

# Quality Coaching is Foundational and Universal

## Principle 3

- Principle 1: Centered on education-to-career-outcomes
- Principle 2: Driven by student agency
- Principle 3: Foundation and universal
- Principle 4: Rooted in relationships
- Principle 5: Informed by data and evidence



This principle ensures all students receive education-to-career guidance early in college and continually throughout their education without having to go out of their way and leveraging technology to provide guidance at scale.

In practice, this approach reflects a coordinated, system-wide commitment to supporting students, including the strategic use of technology to expand access and advance equity. It requires a comprehensive ecosystem of support, in which guidance is intentionally embedded across programs, transitions, and reentry points – from high school through higher education – ensuring that students receive consistent, connected, and responsive support at each stage of their educational journey.

Research on this Quality Coaching principle supports embedding career advising into academic experiences, particularly through first-year seminars, guided pathways, and the integration of career services into curriculum. These approaches are most effective when they are aligned with students' developmental stages and supported by coordinated systems that connect academic and career learning. Early career exposure, industry partnerships, and integrated supports are important for strengthening students' career clarity and readiness. However, further large-scale, longitudinal research is needed to better understand long-term impacts and effectiveness across disciplinary fields.

## What the Evidence Shows<sup>1</sup>

**Technology expands access but works best when paired with human support.** Digital advising and artificial intelligence-enabled platforms increase engagement, career knowledge, and self-efficacy, particularly for first-generation and underrepresented students. At the same time, these technologies introduce new challenges. Although AI systems can provide clear, structured information, they may miss the personalization, contextual understanding, and empathy that human advisors offer.<sup>2</sup>

**Embedding career development into required college coursework increases impact.** Credit-bearing first-year and general education courses that integrate reflection, identity exploration, and structured advising improve career confidence and decision-making among undergraduate students.<sup>3</sup> Optional or noncredit formats may limit reach and sustainability as well as faculty and advisor coordination, which is essential to prevent career development from becoming siloed across departments.<sup>4</sup>

**Integrated credential and occupational pathways improve outcomes for adult learners.** When community colleges embed stackable credentials, occupational instruction, and proactive career counseling directly into coursework rather than treating them as add-ons, adult learners are more likely to complete programs and transition into in-demand careers.<sup>5</sup>

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**Integration of career services into academic structures improves student career outcomes.** Embedding career services staff into academic structures — such as courses, advising, and curricular modules — consistently improves students’ career readiness, confidence, and ability to articulate employer-valued skills.<sup>6</sup> Evidence shows that repeated and early exposure through credit-bearing courses, embedded modules, and ongoing touchpoints helps students develop transferable skills and internalize career preparation as part of their academic experience, rather than a one-time activity.<sup>7</sup>

**Early, ecosystem-based exposure in high school improves transitions.** Career academies, Career and Technical pathways, and dual enrollment programs create structured, coherent career preparation for high school students. When educators, employers, and community partners coordinate, students experience clearer bridges to postsecondary education and the workforce.<sup>8</sup>

**Guided pathways that integrate career touchpoints across the college journey improve career planning.** Career maps, meta-majors, and proactive advising help

students align academic planning with workforce outcomes. Within guided pathway models, holistic, relationship-centered advising supports goal setting, exploration, and long-term planning, advancing a “career everywhere” approach.<sup>9</sup>

**Cross-sector partnerships enable systems-level change.** Sustainable impact requires coordination among faculty, advisors, employers, alumni, and community stakeholders. Aligned systems across K–12, postsecondary, and workforce sectors strengthen long-term student success.<sup>10</sup>

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## Spotlighting Effective Practices and Models in the Research

**Guided Pathways** is a comprehensive higher education reform model predominantly implemented at community colleges across multiple states to redesign the student experience by clarifying program pathways and aligning academic and career planning. A defining feature of this approach is the integration of structured advising systems, including trained advisors who use career assessments and students’ goals to guide academic planning, along with institutional use of meta-majors, program maps, and tiered advising supported by dedicated advising staff. The model embeds career exploration and goal setting from onboarding through completion, ensuring students remain on track toward credential attainment while connecting learning to long-term career outcomes.<sup>11</sup> *The Ohio Community College System* implemented a Guided Pathways framework across 23 institutions to strengthen connections between academic programs and career outcomes. Its approach embeds career exploration throughout the student journey, using tools such as labor market data systems, degree planners, and experiential learning opportunities such as internships and co-ops. This model improves career readiness and academic engagement, particularly for adult learners, by supporting more informed program selection, stronger alignment with workforce needs, and increased access to career development resources.<sup>12</sup>

**National Academy Foundation career academies** are structured, career-themed learning communities implemented across multiple states that integrate rigorous academics with career-focused coursework, work-based learning, and industry partnerships. A defining feature of this model is the collaboration between teachers, career-focused staff, and industry partners who co-develop curriculum, provide mentoring, and support students through internships and career exploration experiences. Students engage in project-based learning, earn industry certifications, and participate in structured experiences such as job shadowing and networking events. These academies improve career awareness, technical skills, and postsecondary preparation, with success dependent on strong curricular coherence, employer engagement, and integrated student supports.<sup>13</sup>

**The Thompson Scholars Program (TS) at the University of Nebraska system** is a comprehensive college transition and support model that combines structured advising, mentorship, and career development activities for low-income and first-generation students. A defining feature of the program is the role of dedicated staff who provide consistent, relationship-centered advising, career guidance, and developmental support throughout students’ first two years. Students participate in career-focused activities such as resume workshops, mock interviews, and career fairs, alongside academic and social programming that reinforces their development. TS significantly increases students’ major and career self-efficacy, helping them build confidence, clarify their goals, and make informed decisions about their academic and career pathways.<sup>14</sup>

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## Endnotes

- <sup>1</sup>[A group of national experts developed the five Principles for Quality Education-to-Career Guidance which guided this systematic literature review.](#) The review examined U.S.-based peer-reviewed and high-quality grey literature published between 2016 and 2025, including studies, policy briefs, and reports focused on high school and higher education populations. Sources were selected using replicable inclusion criteria to ensure relevance to education-to-career coaching and guidance practices.
- <sup>2</sup>Briggs, Amanda, and Stephanie Petrov. *Career Services Strategies to Advance Equity: Findings from Four Institutions in the ACE-UP Community of Practice*. Urban Institute, 2024; Lee, Terri, Krithika Jagannath, Nitin Aggarwal, Ramamurti Sridar, Shawn Wilde, Timothy Hill, and Yu Chen. 2019. "Intelligent Career Advisers in Your Pocket? A Need Assessment Study of Chatbots for Student Career Advising." AMCIS 2019 Proceedings, 14. AISEL record. Lekan, Kasra, and Zachary A. Pardos. "AI-Augmented Advising: A Comparative Study of GPT-4 and Advisor-Based Major Recommendations." *Journal of Learning Analytics* 12, no. 1 (2025): 110-128.; Marquez, Marisa & Hayward, Craig. "Bakersfield College high-tech, high-touch career counseling and advising". In C. Fountain & I. Portillo (Eds.), *Career advising as a tool for student success and educational equity*. University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition. (2021): 9-14. Moran, Nora, and David Ackerman. ""Can AI really help me land a job?" Student reactions to the use of artificial intelligence in career preparation." *Journal of Education for Business* 99, no. 2 (2024): 103-112.; Okado, Yuko, Benjamin D. Nye, Angelica Aguirre, and William Swartout. "How Can Virtual Agents Scale Up Mentoring?: Insights from College Students' Experiences Using the CareerFair. ai Platform at an American Hispanic-Serving Institution." *International Journal of Artificial Intelligence in Education* 35, no. 4 (2025): 2596-2615.
- <sup>3</sup>Belser, Christopher T., Diandra J. Prescod, Andrew P. Daire, Melissa A. Dagley, and Cynthia Y. Young. "Predicting undergraduate student retention in STEM majors based on career development factors." *The Career Development Quarterly* 65, no. 1 (2017): 88-93.; Belser, Christopher T., Diandra J. Prescod, Andrew P. Daire, Melissa A. Dagley, and Cynthia Y. Young. "The influence of career planning on career thoughts in STEM interested undergraduates." *The Career Development Quarterly* 66, no. 2 (2018): 176-181.; Favre, Cynthia. "Gustavus Adolphus College: Design a future: A career exploration Course". In C. Fountain & I. Portillo (Eds.), *Career advising as a tool for student success and educational equity*. University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition. (2021): 23-29.; Fouad, Nadya A., Arpita Ghosh, Wen-hsin Chang, Catia Figueiredo, and Thomas Bachhuber. "Career exploration among college students." *Journal of College Student Development* 57, no. 4(2016): 460-464; Hypolite, Liane I., Joseph A. Kitchen, and Adrianna Kezar. "Developing major and career self-efficacy among at-promise students: The role of a comprehensive college transition program." *Journal of College Student Retention: Research, Theory & Practice* 26, no. 4 (2025): 1028-1052.; Klein, Stephen A., John W. Elmer, and Patrick J. Rottinghaus. "Using a career research project in the introductory communication course to develop agency, self-efficacy, self-determination, and adaptability in career exploration." *Journal of Communication Pedagogy* 8 (2024): 24-47. Kitchen, Joseph A., Adrianna Kezar, and Liane I. Hypolite. "At-promise college student major and career self-efficacy ecology model." *Journal of Diversity in Higher Education* 16, no. 3 (2023): 369-383.; Krsmanovic, Masha. "Course Redesign: Implementing Project-Based Learning to Improve Students' Self-Efficacy." *Journal of the Scholarship of Teaching and Learning* 21, no. 2 (2021): 93-106.
- <sup>4</sup>Rideau, Raylea, Griffin, Ann McAdam, & Passo, Michelle. "Rice University: ProfessionOwl program". In C. Fountain & I. Portillo (Eds.), *Career advising as a tool for student success and educational equity*. University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition. (2021): 48-52. Streufert, Billie, Capers, Willette, Brunick, Lisa, & Rives-East, Darcie. "Augustana University flipped career advising first-year curriculum". In C. Fountain & I. Portillo (Eds.), *Career advising as a tool for student success and educational equity*. University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition. (2021): 1-8.
- <sup>5</sup>Dikhtyar, Oksana, Phyllis Ann Cummins, Kathryn McGrew, and Peter Riley Bahr. "Strategies employed by Ohio community colleges to improve labor market outcomes for older students." *Community College Journal of Research and Practice* 45, no. 9 (2021): 619-630.; Martinson, Karin, Sung-Woo Cho, Karen Gardiner, and Asaph Glosser. "Washington State's Integrated Basic Education and Skills Training (I-BEST) Program in Three Colleges: Implementation and Early Impact Report. Pathways for Advancing Careers and Education. OPRE Report No. 2018-87." *Administration for Children & Families* (2018).; Rolston, Howard, Consultant Elizabeth Copson, and Larry Buron. "Valley Initiative for Development and Advancement (VIDA): Three-Year Impact Report A Pathways for Advancing Careers and Education (PACE)/Career Pathways Intermediate Outcomes Study Publication." (2021).

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## Endnotes

<sup>6</sup>Briggs and Petrov, "Career Services Strategies to Advance Equity"; Dikhtyar et al., "Strategies Employed by Ohio Community Colleges to Improve Labor Market Outcomes for Older Students."; Okado, Yuko, Benjamin D. Nye, Angelica Aguirre, and William Swartout. "Can Virtual Agents Scale Up Mentoring? Insights from College Students' Experiences Using the CareerFair.ai Platform at an American Hispanic-Serving Institution." In *Artificial Intelligence in Education: 24th International Conference, AIED 2023*, Tokyo, Japan, July 3–7, 2023, Proceedings, edited by Ning Wang, Genaro Rebolledo-Mendez, Noboru Matsuda, Olga C. Santos, and Vania Dimitrova, 189–201. Cham: Springer, 2023.

<sup>7</sup>Janes, Kaitlin. "SUNY Old Westbury College: Sophomore shadow program". In C. Fountain & I. Portillo (Eds.), *Career advising as a tool for student success and educational equity*. University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition. (2021): 53–58. Streufert et al., "Augustana University Flipped Career Advising First-Year Curriculum."; Rideau, Griffin, and Passo, "Rice University: ProfessionOwl Program."

<sup>8</sup>Fletcher Jr, Edward C., Nathalie Q. Warren, and Victor M. Hernández-Gantes. "Preparing high school students for a changing world: College, career, and future ready learners." *Career and Technical Education Research* 43, no. 1 (2018): 77–97.; Hernandez-Gantes, Victor M., and Edward C. Fletcher. "The High School Career Academy as a Model for Promoting Technological Preparation: Promising Practices and Challenges in the United States." In *Vocational Education and Training in the Age of Digitization: Challenges and Opportunities*, edited by Eveline Wuttke, Jürgen Seifried, and Helmut M. Niegemann, 169–186. Opladen, Berlin, and Toronto: Verlag Barbara Budrich, 2020.; Griffin, Sarah, Jessica Steiger, Aurely Garcia Tulloch, John Fink, and Davis Jenkins. "Dual enrollment equity pathways: A research-based framework for expanding college and career opportunity for underserved students." *New Directions for Community Colleges* 2024, no. 207 (2024): 47–60.; Hines, Erik M., Edward C. Fletcher Jr, James L. Moore III, and Donna Y. Ford. "Culturally responsive postsecondary readiness practices for Black males: Practice and policy recommendations for school counselors." *Journal of school based counseling policy and evaluation* 45, no. 1 (2022); 32–43. Malin, Joel R., and Donald G. Hackmann. "Enhancing students' transitions to college and careers: A case study of distributed leadership practice in supporting a high school career academy model." *Leadership and Policy in Schools* 16, no. 1 (2017): 54–79.; Sludden, John, and James J. Kemple. "High School Advising: Exploring NYC Students' Perceptions of School-Based Support for College and Career Transitions. Research Report." *Research Alliance for New York City Schools* (2024).; Torre Gibney, Thomas, and Mary Rauner. "Education and Career Planning in High School: A National Study of School and Student Characteristics and College-Going Behaviors. REL 2022-127." *Regional Educational Laboratory West* (2021).

<sup>9</sup>Klempin, Serena, and Hana Lahr. "How Ohio Community Colleges are Using Guided Pathways to Personalize Student Support." *Community College Research Center, Teachers College, Columbia University* (2021).; Marquez and Hayward, "Bakersfield College High-Tech, High-Touch Career Counseling and Advising."

<sup>10</sup>Briggs and Petrov, *Career Services Strategies to Advance Equity*; Dikhtyar et al., "Strategies Employed by Ohio Community Colleges to Improve Labor Market Outcomes for Older Students." Fletcher Jr., Warren, and Hernández-Gantes, "Preparing High School Students for a Changing World"; Hernandez-Gantes and Fletcher, "The High School Career Academy as a Model for Promoting Technological Preparation"; Hines et al., "Culturally Responsive Postsecondary Readiness Practices for Black Males"; Hypolite, Kitchen, and Kezar, "Developing Major and Career Self-Efficacy Among At-Promise Students"; Janes, "SUNY Old Westbury College: Sophomore Shadow Program"; Streufert et al., "Augustana University Flipped Career Advising First-Year Curriculum."

<sup>11</sup>Lahr, H., Klempin, S. C., & Jenkins, D. (2023). *Innovating at Scale: Guided Pathways Adoption and Early Student Momentum among the AACC Pathways Colleges*. Report. Community College Research Center, Teachers College, Columbia University.

<sup>12</sup>Dikhtyar et al., "Strategies Employed by Ohio Community Colleges to Improve Labor Market Outcomes for Older Students."; Lahr, Hana Elizabeth, Serena Constance Klempin, and Davis Jenkins. "Innovating at scale: Guided pathways adoption and early student momentum among the AACC pathways colleges." (2023).

<sup>13</sup>Hernandez-Gantes and Fletcher, "The High School Career Academy as a Model for Promoting Technological Preparation"; Hines et al., "Culturally Responsive Postsecondary Readiness Practices for Black Males."

<sup>14</sup>Hypolite, Kitchen, and Kezar, "Developing Major and Career Self-Efficacy Among At-Promise Students"; Kitchen, and Kezar, "Developing Major and Career Self-Efficacy Among At-Promise Students".