

COLLEGE AND CAREER READINESS STRUCTURES

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In the following report, Hanover Research reviews the literature on college and career readiness with a focus on career ready skills, standards, and assessments as well as the steps school counselors can take to best prepare students for postsecondary success.

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EXECUTIVE SUMMARY AND KEY FINDINGS

INTRODUCTION

With support from the Maryland State Department of Education (MSDE), the College and Career Readiness and College Completion Act of 2013 (SB 740) requires all Maryland school systems to assess students in math and literacy at the completion of Grade 11 in an effort to ensure that all students are prepared for their senior year and beyond.¹ Prompted by this state legislative initiative, Maryland public school systems may need to further invest in preparing students for postsecondary success with a specific focus on career readiness. Accordingly, Hanover Research (Hanover) has synthesized information from secondary articles and reports that identify key strategies for developing college and career readiness skills and highlight the impact of counseling for college and career readiness in the primary grades through high school. This literature review is organized into two main sections:

- **Section I: Defining Career Readiness and its Importance** explores the literature on the changing labor market and the 21st century skills employers look for in high school and college graduates. These skills are then reviewed at the primary, middle, and secondary grade levels, as are learning standards and assessments for measuring skill development. Several spotlights featuring exemplary schools recognized for their college and career readiness initiatives are embedded throughout the section.
- **Section II: Planning for Career Readiness** discusses the roles and responsibilities of school counselors as they help lead efforts to support students' college and career readiness through several pathways, including academic organization, academic support systems, and the provision of career enrichment and preparation opportunities. Close attention is given to strategies for post-graduation planning, the inclusion of parents in preparation for college and career transitions, and working with community partners to create opportunities for career exploration.

KEY FINDINGS

- **Driven by shifts in the labor market and the demand for skills critical to successful employment, college and career readiness has become a central focus of education reform.** Research finds that recent graduates of high school and college are not adequately prepared for the demands of postsecondary education and work; surveys of employers support these trends as many feel that new graduate hires are lacking in basic skills for 21st century occupations. To ensure that all students are equipped with these types of skills and that they have planned for their long-term education and career goals, many state policymakers have developed high school learning standards and assessments centered on college and career readiness.
- **Career readiness is often part of a larger conversation about 21st century learning and skills.** In all, 21st century skills can be sorted into three categories: cognitive

¹ "Maryland Senate Bill 740: MD SB740 | 2013 | Regular Session." LegiScan. May 16, 2013.
<https://legiscan.com/MD/bill/SB740/2013>

competencies, interpersonal competencies, and intrapersonal competencies. Cognitive competencies refer to the achievement of core academic content, including academic mastery, critical thinking, and creativity. Interpersonal competencies refer to students' ability to relate and work with others, including communication and collaboration, leadership, and global awareness. Intrapersonal competencies are skills that correspond with how students regulate their actions and apply themselves, and include a growth mindset, learning how to learn, intrinsic motivation, and grit.

- **A student's stage of cognitive and socio-emotional development will influence his or her capacity to develop career readiness skills; thus, career readiness standards for skill development depend on grade level.** Developmental frameworks for learning, such as Benjamin Bloom's "Taxonomy of Educational Objectives" and Norman Webb's "Depth of Knowledge Levels," can serve as resources for understanding the connections between career readiness standards and learning at each developmental stage. Young children may be expected to master low-level skills, such as cognitive understanding or attention span persistence, for example. By high school, students are expected to master higher-level thinking as well as other technology, life, and career planning skills.
- **Most states have adopted college and career readiness (CCR) assessments that measure cognitive and core content competencies.** These assessments are aligned with standards for academic performance and test students' knowledge and skills required for performing more rigorous work in postsecondary settings. Some states have developed their own CCR assessments with the help of separate vendors. Other states use Partnership for Assessment of Readiness for College and Career (PARCC) or Smarter Balanced Assessment Consortium (SBAC) assessments.
- **School counselors play a critical role in helping to inspire students and guide them in their preparation for the transition to college and careers.** The College Board's Advocacy and Policy Center (CBAPC) lists eight components to comprehensive college and career readiness counseling that may be applied across all primary, middle, and secondary grades. These include helping students to: build college and career aspirations; plan and prepare for rigorous academic programs and work; engage in career enrichment to nurture interests; explore college and career options; prepare for assessments; plan with their families for college affordability; ensure a smooth college and career admission process; and transition from high school to college and careers.
- **How school counselors provide students with information on academic pathways, academic supports, and enrichment opportunities for college and career readiness differs by grade level.** According to the National Office for School Counselor Advocacy (NOSCA), elementary school counselors should "create early awareness, knowledge, and skills that lay the foundation for the academic rigor and social development necessary for college and career readiness."² Middle school counselors can "create

² "Elementary School Counselor's Guide: NOSCA's Eight Components of College and Career Readiness Counseling." College Board and the National Office for School Counselor Advocacy, 2012. p. 2. https://secure-media.collegeboard.org/digitalServices/pdf/advocacy/nosca/11b-4383_ES_Counselor_Guide_WEB_120213.pdf

opportunities to explore and deepen college and career knowledge and skills necessary for academic planning and goal setting.”³ Building on these practices, high school counselors must “create access to college and career pathways that promote full implementation of personal goals that ensure the widest range of future life options.”⁴

- **Leaders of counseling for college and career readiness find that providing information and support to parents is essential for helping students and their families plan for post-graduation.** While parents hold high expectations for their children’s higher education and careers, they may not necessarily be equipped with the resources needed to help guide their children for these transitions. One survey found that 45 percent of middle school parents had not taken any of the recommended steps to plan for college. To bridge gaps in parent expectations and actions to meet college and career goals, school counselors can schedule informational sessions with families and offer information on best post-graduation planning practices.
- **Counselors can help forge partnerships with community organizations and local businesses to establish career enrichment and awareness opportunities for students.** While other school staff and administrative personnel may take on these responsibilities as well, as active leaders in the development of college and career readiness efforts, school counselors can develop and use these partnerships to help inform students about different career options and the skills needed to meet their career goals. Eight elements for building school-community partnerships include: leadership, teamwork, action plans, implementation of plans, funding, collegial support, evaluation, and networking.

³ Ibid.

⁴ Ibid.

SECTION I: DEFINING CAREER READINESS AND ITS IMPORTANCE

In the following section, Hanover explores the importance of preparing students for postsecondary success and workforce readiness, citing evidence of students' lack of career preparation at the national level and the shifting skill demands of the labor market as motivating factors for career preparation initiatives. In order to improve K-12 education and address the gaps between skills, content knowledge, and workforce need, several leading organizations and experts identify basic skills required for career readiness. These skills and learning standards are reviewed below, as are strategies for their assessment.

THE IMPORTANCE OF CAREER READINESS

College and career readiness has become central to the agenda of state-led educational initiatives, particularly since federal reform stipulated greater school, district, and state accountability for students' educational opportunities and academic performance under recent revisions of the Elementary and Secondary Education Act (ESEA).⁵ While state leaders have worked to provide clearer definitions of what it means for students to be college and career ready, leading expert David T. Conley with the Education Policy Improvement Center (EPIC) provides basic definitions of readiness and success. Conley defines college and career readiness as the "level of preparation a student needs in order to enroll and succeed—without remediation—in a credit bearing course at a postsecondary institution that offers a [...] degree or [...] in a high-quality certificate program that enables students to enter a career pathway [...]"⁶ As it relates to career readiness, Conley defines success as "completing the entry-level courses or core certificate courses at a level of understanding and proficiency that makes it possible for the student to consider taking the next course in the sequence or the next level of course in the subject area or of completing the certificate."⁷

58 percent of nearly 400 employers felt that improvements to education must be made in order to ensure success at entry-level positions.

-Study by Hart Research Associates

Pressure from federal policy makers comprises only part of the demand for state accountability for career readiness as leaders in higher education and business find that high school graduates are inadequately prepared for the rigor of postsecondary education and

⁵ Sambolt, M. and D. Blumenthal. "Promoting College and Career Readiness: A Pocket Guide for State and District Leaders." American Institutes for Research, 2013. p. 1.
http://www.air.org/sites/default/files/downloads/report/CCR_Pocket_Guide_0.pdf

⁶ Conley, D. T. "Defining and Measuring College and Career Readiness." Education Policy Improvement Center.
http://programs.ccsso.org/projects/Membership_Meetings/APF/documents/Defining_College_Career_Readiness.pdf

⁷ Ibid.

Just **8 percent** of high school students that graduated in 2013 completed a college- and career-ready curriculum. **47 percent** of this same cohort graduated with no cohesive curriculum.

-Study by Bromberg and Theokas

work.⁸ Indeed, several notable studies have documented the gaps between high school and college graduate skills and those skills that leading industries feel are essential for successful employment. A study released by Hart Research Associates on behalf of the Association of American Colleges and Universities (AACU), for instance, surveyed approximately 400 employers with a minimum of 25 workers and whose organizations hire at least 25 percent of new employees with a two-year college degree or higher.⁹ Over half of the surveyed employers (58 percent) felt that improvements were needed at schools to ensure

students are graduating with the full set of knowledge and skills for success at entry-level positions, and 64 percent indicated that improvements to education would be needed to ensure the success of advanced-position employees.¹⁰

In a separate study, authors Marni Bromberg and Christina Theokas with The Education Trust explored transcript data of a nationally representative sample of high school students from 2009 to 2013.¹¹ Using this information, Bromberg and Theokas set out to determine if students are completing courses with the foundational content and instruction necessary to prepare them for postsecondary education and employment. **After categorizing course sequences into four curriculum levels, the authors found that out of all 2013 high school graduates, only 8 percent completed a college- and career-ready curriculum.** While another 31 percent of students completed a college-ready curriculum, just 13 percent completed a career-ready curriculum.¹² After accounting for these curricular plans, the results indicated that nearly half of all students (47 percent) graduated with no cohesive curriculum. Given these findings, Bromberg and Theokas concluded that while “[a]ll students will not follow the exact same path through high school, [...] educators must be aware of how different courses and sequences are going to build the academic foundation and career-ready skills all students need.”¹³

55 percent of nearly 165,000 high school students feel unprepared for college and careers.

-Study by YouthTruth

⁸ Kirst, M. and A. Venezia. “Improving College Readiness and Success for All Students: A Joint Responsibility Between K–12 and Postsecondary Education.” An Issue Brief for the Secretary of Education’s Commission on the Future of Higher Education. Department of Education, 2006.

<https://www2.ed.gov/about/bdscomm/list/hiedfuture/reports/kirst-venezia.pdf>

⁹ “Falling Short? College Learning and Career Success.” Hart Research Associates, January 20, 2015. p. 1.

<https://www.aacu.org/sites/default/files/files/LEAP/2015employerstudentsurvey.pdf>

¹⁰ Ibid., p. 10.

¹¹ Bromberg, M. and C. Theokas. “Meandering Toward Graduation.” The Education Trust, 2016. p. 2.

https://edtrust.org/wp-content/uploads/2014/09/MeanderingTowardGraduation_EdTrust_April2016.pdf

¹² Ibid., p. 4.

¹³ Ibid.

Just as findings from employer surveys and transcript evaluations point to shortfalls in students' career readiness, many students themselves do not feel ready for education and work after high school completion. A recent report released by YouthTruth, a national non-profit organization that surveys students about their educational experiences,¹⁴ highlights the perceptions of roughly 165,000 high school students on their preparedness for college and careers. The results of this study proved discouraging as most students' confidence in their college and career readiness remains low:¹⁵

- **While the vast majority of high school students want to go to college, most feel unprepared to do so.** Eighty-seven percent of students surveyed said they want to go to college, while only 2.8 percent do not, and 10 percent aren't sure. When asked to think about their expectations rather than their aspirations, the numbers start dropping: 71 percent of students said they expect to go to a two- or four-year college [... and] less than half of students, only 45 percent, felt positively about their college and career readiness.
- **Students tend to feel less prepared for future careers than they do for college.** Students' sense of college readiness is lukewarm at best. But even fewer students feel prepared for a career [just 46 percent of students indicated that school has helped them to figure out which careers match their interests and abilities, and only 49 percent of students indicated that school has helped them understand the steps that need to be taken to have a career that they want].
- **Students are by and large not taking advantage of support services to prepare them for future goals.** When asked about a variety of support services, on average only a third of surveyed students, and only about half of seniors, reported using these services. Counseling about how to pay for college was least utilized, with less than a quarter of students reporting they had used this service, including 23 percent of juniors and 44 percent of seniors.

SHIFTING WORKFORCE DEMANDS

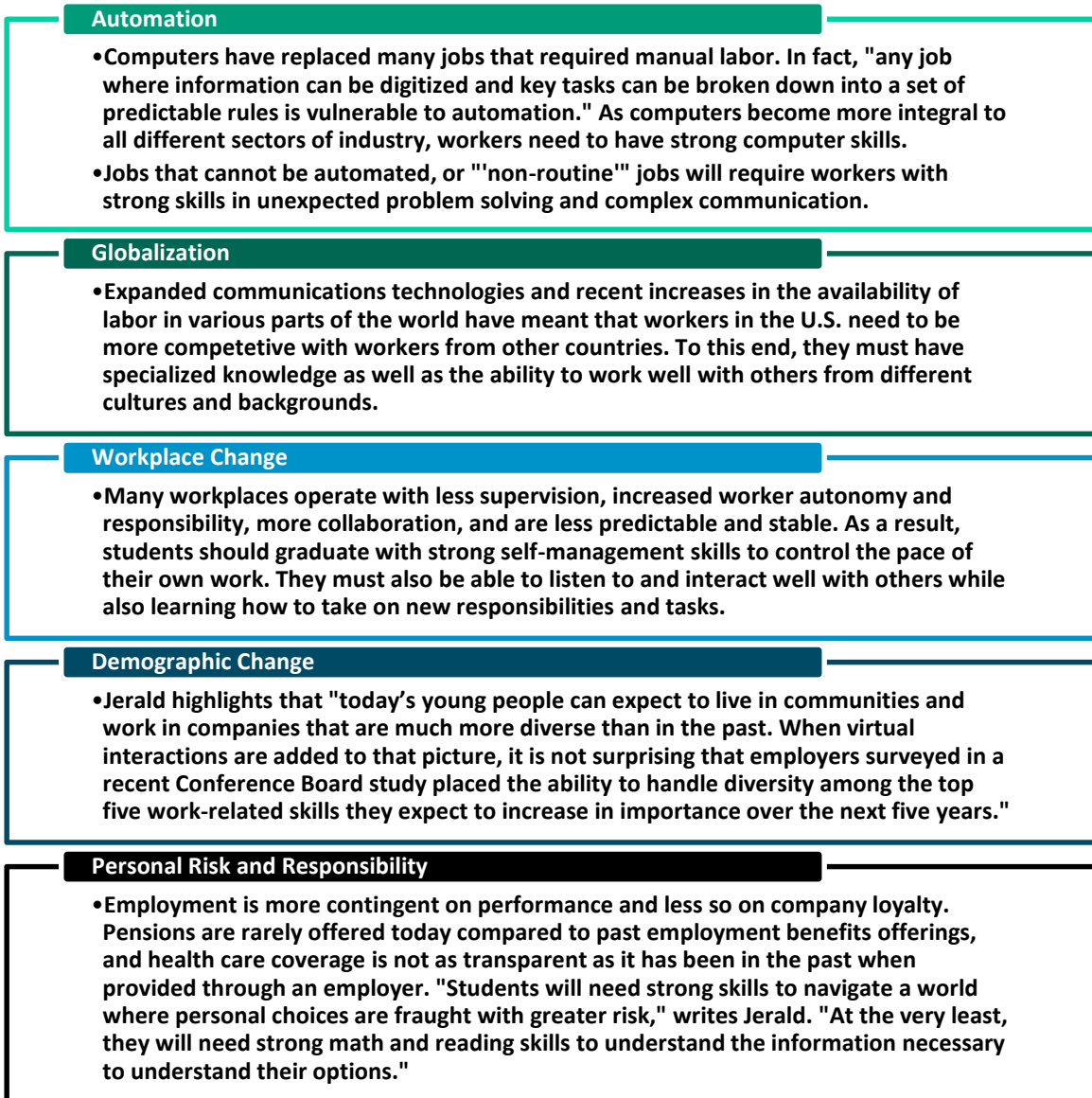
Part of the explanation of the gaps between students' skills and college and career readiness is due to changing workforce and labor market demands, changes of which reformers of education have sought to address by asking educators to teach more to "21st century skills." **Advances in technology, more globally interconnected workforce practices, and changing workplace structures have altered the need for workers with specific knowledge and skill sets.** Such changes in the labor market have subsequently caused educators to reconsider the types of skills that are cultivated in primary and secondary educational settings as a means to better prepare students for the challenges of 21st century work. Before exploring these skills in detail, in Figure 1.1 on the following page, Hanover describes changes occurring within the economy and workplace that are likely to have implications for the demand of up-to-date skill sets using information taken from a report published by the Center for Public Education (CPE).

¹⁴ "YouthTruth: About Us." YouthTruth. <http://www.youthtruthsurvey.org/about/>

¹⁵ List of bulleted information taken almost entirely verbatim from: "Most High Schoolers Feel Unprepared for College and Careers." YouthTruth. <http://www.youthtruthsurvey.org/wp-content/uploads/2016/01/YouthTruth-Learning-From-Student-Voice-College-and-Career-Readiness-2016.pdf>

In brief, this figure describes changes in: automation; globalization; workplace practices; demographic trends; and personal risk and responsibilities.

Figure 1.1: Global Changes Impacting Skills Needed for Career Readiness



Source: Jerald, "Defining a 21st Century Education"¹⁶

Indeed, many of the changes overviewed in Figure 1.1 corroborate employers' expectations for career preparedness recorded in other studies. Accordingly, research demonstrates the following:¹⁷

¹⁶ Jerald, C. "Defining a 21st Century Education." Center for Public Education, July 2009. pp. 1–21. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.460.8011&rep=rep1&type=pdf>

¹⁷ List of bulleted information taken nearly entirely verbatim from: "Falling Short? College Learning and Career Success," Op. cit.

- 96 percent of employers agree that all college students should have educational experiences that teach them how to solve problems with people whose views are different from their own.
- Written and oral communication skills, teamwork skills, ethical decision-making, critical thinking skills, and the ability to apply knowledge in real-world settings are the most highly valued skills employers rate.
- When it comes to considering a job candidate, employers value completion of an internship or apprenticeship most among the applied and project-based learning experiences.

BASIC SKILLS REQUIRED FOR CAREER READINESS

OVERVIEW OF 21ST CENTURY SKILLS

As noted above, discussion among education scholars and practitioners on how to best prepare students for college and careers is often part of a broader conversation on teaching students 21st century skills in preparation for a competitive labor market. In a brief released by the MSDE on why the state has chosen to focus its efforts on college and career readiness, for example, the department explained: “To be competitive in the 21st century, American students must have the knowledge and skills to succeed in college and in the knowledge-based economy and be prepared to compete with students from the highest performing countries around the world.”¹⁸

As it relates to 21st century skills and college and career readiness, **scholars argue that schools must cultivate students’ mastery of broader intellectual, creative, and problem solving skills in addition to their mastery of core academic content in order to keep up with the demands of a rapidly changing and globalizing workforce.**¹⁹ A recent report by Jim Soland and coauthors argues that 21st century skills can be sorted into three categories: cognitive competencies, interpersonal competencies, and intrapersonal competencies.²⁰ While numerous educational organizations and researchers sort 21st century skills using different categorical schemes, these same three competency classifications were outlined by the Committee on the Assessment of 21st Century Skills organized by the National Academy of Sciences.²¹

¹⁸ “Why College and Career Ready Standards?” Maryland State Department of Education. <http://acps.schoolwires.net/cms/lib07/MD01907365/Centricity/Domain/47/06.%20Why%20College%20and%20Career%20Ready%20Standards.pdf>

¹⁹ Silva, E. “Measuring Skills for the 21st Century.” Education Sector, 2008. pp. 1–3. <http://educationpolicy.air.org/sites/default/files/publications/MeasuringSkills.pdf>

²⁰ Soland, J., L. Hamilton, and B. Stecher. “Measuring 21st Century Competencies: Guidance for Educators.” Asia Society. RAND Corporation, 2013. <http://asiasociety.org/files/gcen-measuring21skills.pdf>

²¹ Koenig, J.A. “Assessing 21st Century Skills: Summary of a Workshop.” National Research Council. Committee on the Assessment of 21st Century Skills. Board on Testing and Assessment, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press, 2011. https://www.sri.com/sites/default/files/publications/imports/21st_century_skills.pdf

At large, **cognitive competencies** include “mastery of core academic content, including but not limited to mathematics, science, language arts, foreign languages, history, and geography.”²² **Interpersonal competencies** refer to how students relate to others and involve skills corresponding with communication and collaboration. **Intrapersonal competencies** are skills that relate to “the attitudes and behaviors that influence how students apply themselves in school, work, and other settings.”²³ Whereas cognitive competencies address students’ knowledge of advanced core curricular content, skills related to interpersonal and intrapersonal competencies refer to “soft” 21st century skills. Using information adapted from Soland et al.’s report, Figure 1.2 lists and defines the skills that fall under each competency category.

Figure 1.2: 21st Century Skills Defined

| SKILL | DEFINITION |
|-----------------------------------|---|
| Cognitive Competencies | |
| Academic Mastery | “Learning academic content is fundamental to education, and mastery of such content serves as the basis for higher-order thinking skills as well as the impetus for improved interpersonal and intrapersonal competencies. Academic content includes instruction in subjects such as mathematics, science, reading, global studies, and foreign languages.” |
| Critical Thinking | “[C]ritical thinking includes inductive and deductive reasoning, as well as making correct analyses, inferences, and evaluations. These competencies are important for deeply understanding academic content, and they also relate to later career performance. Research suggests that for a company to compete in the global economy, it needs workers who will think about how to continuously improve its products, processes, or services.” |
| Creativity | “Given its broad applicability and value to entrepreneurship, creativity is included among the key 21st century competencies by a range of organizations and scholars, including the Organization for Economic Co-operation and Development (2013), the National Research Council (Pellegrino and Hilton 2013), the Hewlett Foundation, ETS, and the World Bank. Innovation in particular has consistently been identified as a driving force in 21st century economic development” |
| Interpersonal Competencies | |
| Communication and Collaboration | Communication skills refer to the clarity of the information a student will share, the relevance of the shared information, and how well a student balances discussion among other persons. Collaboration refers to a student’s ability to resolve conflict, as well as decision making processes, problem solving, and negotiation skills. Research on 21 st century skills find that communication and collaboration skills are vital for working with others. |
| Leadership | Leadership skills are multifaceted and can include skills related to communication and collaboration. On the whole, leadership may be defined as involving “initiative, building consensus, innovating new strategies, and implementing policies and programs in collaboration with or under the direction of others.” |

²² Soland, J., L. Hamilton, and B. Stecher. “Measuring 21st Century Competencies: Guidance for Educators.” Asia Society. RAND Corporation, 2013. p. 3. <http://asiasociety.org/files/gcen-measuring21cskills.pdf>

²³ Ibid.

| SKILL | DEFINITION |
|-----------------------------------|--|
| Global Awareness | Students who demonstrate global awareness possess empathy for those from other cultures or nations. Students must also demonstrate an “understanding of the interrelatedness of people, institutions, and systems... students must know how to investigate the world, weigh perspectives, communicate ideas, take action, and apply expertise in order to prosper in a global, multicultural workforce.” |
| Intrapersonal Competencies | |
| Growth Mindset | Having a growth mindset refers to the understanding that intelligence is a function of how much effort is allocated towards overcoming problems and setbacks. Students without a growth mindset are not as prepared to take on the unique challenges of 21 st century problems. |
| Learning How to Learn | “Learning how to learn, or ‘metacognition,’ refers to a student’s ability to determine how to approach a problem or task, monitor his or her own comprehension, and evaluate progress toward completion.” This skill requires students to be self-reflective and responsive to feedback on their performance. |
| Intrinsic Motivation | Intrinsic motivation relates to how students take action to achieve a desired outcome based on their own internal sense of immediate interest and commitment. |
| Grit | Similar to intrinsic motivation, students who display grit are passionate and motivated to achieve certain ends; however, grit refers to students’ long-term commitment and perseverance over time. Students with grit internalize their commitment beyond the day-to-day; they recognize the importance of achievement in the long run. |

Source: Soland, Hamilton, and Stecher, “Measuring 21st Century Competencies: Guidance for Educators”²⁴

CAREER READINESS SKILLS BY GRADE LEVEL

As K-12 educators embed 21st century and college- and career-ready skills into learning standards, curriculum development, instructional strategies, and counseling, it is important to consider children’s developmental stages. **That is, the stage of a child’s cognitive and socio-emotional development influences his or her capacity to learn career readiness skills.**²⁵ Thus, how educators frame curricula and instruction in accordance with career readiness to cultivate 21st century skills depends on students’ developmental stage and, subsequently, their school grade level.²⁶ In what follows, Hanover closely examines research on cultivating skills for career readiness in the primary, middle, and secondary grades.

CAREER READINESS SKILLS IN THE PRIMARY GRADES

A literature review on predictors of postsecondary success published by the College and Career Readiness and Success Center at the American Institutes for Research (AIR) in 2013 found that there are few predictors of postsecondary readiness at the early childhood level: “At this time, there are no studies that identify early childhood indicators of postsecondary

²⁴ Adapted using information from: Ibid., pp. 6–8.

²⁵ “Predictors of Postsecondary Success.” American Institutes for Research, College and Career Readiness and Success Center, November 2013. http://www.ccrscenter.org/sites/default/files/CCRS%20Center_Predictors%20of%20Postsecondary%20Success_final_0.pdf

²⁶ Hess, K. “The Hess Cognitive Rigor Matrix.” Karin-Hess, April 11, 2014. <http://www.karin-hess.com/single-post/2014/4/11/The-Hess-Cognitive-Rigor-Matrix>

success [... and there] are only a small number of early childhood predictors of postsecondary readiness (e.g., academic and social adjustment)."²⁷ With these limitations in mind, results from AIR's literature review did identify findings from several studies that have recorded early childhood skills and skills of students in the elementary grades with the potential to predict postsecondary success. In total, these skills include:

- **Cognitive understanding and control.** Young children's executive function skills as well as skills that enable young children to perceive differences in their own and others' mental states are associated with social and academic success later on.²⁸
- **Positive play interaction behaviors at home and school.** Competency in interacting with others at young ages is linked with academic engagement and school success in later grades.²⁹
- **Emergent literacy and reading by Grade 3.** The development of early language skills and reading comprehension form the foundation of later academic success.³⁰
- **Working memory skills.** The ability to recall, process, and sort information early on is associated with academic success at later stages of development.³¹
- **Social-emotional learning.** Young students with the ability to understand self and others; regulate their emotions, attention, and behaviors; and positively engage in social interaction are more likely to achieve academic success later on.³²
- **Attention span persistence and classroom participation.** Young children with greater attention spans have shown to have higher levels of achievement in math and reading at age 21.³³

Together, these early developmental skills form the foundation with which students build the capacity to learn more advanced skills for career readiness in the later grades.

²⁷ "Predictors of Postsecondary Success," Op. cit., p. 3.

²⁸ Leerkes, E.M. et al. "Emotion and Cognition Processes in Preschool Children." *Merrill - Palmer Quarterly*, 54:1, January 2008.

²⁹ Coolahan, K. et al. "Preschool Peer Interactions and Readiness to Learn: Relationships between Classroom Peer Play and Learning Behaviors and Conduct." *Journal of Educational Psychology*, 92:3, 2000.

³⁰ Doctoroff, G.L., J.A. Greer, and D.H. Arnold. "The Relationship between Social Behavior and Emergent Literacy among Preschool Boys and Girls." *Journal of Applied Developmental Psychology*, 27:1, January 2006.

³¹ Guthercote, S.E. et al. "Working Memory Assessments at School Entry as Longitudinal Predictors of National Curriculum Attainment Levels." *Educational and Child Psychology*, 20:3, 2003.
https://www.researchgate.net/profile/Lorna_Bourke/publication/250928054_The_relationship_between_working_memory_and_early_writing_at_the_word_sentence_and_text_level/links/02e7e51ee5262398b0000000.pdf#page=111

³² Denham, S.A. and C. Brown. "'Plays Nice with Others': Social-Emotional Learning and Academic Success." *Early Education and Development*, 21:5, 2010.
https://www.researchgate.net/profile/Susanne_Denham/publication/225280386_Plays_Nice_With_Others_Social-Emotional_Learning_and_Academic_Success/links/0fcfd4fd2932c4b1d9000000.pdf

³³ McClelland, M.M. et al. "Relations between Preschool Attention Span-Persistence and Age 25 Educational Outcomes." *Early Childhood Research Quarterly*, 28:2, April 1, 2013.



SECTION SPOTLIGHT: MANZANITA ELEMENTARY SCHOOL

Manzanita Elementary School (Manzanita) is part of the Catalina Foothills School District (Catalina Foothills) located in Tucson, Arizona.³⁴ The school serves students in Kindergarten through Grade 5 and currently enrolls approximately 610 students.³⁵

As a whole, Catalina Foothills has been recognized for its outstanding district-wide career readiness initiatives and providing students with opportunities to learn career skills.³⁶ Moreover, the district received positive reviews for career readiness instruction at the elementary school level, particularly for Manzanita. The Partnership for 21st Century Learning (P21) notes that students are “often required to take on the role of professionals in the classroom” and participate in projects that develop students’ creativity and hands-on experiences.³⁷ For example, one fifth grade class designed and built interactive playground activities for the school’s kindergarten class. The project, titled *Project Create and Build*, was framed as a lesson on cognitive development and enabled Grade 5 students to exercise important foundational career skills, such as communication, collaboration, and creativity.³⁸

All Grade 5 students at Manzanita also partake in the Civil War Simulation, an annual living history event with a 17-year history that serves as a multidisciplinary project to connect students’ history lessons with 21st century thinking skills and processes.³⁹ Each student is assigned the role of a real person in history who participated in the Civil War and is tasked with researching, writing, and reenacting historically accurate scenes of the Civil War according to his or her role.⁴⁰ Aside from these tasks, students also build authentic sets and props.⁴¹

CAREER READINESS SKILLS IN THE MIDDLE GRADES

While there remains a dearth of literature on the links between early skill development and long-term college and career readiness, more education researchers and practitioners have drawn connections between skill development in middle school and preparation for postsecondary success. On the whole, proponents of career readiness in middle school make the case that without adequate preparation for high school and beyond during these grades, middle school students may have difficulty developing clear pathways for later success. “[N]ot surprisingly,” writes the American College Test (ACT) organization, “our research shows that

³⁴ “Our Schools.” Catalina Foothills School District. <http://www.cfsd16.org/index.php/our-schools>

³⁵ “Manzanita Fast Facts.” Catalina Foothills School District - Manzanita Elementary School. <http://mzes.cfsd16.org/index.php/about-us>

³⁶ “Catalina Foothills Unified School District - P21.” Partnership for 21st Century Learning. <http://www.p21.org/exemplar-program-case-studies/1846-case-study-catalina-foothills-unified>

³⁷ Ibid.

³⁸ Farbarik, J., J. DeBenedetti, and N. Hernandez. “Exemplary Project of the Month: How a Playground Project Became a Tool for Learning.” <http://www.p21.org/news-events/p21blog/1940-exemplary-project-of-the-month-how-a-playground-project-became-a-tool-for-learning>

³⁹ “Catalina Foothills Unified School District - P21,” Op. cit.

⁴⁰ “Manzanita Elementary School.” Expect More Arizona. <http://www.expectmorearizona.org/excellence-tour/stories/manzanita-elementary-school/>

⁴¹ “Catalina Foothills Unified School District - P21,” Op. cit.

[Grade 8] students who are not prepared for high school are less likely than other students to be prepared for college and career[s] by the time they graduate from high school.”⁴²

An article published on the Association for Middle Level Education (AMLE) website on what it means for middle school students to be college and career ready identifies six core skills that students in these grade levels should strengthen in preparation for postsecondary success. These skills include:⁴³

- Communication and collaboration
- Creative thinking
- Critical thinking and problem solving
- Decision making
- Evaluation and argument making
- Organization

Beyond these basic skills, however, scholars find that educators of the middle grades should encourage students’ awareness of college and career pathways and adequate planning for postsecondary education and work as a means to strengthen career readiness. A study published in the *Middle Grades Research Journal*, for instance, analyzed qualitative data collected in descriptive comments, observations, artifacts, and surveys to assess a career development program and its impact on middle school students’ career readiness.⁴⁴ Researchers Mary Beth Schaefer and Lourdes M. River concluded that the career program—which consisted of multiple interventions to help students develop personal, social, and academic connections to college and career readiness—largely benefited middle grade students in their preparedness for postsecondary success:

Findings indicated that after participating in Career Institute activities, students linked important pieces of their personal/social development to academic and career development. Students demonstrated an expanded and expanding sense of possibilities related to careers; became more specific and realistic about their career and college goals; and became more self-reflective in thinking about college and career opportunities. Advisory teachers believed that the Career Institute helped students prepare for college early and with a career goal.⁴⁵

⁴² “The Forgotten Middle: Ensuring that All Students Are on Target for College and Career Readiness before High School.” ACT. <https://www.act.org/content/dam/act/unsecured/documents/ForgottenMiddleSummary.pdf>

⁴³ Cook, B. “College and Career Ready: What It Means for Middle School Students.” AMLE: Association for Middle Level Education. <https://www.amle.org/BrowsebyTopic/WhatsNew/WNDet/TabId/270/ArtMID/888/ArticleID/513/College-and-Career-Ready-What-It-Means-for-Middle-School-Students.aspx>

⁴⁴ Schaefer, M.B. and L.M. Rivera. “College and Career Readiness in the Middle Grades.” *Middle Grades Research Journal*, 7:3, Fall 2012.

⁴⁵ Ibid.



SECTION SPOTLIGHT: RANCHO MINERVA MIDDLE SCHOOL

Rancho Minerva Middle School (RMMS) is a middle school in Vista Unified School District (Vista Unified), located in Vista, California. The school serves over 900 students in Grades 6 through 8 and employs approximately 45 teachers.⁴⁶ RMMS is a low-income school within a middle-class neighborhood lacking in public transportation options, and the majority of the RMMS student population are students of color, English language learners, and in the free or reduced lunch program. While the school has experienced challenges in the past to serve the needs of all students, RMMS experienced a change in staff and leadership within the last several years and is acclaimed as a story of academic turnaround. RMMS was recognized by P21 as an exemplary program and was the recipient of several grants.⁴⁷

RMMS' most notable career readiness initiative is its career expo for its Grade 8 students that launched in January 2016. One Grade 8 class designed a flyer that invited all residents in the nearby county to participate and introduce students to various job and career paths.⁴⁸ The event itself took place over two instructional periods and in several locations such as the quad, the gym, and other public spaces within the school building. Students were able to choose whose career they wanted to learn more about by reading profiles ahead of time.⁴⁹ P21 notes that the school also hosted a Latino Healthcare Expo which connected students to mentorship opportunities with local healthcare industry experts.⁵⁰

RMMS also offers Digital Discovery classes which provide students real-world career skills and experiences such as marketing and customer service in digital art. The school provides collaborative learning spaces and a full-scale production studio to allow students to understand how to work on film sets for professional video projects. Students are often invited to film teacher professional development conferences and have even participated in a work-based learning experience by filming a conference with Univision.⁵¹

A document released by the Colorado Department of Education (CDE) by Dr. Leann Morgan and colleagues lists and defines various types of college and career planning skills for middle school students. In sum, they include:⁵²

- **Career Awareness:** Knowing the difference between jobs, occupations, and careers. Being aware of a wide range of local regional, national, and global career pathways and opportunities while giving consideration to economic, cultural influences, and the impact of stereotypes on career choice.

⁴⁶ "Rancho Minerva Middle School." Vista Unified School District. <http://www.vistausd.org/ranchominerva>

⁴⁷ Magee, M. "Local Schools Receive National Honor." *San Diego Union Tribune*. <http://www.sandiegouniontribune.com/news/education/sdut-local-schools-win-national-honors-2016jan11-story.html>

⁴⁸ "Career Expo." Rancho Minerva Middle School. <http://rmms-vistausd-ca.schoolloop.com/file/1408076548235/4752563341774309354.pdf>

⁴⁹ Murray, J. "Reflecting on Our 2016 RMMS 8th Grade Career Expo." Happenings at Rancho Minerva, January 26, 2016. <http://rmmshappenings.blogspot.com/2016/01/reflecting-on-our-2016-rmms-8th-grade.html>

⁵⁰ "Rancho Minerva Middle School." Partnership for 21st Century Learning. <http://www.p21.org/exemplar-program-case-studies/1855-case-study-rancho-minerva>

⁵¹ Ibid.

⁵² List of bulleted information taken verbatim from: Morgan, L. et al. "Middle School College and Career Readiness Standards: A Framework for Their Future." Colorado Department of Education. www.cde.state.co.us/postsecondary/sccgp_-middle-school-indicators-framework

- **Postsecondary Aspirations:** Career exploration centered on students' passions, interests, dreams, visions of their future self, and perceived options.
- **Postsecondary Options:** The awareness of a variety of post-secondary and career opportunities and advancement available using tools such as career clusters, personality assessments and learning style inventories to highlight individual strengths and capabilities.
- **Environmental Expectations:** An ecological system in which school, family, community, culture, and world view influence the students' career development and post-secondary plans.
- **Academic Planning:** The skills and knowledge necessary to map out and pass the academic courses required to achieve postsecondary goals.
- **Employability Skills:** To define, develop, and hone skills that increase the likelihood of becoming and remaining successfully employed and civically responsible citizens.
- **Financial Literacy:** Having an awareness of the cost of various postsecondary options in order to appropriately engage in career and academic planning for the future.

CAREER READINESS SKILLS IN THE SECONDARY GRADES

The conversation surrounding college and career readiness has predominately concentrated on skill development at the secondary level, particularly since students in these grades are closest to approaching high school graduation. By high school completion, students should display higher-order, "extended thinking" skills and abilities in each of the 21st century skill domains, including their cognitive competencies, interpersonal competencies, and intrapersonal competencies. One prevalent model for ensuring high school students are equipped with the skills necessary for college and career readiness is the Framework for 21st Century Learning adopted by the Partnership for 21st Century Learning (P21),⁵³ a collaborative of educators, business, community, and government leaders that provides resources and information on postsecondary preparation.⁵⁴ This model lists four core "21st Century Student Outcomes" that describe the knowledge and skills required for college and career readiness.⁵⁵

- **Key Subjects and 21st Century Themes:** Mastery of key subjects and 21st Century themes is essential to student success. Key subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics. In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into key subjects:
 - Global Awareness
 - Financial, Economic, Business and Entrepreneurial Literacy
 - Civic Literacy
 - Health Literacy
 - Environmental Literacy

⁵³ "Framework for 21st Century Learning." P21. <http://www.p21.org/about-us/p21-framework>

⁵⁴ "Our History." P21. <http://www.p21.org/about-us/our-history>

⁵⁵ List of bulleted information taken verbatim from: "Framework for 21st Century Learning," Op. cit.

- **Learning and Innovation Skills:** Learning and innovation skills are what separate students who are prepared for increasingly complex life and work environments in today's world and those who are not. They include:
 - Creativity and Innovation
 - Critical Thinking and Problem Solving
 - Communication
 - Collaboration
- **Information, Media and Technology Skills:** Today, we live in a technology and media-driven environment, marked by access to an abundance of information, rapid changes in technology tools and the ability to collaborate and make individual contributions on an unprecedented scale. Effective citizens and workers must be able to exhibit a range of functional and critical thinking skills, such as:
 - Information Literacy
 - Media Literacy
 - ICT (Information, Communications and Technology) Literacy
- **Life and Career Skills:** Today's students need to develop thinking skills, content knowledge, and social and emotional competencies to navigate complex life and work environments. P21's essential Life and Career Skills include:
 - Flexibility and Adaptability
 - Initiative and Self-Direction
 - Social and Cross-Cultural Skills
 - Productivity and Accountability
 - Leadership and Responsibility

Noticeably, many of the Framework for 21st Century Learning's skills reflect those identified by Soland et al. (in Figure 1.2); however, financial, health, and information literacy are complementary skills that have been added to this list. As such, P21's framework for college and career readiness is somewhat more comprehensive in the skills it defines as critical for postsecondary success.



SECTION SPOTLIGHT: PLEASANTON HIGH SCHOOL

Pleasanton High School (PHS), located in Pleasanton, Texas, is a secondary school that serves approximately 937 students in Grades 9 through 12.⁵⁶ According to PHS' school description, the school is dedicated to "guiding students in identifying pathways of learning to support individual graduation into successful post-graduate careers and/or college experiences."⁵⁷

In accordance with state graduation requirements passed by the Texas Legislature, PHS requires students to choose and follow an Endorsement, which is a broad program of study designed to provide students foundational college and career skills. Once an Endorsement is chosen, students then choose to specialize in an advanced area of study within the Endorsement. PHS provides a list of academic and career areas that fall under the Texas Endorsement subjects:

- **Arts & Humanities** (Art, Music, Theater, English Literature and Writing, Foreign Languages, Sociology, Psychology, Government, and Economics)
- **Business & Industry** (Business Management, Finance, Communication, Energy and Natural Resources sectors, Computer and Web Technology)
- **Public Services** (Public Service, JROTC, Medical/Health Science, Child Development, Nutrition, Culinary Arts)
- **STEM** (Math, Science, and Technology)
- **Multidisciplinary** (Encompasses a combination of several Endorsement areas)⁵⁸

All PHS students are required to work with their counselor to create and update a personal four-year plan which lays out a schedule of coursework throughout high school and career options in which a student might be interested. PHS students are provided user accounts with Bridges, a student success website that helps students organize their four-year plans and build career portfolios and resumes.⁵⁹

The PHS College and Career Information Center is a resource that provides students information on college, military, and employment opportunities such as deadlines, scholarships, and application advice. The center also schedules regular visits by local employment recruiters and connects students with employment and internship opportunities.⁶⁰

⁵⁶ "District Profile." Pleasanton Independent School District.

http://www.pisd.us/apps/pages/index.jsp?uREC_ID=244017&type=d&pREC_ID=600004

⁵⁷ "About PISD." Pleasanton Independent School District.

http://www.pisd.us/apps/pages/index.jsp?uREC_ID=244017&type=d&pREC_ID=564247

⁵⁸ "Programs of Study/HB 5 Endorsements." Pleasanton High School. p. 6.

<https://d39smchmfovhlz.cloudfront.net/3YDheRRpRKeqgibRJQFTb3Rg11cbPkqh8ObIJWAWk1M9TQ6e.pdf>

⁵⁹ *Ibid.*, p. 20.

⁶⁰ "College and Career Center." Pleasanton Independent School District.

http://www.pisd.us/apps/pages/index.jsp?uREC_ID=244094&type=d&pREC_ID=564254

CAREER READINESS STANDARDS AND ASSESSMENT

OVERVIEW OF CAREER READINESS STANDARDS

STATE POLICY CHANGES

While state-level policymakers have developed performance standards for meeting academic success as required by the reauthorization of the ESEA, education policy at the federal level has neither outlined the specific skills students must acquire for their preparation of college- and career-level work nor mandated standards-based assessment in the later years of students' secondary education.⁶¹ As a result, educational standards that states adopted under recent school reform are often unclear to students, parents, and educators regarding the skills students need to prepare for the rigor of postsecondary education and work. Moreover, many states have lacked clear guidelines for assessing student academic performance and postsecondary skill preparation in the years prior to high school completion.⁶²

To address these shortcomings, **state policymakers have recently taken steps to build stronger standards-based reform that outline the academic skills students must master in order to demonstrate cognitive competency for college and career readiness.**⁶³ A report published by the Education Commission of the States in 2014 found that 48 states employed Common Core State Standards or other education criteria to develop rigorous standards for postsecondary success.⁶⁴ In many instances, state education professionals have worked directly with leaders in higher education, business, and other political offices to identify what it means to be college and career ready and the specific skills students must master in order to transition to the demanding work requirements of higher education and leading industries.⁶⁵ Once policymakers have defined standards for academic performance that prepare students for the rigor of postsecondary education and work, the Education Commission of the States recommends that all states:⁶⁶

- Identify and adopt aligned curricula, assessments and instructional supports.
- Communicate the difference between the “old” and “new” standards — and the value of higher standards — to stakeholders.
- Ensure teacher preparation and professional development programs equip educators with the resources and skills needed to deliver high-quality instruction aligned with standards.
- Ensure administrator preparation and professional development expose candidates and seasoned leaders to the standards, and help leaders learn how to effectively support teachers in teaching the standards.

⁶¹ “College- and Career-Ready Students.” U.S. Department of Education.
<https://www2.ed.gov/policy/elsec/leg/blueprint/college-career-ready.pdf>

⁶² Ibid.

⁶³ Sambolt and Blumenthal, Op. cit., p. 1.

⁶⁴ Glancy, E. et al. “Blueprint for College Readiness: A 50 State Policy Analysis.” Education Commission of the States, 2014. pp. 5–6. <http://www.ecs.org/docs/ECSBlueprint.pdf>

⁶⁵ “Cross-State Findings: Benchmarking State Implementation of College- and Career-Readiness Standards, Aligned Assessments and Related Reforms.” Southern Regional Education Board, 2015. p. 13.
http://publications.sreb.org/2015/CrossStateFindings_SREB.pdf

⁶⁶ List of bulleted information taken verbatim from: Glancy et al., Op. cit., p. 7.

- Integrate the standards as appropriate in career/technical coursework.
- Consider revisiting graduation requirements, particularly in math, to ensure all students have adequate exposure to college and career readiness standards.

STANDARDS LINKED WITH DEPTH OF KNOWLEDGE

In the same way that cognitive development has informed practices aimed at building career readiness skills among students in different grade levels, such factors have also shaped the design of core learning standards for career readiness. In this regard, standards that outline college- and career-ready knowledge and skills differ by grade level and increase in rigor as students transition from elementary to high school. Consequently, teachers, administrators, and other school staff must have a clear understanding of pedagogy aligned with cognitive development in order to become familiar with standards targeted at postsecondary readiness and success. Developmental frameworks for learning, such as Benjamin Bloom’s influential “Taxonomy of Educational Objectives” and Noman Webb’s more recent “Depth of Knowledge Levels,” can serve as resources for understanding the connections between career readiness standards and learning at each developmental stage.⁶⁷ Figure 1.3 illustrates both these models, which are referred to in the next subsection as Hanover reviews Maryland’s College and Career Readiness Standards Framework for English Language Arts and mathematics in Grade 11.

Figure 1.3: Skills Development by Level of Cognitive Rigor, Bloom and Webb Models

| LEVEL | DESCRIPTION |
|---|--|
| Bloom’s Revised Taxonomy | |
| Level 1: Remember | Recall basic facts and concepts: recognizing, recalling |
| Level 2: Understand | Explain ideas or concepts: interpreting, exemplifying, classifying, summarizing, inferring, comparing, explaining |
| Level 3: Apply | Use information in new situations: executing, implementing |
| Level 4: Analyze | Draw connections among ideas: differentiating, organizing, attributing |
| Level 5: Evaluate | Justify a stand or decision: checking, critiquing |
| Level 6: Create | Produce new or original work: generating, planning, producing |
| Webb’s Depth of Knowledge | |
| Level 1: Recall and Reproduction | Curricular elements that fall into this category involve basic tasks that require students to recall or reproduce knowledge and/or skills. The subject matter content at this particular level usually involves working with facts, terms and/or properties of objects. |
| Level 2: Skills and Concepts | This level generally requires students to contrast or compare people, places, events and concepts; convert information from one form to another; classify or sort items into meaningful categories; describe or explain issues and problems, patterns, cause and effect, significance or impact, relationships, points of view or processes. |
| Level 3: Short-Term Strategic Thinking | Items falling into this category demand a short-term use of higher order thinking processes, such as analysis and evaluation, to solve real-world problems with predictable outcomes. Stating one’s reasoning is a key marker of tasks that fall into this particular category. |

⁶⁷ Hess, Op. cit.

| LEVEL | DESCRIPTION |
|--|---|
| <p>Level 4: Extended Thinking</p> | <p>Curricular elements assigned to this level demand extended use of higher order thinking processes such as synthesis, reflection, assessment and adjustment of plans over time. Students are engaged in conducting investigations to solve real-world problems with unpredictable outcomes.</p> |

Source: Multiple sources⁶⁸

MARYLAND COLLEGE AND CAREER READINESS STANDARDS FRAMEWORK

The State of Maryland transitioned to Common Core State Standards (CCSS) in 2010, and since this transition, has worked to define college and career readiness learning standards in English Language Arts (which also apply to social studies, science, and technical subjects) and mathematics. Accordingly,

Maryland's College and Career-Ready Standards are based on the Common Core Standards and provide a set of clear, high-quality academic expectations in English/Language Arts/Literacy and Mathematics that define the knowledge and skills all students should master by the end of each grade level. The goal is simple and important: keep students on track for success in college and career.⁶⁹

While these standards are defined for each of the primary, middle, and secondary grades, Figures 1.4 through 1.9 included below refer to Maryland's core standards for Grade 11 college and career readiness in English Language Arts and high school mathematics (more information about the learning standards for college and career readiness for all grade levels can be viewed at the "MD College and Career-Ready Standards" webpage).⁷⁰ A sample of Grade 11's college and career readiness standards in English and high school mathematics is selected because they represent the highest level and rigor at which all students must master core content knowledge and skills prior to high school completion. As such, both the English and mathematics standards correspond with advanced levels of learning outlined in the Bloom and Webb learning models. For example, one reading standard requires students to master "integrating and evaluating multiple sources of information presented in different media or formats." This standard corresponds with Levels 4 and 5 of Bloom's Taxonomy (Analyze and Evaluate) and Levels 3 of Webb's Depth of Knowledge Framework (Short-Term Strategic Thinking). Given this example and the connections between other standards and models for learning, it may be inferred that Grade 11 college and career readiness standards, on the whole, imply advanced-order thinking, reflection, and engagement.

⁶⁸ "Bloom's Taxonomy | Center for Teaching." Vanderbilt University. <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/#1956> [2] "Webb's Depth of Knowledge Guide: Career and Technical Education Definitions." 2009. http://www.aps.edu/re/documents/resources/Webbs_DOK_Guide.pdf

⁶⁹ "Academics: Maryland College & Career-Ready Standards (MDCCRS)." Allegany County Public Schools. <http://www.acpsmd.org/Page/522>

⁷⁰ "MD College and Career-Ready Standards." School Improvement in Maryland. <http://mdk12.msde.maryland.gov/instruction/commoncore/>

Figure 1.4: Grade 11 English Language Arts and Literacy Standards

The Common Core State Standards in Grade 11 reflect gains made by students who have followed a systematic course of study that prepares them for postsecondary college and career paths. Students will be able to understand and analyze substantive complex expository works of literary nonfiction as well as a diverse spectrum of stories, poems, plays, and novels (RL/RI.11.10). By bringing to bear the close critical reading skills developed throughout their education, students can produce ample amounts of evidence in defense of inferences they make (RL/RI.11.1) when performing the following tasks:

- Determining how multiple themes or ideas combine and intertwine to produce a complex narrative or explanation (RL/RI.11.2).
- Identifying and explaining the choices authors make with regard to how to introduce and develop elements of the plot, develop ideas or characters, or explain events (RL/RI.11.3).
- Examining how key diction and language selected and repeatedly used by the author shape the tone of the text and add to its meaning (RL/RI.11.4).
- Analyzing how the different structural elements of the story or explanation contribute to textual coherence and plausibility as well as its aesthetic impact (RL/RI.11.5).
- Grasping point of view to differentiate between the literal meaning of words and what the author implies by using those words (e.g., ironic sarcasm or persuading by understatement) (RL/RI.11.6).
- Integrating and evaluating multiple sources of information presented in different media or formats (RL/RI.11.7).
- Evaluating the premises, purposes, and arguments as well as rhetoric present in seminal texts from American history (RL/RI.11.8).
- Recognizing recurrent themes in American literature and foundational works of American political philosophy (RL/RI.11.9).

Source: Howard County Public School System⁷¹

Figure 1.5: Content Frameworks for High School Mathematics: Number and Quantity

| FIRST PRIORITY | SECOND PRIORITY | THIRD PRIORITY |
|---|---|--|
| <ul style="list-style-type: none"> ▪ Reason quantitatively and use units to solve problems. ▪ Extend the properties of exponents to rational exponents. | <ul style="list-style-type: none"> ▪ Perform arithmetic operations with complex numbers. ▪ Use properties of rational and irrational numbers. | <ul style="list-style-type: none"> ▪ Represent complex numbers and their operations on the complex plane. ▪ Use complex numbers in polynomial identities and equations. ▪ Represent and model with vector quantities. ▪ Perform operations on vectors. ▪ Perform operations on matrices and use matrices in applications. |

Source: Howard County Public School System⁷²

⁷¹ “Draft Model Content Frameworks for English Language Arts/Literacy.” Howard County Public School System, August 3, 2011. http://www.hcpss.org/f/academics/common-core/parcc_framework_eng.pdf

⁷² “Draft Model Content Frameworks for Mathematics.” Howard County Public School System, August 3, 2011. http://www.hcpss.org/f/academics/common-core/parcc_framework_math.pdf

Figure 1.6: Content Frameworks for High School Mathematics: Algebra

| FIRST PRIORITY | SECOND PRIORITY | THIRD PRIORITY |
|--|--|--|
| <ul style="list-style-type: none"> ▪ Interpret the structure of expressions. ▪ Write expressions in equivalent forms to solve problems. ▪ Perform arithmetic operations on polynomials. ▪ Understand the relationship between zeros and factors of polynomials. ▪ Create equations that describe numbers or relationships. ▪ Understand solving equations as a process of reasoning and explain the reasoning. ▪ Solve equations and inequalities in one variable. ▪ Solve systems of equations. | <ul style="list-style-type: none"> ▪ Rewrite rational expressions. ▪ Represent and solve equations and inequalities graphically. | <ul style="list-style-type: none"> ▪ Use polynomial identities to solve problems. |

Source: Howard County Public School System⁷³

Figure 1.7: Content Frameworks for High School Mathematics: Functions

| FIRST PRIORITY | SECOND PRIORITY | THIRD PRIORITY |
|--|--|--|
| <ul style="list-style-type: none"> ▪ Understand the concept of a function and understand function notation. ▪ Interpret functions that arise in applications in terms of the context. ▪ Analyze functions using different representations. ▪ Build a function that models a relationship between two quantities. ▪ Construct and compare linear, quadratic, and exponential models and solve problems. ▪ Interpret expressions for functions in terms of the situation they model. | <ul style="list-style-type: none"> ▪ Build new functions from existing functions. | <ul style="list-style-type: none"> ▪ Extend the domain of trigonometric functions using the unit circle. ▪ Model periodic phenomena with trigonometric functions. ▪ Prove and apply trigonometric identities. |

Source: Howard County Public School System⁷⁴

⁷³ Ibid.

⁷⁴ Ibid.

Figure 1.8: Content Frameworks for High School Mathematics: Geometry

| FIRST PRIORITY | SECOND PRIORITY | THIRD PRIORITY |
|---|--|--|
| <ul style="list-style-type: none"> ▪ Prove geometric theorems. ▪ Use coordinates to prove simple theorems algebraically. ▪ Define trigonometric ratios and solve problems involving right triangles. ▪ Apply geometric concepts in modeling situations. | <ul style="list-style-type: none"> ▪ Experiment with transformations in the plane. ▪ Understand congruence in terms of rigid motions. ▪ Make geometric constructions. ▪ Understand and apply theorems about circles. ▪ Find arc lengths and areas of sectors of circles. ▪ Understand similarity in terms of similarity transformations. | <ul style="list-style-type: none"> ▪ Prove theorems involving similarity. ▪ Apply trigonometry to general triangles. ▪ Explain volume formulas and use them to solve problems. ▪ Visualize relationships between two-dimensional and three-dimensional objects. ▪ Translate between the geometric description and the equation for a conic section. |

Source: Howard County Public School System⁷⁵

Figure 1.9: Content Frameworks for High School Mathematics: Statistics and Probability

| FIRST PRIORITY | SECOND PRIORITY | THIRD PRIORITY |
|--|--|---|
| <ul style="list-style-type: none"> ▪ Summarize, represent, and interpret data on a single count or measurement variable. ▪ Summarize, represent, and interpret data on two categorical and quantitative variables. ▪ Make inferences and justify conclusions from sample surveys, experiments, and observational studies. | <ul style="list-style-type: none"> ▪ Understand and evaluate random processes underlying statistical experiments. ▪ Interpret linear models. | <ul style="list-style-type: none"> ▪ Understand independence and conditional probabilities of compound events in a uniform probability model. ▪ Use the rules of probability to compute probabilities of compound events in a uniform probability model. ▪ Calculate expected values and use them to solve problems. ▪ Use probability to evaluate outcomes of decisions. |

Source: Howard County Public School System⁷⁶

CAREER READINESS ASSESSMENTS

In 2011, federal policymakers gave states more autonomy for developing college and career readiness plans after waiving some provisions under the ESEA in exchange for state-level reforms that identify standards, accountability, educational leadership, and instructional development.⁷⁷ Therefore, in addition to developing standards for academic performance aligned with college and career readiness, many state reform initiatives have identified student assessments that evaluate the competency of higher-level scholastic skills (these are

⁷⁵ Ibid.

⁷⁶ Ibid.

⁷⁷ Sambolt and Blumenthal, Op. cit., p. 1.

referred to as CCR assessments).⁷⁸ CCR assessments are typically separate from ACT, PSAT, and SAT assessments, which have often served as the primary tools for evaluation that colleges and universities use to determine students' college preparedness.⁷⁹ Developing these assessments requires realigning state examinations with new standards for college and career readiness.⁸⁰ **Overall, this has meant a shift in testing high school students' skills for meeting graduation requirements to testing high school students' knowledge of core content and skills required for success in entry-level English and mathematics courses in higher education.**⁸¹

In order to develop new CCR assessments, some states have created their own examinations or worked with separate vendors to design ELA and mathematics tests.⁸² Other state policymakers have looked to the use of national assessments for evaluating student academic preparedness.⁸³ According to a 2013 report published by AIR, approximately 39 states at that time committed to the use of either the Partnership for Assessment of Readiness for College and Career (PARCC)⁸⁴ or Smarter Balanced Assessment Consortium (SBAC)⁸⁵ benchmark assessments. These assessments are constructed to track student academic progress in Grades 3 through 8 and high school.⁸⁶ More recent estimates, however, indicate that only 34 states are using PARCC and SBAC assessments.⁸⁷ Thus, it appears that over time, fewer states are relying on these assessments and are instead, building their own evaluative tools to measure students' college and career readiness.

⁷⁸ Ibid., p. 16.

⁷⁹ "Beyond the Rhetoric: Improving College Readiness through Coherent State Policy." The National Center for Public Policy and Higher Education and the Southern Regional Education Board, 2010. p. 5.
http://www.highereducation.org/reports/college_readiness/CollegeReadiness.pdf

⁸⁰ "Cross-State Findings: Benchmarking State Implementation of College- and Career-Readiness Standards, Aligned Assessments and Related Reforms," Op. cit., pp. 16–21.

⁸¹ Glancy et al., Op. cit., p. 10.

⁸² Ibid.

⁸³ "Cross-State Findings: Benchmarking State Implementation of College- and Career-Readiness Standards, Aligned Assessments and Related Reforms," Op. cit., p. 16.

⁸⁴ "The PARCC Tests." Partnership for Assessment of Readiness for College and Career.
<http://www.parcconline.org/about/the-parcc-tests>

⁸⁵ "Smarter Balanced Assessment Consortium." Smarter Balanced Assessment Consortium.
<http://www.smarterbalanced.org/>

⁸⁶ "The PARCC Tests," Op. cit.

⁸⁷ "A Map of States' 2015 Testing Plans: The Dust Has Finally Settled." Education Week.
http://blogs.edweek.org/edweek/curriculum/2015/02/a_map_of_states_2015_testing_p.html

SECTION II: PLANNING FOR CAREER READINESS

In the following section, Hanover reviews literature on the strategies educators and counselors can utilize to provide students with the resources and experiences necessary to help them prepare for postsecondary success. In brief, college and career readiness reform initiatives can be sorted into three distinct pathways and supports: academic organization, academic supports, and enrichment and preparation.⁸⁸ Together, these pathways and supports “set the context wherein students master content, determine postsecondary options, and overcome barriers to postsecondary success.”⁸⁹ Each of these supports are explored in greater detail, discussed from the perspective of school counseling and the steps counselors can take to ensure that all students have the opportunities to build career-ready skills and long-term career goals.

THE ROLE OF SCHOOL COUNSELORS

OVERVIEW

School counselors play a critical role in helping to inspire students and guide them in their preparation for the transition to college and careers. At large, school counselors “build aspirations and social capital, offer enriching activities, foster rigorous academic preparation, encourage early college planning, and guide students and families through the college admission and financial aid processes,” writes the College Board’s Advocacy and Policy Center (CBAPC).⁹⁰ In total, CBAPC lists eight components of comprehensive college and career readiness counseling that may be applied across the primary, middle, and secondary grades:⁹¹

- **College Aspiration:** Build a college-going culture based on early college awareness by nurturing in students the confidence to aspire to college and the resilience to overcome challenges along the way. Maintain high expectations by providing adequate supports, building social capital and conveying the conviction that all students can succeed in college.
- **Academic Planning for College and Career Readiness:** Advance students’ planning, preparation, participation and performance in a rigorous academic program that connects to their college and career aspirations and goals.
- **Enrichment and Extracurricular Engagement:** Ensure equitable exposure to a wide range of extracurricular and enrichment opportunities that build leadership, nurture talents and interests, and increase engagement with school.
- **College and Career Exploration and Selection Processes:** Provide early and ongoing exposure to experiences and information necessary to make informed decisions when selecting a college or career that connects to academic preparation and future aspirations.

⁸⁸ Balestreri, K. et al. “The College and Career Readiness and Success Organizer.” 2014. p. 10.
http://www.ccrscenter.org/sites/default/files/College%20and%20Career%20Readiness%20and%20Success%20Organizer%20Brief_FINAL.pdf

⁸⁹ Ibid.

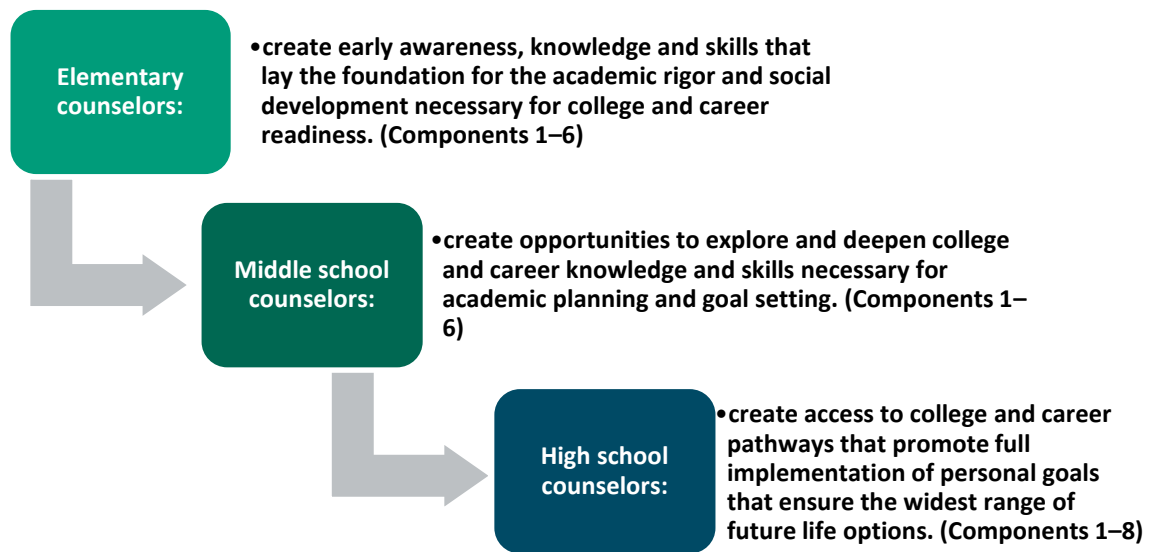
⁹⁰ “Eight Components of College and Career Readiness Counseling.” College Board Advocacy and Policy Center. p. 2.
https://secure-media.collegeboard.org/digitalServices/pdf/nosca/11b_4416_8_Components_WEB_111107.pdf

⁹¹ List of bulleted information taken verbatim from: Ibid., p. 3.

- **College and Career Assessments:** Promote preparation, participation and performance in college and career assessments by all students.
- **College Affordability Planning:** Provide students and families with comprehensive information about college costs, options for paying for college, and the financial aid and scholarship processes and eligibility requirements, so they are able to plan for and afford a college education.
- **College and Career Admission Processes:** Ensure that students and families have an early and ongoing understanding of the college and career application and admission processes so they can find the postsecondary options that are the best fit with their aspirations and interests.
- **Transition from High School Graduation to College Enrollment:** Connect students to school and community resources to help the students overcome barriers and ensure the successful transition from high school to college.

Of course, the emphasis placed on each counseling component differs for counselors at the elementary, middle, and secondary levels:

Figure 2.1: Counseling Components by Grade Level



Source: National Office for School Counselor Advocacy⁹²

While these key components to counseling provide a general overview of the roles and responsibilities of counselors to ensure college and career readiness, each can be sorted into more discrete strategies for implementation, requiring various levels of preparation and organizational support. Details of these practices and their connections to the three pathways of college and career readiness are reviewed below.

⁹² “Elementary School Counselor’s Guide: NOSCA’s Eight Components of College and Career Readiness Counseling,” Op. cit., p. 2.

ACADEMIC ORGANIZATION AND SUPPORTS

ACADEMIC ORGANIZATION

Academic organization is a critical element of college and career readiness planning and “encompasses the range of opportunities that enable learners to acquire, practice, and evaluate knowledge to prepare for postsecondary pathways.”⁹³ Academic organization requires educators to realign curricular objectives to meet higher standards of achievement, create alternative pathways focusing on specific career or content areas, and offer context-based or interdisciplinary learning opportunities outside of the classroom. When discussing the importance of academic organization for postsecondary readiness, authors Kathryn Balestreri et al. write in a report published by AIR that:

Regardless of postsecondary goals, all students should be provided with rigorous curriculum, instruction, and assessment. **This foundation can empower learners to meet high standards aligned to postsecondary expectations and to develop content proficiencies necessary for college and career achievement.** Multiple pathways to postsecondary opportunities provide learners with the core skills necessary for success and opportunities to build on those skills by tailoring coursework to meet individual college and career goals [...]⁹⁴

According to the National Center for Innovation in Career and Technical Education (NCICTE), a research organization that works towards the development of effective career and technical education (CTE) programming, one useful model for academic organization is a Career Pathways Linked Learning model, which “introduces a framework for organizing career pathways and strategies for using pathways to transform high schools, instructional practice, and student experiences.”⁹⁵ The Linked Learning approach to academic organization in secondary schools integrates four central components to educational programming:⁹⁶

- A college-prep academic core emphasizing real world applications.
- A technical core of three or more courses meeting industry standards; providing certification.
- A systemic approach to work-based learning.
- Personalized supports—academic, social-emotional, college and career guidance, and transportation.

Overall, this career pathways model blends both career- and work-based training with core academic content and enables students to explore their educational and career interests as they progress through secondary school.

⁹³ Balestreri et al., Op. cit., p. 10.

⁹⁴ Bolded emphasis added: Ibid., pp. 10–11.

⁹⁵ “Building a System of High-Quality Career Pathways: High School Transformation and District Supports.” National Center for Innovation in Career and Technical Education (NCICTE). <http://ctecenter.ed.gov/node/building-a-system-of-high-quality-career-pathways>

⁹⁶ List of bullets taken verbatim from: “Introducing Career Pathways.” National Center for Innovation in Career and Technical Education.

As it relates to school counseling, **school counselors must play an active role in helping students build goals for career readiness and plan a curriculum aligned with their academic and career interests.** Indeed, findings from secondary research demonstrate that students who receive career counseling in high school and develop a career plan early on are more likely to find postsecondary success.⁹⁷ For example, an analysis of data on over 12,000 full-time employees with degrees from 293 colleges and universities found that those who were very sure of their occupational choices early on were more likely to attain jobs in a career field of interest than those who were unsure of the careers they aspired to enter.⁹⁸ As such, counselors must not only have a thorough understanding of how courses offered will expose students to different academic and career content, but they must also consolidate resources that can be provided to students to help them understand their career interests and build a plan to pursue those interests. Using information taken from a report by the Center for Innovative Technology (CIT) on best practices for academic and career plans, Figure 2.2 below lists examples of these resources and related strategies.

Figure 2.2: Helping Students to Develop Academic and Career Plans

| | |
|---|---|
| <p><i>Tools and Techniques for Academic and Career Planning</i></p> | <p>Consider incorporating a tool that combines several resources for career planning (including interest inventory and discovery activity), podcasts, financial aid, life after high school, and resources for parents, counselors and educators.</p> |
| | <p>Explore different learning formats for career planning courses. Incorporate career planning and an interest and skills assessment component, financial literacy and entrepreneurship.</p> |
| | <p>Provide access to resource materials and lesson plans online and build a catalog of resources. Make available special resources to train non-counselor advisors.</p> |
| | <p>Implement a statewide system that is a one-stop shop for exploration of career pathways and career planning tracking and training.</p> |
| | <p>Develop partnerships with state universities to improve the program.</p> |
| | <p>Communicate regularly with local counterparts (i.e., Assistant Superintendent of Instruction, CTE Directors) to make them aware of what is available and what is required.</p> |

Source: Center for Innovative Technology⁹⁹

Aside from helping students plan for and build course schedules aligned with their long-term college and career interests, **counselors may play an active role in helping administrators and other staff to construct a course pathway model that blends career-based training with academic content.**¹⁰⁰

⁹⁷ “Academic and Career Plans Best Practices.” Center for Innovative Technology, 2010. p. 1. <http://www.cit.org/assets/1/7/VDOEACPBESTPRACTICESSUMMARY.PDF>

⁹⁸ “The Path to Career Success: High School Achievement, Certainty of Career Choice, and College Readiness Make a Difference.” ACT, 2009. p. 2. <http://files.eric.ed.gov/fulltext/ED506252.pdf>

⁹⁹ Information taken nearly entirely verbatim from: “Academic and Career Plans Best Practices,” Op. cit., p. 2.

¹⁰⁰ “Poised to Lead: How School Counselors Can Drive College and Career Readiness.” The Education Trust, December 2011. <http://files.eric.ed.gov/fulltext/ED527908.pdf>

The NCICTE recently released a presentation that describes the steps for building this pathway model. In total, the NCICTE breaks down this process into six steps:

- **Step I: Vision planning and pathway design**¹⁰¹ involves the formation of a business and community advisory committee. Potential members include teachers, educational staff, business advisory board members, community college and higher education leaders, parents, and students. This team works to establish a college and career pathway vision and course themes as well as student learning objectives and outcomes. Pathway themes should be oriented according to major industry sectors.
- **Step II: Structures and Schedules**¹⁰² entails a process of program design, recruiting students, creating a schedule for implementation over the course of high school, designing how the program will fit into students' daily activities, and making staff assignments.
- **Step III: Performance-Based Assessment and Curriculum**¹⁰³ is the stage of implementation in which pathway teachers form a team that makes decisions on grade-level benchmarks and curriculum development. Teachers map student achievement and outcomes in order to address program progression.
- **Step IV: Engaged learning and teaching**¹⁰⁴ is when teachers focus on aligning classroom instruction with the pathway experience using project-based instruction and learning, developing instruction and assessment, and creating uniform expectations for behavior and skill development. Each of these steps requires teacher collaboration and data sharing.
- **Step V: Embedding student supports**¹⁰⁵ is the process in which teachers and staff work together to provide guidance and learning interventions to ensure equity of the program for all students based on their individual learning needs.
- **Step VI: Continuous improvement**¹⁰⁶ requires the establishment of indicators to facilitate data-driven decisions, conduct ongoing review and reflection as part of the process, and hold periodic reviews to plan for improvement.

ACADEMIC SUPPORTS

Academic supports “include a variety of interventions and scaffolds that enable learners to meet their college and career readiness goals and expectations.”¹⁰⁷ In order to improve the learning experiences of all students—who range in their access to educational resources outside of school—educators, counselors, and school administrators must be prepared to execute individual intervention plans and provide other services such as mentoring, tutoring,

¹⁰¹ Information adapted from: “Building a Linked Learning Pathway: A Guide for Transforming High Schools for College and Career Success.” The California Center for College and Career. p. 5.
http://www.connectedcalifornia.org/direct/files/resources/Building%20a%20LL%20Pathway_040413_web.pdf

¹⁰² Information adapted from: *Ibid.*, p. 6.

¹⁰³ Information adapted from: *Ibid.*, p. 7.

¹⁰⁴ Information adapted from: *Ibid.*, p. 8.

¹⁰⁵ Information adapted from: *Ibid.*, p. 9.

¹⁰⁶ Information adapted from: *Ibid.*, p. 10.

¹⁰⁷ Balestreri et al., *Op. cit.*, p. 11.

social support programs, and family engagement programs. The provision of these supports help to bolster student experiences so that all students' specific educational and developmental needs are met. Balestreri et al. state:

[...] For some learners, individual pathway planning and classroom-based supports are insufficient scaffolds to attain their college and career goals. Students may require additional targeted and intensive interventions to meet academic standards or develop lifelong learning skills that ensure preparedness for postsecondary environments. Students who demonstrate severe behavioral problems or learning disabilities may be appropriate candidates for wraparound services...It is essential that supports cater to the needs of each student, regardless of required services, so that all learners can graduate ready for success [...]¹⁰⁸

Numerous research studies have addressed school counselors' role in providing students with these supports, including those with learning disabilities or other barriers to educational development, for postsecondary success: "School counselors are a valuable and often underutilized support resource for these students in preparing for the post-secondary transition process," write Kim Naugle and Thomas Aaron Campbell in an article published in the *Journal of School Counseling*.¹⁰⁹ In a separate study, Carla R. Adkison-Bradley et al. surveyed middle and high school counselors in Illinois to determine how supports were provided to students with and without disabilities. The authors found that in order to help ensure adequate supports and planning are in place for students with a wide range of ability levels, school counselors: met often with students; encouraged students to participate in some type of career assessment; provided information on careers, career requirements, and career and technical programs at the secondary and postsecondary levels; and provided assistance in creating or modifying an education plan to meet career goals.¹¹⁰

BEST PRACTICES IN POST-GRADUATION PLANNING

Planning for students' successful transitions from high school to postsecondary education and careers is a central element of school counseling. As articulated in a report published by The Education Trust, "[s]chool counselors are responsible for each and every student in the building and, unlike others on campus, they are in a position to focus on the educational journey of each student."¹¹¹ Accordingly, previous research shows that schools in which counselors are able to provide ample college and career planning services are more likely to consist of learning environments with higher student attendance rates, higher graduation rates, lower dropout rates, and greater enrollment in Advanced Placement courses than

¹⁰⁸ Bolded emphasis added: Ibid.

¹⁰⁹ Naugle, K. and T.A. Campbell. "Post-Secondary Transition Model for Students With Disabilities." *Journal of School Counseling*, 8:40, 2010. p. 3. <http://files.eric.ed.gov/fulltext/EJ914269.pdf>

¹¹⁰ Adkison-Bradley, C.R. et al. "Career Planning With Students With and Without Disabilities: A Study of Illinois School Counselors." *Journal of School Counseling*, 5:11, 2007.

¹¹¹ "Poised to Lead: How School Counselors Can Drive College and Career Readiness." The Education Trust, 2011. p. 2. <http://files.eric.ed.gov/fulltext/ED527908.pdf>

schools where counselors have fewer opportunities to provide those planning services.¹¹² To this end, counselors must act as a resource for students as they:¹¹³

- Plan to learn more about what interests them;
- Plan to align those interests with course schedules;
- Plan for college and career assessments;
- Plan for college and career admission processes; and
- Plan for affording the costs of postsecondary education and training.

A comprehensive list of career development interventions for advising and career planning are illustrated in Figure 2.3.

Figure 2.3: Career Development and Advising Planning Tools

| | |
|--|--|
| ✓ Academic Planning Counseling | ✓ College Admissions Testing |
| ✓ Career Focused Parent/Student Conference | ✓ Computer Assisted Career Guidance |
| ✓ Career Peer Advising/Tutoring | ✓ Cooperative/Dual Enrollment |
| ✓ Career Map | ✓ Information Interviewing |
| ✓ Career Maturity Assessment | ✓ Job Hunting Preparation |
| ✓ Career Counseling | ✓ Personal/Social Counseling |
| ✓ Career Interests Assessment | ✓ Portfolio/Individual Career Plan |
| ✓ Career Library/Career Resource Center | ✓ Recruiting |
| ✓ Career Cluster/Pathway/Major | ✓ Referral to External Training Programs |
| ✓ Career Passport/Skill Certificate | ✓ Referral to External Counseling/Assessment |

Source: International Centre for Guidance Studies¹¹⁴

PARENT INVOLVEMENT IN THE PLANNING PROCESS

Research highlights that communication with and providing additional resources to parents and guardians is essential for helping students plan for post-graduation: “Given that school counselors may serve as a source of social capital for low-income students and students of

¹¹² Lappan, R. and K. Harrington. “Paving the Road to College: How School Counselors Help Student Succeed.” Center for School Counseling Outcome Research. p. 7.

<https://www.umass.edu/schoolcounseling/uploads/TheChicagoReport.pdf>

¹¹³ “Eight Components of College and Career Readiness Counseling,” Op. cit.

¹¹⁴ Hooley, T., J. Marriott, and J.P. Sampson Jr. “Fostering College and Career Readiness: How Career Development Activities in Schools Impact on Graduation Rates and Students’ Life Success.” International Centre for Guidance Studies, 2011. p. 6.

https://www.researchgate.net/profile/Tristram_Hooley2/publication/261991118_Fostering_college_and_career_readiness_How_career_development_activities_in_schools_impact_on_graduation_rates_and_students'_life_success/links/004635395679384e94000000.pdf

color, school counselors' beliefs about the role of parents in the college-going process could promote or hinder college access for students [...]” write Julia A. Bryan and Cheryl Holcomb-McCoy in an editorial for the American School Counselor Association (ASCA).¹¹⁵ As one of 10 strategies for school counselor leadership, findings from a study conducted by the Center for School Counseling Outcome Research highlighted the importance of academic and financial outreach programs for parents of high school students. Subsequently, the report concluded that school counselors should:

[...] work to increase parent involvement by holding programs in the evening and conducting workshops in multiple languages. These programs often help parents with the college process by providing assistance in filling out FAFSA forms and in completing college applications with their children.¹¹⁶

Involving parents in college and career planning processes and hosting informational sessions should not just be confined to parents of high school students, however—parents of students in the middle grades should also be encouraged to help their children plan for college and career readiness. For instance, a study consisting of a nationwide survey released by the Institute for Higher Education Policy (IHEP) focused on the role that parents of middle school students play in planning for college enrollment. While parents of middle school students almost unanimously felt that college is very important for their children’s future, and while middle school students often look to their parents for college planning support, 45 percent of parents indicated that they had not taken any of the college planning actions that were surveyed.¹¹⁷ Even fewer parents reported engaging in key strategies for college planning, including researching colleges, meeting with teachers or counselors, or researching information about college admissions information.¹¹⁸ To address the gap between parent aspirations and the actions parents take to help their children plan for the future, middle school counselors can provide parents with more information on best post-graduation planning practices, such as:¹¹⁹

“To address the gap between parent perceptions about the importance of college and the actions parents take to help their children plan for the future, school counselors at the middle school level can provide parents with more information on best post-graduation planning practices.”

- Strategizing to save for the costs of higher education;
- Encouraging students to plan academically to meet long-term goals;

¹¹⁵ Bryan, J.A. and C. Holcomb-McCoy. “Editorial Introduction: Collaboration and Partnerships with Families and Communities.” *Professional School Counseling*, 14:1, 2010. p. 4.

¹¹⁶ Lappan and Harrington, Op. cit., p. 21.

¹¹⁷ Cunningham, A.F., W. Erisman, and S.M. Looney. “From Aspirations to Action: The Role of Middle School Parents in Making the Dream of College a Reality.” Institute for Higher Education Policy, December 2007. p. 5.

http://www.thesallieaefund.org/assets/PDFs/SLM_Fund_PDFs/initiatives/from_aspiration_to_action.pdf

¹¹⁸ Ibid.

¹¹⁹ List of information adapted from information provided on Mississippi State’s Rise Up website, an online resource for college and career planning: “RiseUp! Parents.” RiseUP. <http://riseupms.com/parents/#1>

- Talking with students about their career interests;
- Gathering information about postsecondary education and visiting campuses;
- Exploring financial aid options; and
- Applying to higher education institutions.

CAREER READINESS ENRICHMENT AND AWARENESS EVENTS

ENRICHMENT AND PREPARATION

In addition to academic organization and supports, counselors must also work to establish pathways for enrichment and preparation, which “connect learner interests and aspirations to opportunities and procedures to actualize postsecondary success.”¹²⁰ In other words, **school counselors can help students explore their postsecondary school options through supplementary activities and experiences while also providing guidance to students as they prepare for making the transition out of high school.** To achieve this, schools may organize efforts to provide students with information on:¹²¹

- College and career fairs
- College visits
- Job shadowing
- Workplace tours
- Mock interviews
- Internships

Aside from these traditional forms of enrichment, **technology-supported or computer-based career development may also be used to help inform students about different types of careers as well as the skills and the education needed to perform successfully in various occupations.** In a report by Tristram Hooley et al. published by the ICGS, for example, the authors argue that technology-supported career development is valuable for several reasons: it increases access to information on career development resources without requiring substantial staffing needs; it is learner-centered, which allows students to engage with online career resources according to their own schedules and pace; and it enables students to extend their learning and skill development.¹²² With these benefits in mind, technology-supported career development may be offered to students to achieve goals for career readiness, each of which are described in Figure 2.4 on the following page.

¹²⁰ Balestreri et al., Op. cit., p. 12.

¹²¹ Bulleted information using information verbatim from: Ibid.

¹²² Hooley, Marriott, and Sampson Jr., Op. cit., p. 8.

Figure 2.4: Purposes of Technology-Based Career Development Enrichment

| | |
|---|---|
| <p><i>Technology-supported career development may be used to...</i></p> | <p>List career and labor market information. This includes the provision of career development websites and occupational information sources such as the Occupational Information Network (O*NET).</p> |
| | <p>Offer forms of automated interaction which provide individuals with tailored experiences without necessarily requiring a career professional. This includes computer-based guidance systems, career assessments, and games and simulations.</p> |
| | <p>Provide a channel of communication between the individual and a host of other people who may be able to support his or her career development such as school counselors, employers, teachers, mentors, or peers. This can also be used as e-guidance.</p> |

Source: Tristram Hooley et al.¹²³

WORKING WITH COMMUNITY PARTNERS

As active leaders in the development of college and career readiness efforts, counselors, among other educational staff, can forge partnerships with community organizations and local businesses to help establish opportunities for career readiness enrichment and awareness.¹²⁴ On the whole, collaboration with the community refers to “identifying and integrating resources, services, and other assets from the community to help meet the needs of school personnel, students, and their families.”¹²⁵ Eight elements for building school-community partnerships include: leadership, teamwork, action plans, implementation of plans, funding, collegial support, evaluation, and networking.¹²⁶ While some studies find that school counselors rank these collaboration and partnership duties as less important than other counseling topics, other research suggests that counselors perceive these to be valuable practices.¹²⁷ Using Joyce L. Epstein and Frances L. Van Voorhis’s theoretical framework for developing school-community partnerships, Figure 2.5 on the next page lists the specific roles that school counselors may play in community partnerships. The roles listed in this figure are based on Epstein and Voorhis’s analysis of the National Network of Partnership Schools at Johns Hopkins University and member schools’ Action Teams for Partnerships (ATP), which are school-level leadership teams consisting of school staff, parents, students, and other community partners.

¹²³ Information taken nearly entirely verbatim from: Ibid.

¹²⁴ Griffin, D. and S. Steen. “School-Family-Community Partnerships: Applying Epstein’s Theory of the Six Types of Involvement to School Counselor Practice.” *Professional School Counseling*, 13:4, 2010. <http://professionalschoolcounseling.org/doi/10.5330/PSC.n.2010-13.218>

¹²⁵ Ibid., p. 219.

¹²⁶ Epstein, J.L. and F.L. Van Voorhis. “School Counselors’ Roles in Developing Partnerships with Families and Communities for Student Success.” *Professional School Counseling*, 14:1, October 2010. p. 3.

¹²⁷ Griffin and Steen, Op. cit., pp. 218–219.

Figure 2.5: Example Roles and Responsibilities of Counselors in Community-Based Partnerships

| | |
|--|--|
| Member | <ul style="list-style-type: none"> • A school counselor participates at monthly team meetings, assists in writing and implementing annual plans, and helps conduct scheduled activities linked to school goals. |
| Team Leader | <ul style="list-style-type: none"> • As chair or co-chair of an ATP, a school counselor organizes monthly meeting agendas, guides evaluations of activities implemented in the last month, and leads discussions to plan and schedule activities in the next month. |
| Committee or Activity Leader | <ul style="list-style-type: none"> • A school counselor may take responsibility for a specialty area. For example, a school counselor can oversee the effective implementation of all activities on one page of the one-year action plan for partnerships. |
| Advisor to a School's ATP | <ul style="list-style-type: none"> • A counselor serves as a member of the ATP or as an advisor to one or more school's ATP(s) to assist the co-chairs in planning and conducting meetings and implementing planned activities. |
| District Advisory Committee on Partnerships | <ul style="list-style-type: none"> • A counselor on a school's ATP may serve as the school's representative on a district advisory team that meets monthly with the district's leader for partnerships. |

Source: Epstein and Voorhis¹²⁸

The Ohio Department of Education's (ODE) initiative on college and career readiness incorporates community partnerships into the state's efforts for students' long-term career planning.¹²⁹ With a number of resources that detail these community collaborations provided on the ODE's website, this initiative comprises a useful example with which to understand the benefits of establishing such partnerships to meet college and career readiness goals. Overall, the ODE frames college and career readiness efforts into three distinct stages:¹³⁰

- **Career Awareness (Elementary Grades K-5):** Students become familiar with careers through learning that connects classroom instruction to future work. Career awareness strategies show students various types of careers and stimulate interest in future work.
- **Career Exploration (Middle Grades 6-8):** Students explore their career interests through embedded activities. Career exploration strategies are opportunities for students to discover work environments and understand the various aspects of the workplace. Strategies include tools and instruments that help students understand and appreciate their strengths and interests. Students start plans for their future with career information and postsecondary education data. Plans include course selection and planning as well as career aspirations and goals.
- **Career Planning (High School Grades 9-12):** Students continue career exploration while focusing on career planning. Activities provide advanced experiences that offer hands-on opportunities in a workplace. Career planning strategies focus on making clear links between

¹²⁸ Information taken nearly entirely verbatim from: Epstein and Van Voorhis, Op. cit., pp. 5–7.

¹²⁹ "Career Connections Framework." Ohio Department of Education. <http://education.ohio.gov/Topics/Career-Tech/Career-Connections/Career-Connections-Framework>

¹³⁰ List of bulleted information taken verbatim from: Ibid.

career options and educational decisions. Students develop the skills to revisit previous exploration and planning strategies as they face career changes throughout life.

The ODE encourages connections between community organizations and local businesses with school districts to meet these goals *at every stage of the career planning framework*, writing that “[p]reparing young people to succeed in the workplace requires partnering with local schools and engaging in career readiness conversations” in a guide made publically available online to community members and businesses.¹³¹ For each career readiness stage, this guide lists examples of how community organizations can partner with school districts to instill career awareness, encourage career exploration, and facilitate career planning among all primary and secondary students. These partnership connections are listed in Figure 2.6.

Figure 2.6: Examples of Community Partnership Connections

| GRADE | COLLABORATIVE EXAMPLES |
|---|---|
| Career Awareness (Elementary Grades K-5) | <ul style="list-style-type: none"> ▪ Team up with your school district to host a career day or an evening event for the community to learn more about various businesses, organizations and jobs across the community. ▪ Offer classroom presentations that show young people how the skills and knowledge they are learning now are applied throughout the workplace. ▪ Host field trips where students visit your workplace and learn about the various jobs through interviews or mini presentations from employees across your company—representing varying levels of education, skill and knowledge. |
| Career Exploration (Middle Grades 6-8) | <ul style="list-style-type: none"> ▪ Team up with teachers from your local schools to create an authentic project where students apply the skills and knowledge learned in the classroom to solving a real-work problem. ▪ Partner with your local schools to coordinate a community service project that involves several businesses and organizations. Allow students to lead the planning and organizing for the project. ▪ Host students at your workplace for a day where they will learn about the jobs and explore major areas of your company. |
| Career Planning (High School Grades 9-12) | <ul style="list-style-type: none"> ▪ Post job openings and internship opportunities for your company or organization on OhioMeansJobs.com. ▪ Coordinate a long-term mentorship program that offers students enrichment opportunities such as work-ready skills, career exploration and college access. ▪ Host a student intern to build work experience and promote community partnerships. ▪ Collaborate with your local schools to design a co-op program for students in high school. ▪ Serve on an advisory board for your school district where you can inform classroom curriculum that prepares students to enter the workplace with the skills and knowledge necessary to be successful. |

Source: Ohio Department of Education¹³²

¹³¹ “A Career Connections Guide for Your Community.” Ohio Department of Education.
http://education.ohio.gov/getattachment/Topics/Career-Tech/Career-Connections/Career-Connections-Framework/Career-Connections-Guide-Community_4-2014.pdf.aspx

¹³² Ibid.

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