



EVIDENCE BRIEF

K-12 Career Exploration

What Works in Career Exploration

An Assessment of the K-12 Evidence Base

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WORKING PAPER



PROJECT
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About this brief

Project Evident conducted an evidence and opportunity assessment of career exploration in middle and high school between December 2025 and May 2026, with funding and support from the Walton Family Foundation and Britebound.

The assessment brings together evidence and practice knowledge across youth development, career development, education, and workforce research, with insights and context from interviews and roundtables with practitioners, researchers, and state and district leaders. The goal is to take stock of existing evidence and knowledge, understand how career exploration is being defined and delivered, and identify pressing gaps that need to be filled to allow practitioners, funders, and policymakers to deliver meaningful outcomes for middle school and high school learners. The assessment aggregates and builds on existing research and analyses across the field, including Britebound and Education Strategy Group's [national scan](#) of middle school career exploration, and does not include a state-by-state analysis of career exploration.

This brief examines the evidence base for career exploration in middle and high school, synthesizing what research suggests about the components of high-quality exploration and what studies show about outcomes for different practices and program models.

- It is a supplement to the [Making Career Exploration Count](#) white paper, which highlights key findings from the landscape scan and presents a framework and recommendations for improving exploration practices and evidence.
- It also accompanies the [Laying the Groundwork for Effective Career Exploration](#) Practice Brief, which discusses the on-the-ground conditions that shape implementation and youth experiences, and what we heard from field experts around priorities for change.

This assessment was conducted by Farhana Hossain, Gabriel Rhoads, Greg Keough, Megan Hoffman, and Matt Hillard at Project Evident, and this report was written by Farhana Hossain. Jamie Jutila and Simran Mathews at the Walton Family Foundation and Annie Duong-Turner at Britebound provided critical thought partnership and guidance that shaped this work.

About Project Evident

Project Evident harnesses the power of data, evidence, and technology to achieve greater impact. We believe that by empowering practitioners to drive their own data and evidence building while also strengthening the surrounding ecosystem, we can increase the number of effective solutions in the social and education sectors and scale them faster, ultimately producing better, faster, cheaper, and more equitable outcomes for students and communities.



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The findings and conclusions contained in this report do not necessarily reflect the positions or policies of the funders or those who participated in this assessment.



Executive Summary

Career exploration in middle and high school is growing fast. States, districts, and community organizations are investing in advising, coaching, digital tools, work-based learning, and career-connected classes. This Evidence Brief reviews hundreds of studies across youth development, career development, education, and workforce research to ask what makes exploration high quality and what studies show about how different practices affect students.

What the evidence establishes

The developmental case for career exploration in adolescence is well established.

Young people's interests, identities, confidence, and sense of what is possible develop through experience and are shaped by relationships and social context. Research supports exploration that helps students understand themselves and the world of work, build skills and relationships, and practice making and revising plans.

There is less evidence on the outcomes exploration should measurably produce.

Near-term changes like career self-efficacy and interest clarity are measured inconsistently in K-12, and their links to graduation, postsecondary success, and earnings are not yet well established.

What studies show about different approaches

The evidence is promising but uneven. Exploration runs through many kinds of career-connected learning, and it is usually one purpose among several, which makes its specific effects hard to isolate.

- The evidence in the U.S. is strongest for intensive, multi-component programs like CTE-focused schools, career academies, and early college high schools. Taken together, these show gains in completion, postsecondary participation, and sometimes earnings. It is weakest for light-touch or open-ended exploration studied on its own, such as assessments, career fairs, and workplace visits.
- Practices like structured academic and career advising, mentoring, work-based learning, and project-based learning have shown gains in career awareness, confidence, relationships, and academic engagement, with thinner evidence on cumulative academic performance and long-term postsecondary or labor-market



outcomes. Evidence is especially limited for middle school and for the widespread use of technology and digital tools.

- While lighter-touch activities like career talks and workplace visits do not have a large research base in the U.S., they are associated with better long-term educational and labor market outcomes in many countries, including higher employment, earnings, and career satisfaction. Part-time work and job shadowing in adolescence are also associated with better long-term outcomes in international research. Exploration appears to be most effective when embedded in a broader education system and woven into curriculum, advising, employer engagement, and other supports for successful transition.

What the evidence does not yet tell us

The lack of a shared definition makes outcomes hard to measure. Without agreement on what exploration is meant to do, programs set different goals and measure different things, so findings rarely add up to a cumulative body of knowledge.

Fragmentation of activities makes it hard to evaluate. Students experience career exploration as separate activities across classrooms, counseling, out-of-school programs, and employers, with little to connect them. That fragmentation makes exploration harder to measure and evaluate, and it leaves how exploration should link to academics, CTE, and pathway programs among the least settled questions in the field.

The largest gaps concern how to design, deliver, and measure exploration well: which outcomes should define success, which designs work and for whom, what quality looks like in practice, and how to deliver it equitably.

Moving forward

These gaps are not evidence that career exploration does not work. They show that expansion has moved faster than the research needed to improve it. Better evidence starts with clear theories of change for what students should gain and how a program will produce it, direct evidence about what students actually experience, and longitudinal data that connect experiences across transitions. It should treat implementation, equity, and technology as part of effectiveness. That would move the field past counting participation, toward understanding which experiences help young people explore, decide, and adapt, and under what conditions.



Introduction

States, districts, and community organizations are placing greater emphasis on expanding career exploration in middle and high school, as young people seek stronger supports to prepare for their futures and the changing world of work.

Schools and programs are investing in advising, coaching, digital tools, work-based learning, and career-connected coursework. Yet, important questions remain about which exploration experiences are most effective, for which students, and under what conditions. There is a growing consensus that career exploration in K-12 matters for young people's long-term well-being, and longitudinal research from multiple countries shows that certain career exploration activities during teen years are associated with positive education and labor market outcomes in adulthood.¹ But the field still lacks a shared theory of change for what students should gain from participation in exploration, how exploration can affect education and labor market trajectories, and how experiences should be designed to deliver those outcomes.

This brief examines the research evidence behind career exploration in middle and high school. It draws on a review of hundreds of publications spanning youth development, career development, education, and workforce research. This includes developmental and behavioral theories, outcome evaluations, meta-analyses and other evidence reviews, descriptive and qualitative studies, survey research, and existing policy and landscape scans that examine how career exploration is defined, delivered, and measured.

Findings from developmental research and longitudinal studies build a strong case for why career exploration matters in adolescence, but evidence on what high-quality exploration should look like for middle and high school students in the United States is still nascent. The rest of this brief describes research that offers the developmental foundation for career exploration in middle and high school, and takes stock of what is known about different approaches and outcomes.

¹ Covacevich et al. (2021); Mann, Denis, & Percy (2020); Kashefpakdel & Percy (2017).



The Foundations of Career Exploration

A substantial body of developmental and theoretical research provides the conceptual foundation for career exploration needs in middle and high school.

An examination of career development, youth development, and motivational and behavioral research suggests that meaningful career exploration in middle and high school should help young people build both awareness and readiness: what young people understand about themselves and the world of work, and the skills, relationships, and decision-making capacity to act on that understanding.

The following theoretical frameworks provide foundational insights into how career exploration in K-12 can be designed to support young people's development from adolescence to adulthood.

Life-Span, Life-Space Theory

- **Career development unfolds in stages throughout a person's life.** Adolescence is a key period when young people begin to form a clearer sense of direction, and their readiness to meet age-appropriate career-development tasks (or "career maturity") develops gradually when they get structured chances to explore, reflect, and adapt.²
- **Young people's understanding of their own interests, strengths, values, and abilities shapes the work they pursue.** Choosing and entering an occupation is one way that they can put this evolving sense of self into practice.³
- **Career development is shaped by the roles young people occupy.** Young people hold roles as students, family members, community members, and emerging workers, and the expectations attached to those roles influence how they explore.⁴

² Super (1980)

³ Super (1980)

⁴ Super (1980); Cardello et al. (2024)



Theory of Circumscription and Compromise

- **Children and adolescents gradually narrow the careers they see as possible through a process of “circumscription.”** Between ages 6 and 8, they start to eliminate options based on gender stereotypes, and between ages 9 and 13, they increasingly factor in social class and perceived prestige.⁵
- **By early adolescence, this narrowing is largely in place.** Young people tend to explore more deeply within the range of options they still see as acceptable and may not reconsider options that they have ruled out. Intentional exploration may be one way to prompt adolescents to revisit options they eliminated early.⁶
- **As they get older, young people adjust their aspirations and give up preferred options in favor of those that feel more accessible.** When making this compromise, they are more likely to sacrifice what genuinely interests them than to give up on careers that match gender expectations or perceived social standing.⁷

Career Construction and Life Design

- **Development of career identity is iterative.** Young people develop a sense of who they are in relation to work by making meaning of their experiences and gradually shaping them into a coherent story. Plans are revised as new experiences produce new understanding and as conditions change.⁸
- **Durable skills and adaptability matter as much as specific job knowledge.** Young people need to build transferable skills since they are likely to face multiple career transitions. As careers and labor markets become less predictable, they also need the capacity to cope with change, transitions, and uncertainty.⁹

Theory of Vocational Personalities

- **Self-discovery and environmental awareness both matter for career satisfaction.** People tend to be more satisfied and more likely to stay in careers that match their interests, which means finding a good fit depends on understanding both oneself and the kinds of work environments that are available.¹⁰

⁵ Gottfredson (1981); Gottfredson & Lapan (1997)

⁶ Gottfredson (1981)

⁷ Gottfredson (1981)

⁸ Savickas (2005); Savickas et al. (2009)

⁹ Savickas et al. (2009); Hirschi (2009); Akkermans et al. (2013); Cai (2015); Rudolph et al. (2017)

¹⁰ Holland (1997)



- **Interests take shape through experience.** As young people encounter different roles, subjects, and environments, their interests become clearer and more stable through adolescence.¹¹ The theory sorts both people and work environments into six interest types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). Most people resemble a mix of these types, and because careers use the same categories, the model helps compare a person's interests with the demands of different kinds of work.¹²

Social Cognitive Career Theory

- **Young people's beliefs about their own abilities and futures play a central role in shaping career exploration.** Self-efficacy, outcome expectations, and personal goals together shape what young people are willing to try and whether they persist in career-related activities.¹³
- **Succeeding at challenging tasks, or mastery experiences, is the strongest source of a young person's belief in their own ability.** Experiences that build skills and that result in real accomplishments can strengthen the confidence that supports continued exploration and more ambitious goals.¹⁴
- **Context also shapes what feels possible.** Supports and barriers in young people's environments, including access to encouraging adults, relatable role models and concrete opportunities, influence their beliefs about what they can do.¹⁵

Self-Determination Theory

- **Autonomy, competence, and relatedness deepen exploration.** Young people are more likely to engage in exploration, and to keep exploring over time, when they feel they have genuine choice, are building their skills, and feel supported by caring relationships. This sense of choice shapes how they plan for their futures.¹⁶
- **Feeling a sense of ownership over their choices helps young people keep exploring.** Exploration driven by a young person's own interests and values is more likely to last than exploration driven mainly by external pressure or compliance.

¹¹ Hirschi (2010); Keevers & Bradley (1999)

¹² Holland (1997)

¹³ Lent, Brown & Hackett (1994); Lent (2020)

¹⁴ Lent, Brown & Hackett (1994); Bandura (1997)

¹⁵ Lent, Brown & Hackett (1994); Turner & Lapan (2002)

¹⁶ Ryan & Deci (2000); Paixão & Gamboa (2017)



When young people feel that their goals are truly their own, they are more likely to try challenging experiences and remain open to revising their plans as they learn.¹⁷

Theory of Planned Behavior

- **Beliefs and norms shape whether students explore.** Young people are more likely to engage in career exploration when they: (a) believe it is useful, (b) feel that people important to them, such as family members, peers, or educators, expect or support it, and (c) believe they can follow through because they have access to necessary supports and opportunities.¹⁸

Positive Youth Development

- **Adolescence is a key time to build young people's strengths and capabilities.** This includes the "Five Cs": competence, confidence, connection, character, and caring.¹⁹
- **Positive development depends on both individual strengths and the environments in which young people live.** Families, schools, out-of-school programs, workplaces, and communities all play a role by providing sustained relationships with caring adults, activities that build skills, and opportunities for young people to apply those skills.²⁰

Social Capital Theory

- **Social capital shapes access to exploration.** It refers to the information, influence, and opportunities people can tap through their relationships and networks. Young people's ability to learn about careers, gain experiences, and access mentorship is shaped by the social capital in their networks, which varies by family background, race, income, and geography.²¹
- **Expectations tied to social position also shape what young people see as possible.** They absorb ideas from family, school, peers, or community members about careers that feel realistic or appropriate for them, and these ideas can persist even when they receive good information about other options.²²

¹⁷ Ryan & Deci (2000); Creed et al. (2013)

¹⁸ Ajzen (1991)

¹⁹ Lerner et al. (2005); Horrillo et al. (2021)

²⁰ Lerner et al. (2005)

²¹ Coleman (1988); Manno (2016); Mann et al. (2018); Storlie et al. (2019); Markle et al. (2023)

²² Coleman (1988); Storlie et al. (2017); Howard et al. (2009)



In addition, a growing body of work shows that structural conditions such as socioeconomic status, neighborhood resources, school funding, transportation, and access to health and community supports shape students' exposure to exploration experiences and their ability to act on emerging interests.²³

This body of research, along with research and evidence from evaluations of career exploration programs and practices, forms the foundation for our [emerging framework](#) for designing high-quality career exploration in middle and high school. They suggest that adolescents need opportunities to deepen their understanding of themselves, expand what they see as possible, build the skills and relationships that support informed decision making, and practice making and revising plans as they learn.

The [companion White Paper](#) translates these foundations into five components of high-quality career exploration: self-discovery, environmental exploration, durable skills, relationships and social capital, and navigation and adaptive planning — the framework that informs the outcome categories and evidence reviewed throughout this brief.

Table 1 on the next page summarizes each theory and its implications for career exploration design.

²³ Brookover (2024); Eshelman & Rottinghaus (2015)

Table 1: How Developmental Research Supports Career Exploration

Theory	Implications for Career Exploration
Life-Span, Life-Space	A young person's sense of self shapes the careers they pursue, so students need age-appropriate support to develop that self-understanding and career readiness over time.
Circumscription and Compromise	Young people narrow options early based on gender, class, and social perceptions, so exploration must start early to broaden what they see as possible and to help them revisit options they ruled out.
Career Construction and Life Design	Career identity and plans take shape through experience, so exploration should include reflection that helps students make sense of what they learn and adapt their plans over time.
Theory of Vocational Personalities (RIASEC)	Career satisfaction depends on the fit between interests and work environments, so students need chances to understand themselves and see a range of options.
Social Cognitive Career Theory	Confidence shapes what young people are willing to try, so it should include real skill-building experiences and supportive relationships that expand what feels possible.
Self-Determination Theory	Students explore more deeply and continuously when they feel ownership, competence, and connection, so exploration should offer real choices, skill-building, and relationships.
Theory of Planned Behavior	Students are more likely to explore when they see it as useful, feel that the people around them value it, and believe they can access the supports and opportunities they need.
Positive Youth Development	Exploration is one way to develop the competence, confidence, connection, character, and caring that young people need to thrive, so experiences should combine skill-building with supportive adult relationships.
Social Capital Theory	Who students know shapes their access to information, influence, and opportunities, so exploration must intentionally build networks and connections, especially for those with fewer opportunities.

The Outcomes That Matter

Research points to a set of changes that career exploration should produce in young people. But these changes are not consistently measured across states, districts, or programs, and their connection to academic or employment outcomes that predict longer-term success has not been strongly established in existing literature.

Developmental research discussed in the previous chapter points to a set of changes that career exploration is meant to produce in young people, like building the confidence to explore, developing a sense of career identity, and learning to adapt plans over time. In research literature, these changes are often described as “career constructs”: the beliefs, skills, and capacities that shape how people navigate learning and work. Evidence is still limited on which of these constructs matter most in K-12. They are measured inconsistently across states, districts, and programs, and the links between them and student outcomes are largely unmapped.

Table 2 highlights several of the main career constructs identified in the research and what existing evidence shows.

Table 2: Key Career Exploration Outcomes and Evidence

Construct	What it Means	What the Evidence Shows
Self-Efficacy	Confidence in one’s ability to explore careers and make decisions	Higher career self-efficacy is consistently associated with academic engagement, persistence, and stronger grades during the school years. Career decision self-efficacy is also associated with greater exploration and confidence in making career choices. ²⁴

²⁴ Multon et al. (1991); Lent et al. (1994); Kraus & Hughey (1999); Onyejiji (2023)



Construct	What it Means	What the Evidence Shows
Interest Clarity	How clear a person feels about the kinds of work, fields, or problems they are most interested in	Clearer, stronger interests are associated with career adaptability and with more focused exploration during the school years. Interests also relate to performance in fields that match them. ²⁵
Career Identity	A developing sense of self in relation to work, integrating interests, values, and possibilities over time	In studies of adolescents and young adults, a more developed career identity is associated with more favorable work attitudes and greater psychological well-being. ²⁶
Career Adaptability	Capacity to anticipate, navigate, and recover from career transitions	In postsecondary and adult research, adaptability is linked to career satisfaction, successful transitions, and better employment outcomes. Limited K-12 evidence. ²⁷
Career Alignment	Fit between a young person's aspirations and their current pathway (for example, courses, program, or plan)	Alignment between a student's aspirations and their education plan is among the teenage career indicators that longitudinal research links to better adult employment outcomes. ²⁸
Career Maturity	Age-appropriate readiness to make informed career decisions	In secondary-school studies, career maturity overlaps closely with career decision self-efficacy and decidedness, and targeted programs can raise measured maturity. There is little evidence on whether it predicts education or employment outcomes. ²⁹

²⁵ Hirschi (2010); Keevers & Bradley (1999); Sung, Cheng, & Wu (2016)

²⁶ Porfeli et al. (2011); Malanchuk et al. (2010)

²⁷ Rudolph et al. (2017); Jia et al. (2020); Pang et al. (2025)

²⁸ OECD (2024a); Covacevich et al. (2021)

²⁹ Lau et al. (2021); Creed & Patton (2003)

Construct	What it Means	What the Evidence Shows
Career Certainty	Perceived clarity about one's future career direction	Being able to articulate an occupational expectation in mid-adolescence is associated in many longitudinal studies with better early-adult employment outcomes. However, uncertainty can also reflect active exploration, and these measures do not show whether a student's plan is informed, flexible, or developmentally appropriate. ³⁰
Career Ambition	The level and orientation of occupational aspirations	Longitudinal research links teenage aspirations, and especially their certainty and realism, to later employment and earnings. Uncertain or unrealistic aspirations predict worse early-career outcomes. How far aspirations translate into outcomes depends on access and opportunity. ³¹
Social Capital	The information, opportunities, and connections that young people can access through their relationships and networks	In broader research with older populations, cross-class connections, more than network size on its own, predict access to opportunity and economic mobility. Rarely measured in K-12. ³²
Breadth of Options	The range of careers, fields, and pathways a young person seriously considers	In longitudinal research, narrow or unrealistic career thinking in adolescence is associated with worse employment outcomes in adulthood. ³³

³⁰ OECD (2024a); Covacevich et al. (2021)

³¹ OECD (2024a); Covacevich et al. (2021)

³² Chetty et al. (2022); Coleman (1988)

³³ Mann et al. (2020); Covacevich et al. (2021)

Research on how these career constructs develop in middle and high school, and how they connect to later outcomes remains limited. The evidence base is much stronger on how academic engagement and performance predict later outcomes, which the next section examines.

How Current Predictors of Success Relate to Career Exploration

Middle School

- **Middle school academic indicators are strong predictors of later success.** Grades, attendance, engagement, and advanced coursework in middle school are associated with high school performance, graduation, college readiness, and postsecondary enrollment.³⁴
- **Building motivation, confidence, and a sense of belonging helps students stay engaged.** Research suggests that self-efficacy, school belonging, and related social-emotional competencies acquired in middle school support engagement, persistence, and achievement, which in turn shape students' high school trajectories.
- **Research connecting middle school career exploration to these predictors is limited.** Existing studies are mostly small, short-term, and descriptive, and generally associate career-related programs with gains in academic engagement, career awareness, self-efficacy, interest clarity, and motivation. Career-relevant instruction, which teaches core subjects through a career lens, has the strongest evidence. A randomized trial found gains in student engagement and school valuing, and improved eighth-grade math achievement. Few studies examine effects on core academic indicators, the transition to high school, or later postsecondary outcomes.³⁵

Recent descriptive research also finds that young people value middle school exploration but report unmet needs for hands-on experiences, broader exposure, and support connecting their interests and strengths to possible careers.³⁶

³⁴ Allensworth et al. (2014)

³⁵ Turner & Lapan (2005); Glessner et al. (2017); Gibson & Chase (2002); Garrison et al. (2021); Kovach (2018); Chaplin et al. (2010); Orthner et al. (2013); Woolley et al. (2013)

³⁶ Britebound (2026)



High School

- **Early high school academic progress is one of the strongest predictors of graduation and postsecondary participation.** Being on track by the end of ninth grade — meaning earning credits, passing courses, maintaining attendance, and avoiding course failure — strongly predicts high school graduation. GPA, attendance, and course completion in grades 9–10 also shape students' later options.³⁷
- **Course-taking and planning behaviors become more consequential as students approach graduation.** Advanced coursework and dual enrollment are associated with college enrollment and persistence. CTE course sequences are associated with high school graduation and, for some, early employment. Planning steps like FAFSA completion and college applications are strong predictors of postsecondary enrollment.³⁸
- **Structured programs that are career-themed or connected to postsecondary education have strong evidence for improving postsecondary and labor market transitions.** CTE high schools, early college high schools, career academies, and similar pathway models show benefits for high school completion, college readiness, employability skills, and short-term employment, with more mixed evidence on college completion, long-term earnings, and which models work best for whom.³⁹

In summary, developmental research points to the kinds of changes career exploration may produce in self-knowledge, confidence, awareness, skills, and networks. But the evidence on which of these matter for longer-term success, and whether K-12 programs reliably produce them, is still early.

The next chapter looks at specific career-connected activities, approaches, and programs, and what existing research says about their connection to youth outcomes.

³⁷ Allensworth & Easton (2007)

³⁸ Edmunds et al. (2020); Brunner, Dougherty & Ross (2023); DeBaun (2019)

³⁹ Kemple & Snipes (2000); Kemple & Willner (2008); Hemelt, Lenard, & Paepflow (2018); Berger et al. (2014)

The Efficacy of Different Approaches

The evidence base for career exploration is growing but remains uneven, with stronger research on some approaches than others, as well as limited guidance on what quality looks like, which experiences matter most, and how they should build over time.

Career exploration is often equated with light-touch activities that introduce students to the idea of careers, such as career fairs, workplace visits, or guest speakers from different professions. Research suggests that exploration happens to varying degrees across a wider range of career-connected learning, including advising, mentoring, project-based learning, and work-based experiences. Some of these are not usually called career exploration, and exploration may not be their main purpose. But each can give young people a chance to learn about themselves, explore different paths, build relationships, test assumptions, and make more informed decisions.

For that reason, this landscape scan reviewed evidence of outcomes across a range of career-connected approaches that included the following categories:

- **Information and awareness** activities that introduce students to careers, such as career assessments and guest speakers.
- **Advising, planning, and coaching** that help students plan and stay on track, such as individual career and academic plans (like ICAPs and ILPs) and mentoring.
- **Work-based learning** that provides hands-on experience at real workplaces, such as job shadowing, internships, and summer employment.
- **Applied learning** that teaches through doing, such as project-based learning, career-relevant instruction, and school-based enterprises.
- **Structured and multi-faceted programs** that combine several approaches, organized either around a career field or around student-driven exploration.

In each of these categories, we looked at specific activities, approaches, or program models, the outcomes they have been associated with, and the strength of the evidence. When reviewing evidence, we looked for outcomes across six categories:



- Academic beliefs and awareness
- Academic engagement and achievement
- Career-related beliefs and awareness
- Career-related engagement and achievement
- Durable skills
- Social capital and networks

In each outcome category, we rated the strength of the evidence from limited to strong, based on the number and design of the studies. The methodology section in the appendix provides a closer look at the outcome types and how the evidence levels are defined.

What the Evidence Shows Overall

- The strongest evidence on long-term outcomes is international. Longitudinal research from OECD countries and U.K. cohorts links teenage activities — especially career talks, workplace visits, and part-time work — to one or more better adult outcomes, including employment, earnings, and satisfaction.⁴⁰
- The strongest U.S. evidence is concentrated in structured, multi-component programs such as CTE and early college high schools, where it shows gains in academic, completion, and postsecondary outcomes. Rigorous U.S. evidence on exploration-specific activities themselves is thinner and focused on shorter-term changes in awareness, beliefs, and skills.
- Middle school evidence is more limited and short-term, showing gains in engagement, career awareness, interest, and self-efficacy, with limited research on how these carry through to high school or postsecondary outcomes.

The rest of this chapter discusses how different career-connected services and programs affect outcomes for young people in middle and high school.

⁴⁰ Covacevich et al. (2021); Mann, Denis, & Percy (2020); OECD (2021a, 2021b, 2022)

Information and Awareness Activities

Approaches included	Evidence Highlights
Career assessments, inventories Career fairs, events Guest speakers, career talks Workplace tours, site visits	• Linked to short-term, self-reported gains in career awareness and decision confidence, from career assessments and computer-based tools (U.S.) and career talks (international). • Guest speakers and career talks are associated with better adult work outcomes in international research.

These activities are common in schools and are rarely measured as independent interventions in the U.S., particularly in middle school.

- Career assessments and computer-based tools are associated with short-term gains in career awareness and decision confidence. These gains are larger when a counselor helps interpret the results than when students use a tool on their own.⁴¹
- Guest speakers and career talks are consistently associated with better work outcomes, and most of the evidence is international. In a British study, career talks with working professionals improved students' attitudes and motivation. Career talks and workplace visits are among the relatively light-touch activities linked to outcomes years later in international longitudinal research, including modestly higher earnings and lower odds of being out of work or education.⁴²
- Events like career fairs, workplace tours, and campus visits have limited research as stand-alone interventions. Workplace visits are associated with better adult outcomes in international longitudinal studies. In a U.S. study, visiting college campuses in eighth grade improved college knowledge and college-going confidence for students. A Turkish study of career days was associated with students thinking more realistically about career choices.⁴³

⁴¹ Garcia, McWhirter, & Cendejas (2021); Baker (2002); Whiston et al. (2017)

⁴² Kashefpakdel, Percy, & Rehill (2019); Kashefpakdel & Percy (2016); Covacevich et al. (2021); OECD (2021a)

⁴³ Kutlu & Bedel (2021); Swanson et al. (2021); OECD (2022); Covacevich et al. (2021)

Advising, Planning, and Coaching

Approaches included	Evidence Highlights
Individual career and academic plans (ICAPs/ILPs) Career counseling Career and academic coaching Career courses and advisory curricula Mentoring	• Planning and counseling are linked to short-term gains in career confidence and clarity. • Coaching improves postsecondary preparation and non-cognitive outcomes in causal studies. • Mentoring has the broadest evidence base, including for middle school youth, and its most consistent effects are on supportive relationships and social-emotional outcomes.

Advising, planning, and coaching supports are consistently associated with gains in students' confidence and planning beliefs, especially career decision self-efficacy and related constructs. Evidence on academic outcomes and longer-term behaviors is more limited and uneven.

- ICAPs and ILPs are associated with goal-setting, motivation, and school engagement. A national study found that developing a plan predicted college-going behaviors such as applying and enrolling, but only when students developed and reviewed the plan with support from an adult, a level of support that relatively few students reported receiving.⁴⁴
- Career counseling, both individual and group, shows short-term gains in career decision self-efficacy and decidedness, with mixed evidence on whether it helps students adjust their plans as conditions change.⁴⁵ Career courses and advisory curricula have thinner and mixed evidence, mostly from small studies showing gains in planning attitudes and decision making.⁴⁶

⁴⁴ Solberg, Wills, Redmond & Skaff (2014); Torre Gibney & Rauner (2021).

⁴⁵ Whiston et al. (2017); Falco & Summers (2019)

⁴⁶ Lindstrom et al. (2020)

- Across studies, coaching most consistently improves students' readiness and specific planning behaviors such as course selection and college application steps, while effects on cumulative academic performance and long-term postsecondary outcomes remain modest and variable. A randomized trial found gains in self-efficacy and preparation but not in grades, and a quasi-experimental study of coaching embedded in CTE-linked dual enrollment found that meeting with a coach increased two-year college enrollment and dual enrollment, with more mixed effects on graduation and four-year college-going.⁴⁷
- Sustained, multi-year college-access programs that combine advising, coaching, and planning support across grades, often beginning in middle school, show mixed results. They are associated with higher on-time high school graduation but not with higher overall college enrollment.⁴⁸
- Mentoring has the broadest evidence base of any advising approach, including many randomized trials in K-12.⁴⁹ In general, mentoring for middle and high school students most strongly affects their relationships with supportive adults and their social-emotional and behavioral outcomes.⁵⁰ Career-specific outcomes are rarely measured, though one recent randomized trial found that youth ages 10 and up gained a stronger sense of occupational identity and more support for their education and career goals.⁵¹

Academic effects are small and often fade, and the largest federal study of school-based mentoring, in grades 4 to 8, found no significant effects in any domain.⁵² Two studies that followed youth mentored at or around middle-school age point to later gains in adulthood, one finding higher college attendance and a second finding higher postsecondary enrollment among girls specifically.⁵³ Career-focused mentoring is less studied.

Overall, advising, coaching, planning, and mentorship help students clarify goals, build confidence, and connect with supportive adults. With the exception of mentoring, there is limited evidence on whether these approaches translate into skills, networks, and longer-term academic, postsecondary, or labor market outcomes.

⁴⁷ Phillips et al. (2024)

⁴⁸ Gilman & Jones (2020); Sanchez & Mutiga (2024); Ellis & Helaire (2022); Juarez (2026).

⁴⁹ Raposa et al. (2019); DuBois et al. (2011)

⁵⁰ Herrera et al. (2023); Raposa et al. (2019)

⁵¹ DuBois et al. (2025)

⁵² Bernstein et al. (2009)

⁵³ Bell (2026); Karcher (2020)



Work-Based Learning

Approaches included	Evidence Highlight
Job shadowing Internships Summer employment Youth apprenticeships and pre-apprenticeships	• Associated with gains in career awareness and beliefs across approaches • Paid summer jobs are linked to short-term increases in employment and earnings, though gains fade after the program ends. • Job shadowing and workplace exposure are associated with better adult employment outcomes in international longitudinal research.

Participation in experiential learning opportunities at real workplaces is consistently associated with gains in career awareness and beliefs, with limited and mixed evidence on academic or longer-term behaviors.

- Job shadowing is rarely studied on its own in the U.S. Internationally, OECD analysis of longitudinal data associates teenage job shadowing with better adult employment outcomes, including a wage premium of roughly 10 percent in U.S. and U.K. data and lower rates of being out of work among young women.⁵⁴
- Internships have not been widely studied in K-12 education. The strongest evidence, from Urban Alliance's paid year-long high school internship, found no overall effects on high school completion or college outcomes, though students reported stronger employability skills and short-term employment gains. Descriptive studies also associate high school internships with supportive relationships and a stronger sense of purpose, particularly for low-income students and students of color. Most longer-term evidence linking internships to employment and earnings comes from studies of college students outside the U.S., where paid internships appear more effective.⁵⁵
- Summer employment is the most-evaluated work-based intervention for high school students, with randomized trials showing consistent short-term gains in

⁵⁴ OECD (2022); Covacevich et al. (2021); English (2018); Neumark & Rothstein (2005)

⁵⁵ Theodos et al. (2017; 2023; 2025); Murillo et al. (2017); Kenny et al. (2023, 2024)

employment and earnings and reductions in legal-system involvement for some groups. Effects on academic indicators have been mixed: One randomized study found gains in school attendance and on-time graduation, while another found no effect on attendance, graduation, or college enrollment.⁵⁶

- Youth apprenticeships and pre-apprenticeships have not been studied extensively in the U.S. Available studies link youth apprenticeship to continued participation in a student's field and transitions to postsecondary education and employment. Pre-apprenticeships are linked to entry into registered apprenticeship, largely among adult and transition-age job seekers.⁵⁷ The largest body of evidence comes from European dual-system apprenticeships, common for secondary-age students, where participation is associated with stronger early employment, earnings, and school-to-work transitions.⁵⁸
- Beyond specific programs, evidence on adolescent employment suggests the value of working in high school depends not just on whether students work, but on the intensity and quality of that work. Steady, moderate employment is associated with later educational attainment and wages, while intensive employment is associated with weaker postsecondary attainment. The quality of adolescent work, including its learning and advancement opportunities, autonomy, and pay, is also associated with job quality in adulthood.⁵⁹

Much of the strongest evidence linking internships, apprenticeships, and other intensive work-based learning to later employability, employment, and earnings comes from postsecondary and adult programs or international apprenticeship systems rather than middle or high schools in the U.S. Studies rarely capture what young people actually experience in work-based learning, including dosage, quality of supervision, specific tasks, and whether activities meet agreed-upon standards. Existing research also points to uneven access to high-quality work-based learning across schools and student groups, and raises concerns that poorly designed models can reinforce tracking by race, gender, and socioeconomic status rather than expand opportunity.

⁵⁶ Gelber, Isen, & Kessler (2016); Heller (2022); Modestino & Paulsen (2023); Valentine et al. (2017)

⁵⁷ Mindham & Schultz (2020); Fuller et al. (2022); Kuehn et al. (2023); Walton, Gardiner, & Barnow (2022); Dorsett & Stokes (2021); Waugh et al. (2025)

⁵⁸ Taylor et al. (2023); Parton (2017)

⁵⁹ Staff & Mortimer (2008, 2024)

Applied Learning

Approaches included	Evidence Highlight
Project-based learning (PBL) Career-connected academic courses Immersive exploration, such as summer or afterschool STEM camps School-based enterprises Career and technical student organizations (CTSOs)	• Linked to short-term gains in career awareness and interest across approaches • Strong evidence for academic engagement and achievement, driven by project-based learning • Career-relevant instruction has moderate evidence for engagement and math achievement in middle school. • Immersive STEM programs are linked to short-term gains in career awareness and interest, with evidence that selective ones can improve college and degree outcomes.

Applied learning approaches teach through doing, in classrooms and out-of-school programs. Their clearest evidence is in academic engagement and achievement, with thinner and mostly self-reported evidence on career-related outcomes.

- Project-based learning has strong evidence for improving academic engagement and achievement, including a recent randomized study of a PBL approach to AP courses in high school and a quasi-experimental study of PBL in a science course in middle school. This evidence is for specific curricula, not career-connected PBL, which has limited research evidence.⁶⁰
- Career-relevant instruction, which teaches core subjects through a career lens, shows gains in school engagement and, in one trial, in middle-school math achievement.⁶¹
- Immersive summer and afterschool STEM programs are associated with short-term gains in career awareness and interest, mostly from descriptive studies. One randomized study of selective summer programs for underrepresented, high-performing high schoolers found higher college enrollment, persistence, and

⁶⁰ Saavedra et al. (2021); Deutscher et al. (2021); Zhang & Ma (2023); Condliffe et al. (2017)

⁶¹ Orthner et al. (2013); Woolley et al. (2013)

STEM-degree completion. These programs are not widely available, and families typically opt in.⁶²

- School-based enterprises have a growing but mostly descriptive evidence base linking participation to academic engagement, work readiness, and social-emotional skills. A recent study of the Virtual Enterprises program found participants had higher test scores and career readiness, so selection likely explains part of the benefit. Related entrepreneurship-education studies point the same way using different models.⁶³
- CTSOs are associated with academic and career outcomes and with leadership development, and girls and students of color reported more benefit in a 2004–2005 survey. Like school-based enterprises, higher-achieving students select into them, and they are usually tied to CTE programs, making it difficult to identify the specific effects of CTSOs.⁶⁴

Overall, applied learning's clearest evidence is for academic outcomes driven by project-based learning and career-relevant instruction. Participants also report career-related outcomes around awareness, interests, and skills after taking part. Explicitly career-connected versions of these approaches are rarely studied on their own, so we know more about applied learning as good teaching than as career exploration.

Structured and Multi-faceted Programs and Schools

These combine many of the approaches discussed above into a more intentional, intensive experience for students. Some operate as programs within existing schools or out-of-school settings; others organize the whole school around career-connected learning. What sets them apart from single activities is that students usually receive several supports over time, such as coursework, work-based learning, advising, mentoring, and opportunities to explore. These models differ mainly in what they are built around — career and technical education (CTE), college access, or broad exploration — though there is significant overlap in their focus areas.

⁶² Allen et al. (2019); Cohodes, Ho, & Robles (2024); Amanova, Wright, & Brynteson (2025)

⁶³ Stern (1984); Byrd (2019); Pilot (2011); Gamache & Knab (2018); Gugerty et al. (2008); Berglund et al. (2026); Rodriguez & Lieber (2020); Thompson & Kwong (2016). A randomized trial of Virtual Enterprises in high school is underway.

⁶⁴ Alfeld et al. (2007); Aragon, Alfeld, & Hansen (2013); Marshall (2023)



Approaches included	Evidence Highlight
Career and Technical Education (CTE)-focused schools and programs	Whole-school models and in-school learning communities have strong evidence of academic engagement, completion, and early labor market outcomes, with earnings gains concentrated among young men.
College-focused schools and programs	Early college high schools, including some that are CTE-focused, have strong evidence on high school completion, postsecondary enrollment, and degree completion.
Broad exploration models	Whole-school or structured exploration models that are more student-driven and not connected to specific college or CTE pathways have emerging but limited evidence on academic engagement, confidence, and postsecondary enrollment.

Career and technical education (CTE) programs have a considerable and growing body of evidence in K-12.⁶⁵

- Structured CTE programs, including concentrated programs of study, sector-focused small learning communities, and CTE-focused high schools, show strong impacts on academic engagement, high school completion, and post-graduation employment. Regional and stand-alone technical high schools raised both graduation and earnings; career academies produced sustained earnings gains, in a multi-site randomized trial, but no measured effect on high school completion or postsecondary enrollment. Findings on college enrollment and completion are mixed and vary by field and student group.⁶⁶
- These models are also designed to move students toward a chosen pathway, so their evaluations focus on completion, employment, and earnings, and rarely look at how students explore. There is limited evidence on whether they help students

⁶⁵ Lindsay et al. (2024)

⁶⁶ Kemple & Willner (2008); Hemelt, Lenard, & Paepflow (2018); Brunner, Dougherty, & Ross (2021); Neild, Boccanfuso, & Byrnes (2013); Kistler et al. (2024)

discover new interests, weigh options, or build agency or adaptability. They also reach a relatively small share of students. For most students, CTE takes the form of one or two courses in comprehensive high schools, where the evidence is more modest and less consistent. It points to improved high school completion and some short-term earnings gains in certain contexts, with limited and mixed impacts on longer-term outcomes. Some studies find early earnings gains that narrow or disappear by the mid-twenties.⁶⁷

College-focused schools and programs are designed to help students earn college credit and move into postsecondary education. These include dual-enrollment pathways, early college high schools, and technical models that combine high school and college coursework.

- The evidence is strong for college-related outcomes, including enrollment, credit accumulation, persistence, and, in early college models, degree completion. A long-term follow-up of one early college study found no measured effect on employment, earnings, or other workforce outcomes 12 to 14 years after high school.⁶⁸
- Technical early college programs that combine college credit with employer involvement in a specific field have emerging evidence for postsecondary access and completion. An evaluation of the P-TECH model found that students were more likely to take college-level courses and to complete an associate's degree within seven years of starting high school.⁶⁹

Broad exploration models keep the range of options wide, letting students explore many directions and follow their own interests before settling on a path.

- Some are whole-school designs (such as Big Picture Learning or MicroSociety) where exploration activities, including mentorship, work-based learning, and project-based learning, are integrated into the school day. Others are structured programs (such as Magnolia Project or On the Road Collaborative) that prioritize specific aspects of exploration, such as self-discovery, social-emotional

⁶⁷ Shoemaker (2025); Plasman (2026); Dougherty (2023); Yoon & Dougherty (2025); Klein et al. (2023)

⁶⁸ Berger et al. (2014); Edmunds et al. (2020); Lauen et al. (2017); Song et al. (2024)

⁶⁹ Rosen et al. (2020); Dixon & Rosen (2022); Rosen et al. (2023)

development, occupational exploration, relationships, or experiential learning to help young people build interests, skills, and future orientation.⁷⁰

- Evidence for broad exploration models is nascent but promising. Some of these programs have developed meaningful, descriptive evidence about their own students, including longitudinal tracking of graduates and alumni studies that point to positive effects on school engagement, confidence, durable skills, and postsecondary participation. Youth Career Connect, a federal grant program that combined career-focused curricula, work-based learning, employer partnerships, and individualized counseling in high schools, was evaluated with a randomized controlled trial and a quasi-experimental design and found small short-term effects on high school attendance and credit accumulation.⁷¹

Implications for the Field

This review looked across a wide range of overlapping career-connected approaches, including many in which exploration is only one purpose. The evidence shows that effective and promising practices exist, but the most rigorously studied K-12 programs and practices are generally designed around academic progress, college access, pathway completion, or employment, and not open-ended exploration grounded in self-discovery, broadening possibilities, and building agency, relationships, and adaptability.

Research has similarly emphasized outcomes that can be tracked through administrative data, such as graduation, college enrollment, and earnings. Many programs also measure changes in students' beliefs, awareness, and skills, but rarely with enough consistency or rigor to determine what produced those changes. As a result, the field knows more about whether some programs improve outcomes than about which experiences and design features drive those results or how to reproduce them across settings.

Technology increasingly cuts across all of these approaches. The next chapter examines what is known about its role in career exploration.

⁷⁰ Arnold & Mihut (2020)

⁷¹ Arnold & Mihut (2020); Maxwell, Geckeler, & González (2019)

Technology in Career Exploration

Technology now touches nearly every approach to career exploration, and its adoption has outpaced the evidence on what works for youth.

Many of the practices and programs described in the previous chapter use technology to deliver career exploration. Individualized planning runs on digital platforms, assessments and interest inventories are largely online, career information lives in searchable portals, and advising and counseling are increasingly guided through technology. In these cases, technology delivers an approach, expands its reach, and extends access where in-person options are limited, as in many rural communities. In other cases, technology is a core part of the intervention, such as virtual job shadowing, immersive simulations, and AI advisors.

These uses are different, and the evidence tells us little about how. The same platform can support a strong program or stand in for one, and we do not know when technology adds value, when it substitutes for something better, or for whom. Practitioners and state leaders we spoke with made the same point: Technology works best when its use is intentional and tied to a clear theory of change.

Evidence for most technology tools is descriptive, drawn from usage and satisfaction data, implementation guidance, and pre-post or program-reported results that suggest students find the tools engaging.⁷² Few studies compare tools, weigh them against in-person alternatives, follow students over time, or isolate a single platform's effects.⁷³ The rigorous studies that exist are international and short-term, and evaluate technology-delivered interventions such as online career courses and life-design programs, not the commercial platforms that drive adoption.⁷⁴ The clearest platform-level study is Naviance, which shifted where students applied and enrolled, raising in-state four-year college attendance for disadvantaged students.⁷⁵ Newer immersive platforms and AI advisors have no comparable K-12 outcome studies; one learning simulation study found a small, short-term rise in science interest with no significant benefit over traditional instruction.⁷⁶

⁷² Salimi, Rappaport, & Nuñez (2025); K12 Learning Solutions (2021)

⁷³ Salimi, Rappaport, & Nuñez (2025)

⁷⁴ Chen et al. (2022); Nota, Santilli, & Soresi (2016)

⁷⁵ Mulhern (2020). Effects varied by school; at high schools with weaker college-going cultures, the shift was toward less selective colleges.

⁷⁶ Cui et al. (2024); Akiba & Fraboni (2023); Lent (2025); Thisgaard & Makransky (2017)

Table 3: How Technology is Used in Career Exploration

Common Usage Types	Adoption
Interest assessment and planning platforms <i>Examples: Naviance, Kuder, Xello, YouScience</i> • Interest and aptitude assessments • Career matching algorithms, pathway recommendations • Portfolio, reflection, and planning tools, often integrated with ICAP/ILP requirements	Widely adopted across school districts, used standalone or embedded in advisory, coursework, or planning requirements
Information and exploration portals <i>Examples: O*NET Online, California Career Zone, Virginia Wizard, Texas Reality Check, etc.</i> • Occupation databases with requirements • Information, assessments, and planning tools aligned with the state or local economy • Occupation-focused video and multimedia libraries	Used in many states; typically standalone, student-directed exploration and research rather than a structured curriculum
Virtual job shadowing and immersive experience platforms <i>Examples: Pathful, Worktour, CareerViewXR</i> • Virtual experiences in work settings with professionals that can supplement or substitute in-person job shadowing in low-access areas • Virtual or augmented reality simulations	Growing, but adoption is limited by technology access and cost; typically implemented as short modules, pilots, or add-ons to existing courses
AI-supported guidance tools <i>Examples: CareerVillage Coach, Orchard</i> • Chatbot career advisors and Q&A support • Personalized pathway and course recommendations based on student profiles • Résumé, cover letter, and application support • Matching or surfacing of opportunities	Early adoption but expanding fast; may be used on its own or to supplement counseling

Common Usage Types	Adoption
Learning management system (LMS) integrations <i>Examples: Career modules in Canvas, Schoology</i> • Career readiness courses and curriculum modules delivered through existing LMS platforms • Portfolio development and tracking • Integration with external career tools (e.g., linking to assessments, labor market data)	Becoming more common as schools use platforms they already have. This makes it easier to integrate short, low-lift activities (reflection prompts, videos) into core classes.

Technology use also carries risks that schools and programs must account for when designing and delivering programs. Recommendation and matching systems, especially those powered by generative AI, can be hard to understand and may reflect biases in the data they learn from, steering students toward or away from paths in ways that are hard to see or question.⁷⁷

It can also widen the very gaps it is meant to close, because students with the least reliable access to devices, connectivity, and adult support are often the ones schools most hope to reach through digital tools.⁷⁸ And when technology is used as a substitute for relationships rather than a support, it can replace the relational, hands-on experiences young people say they value most. These risks call for deliberate decision making about where and how technology is used.

“

What I’ve really seen is that when technology is used intentionally, not as a replacement for human connection but as a bridge, we can significantly expand a student’s awareness of what’s possible, and truly democratize access to professionals, industries and even instructors they might otherwise never meet.

– Practitioner interviewed for landscape scan

⁷⁷ Lent (2025)

⁷⁸ Moore & Czerwinska (2019); ILO (2021); Stoeger et al. (2019)

Building Better Evidence

Career exploration will become more valuable for young people when evidence building is designed to strengthen practice and quality.

The next phase of work should help practitioners learn what is working and how, help policymakers and funders invest in the conditions that support quality, and help the field understand how young people develop the awareness, readiness, and agency they need for long-term success.

Gaps in the research base should not be mistaken for proof that career exploration does not work. Developmental research establishes the need for exploration during adolescence, and international longitudinal research connects some teenage career activities with later education and labor-market outcomes.⁷⁹

Across the country, educators, counselors, youth-serving organizations, intermediaries, employers, and state leaders are responding to needs clearly named by young people and families: more hands-on experiences, trusted adult guidance, practical information about pathways, and support for navigating uncertainty. The challenge is that evidence-building has not kept pace with the speed and breadth of program and policy expansion.

“

Your best evidence is going to be learners themselves telling you whether this was helpful or not. But that kind of data collection doesn't currently exist in any consistent way. Some people do it, some people don't. Whether the activities actually helped students grow, students aren't being asked that.

– *Practitioner*

“

What I'd like to see is just more and more nuance around program delivery models, and what the core components of high-quality career exploration delivery looks like. I think that is what's pretty ill-defined right now.

– *Researcher*

⁷⁹ Covacevich et al. (2021)

Key Evidence Gaps

The biggest gaps are about how to design, deliver, and evaluate high-quality exploration.

- **Which outcomes matter the most.** We do not have a shared understanding of the student outcomes that should define success. Programs often track participation, completion, awareness, or confidence. Less is known about how to measure changes in self-knowledge, agency, relationships, social capital, durable skills and decision making, or how those changes connect to academic, postsecondary and labor market outcomes.
- **Which designs work and for whom.** Career exploration can include many different approaches, from advising and assessments to work-based learning, mentoring, applied learning, and whole-school models. We lack actionable and rigorous evidence on which activities or experiences matter most for student outcomes, how they can be delivered or combined effectively, or how results vary across students and settings.
- **What quality looks like in practice.** Participation alone does not tell us whether an experience was meaningful. We need stronger evidence on what distinguishes high-quality experiences from low-quality ones, including the roles of reflection, adult guidance, student choice, hands-on learning, and employer engagement.
- **How exploration should build over time.** Career exploration may need to look different as students move from middle school to high school and begin making more consequential choices. Evidence is limited on how experiences should be combined across grades, how middle school exploration should connect to high school choices and postsecondary transitions, and how students should be supported to adapt their plans.
- **What it takes to deliver career exploration equitably.** Access to trusted adults, employer networks, hands-on experiences, and out-of-school opportunities varies widely. At the same time, digital tools are increasingly used for assessments, career information, planning, advising, and virtual experiences. The field needs better evidence on whether programs broaden students' options, how approaches work across communities and geographies, and when technology expands access or widens gaps. Research on whether and how specific approaches work differently for students by race, income, and geography is particularly scarce.



Why the Gaps Persist

The conditions that make career exploration difficult to study are often the same conditions that make it difficult to deliver well.⁸⁰

New investments are expanding career exploration, but not always the data and evidence capacity needed to learn from it. Schools and youth-serving organizations often deliver career exploration with limited resources, while educators, counselors, and partners lack the time, training, role clarity, and stable funding needed to do it well. Investments in the data infrastructure and practitioner capacity needed to collect and use information well have lagged behind program expansion. When capacity is stretched, evidence-building can feel like an added burden rather than a tool for improvement, creating a risk of scaling activities without understanding what makes them effective.

Accountability and measurement focus more on participation than on quality or student experience. Most schools and programs can say whether a student completed a plan, attended an event, or participated in an internship. Far fewer can assess whether those experiences connected to students' interests, expanded their relationships, supported reflection, or changed how they understood themselves and their options. Changes in student perception, relationships, and competencies, the kinds of changes believed to support later academic and labor-market outcomes, are rarely measured.

Outcomes unfold over years, across many transitions. Understanding whether early exploration matters requires following students from middle school through high school and into postsecondary education, training, or work. Few systems are built for that long view, and the field lacks alignment on the near-term outcomes that should connect early experiences to later success.

⁸⁰ See the companion [Practice Brief](#) for a fuller examination of these implementation conditions.

How We Can Build Better Evidence

Advancing evidence will require states, districts, schools, programs, researchers, and communities to make a connected set of choices about what an effort is trying to change, how it expects to produce that change, what it measures, and how it will continue learning. These correspond to the evidence priorities identified in the [companion White Paper](#) and inform the implementation-focused learning agenda in the Practice Brief.

Start with a clear theory of change. Any effort to expand career exploration should clearly articulate what students are expected to gain and how the experience is meant to produce those gains, drawing on existing evidence about components of high-quality exploration.

Define shared outcomes and measures. Greater clarity about desired outcomes would make measurement more consistent and make it possible to compare across programs and build knowledge across the field. As one researcher put it, the work is “more like movement building than it is about whether the research has found the answer,” because the field is still working toward a shared definition of success.

Measure both outcomes and the experiences that produce them. Measurement and evaluation efforts should seek to understand what students actually experience: the quality of the activity, the role of adults and peers, the opportunities for reflection, the level of student choice, and what young people themselves say they gained. This can help identify what is driving results and what should be scaled and how.

Build the infrastructure to sustain learning. Schools and programs need coordination, professional learning, data systems, and continuous improvement routines that make evidence-building part of the work instead of an afterthought.

As career exploration continues to expand, evidence-building needs to keep pace. Programs can keep growing while also learning in more systematic ways, so future investments are guided by what actually helps young people explore, decide, and adapt.



Appendix



1. Evidence Assessment Methodology

Project Evident conducted this evidence and opportunity assessment between December 2025 and May 2026 to understand what the field knows, and does not yet know, about effective career exploration in K-12. This appendix describes how the team reviewed the research and rated the strength of evidence on outcomes.

Literature Reviewed

We reviewed a broad body of research that spanned hundreds of publications across developmental psychology, career development theory, youth development research, program evaluations, systematic reviews and meta-analyses, descriptive and qualitative studies, survey research, and existing scans of how career exploration is defined, delivered, and measured. To assess the strength of evidence for different interventions and practices, the team focused on outcome evaluations, including experimental, quasi-experimental, longitudinal, pre-post, and descriptive studies.

The review is extensive but not exhaustive. States, localities, and providers often conduct their own evaluations and case studies, and it was not feasible to identify and assess these across all states. Many studies examine the same or similar interventions, and the synthesis draws on them. Throughout this document, citations point to the most relevant and rigorous studies rather than the full body of literature reviewed.

Outcomes Examined

When reviewing evidence on the efficacy of programs and practices, we examined outcomes in the following categories. These align with the [components of effective career exploration](#), as evidenced by research.

Outcome category	What it captures
Academic beliefs and awareness	How students think about school and their own academic ability, such as academic self-efficacy, motivation, belonging, and educational aspirations
Academic engagement and achievement	How well they perform and advance, such as grades, attendance, course completion, graduation, and postsecondary enrollment



Outcome category	What it captures
Career-related beliefs and awareness	How students think about work and themselves in relation to it, such as career self-efficacy, interest clarity, career identity, and other career constructs
Career-related engagement and achievement	How well they perform and advance in terms of employment, wages, credentials, and satisfaction
Durable skills	Durable and transferable skills that support learning and work, such as problem solving, collaboration, communication, and self-management
Social capital and networks	Relationships, networks, and access that shape opportunity, such as mentorship, exposure to role models, and the quality of a young person's networks

Some of these outcomes cut across categories. For example, studies may measure academic self-efficacy and career self-efficacy in ways that make it difficult to distinguish between them. We grouped each finding into the category it fit most closely.

How We Categorized Evidence

We judged the strength of evidence by study design and by the weight of the studies behind a finding. First, we looked at what each study can show. Some provide causal evidence that a practice or program produced an outcome, usually through a randomized trial or a strong quasi-experimental design. Others are correlational, showing that a program and an outcome go together without showing that the program caused it. Others are descriptive: they record what participants experienced and can measure outcomes, including before-and-after change or outcomes tracked over time, but without a comparison group, they cannot show what would have happened otherwise. Beyond whether a study can show cause and effect, we also weighed how large and well-designed the studies were, how many there were, how consistent their findings were, and how long they followed students. On that basis, we describe evidence as strong, moderate, limited, or absent. A single, small randomized study, for example, would not on its own count as strong.



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