CAREER EXPLORATION IN MIDDLE SCHOOL:

Setting Students on the Path to Success
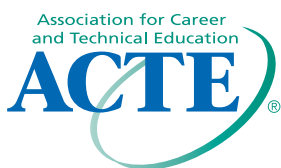
Executive Summary

Research has identified middle school as a time when students can benefit the most from career exploration, a process of building self-awareness, learning about potential careers, and developing a plan for reaching future goals. Career exploration engages middle school students at a time when they are at a higher risk for disengaging from learning due to challenges in forming identity, coping with puberty and navigating new environments. It also capitalizes on their developing abilities to think abstractly, and their preferences for teamwork and active learning through relevant real-life scenarios. These preferences make middle school a natural time for students to learn about careers and develop skills such as problem solving, critical thinking and teamwork through career exploration activities.

While career exploration has proven benefits for middle-grades students, programs and activities can be difficult to implement due to a lack of funding, a focus on core academic courses and overburdened school counselors. Educators, administrators and counselors have developed a variety of flexible practices to overcome these barriers.

A key way career exploration is provided to middle school students is through exploratory and introductory CTE courses. These courses help students identify careers of interest and develop employability skills that will serve them in further education and the workplace. They can be delivered in various ways, from yearlong classes that address all 16 Career Clusters® to semester-length courses in one broad career area, with the common goal to provide opportunities for students to learn about career and education pathways and to build employability skills.

Middle school students can also craft personalized education and career plans, in collaboration with parents, counselors and teachers, to help guide decisions about future course-taking and potential careers. Scalable technology like Career Cruising can support and enhance this planning while keeping students' options open.

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Middle-grades students have further opportunities to explore future options through career and technical student organizations (CTSOs) and work-based learning activities. An intracurricular element of many CTE programs, CTSOs help students develop leadership skills and connect with business leaders through service activities and industry-based competitions. Students can also interact with employers though workplace tours, job shadowing and other work-based learning activities.

To help teachers, counselors and administrators implement and improve these practices at the program, school and district levels, ACTE recommends the following:

1. **Incorporate career-related project-based learning in the classroom.**
2. **Design projects and activities to develop employability skills.**
3. **Be flexible when offering exploratory and introductory CTE courses.**
4. **Facilitate academic and career planning with scalable online tools.**
5. **Enable short-term interactions with business and community leaders.**
6. **Provide opportunities for CTSO participation, including financial support when needed.**

While these recommendations focus on strategies at the local level, states play a major role in ensuring access to career exploration in the middle grades, as evidenced by recent state legislation. Policymakers at all levels should work to ensure their states recognize the critical importance of middle-grades career exploration and embrace supportive policies.

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Middle school is a time of transition in a young person's life. Students' experiences in the middle grades have a strong influence on whether they will close achievement gaps, complete high school and be considered college-ready, particularly students in high-poverty neighborhoods.[1]

At the transition to middle school, students are at a higher risk for disengaging from learning as they face challenges in forming identity, coping with puberty and navigating new environments.[2] Middle school students may also have unrealistic career plans, and know little about the demands of the workplace or how their education choices relate to future careers.[3] Girls, minorities and at-risk students are more likely to begin to limit their career aspirations after being exposed to stereotypes about which jobs are appropriate for whom.[4]

To help them stay engaged and plan for their futures, middle schoolers need educational experiences that match their stage of intellectual and social-emotional development. Individuals learn to think more abstractly in early adolescence—to test hypotheses, synthesize information and solve problems.[5] They prefer to learn through teamwork and authentic, real-life scenarios.[6] Middle-grades students want to explore topics they find interesting and relevant, including careers, and they want to do so in active, hands-on ways.[7] During these years, adolescents also develop a greater capacity to think about and plan for the future.[8] These factors make middle school a natural time for students to explore careers and gain employability skills that will serve them well in the future.

Career Exploration and Employability Skills in Middle School

Career exploration is a process of learning about oneself and the world of work, identifying potential careers, and developing a strategy for realizing education and career goals.[9] The National Career Development Association recommends that middle school students learn about themselves by developing awareness of their occupational interests, aptitudes and career values; gaining an understanding of the value and concept of work; and making preliminary occupational choices that are open to change.[10] Self-knowledge is a necessary first step toward developing decision-making skills for education and careers, even as goals and interests change over time.

Research has identified middle school as a time when students can benefit the most from career exploration.[11] In addition, middle schoolers' brains are receptive to developing the competencies known as 21st-century skills, non-cognitive skills, soft skills or employability skills. These skills include critical thinking, adaptability, problem solving, oral and written communications, collaboration, creativity, responsibility, professionalism, ethics and technology use.[12] Employers report that employability skills are critical to the workforce, and many are also positively associated with academic achievement and postsecondary success.[13]

Career and technical education (CTE) is well positioned to help students explore careers and develop employability skills in middle school and beyond. According to research:

- CTE students are significantly more likely than their peers to say that they developed a clear career goal as well as problem-solving, critical-thinking, communication, time management and work-related skills, according to a study that compared CTE and non-CTE students as they transitioned into postsecondary education.[14]

- The more that students participate in career and technical student organizations (CTSOs)—an integral intracurricular component of many CTE programs that features competitive events, business and community partnerships, and leadership experiences—the higher their academic motivation and engagement, grades, employability skills, career self-efficacy and college aspirations.[15]
- Work-based learning has been found to help students gain an understanding of the work environment, increase motivation, support work readiness, enhance job-related skills and knowledge, improve school attendance and reduce dropout rates.[16]
- Students who participate in career guidance, career courses and computer-based guidance systems demonstrate greater knowledge of jobs, higher self-esteem and better grades, and are engaged more in career and academic planning.[17]
- "Making" (or "makerspaces") is a related concept to CTE that prioritizes hands-on learning to build creativity, open-mindedness, persistence, social responsibility and teamwork.[18]

CTE is also a key strategy identified by the National Dropout Prevention Center/Network at Clemson University. Research shows that CTE and career guidance help keep students in school and positively impact student persistence.[19] In fact, 81 percent of students who left high school without a diploma reported that relevant, real-world learning opportunities would have kept them in school—a particularly relevant number given the research that suggests many students begin disengaging in middle school.[20]

Barriers to Middle School Career Exploration

Career exploration has proven benefits for middle-grades students, but educators, counselors and administrators face challenges in providing exploration activities.

Historically, the education system has struggled with how to educate early adolescents moving from childhood to young adulthood. In the latter half of the last century, the U.S. education system transitioned from junior high schools teaching a curriculum that mirrored a high school curriculum, to middle schools, which focused on an interdisciplinary curriculum, exploration and supportive relationships.[21] There were almost 12,000 middle schools in the nation at the beginning of the 21st century.[22]

However, the philosophy of middle school as a developmental space for early adolescents has increasingly conflicted with pressure to improve test scores. Some middle schools have responded by reducing time for electives and guidance activities, including career exploration.[23] And while CTE is gaining popularity, some parents and educators still think that building students' career skills relegates them to a separate track for the non-college-bound.[24]

A lack of school counselors also impairs career exploration in middle school and across the education pipeline. Counselors and other guidance and career development professionals assist students with self-exploration and future planning, and are instrumental in supporting career exploration in the classroom and through extended learning experiences like work-based learning and CTSOs. Yet the national average for the ratio of counselors to students is 1:491, almost double that recommended by the American School Counselor Association.[25]

Middle schools also have financial challenges, receiving just 8 percent of the federal funding that postsecondary education received in Fiscal Year 2015.[26] Federal funds apportioned to states through the Carl D. Perkins Career and Technical Education Act support career exploration in middle school; however, Perkins funding for states has been maintained at or near $1.1 billion for several years, about $150 million less than Fiscal Year 2010 levels. Perkins funding is also more likely to be distributed to high school CTE programs.

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These funding struggles translate to barriers for career exploration, including costs associated with technology and other resources.[27] Extended learning experiences can also be hampered by a lack of funds, as well as policies that discourage off-site activities due to safety and liability concerns.

To overcome these barriers, educators and administrators have developed a variety of flexible practices for middle school career exploration, including exploratory and introductory CTE courses, career and academic planning through scalable technology, CTSOs and work-based learning experiences.

Exploratory and Introductory CTE Courses

CTE courses in middle school help students explore within the 16 Career Clusters® of the National Career Clusters Framework®, which encompasses more than 79 education and career pathways.[28] This learning engages students in identifying careers of interest and developing employability skills for further education and the workplace.

Middle school CTE courses can be delivered in a variety of ways to meet student needs while taking into account school resources and capacity. Some middle schools may offer a course that explores all 16 Career Clusters, while others may provide courses that introduce students to one, two or three broad career areas. Introductory courses may also lead directly into specific CTE programs of study in nearby high schools. In addition, career development lessons can be split up and integrated across the curriculum.

Minimal data is available on how many students participate in these types of courses; however, a Cornell University Center for Advanced Human Resource Studies report estimates that, on average, a middle school student at the beginning of the 21st century participated in around one year of introductory CTE coursework.[29]

Students in Indiana take the Exploring College and Careers course in middle school, investigating their interests, strengths and goals in relationship to the Career Clusters and Indiana's College and Career Pathways. Activities typically include completing interest inventories, meeting in-person and virtually with business and military representatives, creating resumes and cover letters, discussing postsecondary options and setting goals. Students may also create and compare budgets based on the average income they can expect to earn with different levels of education.[30]

Fairfax County in Virginia offers middle school courses in three broad career areas: business and IT, family and consumer sciences (FACS) and technology and engineering. In technology and engineering courses, students explore careers in these fields while beginning to learn the design process and how to solve problems with technology. Students work individually and in groups on activities such as building bridges and racing dragsters.[31]

Project-based learning, a fundamental CTE instructional strategy, is often used in middle school career exploration. Students develop their knowledge and skills by working on a project, problem or question with real-world relevance. In West County Middle School in Missouri, eighth-graders spend the year investigating a career that interests them and preparing related materials like resumes.[32] The Career Town program culminates in an event where students present their career of choice in front of parents and representatives from local job centers and colleges.

Employability skills are often incorporated into these courses as well. At Morrison High School, a rural school for grades seven to twelve in Oklahoma, students can explore FACS, business and agriculture. These courses emphasize career awareness, motivating students to develop strong work habits to help them transition to more in-depth CTE programs in

higher grades. Interpersonal, communication and social skills are key, and students are evaluated on their work ethic, behavior and accountability. Alumni report that this approach has contributed to their success in the workplace.[33]

While exploratory and introductory CTE courses can be structured in different ways, they should all incorporate academic and technical content with real-world relevance, supported by project-based learning, technology, and opportunities to learn about various careers and education pathways.[34] These courses should also be integrated with strong career guidance systems.

Career and Academic Planning

Students often begin crafting personalized education and career plans in middle school to help guide decisions about future course-taking and career exploration. The plans are known by many names, including individualized graduation and learning plans, and are typically developed in collaboration with counselors, educators and parents. Career development technology can enhance this planning, offering tools that can be flexibly configured and scaled to meet local, state and regional needs.

According to research from the National Collaborative on Workforce and Disability for Youth, individualized learning plans are a promising strategy for all students when they are implemented starting in middle school; incorporate a web-based career information system with an e-portfolio; and include opportunities for self and career exploration, work-based learning and the development of employability skills.[36] The National Association of Secondary School Principals also recommends that middle school students start developing individualized graduation plans in middle school.[37]

Starting in the 2017-2018 school year, students in Wisconsin must have access to the state's academic and career planning

Tennessee has developed a middle school STEM sequence of three courses that foster technical, academic and employability skills through career exploration. The introductory course, STEM Explorers, teaches sixth-grade students how workers in STEM fields define and solve problems to benefit society. Students also research a wide variety of Career Clusters and participate in activities like creating models of manufacturing processes or collecting, graphing and analyzing health care data. STEM Explorers emphasizes the importance of problem-solving skills and gives students practice in reading, interpreting and applying workplace safety rules.

In the next course in the sequence, STEM Innovators, seventh-graders research how famous innovators have used STEM to advance industry and society, as well as how technology has advanced within specific Career Clusters. They examine innovation processes and propose improvements to existing products such as wind turbines. Students finish the course with projects like creating 3D printing models or developing proposals to host "makerspace" events.

The final middle school course, STEM Designers, reinforces the problem-solving skills that the STEM Explorers course introduced, with a greater focus on using computational thinking and evidence-based arguments. Eighth-grade students evaluate and improve existing engineering design processes, and address engineering challenges related to specific objects—bridges, for example—by developing sketches and models.

The latter two courses in the middle school STEM sequence maintain the focus on employability skills while delving deeper into STEM content. Austin Christian, an eighth-grader at Christiana Middle School, says the STEM program teaches life skills, while teacher Dawn Powell shares how students have been inspired by seeing a project, such as building and launching a rocket, through to its outcome.[35]

Students in Virginia are required by a 2009 regulation to develop an Academic and Career Plan beginning in the seventh grade.[40] Seventh-graders select a Career Cluster that will guide their high school course selection and make preliminary plans regarding postsecondary education and credentials, including industry certifications. This planning is based on interest inventories, self-exploration activities and conversations with parents, counselors and teachers.

Through the planning process, the Virginia Department of Education (VDOE) hopes to promote students' understanding of how their education choices impact their long-term career choices, as well as how behaviors such as punctuality, courtesy, language and hard work are essential to success in the job market. Students are also encouraged to demonstrate initiative, teamwork, problem-solving, organization and communication competencies.

The VDOE provides resources to teachers, counselors and administrators on how middle schools can incorporate academic and career planning into daily instruction. The Department has partnered with the Southern Regional Education Board to provide middle and high school staff with professional development workshops through the Counseling for Careers program. Counseling for Careers strategies help educators and counselors better personalize students' Academic and Career Plan learning experiences to make developing these plans more meaningful.[41] According to Jason Suhr of Roanoke County Public Schools, Virginia's academic and career planning "encourages a high level of student involvement, which is key to encouraging buy-in for the student."[42]

(ACP) services by grade six.[38] ACP is a collaborative process that helps students make choices that align with high school graduation requirements, personal interests and career goals. It also incorporates an online portfolio that documents the student's plan and relevant activities. ACP is a holistic approach to education and career development, with implementation options at the local level.

In Wisconsin's DeForest Area School District, students start participating in ACP as early as the fifth grade, reflecting on their skills, hobbies, interests and role models. This early planning builds upon engagement with business representatives during elementary school through the Adopt-a-Class program. Students continue to explore throughout middle school, and in eighth grade, they meet with counselors and parents to choose a preferred Career Cluster and discuss high school and postsecondary options.[39]

Career Cruising, an online exploration and planning program that supports future readiness, is Wisconsin's preferred third-party technology provider to support ACP. Students learn about themselves and potential careers through interest, skills and learning styles inventories; an ability profiler; in-depth information on education, careers and job outlook; and an online portfolio.

Flexibility is key to education and career planning in middle and high school, and learning plans should be revisited regularly in light of new experiences. Online tools can help guide decision-making about future options while keeping students open to multiple pathways.

Extended Learning: CTSOs and Work-based Learning

Middle school students have further opportunities to explore careers and develop employability skills through CTSOs and work-based learning experiences.

An intracurricular element of many CTE programs, CTSOs support and expand on what students learn in their CTE courses through community service and industry-based competitive events at the local, state and national levels. CTSOs help students build their skills in creativity, problem solving and teamwork and set goals based on an understanding of their career values, interests and strengths. More than 2 million middle, high school and postsecondary students participate nationwide in 11 CTSOs that each map to one or more Career Clusters.[43]

Students in CTSOs cultivate their knowledge about the workplace by interacting with local employers, who act as mentors and judges for competitions, and with CTSO teacher-advisers. CTSOs also offer activities to build the confidence and leadership skills of middle-grades students specifically. For instance, in Future Business Leaders of America's (FBLA's) Middle Level division, the Middle Level Achievement Program rewards junior high and middle school members when they complete activities in the areas of service, education and leadership.

In addition to working with industry representatives through CTSO activities, middle school students can connect with employers both in and out of the classroom though introductory work-based learning experiences like workplace tours, guest speakers and job shadowing.[44] These typically short-term interactions build a base of knowledge and experience for more intensive secondary and postsecondary work-based learning experiences.

For instance, mentorship from business leaders is core to the curriculum developed by the Network for Teaching Entrepreneurship (NFTE) and implemented in middle schools across the nation. Through NFTE courses, students explore a range of careers based on their interests and learn about entrepreneurship, both as a career option and as a way to

The Inspire Sheboygan County program has been connecting Wisconsin middle school students, employers and the community to mutual benefit since 2013, powered by Inspire by Career Cruising. Through this cloud-based platform, companies can share information about themselves and their work-based learning opportunities; students can learn from volunteer career coaches using discussion boards and messaging tools; and employers and students can connect for interviews, job shadowing, workplace tours and internships.

Inspire Sheboygan County now has 71 participating businesses, almost 400 volunteer career coaches and more than 10,000 active student portfolios, spanning middle school, high school and postsecondary education.[47] This growth is supported by a committee that shares metrics and resources for member businesses, who pay an annual fee based on size.

Through Inspire Sheboygan County more students are asking professionals for career advice and participating in work-based learning, according to school administrators. Frequently, career fairs and guest speakers lead to job shadowing experiences. With students exploring career options and employers identifying their future workforce, it is a win-win situation. According to Colleen Vollbrecht of Rockline Industries, "[Inspire Sheboygan County] drives collaboration between school systems and businesses to ensure we are meeting the needs of the students in our community and the future needs of our businesses."[48]

solve problems for people and communities. Volunteers from local or national corporate partners speak in classrooms; host site visits; and work as coaches, mentors and judges for NFTE's Business Expo, at which students present their business concepts.[45]

Job shadowing is another option for middle school career exploration, in which students spend the day with an adult on the job, observing and participating in daily activities. This short-term activity brings students together with business leaders to cultivate interest in occupations and increase knowledge of the work inherent in these jobs. Since passage of the Education and Economic Development Act in South Carolina in 2005, a landmark piece of state legislation addressing CTE and career guidance, employers in that state have hosted more than 125,000 students per year during CTE Month® and Groundhog Job Shadow Days, supported by resources that emphasize preparation, effective communication, workplace safety and behavior, and reflection after the fact.[46] And, when job shadowing is more difficult to access—for instance, in rural areas or for careers that raise safety and liability concerns—students can take advantage of virtual job shadowing experiences.

Recommendations for Practitioners

Career exploration in middle school is crucial for engaging students and helping them prepare for the future, and there are multiple strategies for delivering career exploration that meet student needs while considering challenges such as lack of funding, overburdened staff and tightly-packed school schedules. The following recommendations are aimed at teachers, counselors and administrators looking to implement and improve the practices described in this paper at the program, school and district levels, as well as state and local policymakers seeking to strengthen policies around middle school career exploration.

1. **Incorporate career-related project-based learning in the classroom.**
   Project-based learning is a fundamental CTE instructional approach that can engage middle-grades students in learning about careers. To make projects relevant for middle schoolers, teachers should start with a topic that is personally meaningful to students and grounded in their choices, such as developing a product or process used in a career that interests them.[49] High-quality projects also generate questions for students to investigate, incorporate feedback and revision, result in presentations that build oral communication skills and pave the way for further exploration.[50]

2. **Design projects and activities to develop employability skills.**
   Projects and other activities should foster employability skills, as students assess the skills and knowledge needed for a project, collaborate with others and solve any issues that occur. Students also learn proper workplace behavior when classrooms and laboratories mimic the rules and culture of the related work environment. In addition, students can learn to be conscious about career decision-making—another skill with lifelong value—when counselors and educators help them think critically about their interests, abilities and goals.

3. **Be flexible when offering exploratory and introductory CTE courses.**
   There are a variety of models for offering middle-grades students exploratory and introductory CTE courses, from yearlong courses that address all 16 Career Clusters to semester-length courses in one broad career area. Teacher content expertise will impact these decisions, as well as scheduling and whether the school is affiliated with an area career center that provides CTE programs to students in several schools and districts. Virtual learning can supplement a middle school's ability to offer exploration in multiple career areas.

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4. **Facilitate academic and career planning with scalable online tools.**
Online planning and exploration programs support middle school career exploration with a trove of up-to-date information on education, careers and employment and wage projections. These programs also incorporate online inventories and assessments to help students learn about their skills, strengths and interests and match them with potential occupations. Incorporating web-based planning systems across a district's K-12 programs can make it easier for counselors, teachers, students and parents to get the information they need, while deepening the planning process through interactivity, personalization and immediate feedback that engages participants.[51] Parents particularly benefit from being informed and engaged in planning, and their support for this process can help their students see the value in academic and career plans.

5. **Enable short-term interactions with business and community leaders.**
Short-term interactions with employers, such as guest speakers, site visits and job shadowing, can introduce middle school students to a variety of careers and the demands of the workplace in a low-stakes way, setting the stage for more demanding activities like internships and apprenticeships. In addition, multiple, shorter experiences can show students that all careers have value, while being easier for administrators, teachers and business representatives to coordinate.

6. **Provide opportunities for CTSO participation, including financial support when needed.**
CTSOs help students build employability skills and interact with business and community leaders through competitive events and service activities. However, students can struggle to participate due to financial or transportation issues, and schools may have trouble funding CTSO activities.[52] If finances are an issue, administrators may turn to the Perkins Act, which can permit state and local funds to be used for CTSOs. Some states also have specific funding for CTSO activities, and other opportunities may be available through grants and partner investments.[53]

Supportive State Policies

While the above recommendations focus on strategies at the local level, states have a major role to play in ensuring access to career exploration in the middle grades. Many states in recent years have focused on strengthening middle school CTE and career guidance. For example, Ohio requires all districts to provide career guidance throughout middle school and CTE courses during seventh and eighth grade, while legislation in Washington directs middle schools to offer CTE and funds middle school CTE programs in STEM fields of study at the same rate as high school CTE programs.[54] A number of states have also expanded access to career guidance and planning into the middle grades, including Florida, Indiana, Iowa, Michigan, North Dakota, South Carolina, Texas, Virginia and Wisconsin.[55]

Teachers, counselors, administrators and CTE advocates can have a voice in this process by:

- staying abreast of the middle-grades CTE policy developments in their states
- learning how funding from the Perkins Act and the federal Every Student Succeeds Act, as well as relevant state programs, can be used at the middle grades
- advocating for the continued support and expansion of middle-grades CTE and career guidance, including the awarding of high school credit for middle school CTE coursework, where appropriate

Policymakers at all levels should work to ensure their states recognize the critical importance of middle-grades career exploration and embrace supportive policies.

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