherwise have to drive 50 miles to SCC or be unable to attend SCC at all. Through these efforts at scalability, the program may also enhance sustainability because increasing student enrollments may help to generate attention, commitment, and resources needed to ensure a viable future for the program.

Ouachita Technical College, Career Pathways Initiative[15]

Context

Ouachita Technical College serves a primarily rural five-county region in south-central Arkansas. Until 1991, OTC was an adult vocational-technical college, Ouachita Vocational Technical School. As a result of state legislation on public postsecondary vocational schools statewide, in 1991 the school became Ouachita Technical College (OTC). The purpose of the legislation was to create comprehensive 2-year colleges offering both vocational or career-technical education (CTE) programs and a transfer curriculum for those planning to subsequently complete a 4-year college degree at another institution.[16] Enrollment at OTC has nearly doubled since 2000-2001, due in part to efforts by the state of Arkansas and the current OTC administration to identify and reach out to individuals who want to improve their career prospects. The change in federal welfare laws from Aid to Families with Dependent Children (AFDC) to Temporary Assistance for Needy Families (TANF) established new time limits for assistance, and OTC administrators believe this change also may have helped to increase enrollment at OTC. In the fall of 2000-2001, OTC had 829 students (unduplicated headcount); by the fall of 2005-2006, it had 1,568 students. For the full year, the number of students increased from 1,259 to 2,208 over the same period. In the adult education program overseen by OTC, the headcount has increased even more dramatically, from 224 in 2002-2003 to approximately 1,400 in 2005-2006.

15 This case study report was drafted by Christine D. Bremer and Ann Mavis. Catherine Kirby and Judith Sunderman were also members of the site visit team.

16 OTC also provides vocational and technical programs for area high school students in a center within the college.

The population of the region served by OTC was reported as 135,500 in 2000 and is relatively stable in size but changing demographically. This change is a result of an increase in immigrants, many of whom need English language instruction to be successful on the job. The largest immigrant group is Latinos; others are primarily from China, India, and other Asian countries. Most adults in the local population, including individuals born in the United States, have no more than a high school education. Of those who attend college, retention and completion rates are generally very low, according to an OTC administrator. Many of those employed in the area work at low-wage, unskilled jobs. The community offers few managerial jobs and few jobs requiring a 4-year college degree. In the community and surrounding area, there are skilled worker shortages in manufacturing, health care, and corrections, presenting ready employment opportunities for many of those completing programs in these areas.

OTC's mission statement says that the institution "is a public, open-access, community-based, affirmative action, equal opportunity two-year technical college." Part of OTC's mission is to "enable individuals to develop to their fullest potential and to support the economic development of Arkansas [and to] prepare residents of Arkansas with the general and technical education needed for successful careers or for further higher education. . . . OTC promotes educational mobility through partnerships with local schools and other higher education institutions."

During the 2004-2005 academic year, a Governors' Task Force on Career Pathways in the state of Arkansas was seeking a way to improve postsecondary education levels in the state. The goal was to help people make the transition to college and complete a program in order to increase the economic self-sufficiency of families and to meet the needs of Arkansas employers for qualified personnel in jobs providing family-supporting wages. Local plans became solidified in the spring and summer of 2005 when the task force realized the state had millions of dollars in unspent TANF funds that were earmarked for employment assistance and that these funds could be used to pilot an initiative to help TANF recipients gain postsecondary credentials.[17] With this funding mechanism in mind, the state developed the core concepts of the Arkansas Career Pathways Initiative (CPI) and sought to identify the first five sites. With just a few weeks' lead time, initial site selection was driven in part by which 2-year colleges in the state could implement a program quickly. OTC in Malvern was one of the sites selected, primarily because of its established and strong partnership with the local Workforce Center (One-Stop Career Center) and Workforce Alliance for Growth in the Economy (WAGE) program. The Arkansas Transitional Employment Board (ATEB) funded the CPI using the unspent TANF funds. The WAGE program is a statewide initiative that allows individuals to earn employability certificates, and the Ouachita WAGE Center is one of 20 such centers statewide.

Goals, Organization, and Administration

The goals of OTC's Career Pathways Initiative, also referred to as CPI–Ouchita, are to improve college accessibility, credential completion, and employment success for TANF-eligible individuals. Unlike the other two sites described in this report, the CPI–Ouachita program is not

17 In Arkansas, TANF is known as TEA, or Temporary Economic Assistance.

tied to particular areas of study, certificates, or degrees; rather, OTC and CPI administrators have established and integrated academic and support services into career-oriented programs. The CPI–Ouachita program seeks to help CPI-eligible individuals move into and through postsecondary credentials to improve their employability and wages. Current CPI–Ouachita students are enrolled in courses in the industry sectors of health care, manufacturing, criminal justice, transportation, office administration, and child care. Establishing student eligibility is necessary in order for students to receive assistance through CPI–Ouachita. For purposes of the Arkansas Career Pathways Initiative, the term *TANF-eligible* is defined an adult caretaker, parent, or relative of a child under the age of 19 who is deemed financially needy because they are/have:

- A former or current recipient of TEA cash assistance; or
- A current recipient of food stamps, ARKids, or Medicaid; or
- Earnings are at or below 200% of the federal poverty level (DWS MOA)

As directed by Act 1705, CPI–Ouachita has numerous employer partners who advise the college concerning their courses and programs. Some local industries are in need of well-trained people to fill jobs in manufacturing and nursing. CPI–Ouachita personnel also work closely with the recently developed Workforce Center (established in 2004), a federally funded One-Stop Career Center whose lead administrator was formerly the president of Ouachita Vocational Technical School before it became OTC. The partnerships and interrelationships that are possible in a small community like Malvern contribute to the program's development. The college's current president has nurtured relationships with civic groups (such as Rotary), employers, faith communities (ELL classes are offered at a local church), nonprofits, and others, and he or his staff members serve on boards and committees in a number of local organizations.

As noted above, funding is provided through ATEB. The TANF funds are administered by the state's Department of Workforce Services (DWS). As of Fall, 2006, CPI had been implemented at 11 Arkansas 2-year colleges. The success and apparent cost-effectiveness of the program led both the state and OTC to believe that the program is likely to be funded in the future, through a variety of sources if necessary. At OTC, TANF funds are carefully used to meet needs not supported by other available funding. Before the TANF money is expended to support individual student needs, staff explore all other avenues of student funding, including Pell grants and Stafford loans.

The director of CPI–Ouachita, who is also OTC's vice president for adult and workforce education, is responsible for administration and oversight of the program. He works directly with case managers, faculty, and staff at OTC as well as with leaders at the Workforce Center to solve problems and allocate resources where needed.

Faculty members at OTC have been extremely supportive of CPI. The administration stated they wanted only faculty who wanted to be there to be involved in this program, and administrators have encouraged faculty members to be innovative and develop new approaches to solving problems. While CPI–Ouachita has initiated a change in the population of students at OTC by bringing in more students who need extra help to succeed, an administrator reported that

faculty "are beginning to accept and believe that these are the people they need to serve." Despite some turnover among faculty, OTC reports little difficulty in finding part-time faculty, tapping into a pool of retired teachers and former business people in nearby towns and retirement communities such as Hot Springs Village.

Student Population, Recruitment, and Placement

As noted above, CPI-eligible students are individuals who are An adult caretakers, parents, or relatives of a child under the age of 19 who is deemed financially needy because they meet at least one of the following criteria:

- A former or current recipient of TEA cash assistance
- A current recipient of food stamps, ARKids, or Medicaid
- Earnings are at or below 200% of the FPL (DWS MOA)

The majority of CPI students are female and employed in low-wage jobs. However, most LPN students are not working at jobs in the community, as their course load does not leave much time for other work.

To recruit students for career pathways programs statewide, CPI-eligible individuals were contacted by the state via mail in August of 2005. The Arkansas Department of Higher Education (ADHE) then sub-contracted with the Arkansas Association of Two-Year Colleges to conduct a public information campaign. Television, radio, and print advertisements started in November, 2005 and were accompanied by a second mailing of letters seeking to encourage January enrollments at all pilot sites, including the five pilot sites that began service delivery in January, 2006. In addition, a Web site (http://www.arpathways.com/) and toll-free number (1-866-400-PATH [7284]) were established.

The initial mail campaign resulted in an almost unmanageably large influx of inquiries in August of 2005, and on the first day of enrollment, administrators were surprised with "a line of people that extended around the corner." However, the lone case manager at CPI–Ouachita at the time (two more have since been hired) worked tirelessly with OTC administrators and the Workforce Center to respond to every individual and serve as many as possible. The November campaign brought in more applicants. In the first year of CPI–Ouachita, 506 individuals expressed interest and initial files were established for them. Some never enrolled, while others subsequently left the program. By year-end, 142 CPI–Ouachita participants were enrolled in credit-bearing classes at OTC. Table 4 shows participation in CPI–Ouachita since Fall, 2005.

Among those recruited to attend CPI–Ouachita are individuals who have previously earned a GED. At OTC, a significant effort is made to recruit GED recipients into the college, whether or not they qualify for CPI–Ouachita funding. Any individual who received a score of 600 or better on the GED test is offered a scholarship to attend OTC for a full 2 years.[18]

18 In addition, an OTC-funded scholarship is offered to any law enforcement officer interested in at-

Table 4. Number of Students Participating in CPI–Ouachita in 2005-06 and Projected Participation for 2006-07

Program	*2005-06 Participation*	*Projected 2006-07 Participation*
English as a second language (ESL)	0	5
Adult basic education (ABE)	161	100
GED	16	20
WAGE programs	145	80
Developmental/remedial education courses	33	25
Credit-bearing courses (certificate and associate degree programs)	100	130

Selection and Placement Process

OTC seeks to find an appropriate educational placement for every individual who contacts the college or Workforce Center expressing an interest in furthering their education and improving their career prospects. All CPI-eligible students enter the program via the Workforce Center, where their academic needs are assessed using the TABE test. Those lacking a high school diploma or scoring below 10.5 on the TABE are directed toward ABE, GED, or developmental/remedial education classes to prepare for further education. If those who have a GED or HS diploma only need a brief (less than 3 months) developmental/remedial program to boost their skills, they can go directly to OTC. Academic assessment is geared toward placing each individual in the proper program, given their educational level, academic skills, and goals.

Almost all aspiring CPI–Ouachita students are required to enroll in one of three specialty areas of the Arkansas-developed WAGE certificate, and to complete this 3-month program prior to entering college-level classes. (For a graphic representation of the CPI–Ouachita program, see Figure 3.) To enroll in WAGE, an individual must have a high school diploma or GED and a TABE score of 10.5 or better. The WAGE certificates, designed in partnership with education and business, were initiated to address the basic skills gap for those applying for entry-level positions and to help individuals obtain and retain employment with livable wages. The WAGE certificate classes help individuals experience success with a short-term goal, demonstrate their responsibility for attendance and participation, and make the transition to college-level classes The WAGE certificate prerequisite was added after early experience with CPI–Ouachita in the fall of 2005, and is seen as conserving tuition assistance resources and improving outcomes by reducing the non-completion rate at the college level. Participants can choose among three WAGE certificate programs (Employability, Industrial, or Clerical).

tending classes while off-duty, provided he/she wears a uniform to class. This has proven to be a cost-effective way of helping students feel safe about attending evening classes, and is one of the creative ways in which the college supports the Career Pathways program and student success across the institution.

OTC and the Workforce Center have strong connections with local employers, which provide opportunities for them to work together to solve common problems and support students and the community. It is common for employers to attend the ceremonies and celebrations at OTC when students complete a certificate or degree program, and students are often hired on the spot. In addition, the case managers help students with placement, either directly or through referrals to partner organizations.

Curriculum, Instruction, and Support Services

CPI–Ouachita is a model that offers multiple curricular and instructional approaches and student services. Qualified participants receive individualized academic and career counseling. Financial aid may include free tuition and help with textbooks, child care (for employed students only), and transportation. Support services include First Year Interest Groups (FYIGS), case management services available at both OTC and the Workforce Center, and workshops on how to take tests and time management.

In 2005-2006, CPI–Ouachita provided assistance to 43 students taking courses in the following eight degree areas, or in general education courses pursuant to a degree: Truck Driving, Certified Nursing Assistant (CNA), Licensed Practical Nurse (LPN), Medical Office Administration, Office Administration, Industrial Maintenance, Early Childhood, and Criminal Justice. These areas are considered high-demand occupations in Arkansas. In each program area except nursing, there is a one-semester certificate of proficiency that is a prerequisite for an associate's degree and which covers material not duplicated in the 2-year degree program. Across career areas, the certificates of proficiency help individuals find better jobs and provide a basis for further education.

The CNA program was added in the fall of 2005 and is not fully aligned with the LPN program, so CNA graduates repeat some content if they move on to the LPN program. The CNA program requires entering students to have a high school diploma or GED, as these students are enrolling in the college to take the CNA classes. LPN graduates may complete a registered nurse (RN) degree at another institution, though no specific transition assistance is offered by CPI–Ouachita. An administrator at OTC commented that the college hopes to either articulate the LPN to an associate degree nursing (ADN) program elsewhere or start such a program at OTC.

Developmental/Remedial Education

Based on student outcomes assessment data, OTC recently changed its approach to teaching developmental/remedial math. Historically, 80% of OTC students tested into developmental/remedial math, and only about half of those students persisted to enroll in the next higher level. In addition, 60% tested into developmental/remedial reading, writing, or both, and 65% needed two or three developmental/remedial courses. In Spring 2006, OTC purchased the *I Can Learn Math* curriculum, a computer-based developmental/remedial math program. After implementation of the self-paced curriculum, the success rate in developmental/remedial math nearly

doubled, with most students improving their scores by one level within 2 to 5 months. Re-enrollment into higher-level courses is now at 80 to 85%. There are currently two labs in place, one at OTC and one at the Workforce Center. The purpose of adding computer stations at the Workforce Center was to lessen anxiety. Some CPI–Ouachita students feel anxious about going to the OTC campus across town, an obstacle administrators cited as a concern with this population.

The cost of the program is covered by student fees, and the math program is available to those needing it without having to use Pell funds. The *I Can Learn Math* lab at the college is open whenever classes are in session, allowing flexibility for students' schedules. In addition, an instructor is on-site at all times for those who need personal face-to-face help. Students who successfully complete the course in less than a semester's time can enroll in the next level tuition-free.

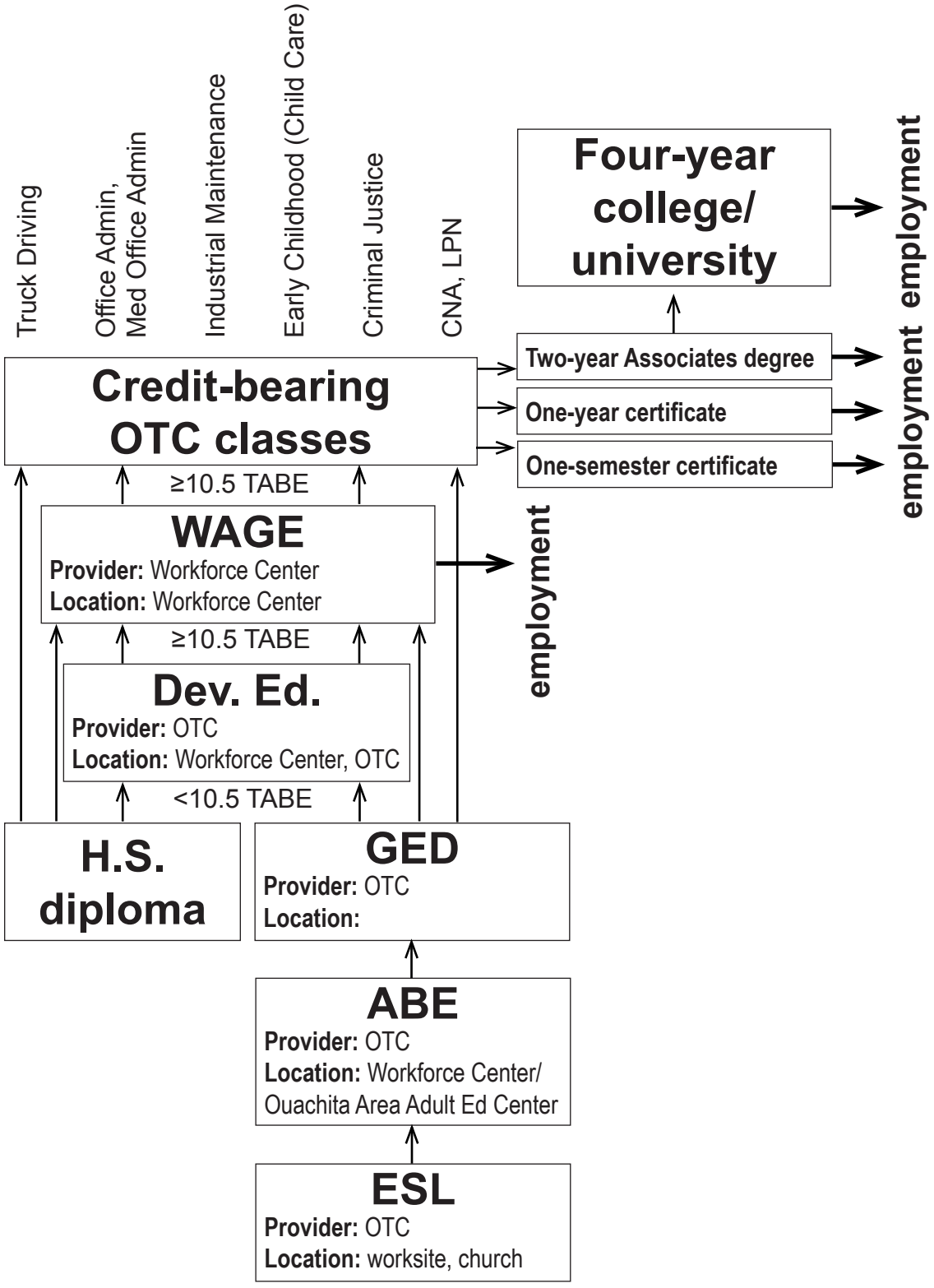
Generally, the pedagogy used for CPI–Ouachita students at OTC is the same as that used for other OTC students, with the exception of the segmented classes (described in more detail below). In addition to the computer-based developmental/remedial math course, other credit-bearing courses are supplemented with PLATO computer-assisted curriculum and instruction.

Students in the LPN program are placed in cohorts, and are assigned to First Year Interest Groups (FYIGs) that meet at scheduled times each week. FYIGS were instituted in 2004 and were in place for a year prior to the initiation of CPI–Ouachita, but they have become more structured since CPI–Ouachita began. The FYIGs are facilitated by college staff and CPI–Ouachita case managers in the nursing program. FYIGs serve as study groups and general support groups, where students help each other to understand the material learned in classes. In addition, students in the FYIGs often informally help each other with issues outside the classroom, such as figuring out child care arrangements. An additional strategy, as noted previously, is the use of workshops on topics that will help students succeed, such as study skills. FYIGs were started with students who volunteered to participate, but OTC is considering requiring FYIG participation for all CPI–Ouachita students.

Segmented Classes

In a collaborative effort with existing programs and faculty at OTC, CPI–Ouachita staff worked to develop segmented curriculum for two "gateway" courses. Each of these courses was designed to give students employment-enhancing skills after completing its three modules or segments. The two courses that have been segmented into these shorter units are Introduction to Computers and Academic Reading. OTC is in the process of also segmenting the first applied science course, Business and Applied Industry. Of the 142 CPI–Ouachita students, 38 were enrolled in segmented classes (in which each of the three segments meets for 5 weeks), while 104 students were enrolled in regular college classes. The Introduction to Computers segmented class was offered in 2005-2006, but scheduling was found to be cumbersome and it was felt that few students benefited from the segmentation, so the course was not offered for 2006-2007.

Figure 3. CPI–Ouachita Technical College career pathways initiative (ESL to 4-year college/ university)



English as a Second Language

ESL is part of the adult education services administered by OTC. Two ESL classes are offered at one employer site, serving mostly Spanish-speaking individuals. One ESL class is offered at night at a local church and serves a more diverse group, including individuals from Spanish-speaking countries, Southeast Asia, and the Indian subcontinent. While the program's administrators would prefer to offer these classes at the Workforce Center, they have found that participants prefer the church site. Efforts to offer ESL at the Workforce Center were unsuccessful, possibly because recent immigrants found the Workforce Center intimidating because they associated it with "government." All ESL classes meet once per week and are taught in English. Those who have completed ESL may then participate in ABE classes, but only a small number do so. For the most part, ESL participants are seeking to obtain or retain low-skilled, low-wage jobs in the Malvern area, and to do this they need to be able to understand work directions and safety instructions provided orally in English.

Support Services for Students with Disabilities

Less than 5% of OTC students have documented disabilities. Any needed testing is done at Henderson College, the closest 4-year state college. The community of Malvern has few specialized resources for people with disabilities, but OTC works with students on an individual basis to help them succeed and enable them to access regionally-based resources as needed.

Program Evaluation and Student Outcomes Assessment

In 2005-06, the program's first year, 506 individuals were enrolled as new participants through CPI–Ouachita. As of the Fall 2006 semester, 142 students were enrolled in for-credit college classes at OTC. Of these, 104 were in regular college classes and 38 in segmented classes.

OTC administrators have used data to proactively identify people who are likely to drop out. Students who take two or more developmental/remedial courses are considered at-risk, and almost all CPI–Ouachita students fall into this group. OTC's response to this concern was to develop the FYIGs, which are credited with supporting 80% of first-year students to return for another term.

Implementation Barriers

A large portion of students are hired after completing one- or two-semester credentials; college administrators stated that local employer workforce needs are primarily for certificate-level training rather than associate degree programs. As a result, the graduation rate is low. To ensure their continued regional accreditation, OTC has had to limit the number of new certificate programs until they can increase the number of associate degrees offered at the college to stay within the ratio determined by the accreditation agency serving this state, the Higher Learning Commission of the North Central Accreditation region.

Success Factors

The success of the CPI–Ouachita program is difficult to quantify at this point in time, but the site visit made it clear that a foundation is being established to support the program and student success. At the outset, the state-level vision for career pathways provided a flexible framework that enabled participating colleges to develop specific programs to meet local needs, while ensuring accountability for appropriate use of funds. The first steps taken by CPI–Ouachita appear to have worked well because of the enthusiasm and energy invested by key administrators and staff members and the recent development of the comprehensive support system, including the Workforce Center. Though there was little time for planning prior to start-up, OTC administrators immediately saw CPI–Ouachita as a way to fill in support service gaps critical for the eligible population and provide opportunities to serve a broader population of potential students.

One of their first actions was to hire a case manager who had excellent skills in working with students from low-skilled, disadvantaged backgrounds. This person was charged with providing comprehensive case management services, and has done so with exceptional energy and persistence. Currently, this individual supervises two added case managers, one at the college and one at the Workforce Center. Having case managers at both sites has significantly improved access to services for participants, according to one administrator. In addition, most faculty and some administrators at the college are from the area and are familiar with the U.S.-born population's unique needs and apprehension about attending higher education. OTC is beginning to reach out to the growing immigrant population that shares a similar lack of confidence in their ability to succeed in college.

The commitment of the top leadership at OTC and the Malvern Workforce Center is key to the success of CPI–Ouachita. The current president of OTC has held the position for six years and has extensive experience working in education and government at the state level. He is also married to a high-level state education administrator and, as a result, has a sophisticated understanding of state priorities and funding streams. At the Workforce Center, case management and student placement are coordinated by the center's receptionist, who is highly knowledgeable about all Workforce Center and OTC programs. She directs each individual who comes to the Workforce Center to the most appropriate starting point for services. An additional success factor is that the former president of the vocational college that preceded OTC is now the lead administrator of the Malvern Workforce Center. He and the current president are colleagues who work together closely to achieve jointly held goals.

The relatively small community in and surrounding Malvern makes it possible for college and program leaders to garner support from partners and coordinate services for CPI–Ouachita students. The president has strategically established connections with local committees and organizations that have the ability to affect the college and its programs and serves on many boards and committees. Further, he has asked other OTC and CPI–Ouachita staff to represent the college and program by joining civic organizations, such as the Rotary Club and Lion's Club, and to volunteer for workforce and education-related boards and committees. The president works to

continuously update partners and stakeholders on CPI–Ouachita implementation, and makes it a point to ensure that everyone is recognized for their contributions. These efforts serve to both extend the college's service to the community, as is their mission, and to seek the necessary commitment and shared decision-making that help make these programs successful. Administrators' understanding of funding streams has enabled them to appropriately "blend and braid" CPI–Ouachita resources with other resources to provide a wide range of support and services to help students succeed.

Scalability, Sustainability, and Transferability

The CPI is currently implemented at 11 Arkansas colleges. The initial implementation of the CPI at OTC and other sites was on a large scale, and recruitment was statewide. While each college has flexibility concerning local implementation, the common structure of the programs allow for initial assessment of the scalability of the approach. Other CPI sites in Arkansas are included in current research projects concerning the unmet educational needs of underserved and economically deprived populations. As that research is disseminated and program outcomes are revealed, the possibility for additional funding, and thus scalability, is likely to increase.

Funding of CPI statewide relies on availability of unspent TANF funds, which will be depleted by June 30, 2007. While it is expected that there will continue to be an ongoing stream of TANF Employment Assistance funds, program administrators are considering other possible sources to replace the accumulated unspent TANF funds that allowed a higher level of program support. In discussing sustainability with OTC staff and state-level administrators who participated in the site visit, it became clear that the apparent success of CPI–Ouachita had engendered significant support for the program at both state and local levels. State education officials stated emphatically that grants and other funding sources would be found to maintain the program at OTC and other successful sites statewide.

Considering the OTC implementation of career pathways, questions about transferability might be raised concerning the reliance on a cohesive community and highly committed staff. The experience at Ouachita suggests that strong and principled leadership and mutually reinforcing collaborative relationships both create and nurture a strong community. OTC provides a useful example of a program that is working strategically to align community needs with local systems of education and employment within the context provided by a statewide initiative.

CROSS-CASE ANALYSIS

This section reports results of a cross-case analysis of the three selected career pathway initiatives. The findings represent ideas reflected across the three sites in some form, either by offering similar results or offering interesting and important contrasting or rival results that may be useful in informing policy and practice. This section is organized around the following categories: context; students targeted and served by career pathways; faculty, curriculum, instruction, and support services; leadership and partnerships; and program evaluation and student outcomes assessment.

Context

A variety of education, employment, and geographic factors shaped the three career pathway programs. Although the sites are geographically distinct, representing urban, suburban/urban, and rural areas in the midwestern, northwestern, and south central areas of the United States, respectively, all have growing immigrant populations, primarily Latino and, to a lesser degree in Seattle and Arkansas, Asian. All three sites are located in areas with a shortage of skilled workers for available high-demand jobs, with each displaying unique circumstances that led them to develop their respective career pathway programs.

In Chicago, a large unmet demand for health care workers set the stage for a mutually beneficial relationship between a network of organizations that have served the Latino community for over 30 years providing ESL and other adult classes, health services, counseling services, and job placement assistance, in addition to employers who are committed to supporting the Latino community. Low academic and English language skills are major barriers keeping Latinos from filling the workforce gap, and the Instituto del Progreso Latino (Institute for Latino Progress), or IPL, began the ESL–health occupations pathway, Carreras en Salud, to help Latinos access these jobs.

At the Seattle site, college and community combined to form a program to meet diverse needs. Shoreline Community College (SCC) houses the headquarters for the regional automobile dealers association and five factory training associate degree programs. The local automotive dealer association represented their dealers' awareness that their current employees did not reflect the diverse community they served. A regional skill panel study reported that the need for entry-level workers was growing at about the same time that the industry certification organization developed an entry-level automotive training program. When the U.S. Department of Labor offered grants to access untapped labor pools in high-growth industries, circumstances converged to allow the automobile dealers association and SCC to develop an entry-level training program in the automotive industry for immigrants and low-skilled adults. They adapted the industry-developed curriculum for both ABE and ESL students.

Ouachita Technical College (OTC), a 2-year college in south-central Arkansas, serves a primarily rural five-county region with an unemployment rate of 6.2%. In 2004, the Governors' Task Force on Career Pathways, which sought a way to improve postsecondary education levels in the state and meet the needs of Arkansas employers for qualified personnel in jobs providing

family-supporting wages, devised a plan to use unspent TANF funds to pilot an initiative to help TANF recipients gain postsecondary credentials. OTC was chosen as a pilot site for the Arkansas Career Pathways Initiative (CPI) primarily because of its established and strong partnership with the local Workforce Center.

Students Targeted and Served by Career Pathways

All three career pathway initiatives targeted low-skilled adult student populations, with each recruiting a distinctive subset of adult learners. The Carreras–IPL program reaches out to the Chicago Latino community to recruit adults interested in working in the health care industry, including some individuals already working in lower-paying jobs within that industry. The GST–Shoreline programs target groups of individuals defined in WIA: out-of-school youth, dislocated workers, and veterans. In addition, GST–Shoreline reaches out to low-income individuals as defined by the state of Washington and to a large population of non-native speakers of English. Within all of these populations, GST–Shoreline seeks people interested in automotive careers. Finally, the CPI–Ouachita program seeks to help TANF recipients gain postsecondary credentials; therefore the population targeted is low-income parents (primarily female) of children under age 19. Table 5 displays characteristics of student populations recruited by the three career pathway programs.

Table 5. Characteristics of Students Recruited by Career Pathway Programs

Student Characteristics	*Carreras–IPL*	*GST–Shoreline*	*CPI–Ouachita*
Low literacy	x	x	x
Racial/ethnic minority	x	x	x
Immigrants	x	x	x
English language learners (ELL)	x	x	x
Low-wage earners or unemployed	x	x	x
Those earning <200% federal poverty level	x	x	x
Recipients of federal assistance	x	x	x
Dislocated workers	x	x	x
Parents or guardians of child under 19	x	x	x
Out-of-school youth		x	
Veterans		x	

Whereas some distinct characteristics are evident in the adult learner populations targeted by each program, there are many similarities across them. Specifically, all three career pathway initiatives recruit students who are low-skilled and low-literacy, with each engaging racial/ethnic minorities as well as immigrants and English language learners (ELLs). Low socioeconomic status is another defining characteristic of most students in all three programs, with student recruits described as low-income, either earning limited income or unemployed or living in poverty, and sometimes, though not always, receiving federal assistance. Single parent mothers, dislocated workers, veterans, and out-of-school youth are other groups mentioned as targeted student groups by some or all three programs.

The specific missions of the three programs are reflected in the disparate targeted populations: Carreras–IPL targets Latinos, GST–Shoreline targets those eligible for employment and training activities funded under WIA and members of the large local non-native English-speaking population, and CPI–Ouachita targets TANF recipients. Aligned with the student populations are program components that relate to their mission, described more fully below.

Recruitment Strategies of Career Pathway Programs

Recruitment strategies range from typical to innovative across all three sites (see Table 6). Administrators of Carreras–IPL created Spanish-language public service announcements for television and radio. These spots were reportedly very effective, not only because they yielded a high response, but because they were low cost to IPL. Recruitment of people working in low-wage, entry-level nursing-related jobs was also strategic. At GST–Shoreline, recruitment strategies included both English and foreign language media, WIA agencies, word of mouth, and advertising on Craigslist, an online local classified advertising and forum Web site. At CPI–Ouachita, the state-sponsored television and radio campaign and a direct mailing to over 193,000 current and former TANF recipients promoted the availability of career pathways funding. In addition, they used WIA agencies and developed a Web site to publicize their offerings. All three programs had Web sites with pages dedicated to students and potential students, reflecting the widespread use of the Internet.

Selection Processes for Career Pathway Programs

Across all three sites, academic assessments are used to select and place applicants. As shown in Table 7, the Carreras–IPL and CPI–Ouachita programs use the TABE, whereas the GST–Shoreline program uses the CASAS. All three sites use the high school diploma or GED as a placement indicator at some point in their career pathway model. The Carreras–IPL program specifies that students first enter college pre-requisite courses in order to obtain the LPN credential. At GST–Shoreline, students without a GED must test into the GST programs. If they cannot read at an 8th grade level, they are referred to a generic ABE or GED program, which do not incorporate automotive themes and are not part of the pathway. At CPI–Ouachita, high school graduates or GED recipients can receive scholarships to attend the college for 2 years, whether or not they participate in the career pathway initiative.

Two of the sites, GST–Shoreline and CPI–Ouachita, required applicants to first go through a job readiness class provided by WIA agencies or CBOs. Such classes conserved the limited resources at the two colleges, so that people who do enroll in the pathways are likely to complete their program. Carreras–IPL, housed as it is in a CBO, is actually on the inverse side of this: IPL infused all courses with job-readiness content because many Carreras–IPL students left the CBO classes to work as CNAs and patient care technicians (PCTs) and did not necessarily go directly to college classes to prepare for the LPN credential.

Finally, the GST–Shoreline programs asked the intake agencies to screen potential stu-

Table 6. Recruitment Strategies of Career Pathway Programs

Recruitment Strategies	*Carreras–IPL*	*GST–Shoreline*	*CPI–Ouachita*
Public service announcements on Spanish language TV and radio	x		
Schools and churches	x		
Community leader referrals	x		
Entry-level jobsite visits	x		
Outreach to rejected applicants for training	x		
Community-based organizations	x	x	
Word of mouth	x	x	
Website	x	x	x
Ethnic newspapers		x	
Education or training programs (ABE, ESL)		x	
Worker retraining programs		x	
Workforce intermediary organizations		x	
Craigslist		x	
Print advertisements		x	x
WIA agencies		x	x
English language TV and radio spots			x
Bulk mailing to TANF recipients			x
Toll-free number			x

Table 7. Selection Processes for Career Pathway Programs

Selection and Placement Processes	*Carreras–IPL*	*GST–Shoreline*	*CPI–Ouachita*
TABE[a] (English literacy) scores	x		x
CASAS[b] reading scores		x	
CASAS[b] math scores		x	
CASAS[b] listening scores		x	
High school diploma or GED holders	x	x	x
Attend job readiness class		x	x
Workforce intermediary organization recommendation		x	
Good driving record		x	
No back injuries		x	

[a] TABE = Test of Adult Basic Education.

[b] CASAS = Comprehensive Adult Student Assessment System, which was used to place students accurately; applicants without diplomas or GEDs were not rejected.

dents for their physical ability to perform the work required and for a driving record commensurate with a job that required some driving of other people's automobiles.

Students Served by Career Pathway Programs

The three profiled programs reported recruiting a diverse spectrum of students; however, they did not report their enrolled student populations in the same way. Instead, they used the descriptors found in Table 8, plus the country of origin of the immigrant participants.

Table 8. Students Served by Career Pathway Programs

Characteristics of Students Served	*Carreras–IPL*	*GST–Shoreline*	*CPI–Ouachita*
Predominantly female	x		x
Predominantly male		x	
Latino	100%	22%	
White		44%	60%
African American		12%	40%
Other		16%[a]	
Approximate median age	20-30	22-30	27-28
Currently employed at least part time	x	x	x
Immigrant	x	x	
ESL students	x	x	
High school education or above in native country	x	x	
ABE students	x		x
Has high school diploma or GED	x	x	x
GED students	x	x	x
Developmetal/remedial education students	x	x	x
College credit students (in later stages of pathway)	x	x	x

[a] 6% did not respond to survey.

The Carreras–IPL and CPI–Ouachita programs enrolled predominantly female students, while the GST–Shoreline program was predominantly male. Presumably, this is due the Carreras–IPL program's training people for the CNA-LPN-RN nursing occupational pathway, a traditionally female one, while the GST–Shoreline programs trained people for automotive careers, a traditionally male occupation. The CPI–Ouachita program does not have one specific occupational area, but many of the pathways offered in the program are traditionally female occupations: CNA, education, and office administration. Further, because the program is designed for parents receiving federal assistance with at least one child under the age of 19, the population tends to be single and female. Despite decades of attempts to erode gender-specificity in occupations, and despite the efforts of the career pathways program themselves to recruit non-traditional students,

local administrators insist that people continue to favor occupations traditional for their gender.

The background characteristics of the students enrolled in these three career pathway initiatives are reflective of the respective missions of the adult education and/or CTE programs and their recruitment and selection strategies. The Carreras–IPL program served the Latino population exclusively. The GST–Shoreline programs' enrollment reflected the diverse population of the Seattle metropolitan area,[19] and the CPI–Ouachita program reflects the population receiving TANF funds in the area. The approximate median ages of the students enrolled reflected an age range by which many individuals had finished secondary school, begun families, and worked at low-wage jobs for long enough to become motivated to strive for a better career.

Many of the students enrolled in the three programs are employed at least part time. This is because adults rarely have the luxury of not working as they train for a better job; instead, they need to provide for their families. As noted elsewhere in this report, part of the design of career pathway programs is to work around the schedules of working heads of families and to assist in providing the supportive services they need to balance work, home, and school.

Two of the programs, Carreras–IPL and GST–Shoreline, enroll large numbers of immigrants. The Carreras–IPL program was designed for Spanish bilinguals, many of whom were immigrants. The GST–Shoreline programs included an ESL strand for the many non-native speakers in the greater Seattle area. Although many immigrants in both cities lacked a high school diploma and had only basic academic skills, there are also immigrants who were professionals in their home countries and working at low-paying jobs because of their limited English language skills. Both can be served by career pathway programs.

Carreras–IPL and CPI–Ouachita accepted ABE students into their pathways; indeed, ABE was one of the first steps in the pathway. The GST–Shoreline programs required an 8th grade reading level, so ABE students did not qualify. Students testing into the remaining educational levels were served by all three programs. Students with GEDs, students studying to earn their GEDs, students in pre-college developmental education classes, and students in college-credit courses are all placed into their level on the pathway according to the results of placement testing. This is not surprising, because these career pathway programs are designed with several different entry points, depending on the skill levels of the applicants.

Faculty, Curriculum and Instruction, and Support Services

Faculty

At the core of career pathway programs are curricular and instructional strategies and the

19 By conflating the ABE and ESL classes of the GST–Shoreline program, the student background characteristics are not as informative as when the programs are examined individually. Seen separately, the ABE program has a younger, White population, while the ESL class is slightly older and more Latino (see case report).

faculty who provide them. All three sites showed evidence that the needs of their target population were carefully considered when selecting faculty and developing, adapting, and adopting curricula. At Ouachita–CPI and Carreras–IPL, we found faculty (and case managers and administrators) who either shared the population's ethnicity or grew up in the area; some were also raised in poverty. At the third site, faculty were not similar to the population other than by gender; however, after working with career pathways students, the faculty reported a heightened appreciation for the population's special needs and were inspired by the obstacles they had (and continued to) overcome to be successful students. One experienced instructor stated that teaching career pathway students reinvigorated his interest in teaching. Another left a successful career in the private sector after one semester, reportedly finding his "calling" teaching these students.

Faculty at all three sites were chosen from those who showed interest in teaching the target population and revising the curriculum or their teaching methodology to best suit the population's needs. All faculty volunteered to teach career pathway students, and faculty came from the ranks of both full-time tenured faculty and part-time adjunct faculty. All faculty were described as flexible, a characteristic necessary for making the necessary adaptations to diverse student needs, including teaching evening and weekend classes that accommodate working students' schedules. The commitment of the faculty to this student population was thought by the research team to have the potential to positively influence adult students' persistence in education and their conception of themselves as adult learners.

One site raised the issue of reliance on part-time faculty in roles that involved a significant amount of time, presumably more than they were compensated for. This issue might account for some faculty leaving the program, reporting feeling burnt-out, despite the indication that they were strong program supporters and derived great satisfaction working with the students. Moreover, one administrator reported that, although the college did not have many faculty volunteers to teach one developmental/remedial course, they did not try to influence others to do so, believing that it was important to have self-selected faculty to achieve program and student success.

Curriculum and Instruction

At all three sites, almost all students enter the career pathway curriculum in a pre-college non-credit course ranging from an entry-level ESL course (Carreras–IPL) to a state-developed job readiness credential (CPI–Ouachita). At GST–Shoreline, students enter the career pathway strands in an ESL or ABE course that is blended with the GST curriculum. Students' paths diverge from their point of entry, depending on their progress within the pathway and ultimate career goals.

Curricula at all three sites are customized in varying degrees for the population. The sequence of the curricula for Carreras–IPL and GST–Shoreline can be seen as full and developing career pathway models. At both of these sites, the curriculum is focused on one industry sector that extends from the adult literacy level to postsecondary CTE curricula offering credentials. By contrast, CPI–Ouachita administrators were in the process of aligning courses and credentials to develop multiple career pathways in which students were enrolled or planned to enroll once they

entered the college.

The inclusion of ESL, ABE, and GED instruction as central or peripheral to the pathway varied across the sites. At Carreras–IPL, ESL instruction was a core feature of the bridge courses in which students entered the career pathway program. Carreras–IPL students needing ABE instruction obtained it at HPVEC, a facility operated by Wright College. The Carreras–IPL CNA curriculum was infused with GED content in recognition that students who wanted to earn the LPN credential needed to obtain a GED and pass the COMPASS exam to enroll in four college-credit prerequisite courses prior to being admitted to the LPN program.

At GST–Shoreline, ESL and ABE (for those below the 8th grade level) integrated courses into two strands of the GST curriculum where students entered the pathway in classes co-taught by an automotive and an ABE or ESL instructor. The GED (or high school diploma) was not in the educational sequence required of participants, as the GST curriculum was aimed at an 8th grade or higher level of academic competence.

At CPI–Ouachita, in contrast to the other two sites, ESL instruction was not a formal part of the pathway but was offered to CPI–Ouachita clients to help them obtain and maintain low-wage jobs and perform them safely. A few ESL students at CPI–Ouachita had moved on to ABE and GED courses, and few or none had been able to successfully complete college-level courses. However, at CPI–Ouachita, all participants without a high school diploma had earned a GED prior to taking college-credit classes, including CNA classes.

Implementation of pre-college curriculum was delivered in community settings at both Carreras–IPL and CPI–Ouachita, but not in the GST–Shoreline program. At OTC, pre-college programs (ABE and GED) were under the control of the college, but not at the other sites. Both Carreras–IPL and GST–Shoreline targeted their pathways at pre-college training, although they had aligned their curricula with college-level certificate and associate degree programs. The intention of both of these programs was to prepare students to enter college-credit CTE coursework immediately after completing ABE and GED instruction, thus bypassing developmental/remedial instruction. However, both programs provided developmental/remedial instruction for students who did not pass the college placement exam.

Specifically, at the GST–Shoreline and Carreras–IPL sites, students who had completed pre-college instruction were assessed to determine their readiness for college-level classes. Carreras–IPL administrators revealed that many of their students had trouble with the college-level prerequisites for the LPN program. For the GST–Shoreline curriculum, participants were required to have only 8th grade academic skills; however, if GST graduates chose to later enter the Advanced Automotive Technicians programs and their assessments did not meet the college's standards, they were referred to developmental/remedial education courses at the college. There were no formal accelerated developmental/remedial education programs at any of the three sites; however, Ouachita students who completed the first semester's developmental/remedial math course before the end of the semester were allowed to progress to the next level immediately

without paying tuition for the higher-level course.

Computer-based instruction was used at all three sites to deliver instruction, provide self-paced learning, reinforce classroom-based instruction, and build or reinforce competency with the technology. Career pathway administrators and faculty at all sites noted that relatively high levels of computer literacy were required in the occupations for which students were being prepared, and thus it was deemed important to integrate the computer-based instruction into all levels of the curriculum, including the initial preparatory level.

Contextualization of the initial preparatory curriculum facilitated students' familiarity with and interest in the occupation, contributing to their persistence to higher levels of certification and degree attainment. Carreras–IPL and GST–Shoreline, the two sites that had a strong ESL component, contextualized the ESL curriculum using two different strategies. Both methods appeared to be effective in engaging students' interest and grasp of the curricula. CPI–Ouachita did not cite contextualization as a specific curricular strategy; however, the nature of some of the curricula in health and manufacturing included hands-on and some forms of applied learning. Another curricular strategy to encourage persistence was found at CPI–Ouachita, where they segmented some developmental/remedial and GED courses by turning some 3-credit-hour courses into three 1-credit-hour courses so that students could reach a visible end point and experience success more rapidly.

Alignment and Articulation of Curriculum

Curricula were articulated and content was aligned within the three career pathway programs to varying degrees. The degree of alignment was influenced by the length of time the pathways had been implemented, with the Carreras program having been in place longer than that at GST–Shoreline, both of which had been implemented longer than at CPI–Ouachita. Other factors influencing curriculum alignment and articulation included the goals of the program, the pre-existing structures and programs within the college and career pathways initiative, and relationships among the people responsible for carrying out the initiative.

The most well-developed curriculum existed at Carreras–IPL, where the relatively high degree of curriculum alignment and articulation was aided by the required content and structure of the curricula within the general nursing career ladder (CNA, LPN, and RN). Alignment was the program's clearly focused goal in that the curriculum was tasked with providing low-income Latinos with the training needed to enter or move up the high-demand and high-wage nursing profession career ladder. Carreras–IPL also was able to leverage lessons learned during IPL's development of its manufacturing pathway and to attract dedicated partners with a common interest in the Latino population they served.

The next most-articulated curriculum was at Shoreline, where the GST curriculum was designed as an entry point to the large and successful established associate degree program in the automotive industry (which was articulated with a bachelor's program at a university). This initiative was supported by an established relationship with a local industry partnership that pro-

vided multiple forms of support. This career pathway program's goal was to increase access to the GST credential among low-income, underserved populations in the area—a specific goal in one high-demand program area.

At CPI–Ouachita, the initial goals of the state's career pathways initiative were to provide students with the necessary support services and organize pre-college training. Current efforts were aimed at creating course and curriculum alignment, including certificates of proficiency, manufacturer- and industry-recognized certifications, and articulation with associate degrees, engaging multiple career fields within the initiative to help low-income parents of children under age 19 obtain the education necessary to obtain family-supporting jobs in a broad range of career options.

Support Services

Support services played a very important role at all three sites, and included a wide range of services such as personal and career counseling, child care, transportation, and support services for students with disabilities. Most services were provided through partnerships with community agencies, but some, including case management, were provided by the lead institution, which, in two cases, was a community college. While support services reflected the needs and geographical realities of each location, they were similar in intent and scope. Support services were delivered primarily by community agencies for Carreras–IPL and GST–Shoreline students. At CPI–Ouachita, the college provided support services, through the Workforce Center and college-based caseworkers. At Carreras–IPL, ESL and pre-college instruction were co-located at one site (IPL) and pre-LPN and support services at another site (Association House). For the CPI–Ouachita program, support services, pre-college instruction, and employment services were all delivered at the Workforce Center. At GST–Shoreline, training and employment services were co-located on the SCC campus.

Leadership and Partnerships

Of the three sites, Carreras–IPL was the only one driven by top leadership from the nonprofit sector. IPL led fundraising efforts, ensured that program elements were in place, and maintained connections among nonprofit and postsecondary education partners. At CPI–Ouachita, leadership was centered at the college, with strong collaboration with an administrator at the Workforce Center. The college president and vice president played key roles in program design and implementation and in establishing and maintaining partnerships with the Workforce Center, state government, local nonprofits, and civic organizations. The lead person at the Workforce Center had previously headed the college in its earlier instantiation as a vocational training institution. As a result, these leaders held shared values and a shared commitment to the importance of postsecondary education to improving people's lives in the community. At GST–Shoreline, the leadership was housed at the community college, but shared between the college and the regional automobile dealers association also on the SCC campus. The association's director for education and development was instrumental in building industry support. He forged partnerships necessary to provide employers with workers and students with jobs.

In terms of national and state-level connections and influences that provided a context for local leadership, the three sites varied widely. Carreras–IPL was linked to a national nonprofit organization, as both IPL and Association House were CBOs affiliated with the National Council of La Raza. OTC's career pathways initiative was connected to the federal level through its funding source, which was federal TANF employment-assistance funds, and also through a strong partnership with the local federally funded Workforce Center. The state of Arkansas was responsible for the overall state-level design and accountability system for the state's career pathway initiative and was the primary recruiter of students for all career pathway programs, through television ads and letters sent to eligible individuals. At GST–Shoreline, a federal U.S. Department of Labor Employment and Training Administration (DOL/ETA) grant was pivotal in getting the program underway. As in Arkansas, state-level funding sustained the GST–Shoreline program through an I-BEST grant and an Opportunity Grant that supported low-income students. In addition, the National Institute for Automotive Service Excellence played a primary role (along with the University of Missouri) in developing the GST certification program.

At the Carreras–IPL, partnerships were forged and maintained with postsecondary institutions associated with the City Colleges of Chicago (which has recently sought funding to expand to other community colleges in the Chicago area), nonprofit service organizations, employer partners, and the local hospital trade association. OTC's local CPI partners included the Malvern Workforce Center, nonprofit service organizations housed at the Workforce Center, and civic organizations. GST–Shoreline maintained a highly valued partnership with a regional industry group, the Puget Sound Automobile Dealers Association, housed on the SCC campus. Community nonprofit agency partnerships were important, but less so than at the other two sites. Support for the Carreras en Salud initiative and its predecessor manufacturing program was provided initially through a pilot grant from the state of Illinois, through funding from the Department of Commerce and Economic Opportunity's Critical Skills Shortages Initiative. Thus, in this case, as in the other two, state government was instrumental in providing funding to initiate these programs, along with federal funding from two different programs to support individual participants at GST–Shoreline and CPI–Ouachita.

All three sites indicated that they had the full support of employer and industry partners and expressed gratitude for the strengths that these partnerships lent to the career pathway program. Employers were involved in various activities. In fact, at Carreras–IPL, an administrator cited that he considered the employers, including the Metropolitan Chicago Healthcare Council of over 300 hospital and nursing home members, as equal partners with the CBO that led the initiative. The Carreras leadership cited the following four contributions of employer partners: (a) they reviewed the contextualized curriculum, adjusting, deleting, and adding workplace skills to what the CBO's instructors had developed; (b) they provided work-based learning sites and helped schedule clinical and practicum assignments; (c) they provided a human resource pool from which to find and train practicum instructors; and (d) they helped place students into employment and once employed, provided the Carreras faculty and administrators with feedback for continuous improvement.

The employer relationship at Shoreline–GST was also central to the college's initiative, first in forming the strong dealers' association, located on the college campus, which helped build the college's automotive program. Employers also sponsored students and provided sites for student internships and, in many cases, placement upon graduation. At Ouachita–CPI, local employers were supportive but less involved than at the other two locations. Some employees from local businesses served as faculty, and at the time of the site visit, employers were being actively recruited to provide input for adding courses and certificates as well as for recruiting potential pathways students.

Program Evaluation and Student Outcomes Assessment

Even though rigorous evaluation is often thought to be a complex and costly endeavor for local programs, the three selected sites recognized the importance of tracking student progress through the curriculum and their post-program trajectories and were committing some resources to that end. All three recognized that more rigorous, empirical evaluation was needed, and administrators spoke of seeking resources and expertise to conduct formal student tracking studies in the future.

The Carreras–IPL program in Chicago had been in existence since April, 2005. Once Carreras–IPL students reached the college-level health occupations courses, they were integrated with non-Carreras–IPL students who were attending the nursing program at the Wright College facility. Identifying the Carreras–IPL students and separating them for tracking purposes added a layer of complication to the outcomes evaluation process. Despite this complication, the initial student cohorts were being studied by administrative leaders who were monitoring student progress to particular milestones (completion of initial ESL bridge, acquisition of CNA certification, progression to the pre-LPN program, enrollment in LPN programs at the college, and with employer partner help, their placement and progress in health care settings.). Results showed that completion, licensure, and employment of the initial student groups (which were enrolled at whatever point along the curricular continuum made sense for them) was over 70%, with retention of actively enrolled students reported at 94%. As of August, 2007, 77 Carreras–IPL students will reach the LPN level, and a handful of students will progress as far as entering an RN program at a local community college. The program also tracks earning gains, but administrators caution that post-program earnings are not necessarily the most important measure of program value; in some cases, Carreras–IPL students were employed in relatively high-wage jobs in manufacturing and food service industries prior to entrance into the Carreras program, but they were not satisfied with the work itself. That said, for program graduates who exited the program at the CNA level, income ranged from $12 to $15 dollars per hour, and those who received the LPN licensure earned between $25 and $27 dollars per hour.[20]

The GST–Shoreline program in Washington State had been in existence since 2005. By late 2006, 24 students had enrolled in the ABE and ESL strands, with 18 of these students com-

20 The Carreras administration credits their employer partners for help in tracking outcomes related to placement, advancement, and wages.

pleting one of the programs. Of these, eight were hired by factory dealers and were continuing their training in a factory-specific trajectory. Eight other graduates went to work at independent auto repair shops. A follow-up study conducted several months after the students' employment showed that seven of the eight students continued to be employed, but four of the eight who had found jobs in independent repair shops had moved on to other jobs, some in the auto sector and some elsewhere. All students who were placed in jobs as a result of this program started at a wage of between $12 and $17 per hour.

The CPI–Ouachita program in Arkansas had been in existence since 2005 as well. As of the summer of 2006, 40 CPI–Ouachita students had graduated from the CNA program, and seven students had received an associate degree. (There is no documentation of the starting points of these students.) Also, 12 of the students enrolled in the LPN program had transitioned from the CPI–Ouachita program. As of the fall of 2006, 142 of the 400 active participants in CPI–Ouachita were enrolled in college-credit courses. Initial outcomes associated with degree attainment, earnings, and placement for all three programs, and especially for Carreras–IPL and GST–Shoreline, suggest that students' educational employment outcomes are positive and show promise of surpassing similar outcomes reported by Hollenbeck and Huang (2003). The three sites continue to gather and report these data to document program effectiveness and help to sustain the programs.

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR POLICY AND PRACTICE

This study sought to describe programs, policies, and practices associated with career pathway programs operating within or in association with community colleges in the United States according to the student populations served; curriculum, instruction, and support services offered; processes and practices employed to facilitate student persistence and completion; organizational structures within community colleges and partner organizations that offer career pathways; barriers and challenges that impede implementation; and lessons about scaling up, sustaining, and transferring career pathway programs to other organizations, particularly other community colleges.

Despite the difference in local contexts and occupational foci, results show a number of programmatic components held in common by the three emerging career pathway programs studied. First, the programs demonstrate a clear and deep-seated commitment to serving low-skilled adult populations. Each site built upon pre-existing strengths at the CBO, the state level, or college that, although different from one another, were a base upon which to build the complicated and comprehensive supporting structures necessary to initiate and sustain such programs. Table 9 provides a synopsis of key features that surfaced in the cross-case analysis. Many of the characteristics are shared across the three sites (e.g., immigrants, ELL and literacy below grade 9, unemployed) though there were distinctive student populations served by each site. We noted that the sensitivity of local leadership to the characteristics and needs of students and the nuances of the student populations they are attempting to serve appears to be important to initial program implementation and ultimately to sustainability.

The organizational structures, including internal infrastructure, that supported each career pathway program are unique, though common features were evident. For example, all three programs utilized the community college in an instrumental way, such as to acquire facilities, personnel, funding, curriculum, instruction, and support services. Even so, one site (Carreras–IPL) did not situate leadership for the career pathway program within the community college but rather operated the program through a CBO, with strategic partnerships with the community college and other local organizations. In this case, had the community college been the lead partner, the program may have served a different purpose and student population, assuming it would have been implemented and sustained in a form similar to the Carreras en Salud model.

The demographic and educational characteristics of adult students participating in the three programs precipitated an array of support services. All the programs offered students financial, academic, and career guidance, counseling services, and job placement, but they also offered more intensive support services than most community college programs (Cohen & Brawer, 2003). These included case management, transportation and child care assistance, mental health services, and, in at least one site, support for students with disabilities. In all cases, the portfolio of support services was comprehensive, with local administrators and students alike attesting to the importance of support services in assisting student progress and retention in the programs.

Table 9. Key Features of Selected Career Pathway Programs

Features	*Carreras en Salud–IPL*	*GST–Shoreline*	*CPI–Ouachita*
Students served	Immigrant Latinos, primarily females, lacking a high school diploma or GED; low literacy, low income associated with low-wage jobs or unemployment; some are younger adult Latinos native to the Chicago area.	Primarily White males but some immigrants from Latin America, English language learners, veterans, out-of-school youth.	CPI-eligible students who are adult caretakers, parents, or relatives of a child under the age of 19 who is deemed financially needy; former or current recipient of TEA cash assistance; current recipient of food stamps, ARKids, or Medicaid, or earning 200% of the FPL or less; majority are female low-wage employees.
Program components/ curricular elements	Pre-college curriculum offered at the CBO, IPL; contextualized ESL curriculum focused on nursing; bilingual ESL teachers; multiple entry points; curriculum aligned within the industry; ABE a part of pathway; GED infused with technical content; computer-aided instruction; team and project-based assignments.	Pre-college curriculum offered at Shoreline Community College; contextualized ESL and ABE curriculum focused on the automotive industry; team teaching; computer-aided instruction; team and project-based assignments.	Pre-college curriculum offered at Ouachita Technical College; multiple occupations targeted for career pathways; segmented (stackable) courses; self-paced developmental math; ABE a part of pathway; computer-aided instruction.
Support services	CBO partners and program faculty provide services; key administrators familiar with population and needs; offer case management, academic and non-academic counseling, financial aid, child care vouchers, transportation assistance, tuition and books, career counseling, and job placement.	Community (workforce intermediary) agency, program director, and community college faculty provide support services; key administrators familiar with students and their needs; offer case management, child care and transportation assistance, mental health services, assistance with part-time jobs, career counseling.	Services provided by college (case manager and FYIG) and Workforce Center partners. Key administrators familiar with students' needs; case managers assist students with job placement. academic and career counseling, financial aid, transportation, child care, support services for students with disabilities.
Processes/ practices for persistence and completion	Job readiness infused into curriculum; flexible scheduling; students can stop out and re-enter pathway without repeating course work.	Job readiness class required prior to entry; flexible scheduling.	Job readiness class required; flexible scheduling; courses offered at sites convenient to students; FYIGs.

Features	*Carreras en Salud–IPL*	*GST–Shoreline*	*CPI–Ouachita*
Organizational structures, college and partners	Leadership sited at CBO; employer partners co-developed curriculum and coordinated placement; established articulation with AAS and BS programs; sustained funding from foundations; state support for pilot year; beginning to gather data for formative evaluations.	Leadership sited at community college; well-established employer partners and college AAS program; employer partners assist with internship placement; state support.	Leadership sited at community college; well-coordinated services between college and One-Stop partner; college actively reaches out to local employers to develop curriculum; state support; state developing formative evaluation of pathway sites.
Barriers and challenges	Continual search for funding for support services; entrenched college operations and faculty contractual agreements; lack of alignment between pre-college instruction and college placement cut-offs.	Finding partners to help provide support services; recruitment hindered by area's high employment rate; space and scheduling issues at college; differentiated pay scales between full- and part-time faculty; slow curriculum approval process.	Developmental courses not connected to pathway; some lack of program alignment (e.g., CNA to LPN); students are hired after completing one- and two-semester credentials; local workforce demand for certificate programs but college is nearing limit for maintaining accreditation ratio for a community college.
Scalability, sustainability, and transferability	CBO aggressively seeks funding from public sources, private foundations, and not-for-profit organizations; career pathway model transferred from manufacturing to health care within the auspices of the CBO; partnership between CBO and City College strong, but lack of alignment between CBO and system-level community colleges may weaken potential for long-term sustainability and scalability; commitment to research and evaluation encourages good practice.	Offering Web site, curriculum materials, and teacher guides; model already used by other Job Corps, community college, and high school sites; considering replicating ABE and ESL integration in other occupational areas at SCC; expansion of the program and growth in student enrollment is underway.	Statewide policy, infrastructure, and support for transferring models to other sites; common policy and program structure being adopted throughout the state, beginning with pilots; implementation across multiple careers/industries; research integrated into the state project to encourage effective policies and practices; TANF funding brings stability, yet state-level funding is uncertain though the state has committed to finding support; tight-knit community and local leadership support may be difficult to transfer as implemented at this site.

Common curricular and instructional features of the career pathway programs included an initial entry point involving adult literacy programs such as ABE and GED. All three programs also offered ESL curriculum, especially the Carreras en Salud–IPL program in Chicago and the GST–Shoreline program in suburban Seattle. Contextualized curriculum emphasizing occupational content combined with fundamental academic content was integrated into ESL and ABE, and stackable, modularized curriculum provided students with multiple entry and exit options. Certification and degrees were tied to various exit points, depending on the alignment of the occupational and curricular pathway. Besides these approaches, all three programs supplemented their curricula with computer-aided instruction, providing the opportunity to individualize learning and sometimes allowing students to accelerate through foundational material, including some areas of developmental/remedial education. Instructional innovations such as team teaching and project-based assignments were evident in some classrooms at all three sites.

Developmental/remedial education was a supplement to the career pathway programs because the intention of all three was to prepare students for the transition to college-level CTE without requiring remediation there. Despite this intention, all three programs utilized the community college developmental/remedial curriculum when students did not meet the college placement cut-off requirements and therefore could not transition directly from the adult literacy level to postsecondary CTE. Because none of the programs focused on modifying existing community college developmental/remedial education per se, the career pathway administrators expressed concern about students who did not meet the college placement cut-off scores. Issues surrounding the added cost and time of developmental/remedial instruction frustrated local program leaders, providing some pressure on them to find ways to assist students to work around the system. Concern was also expressed for students who were using up their financial aid or completing developmental/remedial coursework before entering the postsecondary CTE curriculum for which they had sought further education in the first place. A consequence of prolonged enrollment in developmental/remedial education and the potential for students to thereby accumulate substantial student loan debt created worries about non-completion and longer-term economic hardship for the students.

Finding a means of assisting low-skilled adults to persist in postsecondary education is a substantial challenge, as prior literature shows (see, for example, Tyler, 2004). The three career pathway programs offered a number of similar strategies, including offering job readiness either as an initial stand-alone class or through integrating content into the career pathway curriculum. Either way, the rationale was that low-skilled adults need fundamental employability and job readiness skills that can help them succeed in the classroom and on the job. The theory seemed to be that the more students understand, value, and practice employability and job readiness skills, the more likely they are to persist in college and to enter the workplace and assume successful employment. In addition, the programs tend to offer flexible scheduling, including multiple entry and re-entry points, recognizing that adult learners have competing responsibilities with family, work, and school.

Cohort groups, learning communities, and other academic and social support groups also were seen by these programs as ways of encouraging positive interdependence and building

confidence among a small group of learners. This idea was most evident in the deliberate efforts of the First Year Interest Groups (FYIGs) offered by CPI–Ouachita, where the group-oriented support activities focus on encouraging student persistence and completion. Though quantitative results establishing a conclusive relationship between cohort activities and student outcomes are not available, program leaders and students at all three sites offered qualitative claims that they make an important difference. Without question, research on these and other program elements is needed to determine the validity as well as transferability of such career pathway programs.

Partnerships with employers, community organizations, and other local entities appear crucial to the sustainability of each of the career pathway programs. They are crucial to funding, to curriculum development and (in some cases) to instructional delivery, and to providing student placements for learning and employment. Along with governmental support (mostly state but also federal), the presence of partnerships helps garner local support within the community as well as within the community colleges themselves. The creation of career pathway programs is often far from easy, even in the most committed community colleges, because these institutions have to overcome entrenched policies and operating procedures, including funding complexities and inequities (such as differential funding levels between adult education, developmental/remedial education, and CTE), space and scheduling concerns, rigid curricular and assessment rules (particularly in the area of college placement testing and developmental/remedial education), faculty contractual agreements (as in differential pay scales for full- and part-time instructors), and inflexible local and state-level curriculum approval processes. In one case, accreditation was viewed as a major impediment to the growth of career pathway programs because of limitations placed on the ratio between certifications and associate degrees. Thus, while community colleges do indeed offer advantages in terms of their centrality to local communities and strategic mission to serve diverse local needs, the organizational structure and formal policy orientation (local and state) may mitigate implementation of a full array of curriculum and support services needed by low-skilled adults. Even so, local leaders at all three sites recognized the community college as the form of higher education that made most sense for implementation of career pathway programs, and their advocacy for these programs as an integral part of community colleges provided a driving force for their establishment and continuation into the future.

Outcomes data are needed to gain a fuller understanding of the benefits of these three career pathway programs, yet the programs were beginning to formulate rudimentary student tracking systems to provide a baseline on which a more sophisticated study could be devised. As in nearly any new initiative, there was a chasm between creating new, innovative program delivery models and conducting robust program and student outcomes evaluation. Our team concluded that all three programs had reached a stage in their development where student outcomes assessment should be conducted, and we observed a concerted interest in doing so if and when resources could be secured without depleting existing funds needed to continue to operate the programs.

Despite various challenges, all three career pathway programs show signs of growth (scalability), continuation within the community college and larger local community (sustainability), and replication (transferability) beyond a particular occupation within a single community

college to other CTE curriculum within the same or other institutions. The establishment of internal and external partnerships seemed critical to scalability and sustainability, offering diversified funding sources for programs in their original forms and growing them into new iterations. Replication often occurs first internally by transferring the models from one occupational area to another, then by transferring the ideas to other communities and other community colleges and partners. Transparency in the development of local and state policies, procedures, and support materials is crucial to the transfer of ideas from one site to another. Despite these positive signs, finding ways to weave together the modest and disparate funding streams that support career pathway programs requires a great deal of time and an extreme amount of patience. The knowledge of administrative rules associated with various funding streams—i.e., when and how dollars can be spent and how they can and cannot be co-mingled—requires attention to detail. Whether bureaucratic hurdles represent serious impediments to widespread implementation of career pathway programs is a question that needs attention from policy makers, scholars, and practitioners alike. Assuming that the needs of low-skilled adults are not going away and in fact are growing, finding ways to serve these diverse populations seems to be an important endeavor for public institutions, with education, government, CBOs, employers, and the public having a significant stake in the ultimate outcomes.

Last, this study has offered an important lens through which to observe the community college as a nexus for enhancing America's equity agenda (Bailey & Morest, 2006; Grubb et al., 2003; Jacobs & Dougherty, 2006). Finding ways to enhance access and opportunities for second-chance learners who have heretofore experienced limited success in the educational game is central to this agenda. Though the scorecard is still missing a great deal of information on the effectiveness and benefits of career pathway programs, qualitative evidence shows a sincere commitment to low-skilled adults. Indeed, community colleges are demonstrably engaged in the formation of curriculum and instruction and comprehensive support services intended to serve diverse adult learners. Based on these results, additional attention and support needs to given to the career pathway programs that are emerging in association with community colleges throughout the United States. Through concerted efforts at the federal, state, and local levels, access to postsecondary education and opportunities to obtain family-sustaining careers may be within reach of more low-skilled adults, and this lofty goal is too important to the future of the nation to ignore.

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APPENDIX A
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APPENDIX B
CONCEPTUAL FRAMEWORK FOR DATA COLLECTION

"Components by Models" Matrix			Organization/Administration				
Select programs for study that are: • Scalable • Sustainable • Transferable	**State Context** (administrative authority, funding mission; state economy, socio-political context, demography)	**Community Context** (local economy, socio-political context, demography; perceived role of ABE and technical skills providers–committee drivers, triggering events)	**Providers** (CC, LEA, CBO, voc rehab, One-Stop, employers; incentives, intermediaries, working "inside" vs. "outside")	**Staffing/ Faculty** (entrepreneurial leadership, brokering, recruitment, SKA, training, compensation, turnover)	**Funding** (Program: fed, state, local grants, seed money, restrictions; student: employer fund, Pell and other aid, income replacement)	**Partnership Arrangements** (internal vs. external; contractual arrangements, education articulation agreements; employer articulation agreements)	**Organizational Development** (systems thinking, strategic planning, evidence of leadership driving change at all levels)
Program 1							
Program 2							
Program 3							
Program 4							

"Components by Models" Matrix (cont.)

Select programs for study that are: • Scalable • Sustainable • Transferable	Student Recruitment and Selection Processes (Shared guidelines, processes and expectations)	Student Populations Served (literacy level, education functioning, disabilities – special staffing)	Curriculum and Instructional Strategies							
			Curriculum Development/ Pedagogical Approach (State, local, other; collaborative work groups, faculty role, training, compensation, dissemination; philosophy of teaching and learning evident in curriculum)	**Occupational-Technical Field(s)** (career exploration vs. prep, workforce prep vs. workforce success)	**Career Pathway Approach** (what CPs make sense, accessible credentials, multiple entry/exit, fractionalized vs. traditional, foundational skills; bridges; ladders)	**Accelerated Learning Opportunities** (dual enrollment; accelerated learning modules and courses)	**Integrative Approaches** (credit and non-credit; foundational skills integrated into occupational-tech)	**Innovative Instructional Strategies** (online, cohort, peer learning, experiential, distance and hybrid)	**Work-based Learning** (e.g., internship, CO-OP)	**ELL** (traditional vs. non-traditional, contextual, used as bridge)
Program 1										
Program 2										
Program 3										
Program 4										

Select programs for study that are: • Scalable • Sustainable • Transferable	Student Support Services			Credentials			Evaluation and Student Assessment		
	Academic Assessment (ACT WorkKeys, multiple testing, cross-walks [concordance tables], culture of teaching to the test, testing for non-cognitive skills, traditional vs. functional models)	**Wrap-around Services** (provided by whom, set-aside or integrate, how formal, tutoring)	**Career Guidance and Job Placement** (free test prep, college placement workshops, CP roadmap)	**Secondary** (HS and alternative diploma, GED, employability cert., dual enrollment)	**Industry Certification**	**Academic Certification**	**Degree** (AS, AAS, BS–modularized, stackable)	**Program Evaluation** (Return on Investment [ROI], cost/benefit, reporting and performance, internal/ external/ combination)	**Student Outcomes Assessment** (enrollment and accountability measures, local surveys, Lumina "Achieving the Dream" outcome measures, capture actual student behavior on retention, "stop out," completion, placement)
Program 1									
Program 2									
Program 3									
Program 4									

"Components by Models" Matrix (cont.)											
Select programs for study that are: • Scalable • Sustainable • Transferable	**Implementation Barriers/Challenges**										
	Funding issues (lack of time)	**Lack of adequate leadership** (lack of commitment to change)	**Faculty resistance** (union, lack of commitment to change)	**Turf** (internal vs. external)	**Issues with credit, seat-time** (traditional)	**Lack of incentives** (external leverage)	**Lack of evaluation, outcomes** (lack of data systems, lack of continuous improvement)	**Isolation from mainstream**	**Communications** (problems, strategies)	**Lack of professional development**	**Others**
Program 1											
Program 2											
Program 3											
Program 4											

Select programs for study that are: • Scalable • Sustainable • Transferable	**Success Factors**									
	Focus on systems change	**Labor market/ economic impact**	**Evidence that transitions are "eased"**	**Cohort peer learning networks established**	**Mission/ strategic planning made a priority**	**Leadership permeates institution**	**Work-based learning, internships established**	**Enhancements to FTE funding stream with GED waivers and incentives**	**Communication strategies enhanced**	**Others**
Program 1										
Program 2										
Program 3										
Program 4										

APPENDIX C
OTHER CAREER PATHWAY PROGRAM PROFILES
Note: All URLs current as of October 26, 2007.

FAST TRACK TO WORK PROGRAM[21]
Cabrillo Community College (California)

Program Context

- The Dean of Instruction, Career Education, and Economic Development at this urban community college was instrumental in responding to the Federal Welfare Reform Act.
- The college works closely with the economic development office and local Workforce Investment Board (WIB) through joint meetings and cross-representation on committees to base programs on labor market demand.
- The state encourages development of the California workforce by providing money for program development to meet educational needs of low income adults.

Program Goals, Organization, and Administration

- The program's goal is to help students to succeed in obtaining education and training that leads to careers that pay family-supporting wages.
- Program components include a focus on support services for students, including serving as liaison with county agencies, academic counselors who know all requirements and regulations, social work interns, counseling referrals, and a job developer placing public aid students in work-study jobs.
- Funding comes from county, state, and federal sources; WIA; and a small grant from a private foundation for high school students entering occupational programs.
- State-level policies require partnering; partners include the local Workforce Investment Board, county welfare, adult education, and the Department of Rehabilitation Services.
- Partners participate in monthly steering committee meetings and also have a great deal of informal contact.
- The state provides considerable oversight through annual auditing and monitoring of budget and program content to ensure compliance with regulations and job market alignment.

Student Population

- Students are enrolled in occupational programs. Most are referred by county agencies and are either receiving TANF or unemployment aid.
- Many need remedial work in basic skills. Some have learning disabilities.
- Most program participants are low-income women ages 25-35, including English Language Learners (ELLs).

21 Information for the CP program profiles was collected by Donna Schaad through follow-up telephone interviews, with review and feedback provided by Catherine Kirby.

Curriculum and Instruction

- Occupational areas supported include health care, bookkeeping, criminal justice, general office, child care, and medical office.
- Students' entry level is based on previous training and ability.
- The Ladders Program, based at Cabrillo College and composed of various training partners, coordinates training programs and guidance on how to go from one step to the next. Moving up a career ladder provides more than entry-level jobs.
- All students are strongly encouraged to take a work readiness class.
- An assessment test is used to determine if ESL instruction is necessary. Students testing at a low level are referred to ABE or ESL to bring up their skill level.
- An associate degree is the highest level to be earned. There are also numerous certificates.
- The Fast Track to Work program emphasis is on quickly preparing students for entry into a career with advancement opportunities.

Support Services

- In addition to traditional support services offered by the community college and services available through partnering agencies, the program provides a newsletter, use of a FAX, copier, and telephone, and a place where students can congregate and socialize.
- Assessment occurs through the community college and at county offices.
- To insure linear progression, institutions work closely to integrate their efforts and support students' transition from one step to the next.
- Testing and tutoring for students with learning disabilities are provided. Accommodations are made for students with disabilities.

Program Evaluation

- Completion data are maintained along with those for enrollment, retention, grades, and placement measures.
- Data are used to report student progress to the county, state, and Workforce Investment Board.

Implementation Barriers

- The greatest barrier is lack of funding.
- Funding was lost for the position that was responsible for student follow-up.

Success Factors

- Success factors include
  - a supportive committed staff who meet weekly,
  - connection with state level to keep up-to-date with changes in programs,
  - a supportive supervisor, and
  - good partnerships with the county welfare department and local Workforce Investment Board.

Scalability, Sustainability, and Transferability

- Because there are no funds from the community college to sustain the program, the organization depends on outside funding.
- Community college staff in programs such as Fast Track to Work are involved in lobbying for continued funds.
- Enlarging the program depends on agency referrals, along with private money and other grant funds.

Contact: Dena Taylor, Program Manager
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College: http://www.cabrillo.edu/services/fttw/index.html
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ESL CAREER LADDERS/ PATHWAYS TO EMPLOYMENT
Central Piedmont Community College (North Carolina)

Program Context

- The program is located in an urban/suburban area and developed in 1996 under a WorkFirst grant by the current program coordinator.
- It was prompted by federal welfare reform, the loss of local textile manufacturing jobs, and the resultant loss of population.
- The state aids the initiative in providing basics skills funding through an annual grant that requires information on enrollment demographics, anticipated need, and outcomes of the previous year's initiative.
- ESL Career Ladders was first piloted in 2003 in response to the growing English language learning population through a donation from a community employer.

Program Goals, Organization, and Administration

- The primary goal of the program is short-term job training leading to economic self sufficiency.
- In addition to the state grant, the program is funded by the college's foundation and more than 20 partners in businesses and community organizations (e.g., the United Way), and individuals.
- Business partner contributions include providing employment opportunities, job-site training, representation on the Pathways to Employment Advisory Committee, participation in the career fair, and financial support.
- ESL Career Ladders' goal is to provide training for entry-level jobs in a career path in high-demand industries by providing a 13-credit college transfer certificate.

Student Population

- Students are referred to the program by community agencies, the college learning center, and word of mouth from the 1,000+ program graduates.
- Students fall below 12.9 on the TABE or below 4.0 on CASAS and into the following demographics: 81% women, 85% African American, and average of 33 years of age.
- Groups of adults excluded from the program are those (a) having no barriers to employment and (b) who are college-ready.
- ESL Careers Ladders students must test at a 235 and above reading level as measured by CASAS. All students are multilingual/cultural, with the majority being of Hispanic ethnicity.

Curriculum and Instruction

- ESL Careers Ladders uses an ESL content-based approach to instruction in the ESL support course. The support course is linked to the content courses so learners can improve their language skills through activities designed around the content of the training courses.

- Students enter semester-long courses based on their degree of college readiness and literacy, as measured by their scores on TABE and CASAS.
- Basic skills are included in the Pathways curriculum.
- The Pathway includes courses that lead to certificates in which college credit earned aligns with AS degrees.
- Classes are offered during the day and evening and on weekends to meet students' scheduling needs.
- The program uses many learning models, including differentiated, independent/self-paced, computer-assisted, project-based, small group/cooperative learning, small learning communities, and innovative/hands-on assessment practices.

Support Services

- Academic advising is provided, and a social worker is on location to handle TANF student reporting.
- Learning labs and tutoring support student achievement and help bridge transition between ESL, ABE, and GED levels.
- Learning communities and financial support also play a role in student success.
- ESL Career Ladders is structured as a learning community. Support is given by the content teacher, ESL teacher, and assessment/retention specialist.

Program Evaluation

- Student data are collected at 6 months and 1 year after program completion.
- The data are used in grant applications and in assessing employment needs for program development.
- ESL Career Ladders administers student opinion surveys and pre- and post-testing to measure learning gains and track retention.

Implementation Barriers

- The largest barrier to implementation is funding; although the community provides scholarships for necessary items like books, it does not support data collection efforts like creation of a database to track students.

Success Factors

- Success factors include immediate application of training, student support, learning communities, contextual curriculum, and second-chance funding for students who are felons or have used up their Pell grant.
- The alignment of certificate and associate degrees motivates the students' persistence.
- Twenty-five percent of students go directly to college; 75% go to work, and many of them continue to take classes.

Scalability, Sustainability, and Transferability

- Steps are being taken to secure alternative sources for funding.

- The program continues to grow to meet job market training needs including a pre-nurses aide program, a county parks and recreation program (under development), and a 10-key (calculator) program for refugees.
- ESL Careers Ladders is supported by CBOs, employers, and the Workforce Development Board. New certificate programs are in development, and a targeted effort to recruit recently graduated high school seniors is in progress.

Contacts:	Gilda Rubio-Festa, Director, Adult ESL Gilda.Rubio-festa@cpcc.edu Lindsey Embrey, Coordinator, Pathways to Employment (704) 330-6536 lindsey.embrey@cpcc.edu
Program Website:	http://www1.cpcc.edu/pathways/
College:	http://www1.cpcc.edu/ PO Box 35009, Charlotte, NC 28235

MANUFACTURING PATHWAYS
Rhodes State College (Ohio)

Program Context

- This program is located in rural Ohio.
- The program's impetus was a 2004 Rhodes State College survey funded by a grant from the KnowledgeWorks Foundation to assess the needs related to the loss of 15,000 manufacturing jobs during the 1990s.
- The survey's results indicated the need for higher-skilled workers, especially in math and computing.
- The creation of the Manufacturing Pathway follows Healthcare Pathways already established in the state.
- The state has no direct oversight other than the partial funding by the college.

Program Goals, Organization, and Administration

- The program's goal is to establish a pipeline of students well trained to meet manufacturers' needs.
- The division of funding is 50% KnowledgeWorks grant, 25% college funds, and 25% from partner contributions.
- Partner support comes from three sources: 13 (current) manufacturers paying dues; CBOs from the 10-county area, such as Job and Family Services and others; and educational institutions that recruit students, provide facilities, and GED and developmental programs.
- Faculty members are adjunct and come from various area vocational institutions and industry; they go through a "Train the Trainer" program.

Student Population

- Basic level students are diverse in age and race and range from high school dropouts to older adults coming back for training. Intermediate and advanced level students are not as diverse and tend to be of traditional college age.
- No students are barred from participation.
- Students are recruited by community-based organizations, word of mouth, advertisements in media, Job and Family Services, and WIA.
- Students from the cities are 30 to 40% African Americans; students from the counties are mostly Caucasian.

Curriculum and Instruction

- Courses are offered during the day, in the evenings, and on weekends to accommodate working adults.
- The adult education program helped in curriculum development as well as in providing facilities and personnel.
- The hands-on curriculum was developed with manufacturer input to meet specific needs.

- Students must have at least a high school diploma or ABLE/GED. Readiness is determined by TABE and interviews; students may enroll in any one of the pathway's three levels depending on their educational background and needs.
- Basic level students must test at the 8th grade level in math and reading or have a high school diploma; students needing remediation in reading and math must receive it before entering the basic level; intermediate and advanced level students must be college-ready.
- The basic level curriculum contains six modules addressing terms, processes, and basic math related to manufacturing and computers. Students create a resume and are guaranteed a job referral upon completion.
- All basic pathways students take an online test on topics including soft skills, work skills, drug policies, and teamwork. Results are reviewed with students and can be sent to the employer.
- The intermediate level curriculum consists of six core classes and three technical courses in one of six areas. Students earn a certificate. Some have tech prep backgrounds and enter with college credit.
- Advanced level students are pursuing an associate or a bachelor's degree. They are typically from middle-income backgrounds and are seeking advancement.

Support Services

- Remedial classes are provided for students testing below 8th grade.
- Academic advisors and counselors are available to all students.
- A new Web site called Perfect Interview is being implemented for interview practice. Video of the practice interview can be saved for pre-screening by potential employers.
- All completers, regardless of level, receive a photo ID upon completion. It is hoped it will be popular with students and a quick identifier for potential employers.

Program Evaluation

- The program maintains files of grades, resumes, and tests.
- The organization is becoming more consistent with data collection.
- Data are used in the job selection process and reported to The Ohio State University, which oversees the Pathways project.

Implementation Barriers

- There is an issue with student motivation; some students lack self-discipline and drop out.
- Lack of funding is always an issue.

Success Factors

- Students are getting jobs.
- Students are moving from one level to the next.

Scalability, Sustainability, and Transferability

- After the 3-year grant, the program must sustain itself through dues-paying manufacturing members. Membership recruitment is conducted on an ongoing basis.

- The program is looking for new certifications in areas such as ethanol, foundries, and welding to meet area needs.

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AUTOMOTIVE BRIDGE
Truman College (Illinois)

Program Context

- This urban program is located at Truman, one of the seven City Colleges of Chicago (CCC).
- The impetus for the program was a convergence of interests in critical skill shortage areas, a grant opportunity, good community partnerships, and CCC interested in developing general curriculum for career pathways.
- The state funded a grant from the Department of Commerce and Economic Opportunity (DCEO) through the Illinois Community College Board (ICCB) for the purpose of developing bridge programs in critical shortage areas. Transportation, Warehousing and Logistics (TWL) was identified as a critical shortage area, under which Automotive Tech falls.
- The Automotive Bridge Pathway was chosen because of jobs in the area, relationships with employers, and an established community college certificate and degree programs in the automotive field to complete a career ladder.

Program Goals, Organization, and Administration

- The broad goal is to provide students with key vocabulary and basic automotive concepts to prepare them to transition to the college automotive program.
- The ABE program is funded through ICCB.
- During the grant period, ABE partnered with two community based organizations, Jewish Vocational Services for curriculum development and mentoring and the Howard Area Community Center for recruitment, along with Truman's Adult Education classes.
- The Automotive Bridge instructor developed curriculum based on reading and language skills that students need for success in Auto Tech 101, the gateway course to the college-credit automotive technology program.

Student Population

- High school graduates do not qualify to study in Adult Education programs unless their diplomas are from foreign high schools. Some ESL students have automotive experience from their country and just need to be able to express known concepts in English.
- Most students are men in their mid- to late 30s needing better skills and education to raise their earning power.

Curriculum and Instruction

- To enter the program, students' ESL must be level 6 (low advanced level), while GED students need to be at a 8.5 grade equivalent according to the TABE.
- A poll of students indicated a preference for a Saturday class, which combines both ABE and ESL students; the program has been expanded from 32 to 64 weeks in order for students to be well prepared for the college program.
- The Automotive Bridge curriculum includes a section on test taking to help students prepare to take college entrance (COMPASS) and certification exams.

- After completion of the Automotive Bridge, students can complete a 5-course basic certificate, a 10-course advanced certificate, and an AS degree. Students may choose to go on to a bachelor's degree at a 4-year institution. The Automotive Bridge Program is what makes the whole path possible for ABE students.
- The instructor uses computer-assisted learning, Internet sites, Power Point presentations, small groups, and cooperative learning.

Support Services

- The college has hired a support person to help students transition to college by serving as a go-to person and providing them with access to information they need. They believe the key to retaining students is providing them with information about all the steps along the pathway – places where they can stop out and get a job but can return later to receive more training to get additional certifications and a better job.
- Tutoring is available. Mentoring was a valuable component during the grant period.

Program Evaluation

- During the grant period, extensive data was gathered which affirmed that what they were doing led to student success.
- The college has a new institutional research person to help with data analysis.
- Data within the student information system needs to be mined. So far, employment data is anecdotal.

Implementation Barriers

- Limited funding for support services and tuition reimbursements are barriers.

Success Factors

- The quality of the curriculum and faculty is a success factor.
- A bridge to a high-demand occupation and a career in which students are interested are important.
- The partnership with the college's automotive technology director has proved invaluable.

Scalability, Sustainability, and Transferability

- The bridge program has been incorporated into the ABE program.
- A support position has been institutionalized.
- The program continues to look for funding for tuition and more community partnerships.
- The creation of a lower-level bridge for those who do not qualify for the current program is under discussion.

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HEALTH CARE CAREER PATHWAYS
Washington State Community College (Ohio)

Program Context

- This rural community college responded to a grant by KnowledgeWorks – one of six awarded in Ohio.
- The college chose the health care pathway due to workforce need, a large retirement-age population, and the curricula in place at the college.
- The program serves a two-county area in Appalachia; unemployment rates in the counties range from 6% to 10%.

Program Goals, Organization, and Administration

- The program's goal is to coordinate the efforts of education and multiple social service agencies to support students from enrollment through degree completion and on into jobs in the healthcare industry.
- Funding comes primarily from the KnowledgeWorks Foundation grant, Job and Family Services, and business partners.
- State oversight is the responsibility of the Ohio Board of Regents and the Ohio Board of Education. Other programs support the program, including state agencies administering Workforce and Economic Development, Jobs and Family Service, and WIA.
- The community college serves as fiscal agent and provides an established infrastructure of support.
- Partners include five employers (i.e., hospitals and nursing homes) and 12 or more social service agencies. Additional partners are being added as program needs change.

Student Population

- Students must be at least 18 years old and have a high school diploma or a GED and reside in the two-county area.
- Students are recruited through advertisements, schools, students, and partner referrals in addition to incumbent workers.
- Students are generally low income; most are non-traditional in age. Students outside of this target audience have been accepted into the program. Convicted felons are excluded from the program due to the fingerprinting requirement of the health care system.

Curriculum and Instruction

- Students who do not have the skills to enter college go through the Adult Basic Literacy and Education (ABLE) program for a refresher course in math and English.
- The COMPASS assessment is used for college placement.
- Health Care Pathways credentials include certificates and an associate degree.

Support Services

- The program helps students navigate through the system to address obstacles and connect with appropriate agencies along with school programs for support. Relationships between program partners serve to bridge students from one level to another. Established relationships cause students who stop out to return to the same people and locations to begin again.
- Students are placed into cohorts that serve as learning communities.
- The College has a Learning Center that provides free tutoring and computer access.
- The Career Center provides WorkKeys analysis to students and work profiles on health care positions that may identify remediation needed or even prompt reevaluation of goals related to individual's capabilities.

Program Evaluation

- The Ohio State University maintains a comprehensive database (127 fields) for each student to track students through the educational experience to employment to determine students' economic improvement.
- The data are also utilized internally for program assessment and improvement.

Implementation Barriers

- The funding stream coming through Job and Family Services serves only 10% of the students due to the limited guidelines for disbursement. The other 90% cannot access the needed support from JFS, resulting in delays in time to completion. These students are guided towards alternative funding sources or they find work to earn the needed funds.
- Other funding sources are being sought through the expansion of the partnership network.

Success Factors

- Established relationships are important due to the need to lean heavily on other social service and grant funded programs.
- Success factors include good relationships among partners, a creative staff, and a good program reputation.

Scalability, Sustainability, and Transferability

- Southeast Ohio Career Pathways are being incorporated into the college's Workforce Development program to serve as a conduit from high school into other industries.
- Other grants are being written to sustain the health services pathway.
- Plans are underway to develop other career pathways in the industrial sector as needs are identified.

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