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Achieving Educational Equity and Justice in Career Academies: Challenges and Promising Strategies

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May 2017

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Career academies are a model of career and technical education (CTE) that blend academic rigor, instruction that is relevant to students’ lives, and strong relationships between students and adults (Brand, 2009). Shown to have positive impacts on high school students’ motivation, graduation rates, postsecondary enrollment, and career outcomes (Brand, 2009; Dayton et al., 2011; Kemple, 2004; Kemple & Snipes, 2000; Kemple & Wilner, 2008; Maxwell & Rubin, 2000), career academies have also been seen as having great potential to reduce achievement gaps for underserved students (Dougherty, 2016; Kemple & Snipes, 2000). In an era in which there is increasing interest in preparing students for success in *both* postsecondary education *and* careers, as well as life, it is key to gain a better understanding of career academies’ potential and challenges. This includes examining the extent to which the model increases opportunities and improves outcomes for students, and how to ensure that career academies increase educational equity and justice and do not perpetuate inequities.

The more than 30 communities that form the Ford Next Generation Learning (Ford NGL) network are using career academies as a key component of a community-driven high school transformation strategy. Ford NGL comprises three strands—Transforming Teaching and Learning, Transforming the Secondary School Experience, and Transforming Business and Civic Engagement—as shown below.

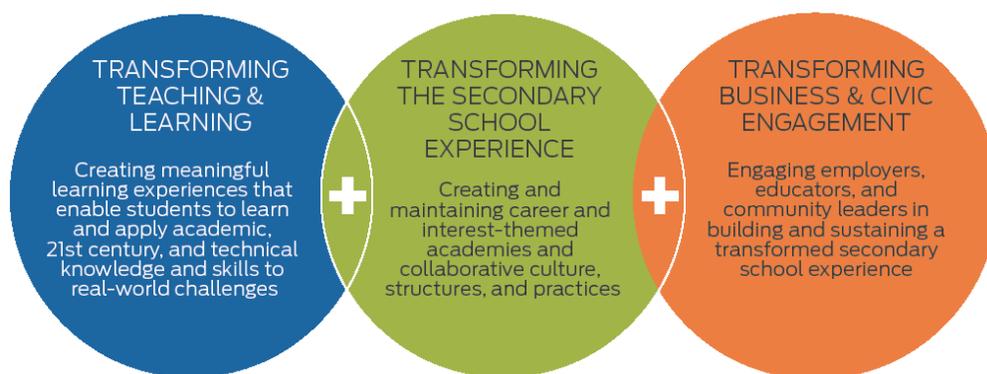


Figure 1. Three Strands of Ford NGL

Many of the Ford NGL communities are encountering common challenges as they seek to achieve educational equity and justice as one of their long-term outcomes, and to address it across all three strands. As these communities tackle these challenges, led by their district and school leaders, they are eager to learn both from research and from one another.

This paper draws on input from twelve individuals in seven Ford NGL communities. It summarizes key equity issues that the districts have encountered, discusses some strategies they are using to address inequities, and identifies other approaches grounded in research that communities might consider using to achieve equitable outcomes and reduce disparities across different demographic groups.

BROAD CATEGORIES OF CHALLENGES TO MAXIMIZING EDUCATIONAL EQUITY IN CAREER ACADEMIES

Conversations with these representatives of Ford NGL communities, and a survey of the literature on academies, reveal two broad, interrelated categories of challenges:

- *Access:* Ensuring that all students have equitable opportunities to enroll in career academies and to pursue career pathways of their choice that lead to high-skill, high-wage jobs
- *School culture:* Ensuring that the academy is a welcoming and supportive place for students of all demographic groups and their families, and that educators are culturally proficient and able to help students capitalize on their diverse strengths

Access to Quality Career Academies

The National Standards of Practice for career academies state that “each school ensures that the career academy reflects the demographic mix of the school as a whole, including students with disabilities and English language learners” (National Career Academy Coalition, 2013, p. 2) and that “entry into the academy is voluntary and accessible to every student” (p. 3). Ford NGL encourages districts to adhere to these standards, including ensuring that academies reflect the demographic makeup of their communities and that lotteries or other equitable methods are used to assign students to academies.

In practice, however, Ford NGL district administrators often struggle to make academies equally accessible to all students and to attain academy enrollments that reflect the demographics of their districts. There are at least two major challenges to achieving fully equitable access:

- Effectively reaching and engaging families, particularly across demographic groups
- Avoiding overrepresentation and underrepresentation of different demographic groups in programs

Intertwined with these broader challenges are three related ones: (1) providing transportation for students interested in attending academies out of their “zone,” (2) selecting students for academies when the demand is greater than the places available, and (3) increasing the participation of young women, youth from families with low socioeconomic status (SES), and members of other underrepresented groups in career pathways/concentrations that will lead to highly paid careers.



Most Ford NGL district administrators, and leaders of other career academy initiatives nationwide, are working to deal with a complex mixture of these challenges.

Family Outreach and Engagement

Effectively communicating the benefits of career academies to a broad range of families is a challenge cited by several Ford NGL district administrators. In Polk County, Florida, as reported by Deputy Superintendent John Small (at a Ford NGL Leadership Council meeting in March 2016), this is a key challenge. Despite efforts to reach families—many of whom speak one of the more than 80 languages used in Polk County (School Board of Polk County, Florida, 2014, p. 13)—and to inform them about the options available to their children, Small and his colleagues are frustrated at their inability to recruit as diverse a student population as they believe could thrive in the academies. In a second Ford NGL community, Volusia County, Florida, Daniel Cox, Curriculum Specialist for Career and Technical Education, shares the frustration of not being able to effectively communicate the benefits of career academies to families across the district and across demographic groups.

Some Ford NGL district administrators cite a lingering stigma attached to CTE programs as a factor in the lagging enrollment of underserved students in academies. Historically, vocational programs were used to track minority and low-income students into non-college pathways (Oakes, 1985). The transformation of many CTE programs, particularly career academy and other career pathway programs, into gateways to both college and career success has not been effectively communicated to many parents, from all demographic groups, despite the demonstrated success of quality CTE programs in expanding opportunities for such students.

Given the influence of families on students' school choices, administrators in Ford NGL districts have tried a number of ways to better engage and inform families of underserved students. They typically offer an annual academy fair or expo to which middle school students and their families are invited to learn about the various career pathways offered by academies in the district. In Polk County, students from Title I schools are bused to the academy expo. Such fairs and expos can highlight the range of careers that academies focus on, making it clear that academies do not simply train students for very specific jobs. These events also call students' and their parents' attention to the highly skilled STEM career pathways, such as those in health sciences and engineering, which many academies offer. Use of such fairs as part of an intentional outreach strategy to middle school students is also characteristic of district-wide recruitment efforts in Linked Learning¹ and was found to be more effective than individual pathways' recruitment efforts (Warner et al., 2015).

However, while academy fairs and expos can be effective, they can also fall short in reaching all eligible students and their families. In Volusia County, Florida, for example, Daniel Cox reports that attendance at the academy expo is only about 30–40% of eighth-graders and their parents. In another recruitment strategy, implemented with the encouragement of Volusia Schools Superintendent James Russell, the district has tried to ensure that marketing materials for career academies are inclusive (for example, using graphics representing the diversity among

¹Linked Learning is an educational approach that combines rigorous academic education, CTE, work-based learning, and student support services. Many districts with Linked Learning pathways enroll students in career academies.



students attending academies). As the district considers shifting to an online application process, Cox says, it is also exercising caution, intending to keep the paper application option in recognition that not all families have online access. Most recently, in the 2016–2017 school year, according to Kelly Amy, Volusia County Schools' Coordinator of CTE, Volusia Superintendent Russell has created two new positions in the district whose role is community outreach: visiting churches and participating in parent nights and other events, with the goal of increasing enrollment of underrepresented groups in career academies and other CTE programs.

If it were feasible, Cox would like to see more opportunities for middle school students and their families to visit the high school academies, perhaps during a series of evening or weekend sessions where they could experience some of the hands-on activities that academy students do in their regular course of study. Students and their families would learn more than in the academy expo about the career pathway options available. Ideally, Cox says, representatives from local employers whose businesses are related to the career clusters would also speak with students about related opportunities for jobs in the community.

Another Ford NGL community, Rockford, Illinois, has had some success in incorporating activities and employer participation into its annual academy expo. Employers who apply to participate in the expo are strongly encouraged to offer students a hands-on experience related to an academy concentration and relevant to careers in the employer's business (Alignment Rockford, 2015).

In Ford NGL communities in South Texas, Ford NGL Leadership Council member Ernesto Villarreal, Executive Director of the College 1st Program,² reports that understanding the nuances of the culture and the experiences of immigrant families can help districts both recruit students and effectively educate them. For example, in Villarreal's region, where the student population is 97% Hispanic, it is critical that educators understand the differences in language and culture among different groups of immigrants. Students of less-educated parents who are the first in their families to learn English, and whose families may be disconnected from the schools, tend to be least likely to know about the educational and career opportunities available to them. Moreover, Villarreal notes that academies are relatively new to the Rio Grande Valley, where the early college high school has been the most widely implemented alternative high school model. The early college high schools in the region were initially open only to students who would be the first ones in their families to attend college. Now, however, two of the districts in the region that are participating in Ford NGL (Brownsville and Pharr San Juan Alamo) have opened the early college programs in all of their high schools to everyone—going wall to wall with the early college high school model, and are also integrating career academies into these schools. The combination of the two programs—early college and career academies—now provides a promising opportunity for all students in these districts.

The College 1st program also works with a broad range of students across the Rio Grande Valley, from elementary school through high school, to provide powerful academic enrichment activities combined with meaningful mentorship experiences aimed at ensuring students'

²College 1st, a long-time Ford NGL partner, works with school districts and community organizations in Texas's Rio Grande Valley to increase the number of students who are ready to enroll and succeed in postsecondary education.



success in high school, college, and careers. The program also connects with families to promote student enrollment in district career academies, early college high schools, and other CTE programs. Family sessions highlight the importance of postsecondary education, define what college readiness really means, and actively engage parents in the education of their children.

SERVING UNDOCUMENTED STUDENTS

At a Ford NGL Leadership Council meeting in March 2016, educators from communities in Illinois, Tennessee, Texas, and Wisconsin shared the challenges facing academy students who are undocumented immigrants, and sought advice and offered strategies for helping these students. A particular need is helping these young people gain access to postsecondary education. Ernesto Villarreal noted that undocumented students and their parents in South Texas communities often don't know what rights they have. In fact, by state law since 2001, undocumented students are eligible for in-state tuition at Texas state colleges and universities (Perez, 2010).

Further, it can be difficult to understand the various rules about eligibility (e.g., who can get a Social Security number). Aimee Wyatt, Executive Officer for High Schools, Metro Nashville Public Schools, pointed out that securing internships for undocumented students can also be difficult, and Judy Gustafson, College and Career Academy Coach at Jefferson High School in Rockford, noted that even visits to employer worksites can present problems. For example, students who are undocumented cannot visit a Department of Defense facility.

Janet Padilla, Chief Operating Officer of Ford NGL, joined others in the group in urging Ford NGL participants to become advocates for undocumented students, and she noted that there are a number of private scholarships that are available to undocumented college students. Several people mentioned organizations, both national and local, that support undocumented students, including Hispanic Chambers of Commerce and Hispanic Business Associations, which can be enlisted as allies. Wyatt pointed to a local organization, Conexion Americas, with which Nashville has formed an alliance. Villarreal also urged others not to assume that immigrant parents don't value education but to get to know them, hear their stories, and help them better understand the opportunities that academies can provide their children.

There is extensive research documenting the benefits of family involvement for students' academic achievement and postsecondary outcomes (summarized, for example, in Harvard Family Research Project, 2007). There is also extensive literature on effective practices for engaging families, including those from a range of ethnic and racial backgrounds, and guidance available for implementing these practices (e.g., Epstein, n.d.; Epstein & Salinas, 2004; National Education Association, 2008; National PTA & Harvard Family Research Project, 2009). The bottom line appears to be ensuring that schools and districts systemically embed family engagement into every aspect of their operations, ensure that communication is a two-way process, provide high-level district leadership, and offer professional development on effective strategies for school staff. For secondary students in particular, a key focus should be assisting families in supporting their children in having high expectations and becoming actively involved in the steps required to pursue postsecondary education and promising careers (Harvard Family Research Project, 2007; National PTA & Harvard Family Research Project, 2009).



A recent study looked at the influence of the social capital of different generations of Hispanic immigrant parents on their children’s likelihood of attending a four-year college; the researchers found that parents of first-generation youth are more likely to use resources accessed through informal relationships with other parents than via formal, public (including school-based) networking opportunities. Schools may be more likely to reach these families through community-based organizations than through school-based events (including academy fairs and expos), because of the parents’ work commitments, discomfort with school personnel, and language barriers (Ryan & Ream, 2016).

Given the effectiveness of Hispanic-serving institutions in engaging families in the college application process (Santiago, 2011), engaging and assisting families of middle school students in becoming aware of and applying to academies is also a promising approach. Polk County, Florida employs this strategy, offering assistance to English learner families of middle school students in filling out academy applications. Indeed, all the documented strategies for successful family engagement are relevant to career academies, as well as to the districts that host them.

Overrepresentation and Underrepresentation in Programs

Despite their aspiration to achieve enrollment of academy students that reflects the demographics of their districts, Ford NGL administrators report not always being successful in reaching that goal: some end up with underserved students overrepresented in academies in comparison to their representation in the district, while others find that those students are underrepresented.

At one end of the spectrum are some academies that have a larger proportion of underserved students. For example, Stern (2015) cites two studies by the College and Career Academy Support Network (CCASN) of California Partnership Academies (CPAs), which showed greater representation in career academies of students meeting criteria for being “at risk” (low income, low grades and tests scores, poor attendance). However, Stern attributes this finding to the law governing CPAs, which “requires that at least half the students entering an academy in grade 10 must meet specified ‘at risk’ criteria” (p. 16). Another CCASN study cited by Stern found that “academy 10th and 11th graders generally do come from families with lower income and lower parental education, compared with non-academy students in the same high schools” (p. 16).

In some Ford NGL communities outside of California, however, concerns about inequities in academy enrollment focus primarily on disproportionately higher numbers of high-achieving and high-SES students enrolled in academies. Not many studies of academy enrollment have been done, so it is difficult to assess to what extent this phenomenon is widespread. One study by Evan et al. (2013) in Florida found that, with the exception of desegregation magnets where minority students were more likely to attend career academies than other students, white students were more likely to be enrolled in academies. However, white students were also more likely to participate in academies focused on careers with shrinking job opportunities (e.g., agriculture and construction). In contrast, the researchers found that minority students:

... were more likely to be exposed to and prepared for career areas where jobs are likely to exist for pay that would support a family and potentially generate higher revenue for the state through income taxes and property taxes [e.g., health science and information technology]. Female students were being prepared for jobs at the



high and low end of the wage spectrum and were being exposed to career clusters that have the potential to offer an abundance of job opportunities. (p. 234)³

Challenges to achieving equity and diversity in student enrollment are not unique to career academies. These concerns have been widely noted among other schools of choice, including charters, magnets, and academically elite programs, which are frequently segregated by race and economic status (Frankenberg et al., 2010; Mathis & Welner, 2016). Current data on enrollment in all CTE programs, however, tend to show few distinctions in overall participation of different demographic groups. A recent report on overall CTE participation in Arkansas from the Thomas B. Fordham Institute found little evidence of tracking by race, income, gender, or disability status (Dougherty, 2016).

The Arkansas study, however, did find some disparities in CTE concentrators' choice of industry sector, with students eligible for free or reduced-price lunch tending to be underrepresented in education, STEM, and arts and communications. Even greater disparities appeared in the choice of industry sector concentrations by female and male students: Male students are more likely to concentrate in agriculture, architecture and construction, manufacturing, and transportation, whereas female students gravitate to education, health sciences, and consumer sciences (Dougherty, 2016).

Such gender differences in both CTE and career choices have persisted for many years. Despite federal laws dating to the 1970s (Title IX and Perkins legislation) intended to address gender inequities both in education overall and in CTE in particular, girls have continued to be enrolled in CTE programs identified as traditionally female (e.g., nursing assistants and cosmetologists); boys are overrepresented in programs traditionally identified as male (e.g., plumbers, electricians, automotive workers, and carpenters), which prepare them for higher-paying jobs (Lufkin & Wiberg, 2007).

Deruy (2016) reported in *The Atlantic* that a 2016 study of CTE programs in Texas, Colorado, and Nevada by researchers at the University of Texas at Austin found that female students in high schools in blue-collar communities tend to enroll in CTE courses leading to low-paying jobs, particularly in cosmetology and child care. In contrast, male students take courses that lead to higher-paying jobs in industries such as construction and oil. Moreover, because students in these communities, both male and female, do not take advanced math and other academic courses that would prepare them for postsecondary education, they are at an even greater disadvantage. Even in Linked Learning districts in California, which provide pathways to postsecondary education as well as careers, gender disparities in industry sector concentrations are apparent (Warner et al., 2015). A June 2016 Dear Colleague letter from U.S. Secretary of Education John B. King Jr., reminding districts and schools of their obligations under Title IX and Perkins that "all students, regardless of their sex or gender, must have equal access to the full range of CTE programs offered" (p. 2), signals clearly that gender equity remains a challenge.

³Because Ford NGL communities are committed to continually reevaluating the career pathways they offer to ensure that they lead to jobs with good economic prospects in their region, such inequities may be less likely in these communities.



The more successful that programs of choice (such as career academies) are, the harder it can be to enroll a cross-section of the district's students. In Volusia County, CTE Curriculum Specialist Daniel Cox noted how few of the high school's many African American students were participating in the school's academies. He began a series of studies looking at the demographics of career academy participation in the district and the experience of different groups of students in career academies. One of these studies (Fletcher & Cox, 2012) reported that with the increased success of career academies in Volusia County, the trend is toward greater white, Asian, and affluent student enrollment and less African American, Hispanic, and low-income student enrollment in academies:

Despite the historical mission of career academies to expand opportunities and engagement of minority students, . . . more recent curricular changes in the career academy model have increased the rigor of these types of programs. These new initiatives have . . . resulted in a demographic shift with more White and Asian students participating in career academies while African American and Hispanic enrollment is . . . decreasing. (p. 4)

In a more recent study that looked at all career academies in Volusia County, Cox et al. (2015) found that white students were more likely to participate in academies compared to Asian and Hispanic students, and that higher-SES students were more likely to participate in career academies than lower-income students (p. 24).

Districts like Volusia, where demand for a limited number of academies is high, sometimes institute entrance requirements such as prior grade point average and lack of disciplinary actions, which further limit access and may discourage applications from underserved students. In the 2010–2011 school year, Volusia academies had 6–8% fewer African American, Hispanic/Latino, and special education students than were enrolled in the district overall (Goldsmith, Bamat, & Riordan, 2017). Collecting and analyzing data, as Cox has done for Volusia County, can in itself be a valuable strategy, helping both to identify the nature of inequities and to guide districts in designing strategies to remedy them. In introducing policies such as entrance requirements for career academies, districts may inadvertently create or exacerbate inequities; considering the implications for equity as part of the review of new policies can help to avoid such unintended consequences.

Equitable recruitment of students is an issue also faced by Linked Learning pathways, which typically include academies. A Linked Learning evaluation conducted by SRI International (Warner et al., 2015) identified a tension between the goals of inclusiveness and choice in pathway recruitment: “The challenge in realizing equitable representation in a choice-based system stems from the myriad of factors that determine students’ enrollment choices, many of which reinforce stratification by race, class, and achievement level” (p. 41). The evaluators found gender, class, and prior achievement disparities in pathway choices related to perceptions of industry sectors. They concluded that consistent district-wide recruitment practices specifically focused on equitable access can help achieve greater equity in pathway enrollment, but caution that individual preferences—which are shaped by a variety of personal and societal influences—still play a significant role in students’ choices.



The SRI findings reflect the experience of Palm Springs Unified School District (one of three districts in the Coachella Valley, California, Ford NGL community). Steven Pinning, the district's Director of Linked Learning and CTE, reports that with pathways that are not CPAs, which (as noted above) require enrollment of at least 50% "at risk" students, the district must "tread carefully on the line between recruitment and tracking." In addition, transportation can be a challenge. Pinning notes:

Palm Springs is an open enrollment district allowing students to attend any academy . . . in which they have an interest. While sounding good in theory, in practice transportation is a barrier we have to wrestle with. We have not found a good solution as yet. We do not exclude anyone from participating in our academies or pathways, and are working to ensure students are counseled well as they make decisions about career and education paths.

Polk County, Florida—which, like a number of other Florida districts, is geographically large (over 1,850 square miles—larger than the state of Rhode Island), with a combination of urban and rural populations—also struggles with the transportation issue. The district is not able to provide transportation for students who choose to attend academies located in schools outside their regular zone. Kelly Amy, Coordinator of CTE in Volusia County, another large Florida district, reports that as part of the district's efforts to increase access to academies, administrators are taking another look at how transportation is handled, seeking ways to provide more out-of-zone transportation options within budget constraints. In Nashville, the school district has addressed the transportation challenge by developing a partnership with the Metropolitan Transportation Authority to provide all high school students with free bus passes. Such a program, of course, is not an option in districts with no municipal transportation system.

Another strategy that some Ford NGL districts are trying in order to assure greater equity in academy access and diversity in academy enrollment is introducing "wall to wall" career academies in high schools. When a zoned high school is wall to wall, every student in that zone attends an academy. Nashville has taken this approach even further, organizing all of its comprehensive high schools into academies; in the process, Nashville has improved graduation rates and other outcomes for its diverse student population (Ford NGL, 2015). According to Coachella Valley Unified School District (CVUSD) CTE Coordinator Marie Perotti, their wall-to-wall academy initiative is ensuring that all students will eventually attend career academies. However, also in line with the SRI evaluation, Perotti notes:

Student selection into a career academy of their choice is based upon many factors, including student interest, skill set, self-assessment, desire, counseling, and parent guidance. CVUSD is also working toward ensuring there are postsecondary options for each career academy and that academy career courses meet A–G university requirements.⁴

⁴California high school courses that meet A–G requirements allow eligible students to attend University of California campuses.



Several other Ford NGL communities, from Clay County, Florida, to Rockford, Illinois, are also implementing the wall-to-wall strategy across their districts.

But even within districts where academies remain only one of various options, including both Polk and Volusia Counties, turning individual high schools into wall-to-wall academies seems to show some promise for addressing concerns about equitable access and diversity of enrollment. For example, Jacqueline Bowen, former Associate Superintendent and Chief Academic Officer of Polk County Schools, points to a high school in Polk County that has combined wall-to-wall academies with an accelerated program open to all students in the school. This approach appears to be successful so far in retaining more high-achieving, high-SES students while also providing both career academy and accelerated options to all students enrolled in the school.

Several other strategies that may be effective in achieving greater equity in enrollment include one that the Linked Learning pathways evaluation suggests: Locating pathways in lower-performing schools with large populations of students with special needs, English learners, and previously low-achieving students helped Pasadena and Sacramento align pathway enrollments more closely with district demographics (Warner et al., 2015). The literature on gender equity (Association for Career and Technical Education et al., 2009; Lufkin & Wiberg, 2007) also suggests the value of providing younger students (even as early as the elementary grades, but certainly by middle school) with opportunities to explore a wide range of careers and learn how their interests can align with a career. Targeting middle school students, including by establishing middle school academies, is a strategy that some Ford NGL districts are adopting.

Nashville, with National Science Foundation support, also created an informal education program (Art2STEM) that is designed to build on seventh and eighth grade girls' interest in the arts and other more traditional careers to develop their awareness of how STEM careers connect with those interests (Alignment Nashville, 2011). Providing mentors and non-traditional role models—including family members of students from underrepresented groups—can also be effective in encouraging these students to consider a wide range of career pathways.

Equitable School Culture in Academies

Ford NGL district administrators realize that improving underserved students' access to career academies is only a first step. Although the broader literature on equity and diversity points to the value of having greater racial, ethnic, and economic diversity in schools (Kurlaender, 2006; Pettigrew & Tropp, 2006, 2008), student diversity alone is not sufficient. Districts and schools also need to make a concerted and comprehensive effort to provide a welcoming, supportive academy environment in which all enrolled students have positive experiences that motivate them and enable them to succeed and proceed along pathways to reach their career goals.

Several features of academies have the potential to contribute to improving the likelihood that all students enrolled do indeed succeed. MDRC's original studies that established the value of career academies identified key features that contribute to academies' effectiveness, including teachers working on teams and forging strong relationships with students and one another, integrating curriculum around central career themes, and providing work-based learning experiences through partnerships with employers (Kemple, 1997, 2004; Kemple & Snipes, 2000; Kemple & Wilner, 2008). According to Stern (2015), the combination of academic rigor and career relevance that is the hallmark of quality career academies can, "by making the high school



experience more coherent and meaningful, . . . strengthen student motivation and increase achievement” (p. 14). Stern adds that cohort scheduling and common planning time for teachers—features of academies that meet the National Standards of Practice—make it possible for academies to offer “cross-disciplinary projects, lessons, and assignments that integrate academic and technical content, making the academic subjects more interesting for students and creating coherence in the curriculum” (p. 14).

According to a California case study of academies within a high school (Conchas, 2002), the sense of community that is characteristic of an academy operating as a small “school within a school” can strengthen relationships between students and teachers, and can contribute to students’ greater optimism and “sense of themselves as people with high potential” (p. 303). Stern (2015) likewise affirms that participants in career academies report that they benefit from “their sense of community, more opportunities to learn through hands-on career-related training, and the ability to explore their interests in their desired areas” (p. 16).

In their study of 15 African American students in a Florida high school—9 enrolled in an academy and 6 not—Fletcher and Cox (2012) found that two-thirds of the academy students identified the sense of community as particularly important and valuable and reported that having the opportunity to “explore and clarify” their career interests was especially motivating (p. 14). In addition, academy students’ exposure to different careers through various types of work-based learning (e.g., classroom visits by employers, job shadowing, internships) contributes to raising their aspirations for professional careers. Academy students’ experience of a sequence of such work-based learning, from career awareness to career exploration and actual work experience, reinforces for students the importance of their coursework (Darche et al., 2009; Linked Learning, 2012; National Academy Foundation, n.d.).

Conchas (2002) found that these common structural characteristics of academies benefited students and teachers of all races and economic backgrounds in two California career academies, a Medical Academy and a Graphics Academy. However, this case study—which closely examined the experiences of both academies’ students and teachers, as well as the experience of students and teachers in the larger high school in which the two academies were embedded—also found variations in the academies’ student populations and school cultures that produced significant differences in students’ educational experiences. A key difference between the two academies was their racial and socioeconomic composition, which resulted from the strategies academy leaders used to recruit and retain students:

- The Medical Academy made intensive efforts to recruit racially diverse, inner-city students who also were diverse in terms of prior academic achievement. Medical Academy faculty made a “special effort to attract disenchanted students,” students who were “high-potential” versus “high-achieving” (Conchas, 2002, p. 299). Faculty made home visits and participated in faith-based activities in order to meet and speak with parents. They also employed current and former Medical Academy students as “ambassadors” for the program. Students who applied to the academy, along with their family members, were invited to visit academy classes (p. 299).
- The Graphics Academy focused its recruiting efforts on students who had done well in middle school mathematics; the resulting student population was largely high-achieving



and included a majority of white and Asian students (p. 298). The demographic profile of Graphics Academy students was far less reflective than the Medical Academy of the demographic profile of the high school as a whole.

- The faculty of the Medical Academy worked hard to create a sense of community and collaborated closely to integrate academic and career-focused courses. Teachers “met regularly to integrate curriculum around health and bioscience themes to develop a series of integrated Medical Academy student projects and learning experiences” (p. 300). Teachers also met regularly to review students’ progress. Graphics Academy faculty, in contrast, did not try to integrate graphics content or themes into academic courses.
- The Medical Academy staff strove to create a more cohesive community and to promote “cohesion and tolerance across racial lines” (p. 307). The Medical Academy’s efforts to structure “a positive learning environment that began to bind students and teachers together across race, gender, and class lines” helped to promote “a greater sense of social belonging and academic success” (pp. 307–308).
- Graphics Academy students exhibited less cohesion across racial lines—which Conchas attributes both to the academy’s lack of diversity and to the persistence of general high school practices, such as tracking (p. 307). Both students and teachers in the high school at large also complained about perceived white and Asian privilege and racial and ethnic hostility (p. 307).

The similarities and differences in the culture and structure of the two academies described by Conchas reinforce the perceptions of Ford NGL district administrators: Career academies have great potential to motivate underserved students and put them on a path to academic and career success. At the same time, Conchas’s findings suggest that the ways academies are structured, and the cultures they create, can enhance or diminish the impact of academies on students. The Medical Academy described in the case study was able to achieve maximum benefit from its diverse student population because of the concerted, intentional efforts of faculty to create a structure and culture that “accepted and tailored their curriculum and pedagogy to reflect the diverse needs of the students. . . . Previously at-risk students were immersed in an academic culture that provided them with the tools necessary for social mobility” (Conchas, 2002, p. 308).

The case study does not discuss how Medical Academy teachers developed the skills needed to integrate their curriculum and effectively individualize instruction to address the range of students’ knowledge and skills. However, the literature on both transforming pedagogy and building cultural proficiency points to the need for intensive, ongoing teacher professional development, including fostering the kind of professional learning community that the Medical Academy developed (Banks et al., 2005; Hord, 2009; McLaughlin & Talbert, 2006; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Snow-Renner & Lauer, 2005; University of Florida, n.d.). Teachers and school staff need to be willing to examine their own experiences and biases and learn how to engage students in ways that honor their cultural and linguistic diversity (University of Florida, n.d., p. 1). In Palm Springs, California, Linked Learning and CTE Director Steven Pinning reports that the district has been offering the California Teachers Association’s Unconscious Bias training—which helps teachers uncover their own biases and develop the skills to create a more inclusive classroom environment—to teachers for the past two years.



Also worth considering are efforts to recruit a more diverse teaching staff—a challenge faced by school districts nationwide. The positive impact on students of employing teachers and other school staff, including administrators, who look like and have racial, ethnic, and cultural backgrounds to those of their students, has been well documented (see a summary of relevant research in a report from the Albert Shanker Institute, 2015). A recent study of six school districts found that students whose teachers have similar demographic characteristics (both gender and race and ethnicity) have a deeper cultural understanding of their students, which leads to students having greater motivation and putting in more effort to succeed; the racial effect was particularly strong for high school students (Egalite & Kisida, 2017). Another recent study showed that black male students who had a teacher of the same race in third, fourth, or fifth grades increased their likelihood of staying in high school and aspiring to attend a four-year college (Gershenson, Hart, Lindsay, & Papageorge, 2017). Such findings support both greater efforts to diversify the teacher workforce (see “Developing a More Diverse Educator Workforce”) and efforts to enable all teachers to engage with students in more culturally responsive ways.

DEVELOPING A MORE DIVERSE EDUCATOR WORKFORCE

One Ford NGL community—Rockford, Illinois—has identified a significant equity challenge and devised a creative strategy to address it. Superintendent Ehren Jarrett was concerned about the disparity between the racial and ethnic profile of students in the district and that of teachers. (Rockford public school students are 30% African American and 26% Hispanic; 83% of Illinois public school teachers are white.⁵) In response, Jarrett has started an education career pathway, beginning in Rockford middle schools, to engage students in careers as educators. To increase the chance that students in the pathway will both succeed in entering the profession and remain in the community, Jarrett has forged a partnership with a local postsecondary institution, Rockford University, which will allow graduates from the education pathway program to pay significantly reduced college tuition. Following their graduation, qualified teachers who are hired by the district will be eligible to enroll in a Master’s in Teaching program at the same university, with tuition funded by the district. Jarrett notes that if this program succeeds, the district will, in the long run, not only diversify its teaching force but also save money. Currently, administrators spend significant amounts on recruiting teachers and tend to hire mid-career teachers who command higher salaries than recent graduates.

PROMISING STRATEGIES FOR INCREASING EQUITY IN CAREER ACADEMIES

Of course, the evidence of one case study, however compelling, does not offer a recipe for success in creating an inclusive and student-centered career academy culture. As Conchas (2002) cautions, replicating the success of a school characterized by a particular “teacher ethos and sense of community” cannot be guaranteed (p. 310).

⁵District demographic data are from the state of Illinois (<https://k12.niche.com/d/rockford-school-district-no-205-il/>); teacher data are from the National Center for Education Statistics (https://nces.ed.gov/surveys/sass/tables/sass1112_2013314_t1s_001.asp).



Yet, the lessons of this California school, along with the insights of the Ford NGL community members consulted and the broader literature discussed above, do point to a set of promising strategies for academies to consider. These strategies may help academies reach their goals of achieving greater diversity and equity, as well as help academy leaders create learning environments that have even more positive impacts on all students' readiness for college, careers, and life.

1. When recruiting students for career academies, use a variety of methods for reaching out to potential students and their families, taking into account their cultural and linguistic characteristics.
2. Engage with families by reaching out to them, rather than expecting them to come to the schools. Meet them in places where they feel comfortable and are already engaged in other activities, and connect with them through other families who are part of their social networks.
3. Make deliberate efforts to assure that academy students reflect the demographic profile of the school district, understanding that this approach requires balancing equity with opportunities for students to choose their academy.
4. Avoid imposing entrance requirements (e.g., prior academic achievement), and use a lottery if there are more applicants than places available.
5. Maintain a commitment to implementing the features of quality career academies that contribute to supporting better outcomes, including:
 - Taking advantage of the academy's small learning community environment to create strong connections between faculty and students and among students of different backgrounds
 - Integrating academic and career curricula and instruction
 - Providing students with a wide variety of work-based learning opportunities (in and out of the classroom) that include interaction with employer representatives
6. Beginning in middle school, encourage both female and male students to explore and consider specializing in career fields that may not be traditional for their genders, especially those leading to high-wage jobs.
7. Provide teachers and other school and district staff with ongoing professional development that builds their cultural proficiency, including their capacity to interact with sensitivity with students from a wide variety of backgrounds. Reinforce the infusion of high expectations for all students into the educational experience, and provide the supports needed for students to realize those expectations.
8. Track progress in achieving the National Standards of Practice for career academies, including attending to recruitment, retention, and postsecondary outcomes of students of different demographic profiles, and use methods such as surveys and focus groups to regularly assess students' and their families' experiences in academies and to engage students and their families in addressing equity concerns.



9. Work to recruit and retain staff who are racially and ethnically similar to the student population. Collaborate with teacher preparation programs and be creative in devising strategies for diversifying the educator workforce.
10. Collect relevant data on the success of career academy students by demographic group. Draw upon this data to continually assess and redesign district and school policies and practices to achieve equitable educational outcomes for all students.

With increasing interest in preparing all students not only for success in postsecondary education but also in careers (Harvard Graduate School of Education, 2011), CTE and its various models, including the career academies discussed in this paper, have been receiving renewed attention. It is heartening to know, and should be a point of pride for Ford NGL communities and their career academies, that the inherent features of quality career academies can provide a very strong platform to launch intensive efforts to remove barriers to promising career pathways for underserved students. As the wider world of college and career pathways (and public education in general) continue to seek more effective ways to achieve the goals of educational equity and justice, Ford NGL academy staff and students have a head start. Cultivating empathy, creative problem-solving, taking risks, self-reflection in the service of continuous improvement, and tackling challenges head-on are all values of Ford NGL and can help the Ford NGL network be a leader in countering biases and addressing inequities.



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