



Multiple Pathways

DROPOUT PREVENTION FRAMEWORK RESEARCH SYNTHESIS

Pathways are structured academic opportunities that increase the relevance and alignment of learning opportunities to student interests and postsecondary skills and goals by providing targeted and personalized instructional and learning programs. Developing multiple pathways requires programs, schools, or systems that are tailored to student need and interest, postsecondary opportunity, and community need. Pathways are intended to increase opportunities for success by providing students with options and agency in their own learning through rigorous, relevant, and supportive approaches to learning.

Pathways build personalized experiences and make real-life connections between school and career options. Sometimes a pathway is a sequence of courses, sometimes it is applied learning opportunities within the same course, and sometimes it connects students with real-life or skills-based learning outside the classroom. Regardless of structure, all pathways should provide rigorous instruction and include core principles of student success, such as positive relationships with caring adults, quality instruction, targeted to student need, opportunities to engage in learning experiences that connect life beyond school, as well as support and resources to help students explore postsecondary options.

Pathway programs in Colorado include: [Career and Technical Education](#) (courses and certifications), [Work-based Learning](#) (job opportunities), [Innovative Learning Opportunities](#), [Concurrent Enrollment](#), [Early College High School](#), [Colorado P-TECH](#), [Online and Blended Learning](#), and [Alternative Education](#) programs or schools.

The use of multiple pathways supports dropout prevention and student engagement efforts in a number of ways:

- Programs and curricula targeted at increasing the relevance of school can help prevent disengagement and reconnect students with relevant content (Rose & Bowen, 2021).
- Pathways that are connected to postsecondary career and education opportunities engage students in learning and provide a clear path after graduation (Dougherty, 2021; Heinrich, 2021; NCES, 2013; U.S. Department of Education, 2019).
- Multiple pathways can be leveraged as a schoolwide approach as well as serve as an intervention for individual students (Gottfried & Plasman, 2018; Phelps & Chan, 2016; Stipanovic et al., 2017).
- For students who are behind, pathways can provide a clear direction and needed scaffolds for high school and secondary success (Frost, 2016; Rix, 2022).

Colorado Dropout Prevention Framework

The Colorado Dropout Prevention Framework was updated in 2023 to include five foundational practices and four strategies that support school and district efforts to decrease dropout rates and increase student engagement in learning, credit attainment, postsecondary preparation, and graduation rates.

Foundational Practices

- Connected Relationships and Culture
- Strong Family and Community Relationships
- Relevant and Engaging Learning Opportunities
- Data-Based Decision Making
- Aligned Policies and Practices to Build Coherence

Strategies

- On-Track/Early Warning Systems
- Multiple Pathways to Graduation
- Counseling the Whole Child
- Persistence, Recovery, and Reengagement

To learn more about the resources available to support dropout prevention efforts, visit the [Office of Dropout Prevention and Student Re-Engagement](#).



Research Overview

The number of pathways to help high schools address student dropout issues and support secondary and postsecondary transitions has grown over the years. According to a recent study by Sattem and Hyslop (2021), “twenty-nine states offer multiple pathways to a high school diploma, providing students with options regarding the high school experiences they will have and, often, the postsecondary experiences for which they will be prepared” (p.1). Multiple pathways can vary by state, district, and school but most pathways have been implemented using alternative educational programs or proficiency-based diploma programs within high schools. According to Waite and Pangelinan (2023), Holyoke Potomac Public Schools in Massachusetts cut their dropout rate by 10% through the use of Opportunity Academy, an alternative educational program. In an earlier study, Silvernail et al. (2013) focused on the implementation of a proficiency-based diploma program in Maine, which showed increased student engagement related to the proficiency-based diploma system.

One common pathway option is Career and Technical Education (CTE) as a strategy to increase high school graduation rates and reduce school dropout rates. The New Skills ready network, launched by JPMorgan Chase & Co., is a tool used to advance CTE practices across six states (Advance CTE, 2021). This network “partner[s] with local school systems, higher education, employers, and government entities to develop pathways and policy recommendations [to provide] underserved students with access to higher education and real-world work experiences that lead to high-wage, in-demand jobs.” (Advance CTE, 2021, p.1) CTE generally, and New Skills ready, are strategies and pathways that “provide significant learning and professional development opportunities for students at both high school and college levels” (Dobbs-Oates, 2019, p. 62).

Other studies have found work-based learning programs help high-school students with their transition to careers in postsecondary education. Goodman et al. (2021) propose the school-to-career model to create broad-based pathways to careers that emphasize “(1) the importance of work-based learning that connects students to employers; (2) curricula that emphasize soft skills and social capital to prepare young adults for their first jobs; (3) the need for supportive or wraparound services to help students get across the finish line; and (4) high schools that help students toward graduation while also earning credits toward postsecondary education” (p.2). they further argue, programs that offer work-based learning prepare students through practical work experience, fostering soft skills and social capital, providing students with useful credentials and diplomas, and connecting them to potential employers (Goodman et al., 2021).

Work-based learning experiences provide students with a “continuum of learning and skill development experiences, from career exposure and career engagement to career experience” (Altstadt et al., 2020) and has been shown to have positive effects on retention and graduation rates as well as career development and motivation (Dobbs-Oates, 2019). The importance of work-based learning can be seen through a recent study by the Vermont Division of Vocational Rehabilitation Center (DVR), which received a 5-year grant from the Rehabilitation Services Administration to demonstrate evidence-based practices for providing Vermont high school students with work-based learning experiences in integrated settings. The DVR's Linking Learning to Careers program provides enhanced work-based learning experiences to help high school students with disabilities as they make the transition to careers or postsecondary education (Wissel, 2019).

Multiple pathways can also support individual students in their postsecondary transition. Athamanah and Cushing (2019) suggested using peer-mediated intervention (PMI) in work-based learning settings to improve the academic and social skills of students with autism spectrum disorder (ASD). Students with ASD can struggle to develop the skills needed to find and keep a job after graduating from high school. The findings from this study indicate that PMI increased independent vocational tasks, improved social interactions, and improved the quality of social interactions for the three students with ASD (Athamanah & Cushing, 2019).

References

- Advance CTE. (2021). *New Skills ready network 2020–21 snapshot: Columbus, Ohio*. Advance CTE. <https://careertech.org/resource/new-skills-ready-network-snapshot-columbus-2020-2021>
- Altstadt, D., Barrett, L., Cahill, C., Cuevas, E., & Maag, T. (2020). *Expanding high-quality work-based learning* [Policy brief]. Education Commission of the States.
- Athamanah, L. S., & Cushing, L. S. (2019). Implementing a peer-mediated intervention in a work-based learning setting for students with autism spectrum disorder. *Education and Training in Autism and Developmental Disabilities, 54*(2), 196–210.
- Dobbs-Oates, J. (2019). Internships and work-based learning: Strategies for enhancing key relationships. *Journal of Family & Consumer Sciences, 111*(4), 62–65. <https://doi.org/10.14307/JFCS111.4.62>
- Dougherty, S. M. (2021). The effect of career and technical education on human capital accumulation: Causal evidence from Massachusetts. *Education Finance and Policy, 13*(2), 119–148.
- Frost, D. (2016, April 26). *Increase opportunity for student success through multiple pathways to graduation*. Aurora Institute. <https://aurora-institute.org/blog/increase-opportunity-for-student-success-through-multiple-pathways-to-graduation/>
- Goodman, V., Pankovits, T., & Murphy, T. (2021). *Preventing failure to launch: Creating more school-to-work pathways for young adults*. Progressive Policy Institute.
- Gottfried, M. A., & Plasman, J. S. (2018). Linking the timing of career and technical education coursetaking with high school dropout and college-going behavior. *American Educational Research Journal, 55*(2), 325–361.
- Heinrich, C. J. (2021). Does online course-taking increase high school completion and open pathways to postsecondary education opportunities? *Education Evaluation & Policy Analysis, 43*(3), 367–390.
- National Center for Education Statistics. (2013). *Findings: Secondary/High School*. Career and Technical Education Statistics. https://nces.ed.gov/surveys/ctes/tables/index.asp?LEVEL=SECONDARY_FIGURES
- Phelps, L. A., & Chan, H. (2016). Optimizing technical education pathways: Does dual-credit course completion predict students' college and labor market success? *Journal of Career and Technical Education, 31*(1), 61–84.
- Rix, K. (2022, December 27). *The benefits of career and technical education programs for high schoolers*. U.S. News & World Report. <https://www.usnews.com/education/k12/articles/the-benefits-of-career-and-technical-education-programs-for-high-schoolers>
- Rose, R. A., & Bowen, N. K. (2021). The effect of high school drop-out of a middle school relevance intervention. *Journal of Educational Research, 114*(6), 526–536.
- Sattem, J., & Hyslop, A. (2021). *Ready for what? How multiple graduation pathways do—and do not—signal readiness for college and careers*. Alliance for Excellent Education.
- Silvernail, D. L., Stump, E. K., Duina, A. A., & Gunn, L. M. (2013). *Preliminary implementation of Maine's proficiency-based diploma program*. Maine Education Policy Research Institute, University of Southern Maine. https://digitalcommons.usm.maine.edu/cgi/viewcontent.cgi?article=1000&context=mepri_proficiency



- Stipanovic, N., Stringfield, S., & Witherell E. (2017). The influence of a career pathways model and career counseling on students' career and academic self-efficacy. *Peabody Journal of Education*, 92(2), 209–221.
- U.S. Department of Education. (2019, September). *Bridging the skills gap: Career and technical education in high school*. <https://www2.ed.gov/datastory/cte/index.html>
- Waite, C., & Pangelinan, C. (2023). *Is a diploma enough? Setting ambitious visions for success in high schools* [Case Studies In High School Redesign]. Center on Reinventing Public Education.
- Wissel, S., Tulikangas, R., & Guy, B. (2019). *Why are work-based learning experiences valuable?* [Issue brief]. Mathematica Policy Research, Inc.