

ACPS Career Learning Communities: Research Support

Career learning communities and pathways make learning come alive by allowing students to connect their interests and passions to rigorous academic content. Specialization acts as a conduit to relevant and engaging learning by allowing students to dive into a passion or uncover a new one.

What We Know

Three bodies of research inform ACPS' creation of specialized learning environments (e.g., academies, centers, career pathways): 1) equity of access to opportunity, 2) student motivation to learn and persist, and 3) readiness for post-secondary experience.

Equity of Access to Opportunity

Students are often limited by their zip code: Research shows that educational opportunities and resources are not distributed equitably, and traditional attendance zones remain the primary determinants of educational opportunity for most children (Richards 2017). Career academies offer an opportunity to break the traditional community school model that contributes to inequitable distribution of opportunities.

To guarantee that opportunities are, in fact, equally distributed, the National Standards of Practice for Career Academies states 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, further, that “entry into the academy is voluntary and accessible to every student” (p. 3).

Still, tension exists between the goals of inclusiveness and choice: “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” (Warner et al, 2015, p. 41). There are two primary challenges to achieving fully equitable access: 1) effectively reaching and engaging families, particularly across demographic groups 2) avoiding overrepresentation and underrepresentation of different demographic groups in programs. These challenges are connected to three barriers to achieving equitable access to career academies.

- 1) Transportation for students interested in attending academies out of their “zone,”
- 2) Competitive selection processes when the demand for the academy is greater than the supply
- 3) Social barriers that keep students from traditionally underserved communities from participating in career academies. (Kantrov, 2017)

ACPS students of color and those living in poverty are underrepresented in nearly every program for enrichment and acceleration including career academies. This disparity acts as a segregating force that divides children by race, ethnicity, and socioeconomic status. While transportation remains a barrier, it is not the most salient one when it comes to diversifying the academies. This is borne out by the fact that MESA (i.e. the Math Engineering Science Academy) has the lowest percentage of black students despite the fact that the academy is housed at Albemarle High School, which has the greatest percentage of black students (ACPS Equity Report, 2018). Additionally, as we move away from competitive application processes to our academies, we must look to our outreach and engagement of families from traditionally underserved communities in order to tackle the challenge of equity and access to our career academies.

Student Motivation to Learn and Persist

Traditional ways in which school is delivered do not motivate all students. In fact, research tells us that “many students experience a decline in motivation from the primary grades through high school” (National Academies of Sciences, Engineering, and Medicine, 2018, p. 131). The preeminent committee on learning, *How People Learn II: The Science and Practice of Learning* (National Academies of Sciences, Engineering, and Medicine, 2018), devotes an entire chapter to “Motivation to Learn.” Although factors contributing to students’ motivation to learn are complex and varied, their research across numerous fields of study suggests that motivation to learn is influenced by 1) “the multiple goals that individuals construct for themselves” as a result of their life and school experiences and 2) the sociocultural contexts in which learning takes place (p. 133).

While more research is needed on how the structure of formal schooling can influence motivational processes, general guidelines can be extrapolated from what *is* known. For example, educators can attend to students’ engagement, persistence and performance by:

- *Creating learning experiences students value.* Research suggests that “task valuation seems to be the strongest predictor of behaviors associated with motivation ... For example, a less-than-skilled reader may nevertheless approach a difficult reading task with strong motivation to persist in the task if it is interesting, useful, or important to the reader’s identity” (National Academies of Sciences, Engineering, and Medicine, 2018, p. 114). Researchers (Linnenbrink-Garcia et al., 2008) have also found that valuation is a strong predictor of behaviors associated with motivation, such as choosing topics and making decisions about participation in training.
- *Supporting students’ sense of control and autonomy.* Environments that promote students’ sense of agency and purpose foster motivation. “When learners believe they have control over their learning environment, they are more likely to take on challenges and persist with difficult tasks compared with those who perceive that they have little control” (National Academies of Sciences, Engineering, and Medicine, 2018, p. 117).

Furthermore, when students have an initial high interest in a domain, providing choice has also been shown to generate increased interest (Patall, 2013).

- *Creating an emotionally supportive and nonthreatening learning environment where learners feel safe and valued.* Learners of all ages are motivated when they perceive the school or learning environment is a place where they belong: “Individuals tend to engage in activities that connect them to their social identities because doing so can support their sense of belonging and esteem and help them integrate into a social group” (National Academies of Sciences, Engineering, and Medicine, 2018, p. 127).

ACPS student engagement likely mirrors the national data that student’s engagement and motivation decreases as they move through school. Promisingly, ACPS is rich with teachers with unique and varied specializations, and these learning environments will allow students to come together across schools to access that expertise.

Post-Secondary Readiness

A current problem of practice regarding student success is students’ lack of readiness for a post-secondary experience. According to the Center on Education and the Workforce at Georgetown University (2013) and the Southern Regional Education Board (2016), nearly two-thirds of future jobs in the U.S. economy will require at least some post-secondary education such as vocational training, an industry credential, an occupational certificate, or an associate, bachelors or advanced degree. The Pathways to Prosperity Project from the Harvard Graduate School of Education (2011) reports U.S. employers have shared that students “are not equipped with the skills they need to succeed in the 21st century workforce” (p.4). Bromberg and Theokas (2016) confirm fewer than one in ten high school students graduate with both a college and career ready foundation.

Research shows an academy model can support post-secondary readiness by:

- *Providing early and ongoing opportunities to identify talents and strengths, explore pathways and co-construct personalized learning plans.* Facilitating experiences to assess personal strengths and interests through high-quality academic and career exploration experiences is critical for students to make informed educational decisions. Stipanovic, Stringfield, and Witherell (2017) found that pathway exploration and support combined with an academy model motivates students to take more rigorous courses leading to post-secondary readiness. In addition, co-constructing a personalized, adaptable academic and pathway learning plan gives students a clear road map to successfully navigate post-secondary transitions (Xing, Huerta, & Garza, 2019).
- *Developing pathway course sequences aligned to post-secondary programs which integrate rigorous and relevant learning.* Students who take an in-depth sequence of courses (Kreisman & Stange, 2017) see education and career oriented benefits.

Gottfried and Plasman (2017) note these benefits “appear to be particularly notable for historically disadvantaged groups, namely low-income students and students with disabilities.” In 2007, a research group from the National Academy Foundation’s Career Academies found that seniors participating in a career academy reported completing more college-level courses while in high school than did students not in academies. Studies of Career Technical Education (CTE) participation have found that students who take at least three CTE courses participate in more rigorous coursework (Aliaga, Kotamraju, & Stone, 2012), take more math and science courses at higher levels (Stone & Aliaga, 2003), are more likely to aspire to and earn bachelor’s degrees (Levesque et al., 2008), and are less likely to drop out of high school (Gray, 2004).

ACPS College Enrollment and Completion data from The National Student Clearinghouse show a college persistence rate of 60-65% for ACPS high school graduates. Approximately 50% of ACPS graduates complete a college degree within four years. Academies emphasize knowledge, skills, and dispositions desired by colleges and employers. ACPS have the resources and expertise to meet the readiness demands of both the college and workforce. Academies add relevance to the high school experience as students are allowed to learn in small cohorts alongside others with shared interests. ACPS teachers can leverage student interest and relevant learning experiences to support student success in rigorous coursework.

What We Recommend

It is crucial that we ground the ACPS academies model in the aforementioned research, both to capitalize on the elements for success and mitigate against the potential pitfalls and challenges. Based on that research the redesign and implementation of ACPS specialized learning environments should be guided by the following:

1. Because a career pathways model on its own does not mitigate persistent opportunity gaps for students, and in order for the academies model to equitably “reach” all students, ACPS must remove systematic barriers to access to Academies and Centers by:
 - Designing varied and equitable middle school experiences
 - Providing flexible transportation for all students
 - Ensuring that course sequencing and structure do not not impact pathway readiness (i.e. A math course taken in 8th grade or decisions made at the end of 5th grade should not limit opportunities.)
 - Engaging in robust recruitment and outreach to a diverse student population
2. Because learners are motivated by the goals they construct for themselves and flourish in environments that not only support agency but equally provide a sense of belonging, the division should consider:
 - Designing curriculum driven by student-constructed goals

- Working to create a sense of belonging and community within the academies and centers
 - Rotating teachers through the academy assignments to encourage innovative practices that cycle back to the home schools
3. Because all students need opportunities early and often to identify talents and strengths to prepare them for future ready post-secondary experiences, the division should consider:
- Embedding experiences for all students to 1) identify strengths and explore pathways and 2) develop customized, dynamic roadmaps to reach post-secondary goals within existing structures (e.g., the middle school advisory and high school seminar programs).
 - Aligning course sequences in clear pathways to post-secondary programs that provide students clear paths for in-depth learning

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