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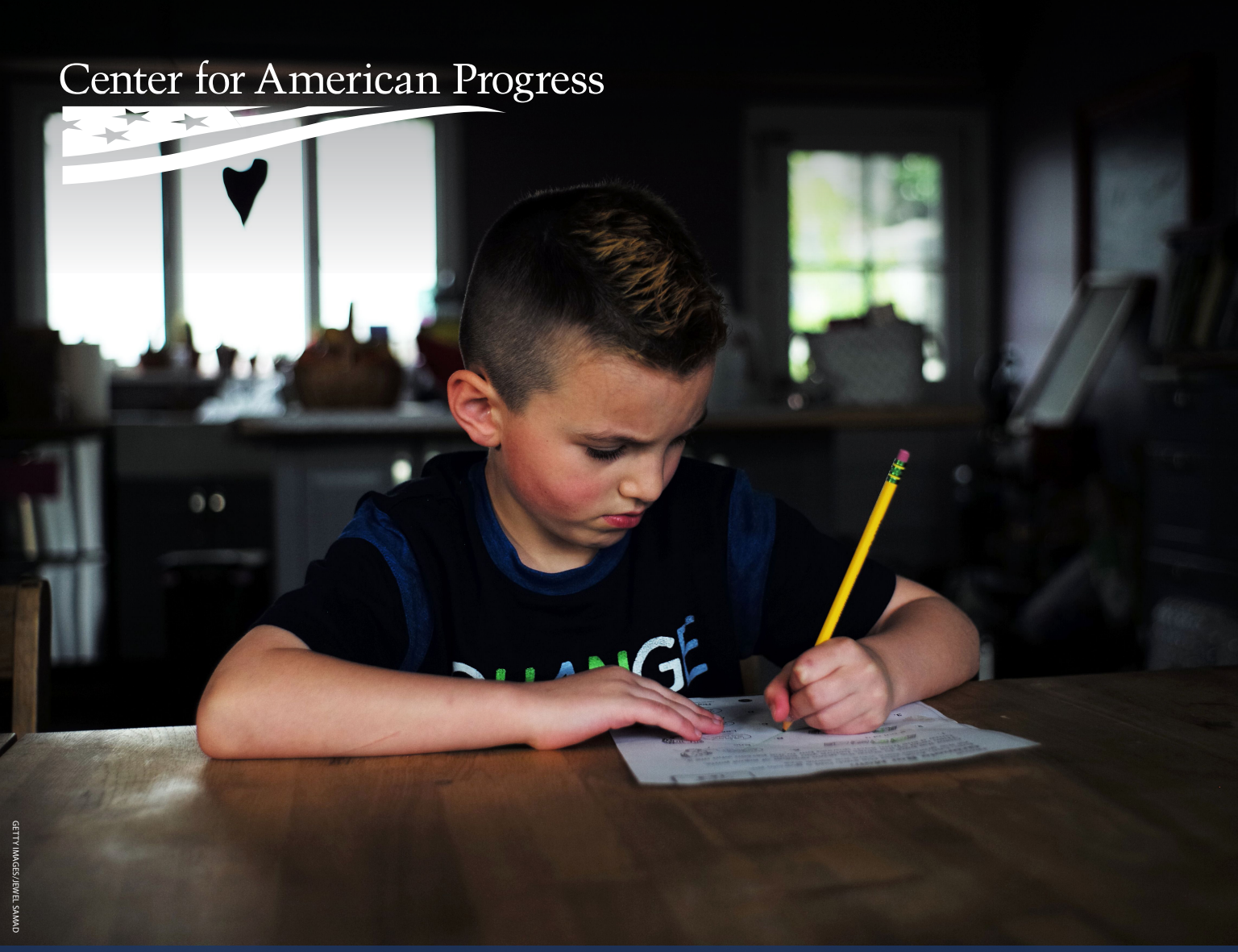

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Creating Strong Building Blocks for Every Student

How Middle Schools Can Lay the Foundation for Rigorous High School Pathways

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Introduction and summary

COVID-19 has created uncertainty for the future of America's economy, schools, and so many aspects of everyday life. In addition, the school closures in the spring of 2020 and the potential school disruptions in the 2020-21 school year are projected to have a lasting effect on student outcomes and preparedness. These closures and disruptions are even more acute in Black, Latinx, Indigenous, and low-income communities.

At this moment, states and school districts are wrestling with how to rework instruction and accelerate learning to help students remain on track for success in school and beyond. Supporting students and families in setting goals and developing and adapting plans to achieve them will help students, families, and educators identify when a student is falling behind—hopefully while there is still time to course-correct. While this has always been a best practice, it is even more critical given the learning losses that will likely result from the COVID-19 pandemic.

Even before the economy, schools, and communities were disrupted by the coronavirus, states, districts, and schools wrestled with how to better prepare students for the workforce of tomorrow. Some schools redesigned high school programs or improved career and technical education (CTE) to broaden opportunities for high school students and create a path to achieve their career aspirations. These programs, or pathways, that prepare students for college and career readiness include CTE concentrations, dual credit opportunities, and early college high schools.

However, the data show that prior to the COVID-19 pandemic, access to quality high school pathways varied considerably.

There are multiple factors that drive these inequities: lack of access to rigorous, prerequisite coursework; insufficient student and family information about the existence of these programs and how to prepare; and structural barriers such as transportation and feeder patterns that close some students out of certain specialized programs.[1] These barriers pose particular difficulties for Black and Latinx students and students from families with low incomes.[2]

The closure of schools due to COVID-19 is likely to exacerbate those inequities. Moreover, access to career and college exploration will dwindle during and after the pandemic for all students. For example, school districts may cut or reduce time and resources dedicated to these programs to prioritize core curriculum given the loss of overall instructional time, or school districts may eliminate hands-on workforce training rather than reimagine it in a virtual environment. In the first few months of the pandemic, many states had not yet provided guidance on how to ensure that high school students can complete graduation and other requirements and transition to college, the military, or the workforce.[3]

In order to improve access to existing pathways and increase demand for more quality programs, states, school districts, and schools need to increase efforts to prepare students for college and the workforce of tomorrow. They need to begin these programs earlier and consider how to increase access to those opportunities in a virtual environment. As policymakers reimagine school given the current health risks, schools should consider how to prepare students to enter the ninth grade with rigorous academic records so that advanced coursework is well within reach. In addition, students should enter high school with a general sense of post-secondary and career development opportunities so that they can set educational goals that are aligned with their short- and long-term goals.

Fortunately, states and school districts were already developing strategies to start college and career exploration before the pandemic struck. In 2018, Congress passed the Strengthening Career and Technical Education for the 21st Century Act, the fifth reauthorization of the Carl D. Perkins Vocational Education Act. Commonly referred to as Perkins V, the federal legislation seeks to increase the quality of and access to career and technical education and encourages states to begin to start pathways programs earlier to lessen inequities. Perkins V requires local grant recipients to conduct a comprehensive local needs assessment as the basis for local plans and funding strategies. The assessment must consider the quality of the programs and progress toward equity and access, among other factors.[4] Related to this, another important change is that Perkins V now allows states and districts to use funds as early as fifth grade, rather than seventh grade. This exploration of career pathways in younger grades can give students more time to actively learn about and prepare for high-quality programs.[5]

This approach builds on the extensive effort to develop, adopt, and implement the Common Core State Standards, a rigorous sequence of K-12 academic standards that prepare students for college and careers. Common Core State Standards are

an important part of identifying building blocks to success in high school and beyond, but they do not specifically address what high-quality college and career exploration should look like in middle school grades.[6]

The Center for American Progress sought to articulate critical components of middle school programs that help break down barriers to accessing high-quality pathways toward college and careers. While COVID-19 creates additional challenges and uncertainty, this report offers ways schools might consider implementing these components given the current pandemic.

The authors drew heavily on the work of Advance CTE and the Association for Career and Technical Education (ACTE), two nonprofit organizations that are at the forefront of articulating what career development should look like in middle grades while focusing on broader program elements that open doors toward multiple types of career and college preparation. Specifically, the authors recommend that all middle school programs include the following:

- Rigorous instruction that ensures readiness and eligibility for high-quality high school coursework
- Counseling and exploration for career pathways and college preparation
- Opportunities for teachers to connect with and learn from industry and secondary postsecondary programs
- Family engagement and frequent information sharing regarding college and career pathways options
- Exposure to role models who deviate from cultural and occupational stereotypes

The authors also conducted a landscape analysis to gauge how many states were encouraging these practices and surveyed parents, teachers, and school leaders to assess the current types of information that schools are sharing about college and career opportunities in elementary schools, middle schools, and high schools.

Based on the analysis, the authors recommend state and district actions or policies to increase equitable access to and success in quality pathways by encouraging or implementing essential components in middle schools nationwide.

Background

Before COVID-19, various schools and districts were redesigning high schools to increase graduation rates, maximize student engagement, and align expectations to regional career and college expectations.[7] However, even before schools closed to limit the spread of the coronavirus, these innovative approaches were not accessible to all students, in part because many students and their parents did not receive information needed to take advantage of these programs or did not have access to rigorous prerequisite coursework.

Inequitable access to high school pathways to college and career

High school redesign efforts are gaining traction but are not widespread due to implementation challenges and fixed funding streams. But in those pockets of success, schools have leveraged competency-based education, personalized learning, and project-based learning, and they often include a more specialized focus on specific regionally in-demand career clusters or close articulation with local college programs of study.[8] Many of these programs include CTE courses and classes or programs that allow students to earn college credit before graduating high school, including early-college high schools or dual enrollment courses.

Longitudinal studies and evaluations show that many of these efforts are improving academic outcomes by increasing graduation rates as well as college enrollment and completion rates.[9] But participation rates and policy analyses also show that access to some of these pathways is skewed toward high-achieving, more affluent student populations and certain racial and economic subgroups. Consider dual enrollment programs: Only 37 percent of students in dual enrollment courses are from low-income backgrounds,[10] and schools with greater distributions of students in poverty are less likely to offer these types of courses.[11] A disproportionately lower percentage of Black and Hispanic students enroll in dual enrollment programs than white and Asian students.[12]

Many different issues can perpetuate inequitable access to dual enrollment and other rigorous pathways, but inadequate preparation or knowledge of these programs is a fundamental barrier. For instance, in 2019, the Education Commission on States conducted a state landscape analysis that found that many states have strict requirements to participate in dual-credit courses, which may prevent many students from participating if they have lower achievement levels due to inadequate resources or preparation in earlier grades.[13]

The available data on the rigor of coursework offered in middle schools and national proficiency rates underscore this point. For example, access to and success in rigorous math courses are critical given the importance of prerequisite math skills in many advanced high school and CTE courses. Yet only 54 percent of middle schools offer algebra I in eighth grade, and only 24 percent of students enroll in the course. In addition, there are significant racial inequities in enrollment. Nationwide, 34 percent of Asian students and 24 percent of white students take algebra I in eighth grade. Those percentages drop to 12 percent for Hispanic students, American Indian students, and Black students.[14]

Similarly, proficiency in math by eighth grade shows significant differences across student subgroups. Based on 2017 data from the National Assessment of Educational Progress, 62 percent of Asian students and 44 percent of white students tested at or above proficient in math in eighth grade. Black, Hispanic, and American Indian students fared much worse.[15] Only 20 percent of Hispanic students, 18 percent of American Indian students, and 13 percent of Black students scored at or above proficient.[16]

It is likely that COVID-19 will exacerbate these inequities. For example, a Common Sense Media study from 2020 found that it is likely that 14 million to 15 million K-12 public school students—30 percent—either have no or insufficient access to the internet, significantly inhibiting their ability to participate in distance learning.[17] There are racial disparities as well. Of the students without adequate internet access, 35 percent are American Indian, 30 percent are Black, 26 percent are Hispanic, and only 18 percent are white.[18] Without access to distance learning or other supports, it is likely that COVID-19 will widen opportunity gaps and cause many students to enter high school without prerequisite academic coursework.

To better prepare students to enroll in high-quality pathways and grow the demand for high-quality programs, families and students need more information and time to set goals for college and career and to chart a course to achieve them.

Even before the pandemic, changes in Perkins V reflect this idea. Specifically, Perkins V allows states and school districts to use funding from the federal program as early as in fifth grade.[19] Previously, states and districts could not use Perkins funding to support educational programs until seventh grade.[20] The law also aims to minimize inequitable access to high-quality career pathways, which may be the result of inadequate preparation or insufficient information before students enter high school.[21]

Designing middle school pathways

Some educational organizations, states, districts, and schools are beginning to consider what middle schools should offer to set strong building blocks toward college and careers. Importantly, this effort is not new. The state-led effort to develop Common Core State Standards sought the same goal and improvements to the rigor and quality of academic standards, helping to raise expectations for all students.[22] But academic preparedness is only one component of college and career readiness. Schools should help students gain skills to explore in-demand jobs and succeed in securing well-paying jobs in a changing workforce, which increasingly requires some postsecondary coursework.[23]

Both ACTE and Advance CTE have identified important components that set up younger students for high-quality college and career readiness pathways. Students in middle grades rarely concentrate on academic or technical areas as they might do in high school, so pathways programs in middle school should include rigorous academic career readiness standards along with a focus on career and postsecondary education exploration.

Middle school CTE student learning outcomes

Advance CTE and ACTE articulate the following CTE student learning outcomes:[24]

- Gain awareness of and exposure to a wide array of careers
- Increase self-awareness and begin to form a potential occupational identity
- Develop employability skills
- Develop foundational technical skills as appropriate
- Be positioned to make more informed educational choices
- Transition to high school with an actionable plan for next steps

To accomplish the above outcomes, Advance CTE and ACTE recommend the incorporation of the following design principles:

- Strive to reach each individual student
- Be career-anchored
- Be standards-based
- Be grounded in experiential or hands-on learning
- Balance breadth and depth across the curriculum
- Integrate into the broader K-12, or P-20, career development system
- Include intentional and meaningful employer engagement
- Involve dedicated instructional time
- Communicate effectively to students and their families
- Focus on student growth

5 key components for successful middle school pathways

As discussed above, CTE is a component of but is not synonymous with high school pathways.

Given this, CAP sought to build upon work of ACTE and Advance CTE and articulate the critical components of middle school programs that set students up for quality high school pathways and beyond. The authors of this report considered components of high-quality high school college and career pathways, current trends in the alignment between coursework and graduation requirements, and challenges and inequities within and between transitions between schools and grade levels. In addition, the authors also identify a number of considerations for implementing these key components in the context of remote or blended learning as a result of the COVID-19 pandemic.

Rigorous instructional coursework that ensures readiness and eligibility for high-quality high school programs

Data show that there are significant inequities in access to rigorous coursework in high school. Data collected by the U.S. Department of Education show that access to the full range of math and science courses is significantly better for white and Asian American students than for other student subgroups. For example, 81 percent of Asian American students have access to the full range of math and science courses, while only 57 percent of Black students and 67 percent of Latino students have the same level of access.[25]

Students may lack access to rigorous instruction due to inadequate course offerings within their school or district, but insufficient preparation in previous grades may also contribute. For example, a recent CAP analysis underscores that students may struggle to achieve in postsecondary education in part due to inconsistencies between state requirements for a high school diploma and college and career readiness benchmarks. Eight states' high school graduation requirements—California,

Indiana, Maryland, Missouri, Montana, Texas, Wisconsin, and Wyoming—do not meet or exceed the state's college admissions math coursework requirements. In fact, the study found that almost every U.S. state failed to meet general college admission coursework requirements in at least one subject area.[26]

The rigorous instruction component aligns with ACTE and Advance CTE's guidance for quality CTE programs. Both organizations stress that programs should have a standards-based curriculum that is sequenced to align with credentials of value or postsecondary programs, as well as teachers who have industry-specific knowledge and strong pedagogy.[27]

Given that there is not a clear course sequence for middle schools, it is impossible to assess preparation inconsistencies as CAP did between high school and college and career readiness benchmarks. Yet it is clear that to be prepared for high-quality high school programs and rigorous coursework, middle school students should be performing at or above proficiency in courses that set them up for a high school curriculum and are aligned to postsecondary and career expectations.[28] Available proficiency rates and data on access to algebra I in eighth grade suggest that middle schools face similar challenges in rigorous instruction and coursework preparation for high school as high schools face in preparing students for college admissions and career expectations.

States and districts can regularly survey and review outcome data of various high school pathways programs and map those to demographic data to assess if their programs are equitably serving all students. States or districts can also evaluate enrollment requirements of those programs to identify key barriers to entry and determine how best to increase access to programs. For example, Maryland published CTE outcome and enrollment data disaggregated by race and ethnicity. Maryland encourages CTE teachers and administrators to use the data to review policies to resolve enrollment or outcome gaps. For example, the Maryland State Department of Education used the information to work with state and local leaders to identify ways to minimize enrollment gaps in high-quality career and technical pathways. Since the survey, Maryland has worked to alter enrollment criteria to reduce selection bias and put a lower emphasis on grades, disciplinary records, and other inputs.[29]

During the COVID-19 crisis, all of these ideas apply, but schools must also maximize access to broadband and implement a 1-to-1 device policy—in other words, one device for every student to ensure that all students have the ability to engage

in the academic content. In addition, once schools reopen, schools must implement approaches to accelerate learning to keep students on track to access rigorous college or career paths.

Counseling and exploration for career pathways and college preparation

Far too many students enter high school without any prior exposure to the full range of postsecondary opportunities available to them. Recent data show that most teenagers in the United States—and worldwide—still have relatively constrained expectations about their future careers. Slightly more than 46 percent of American teenagers expect to work in one of the 10 most commonly cited jobs.[30] While the list of commonly cited occupations differs slightly by gender, both girls and boys commonly cite the following occupations: doctors, teachers, police officers, architects, and business managers. What's more, far more students from disadvantaged backgrounds hold incongruent career and education goals.[31] Specifically, worldwide, a greater percentage of disadvantaged students than advantaged students expect to have a managerial or professional career without completing postsecondary education.[32]

More deliberate efforts to broaden students' horizons in middle school can help them set ambitious goals early and with sufficient time to secure their future. While workplace learning, survey courses, or other experiential opportunities can be effective to spark or solidify student interest, these opportunities may not be possible in many middle school programs.[33] As an alternative, universal pathways counseling and structured resources to explore available pathways in middle school and beyond can level the playing field and ensure that all students are aware of career pathways, opportunities to access postsecondary credit in high school, and the prerequisites to access any of those programs.[34] This is important, as students who are exposed to or aware of certain pathways in earlier grades have more time to select and enroll in courses, keeping them on track for rigorous pathways.

Counselors may help guide students to explore what opportunities best meet their interests and goals and develop living, individualized academic and career preparation plans to track their progress.[35] Nationwide, however, many states, districts, and schools struggle to employ enough counselors to provide individualized, universal counseling to support all students' needs, including college and career exploration. For example, the national average of the ratio of counselors to students is 1-to-491,

but the American School Counselor Association recommends that the ratio should be 1-to-250.[36] According to state numbers from the 2014-15 school year, the problem is especially pressing in certain states. For instance, the ratio of counselors to students is 1-to-924 in Arizona, 1-to-760 in California, and 1-to-729 in Michigan. Only three states—New Hampshire, Vermont, and Wyoming—were at or under the ideal ratio.[37] There is no available national data on counselor-to-student ratios disaggregated by grade span so it is not possible to determine how these shortages may be better or worse in middle schools nationwide.

A recent report by the American School Counselor Association and Advance CTE surveyed state career and technical education directors, state school counseling directors, and school counselors to better understand the quality of counseling specific to career development and exploration. Only about a quarter of middle school counselors report that they connect students to career-focused coursework or pathways, and most counselors report that they need more professional development and resources to effectively support students to explore career possibilities.[38]

Tools or resources can help students explore career pathways independently and supplement the role of a counselor. In fact, the same survey found that the effectiveness of what is termed a "custom-made career awareness and planning tool or platform" is quite high, with 58 percent of the respondents reporting it is effective or extremely effective.[39]

Some states have tools or databases that are available online, which may prove to be an important component to augment other efforts given the shift to distance learning due to the COVID-19 pandemic. For example, South Dakota has a website—SDMyLife—to help students and their families understand options to prepare for college and career. Some of these resources are available to anyone who visits the site and others require a school to give a student or family a free account.[40]

One of the tools offered on SDMyLife, and by other states and schools online or in school, is an individualized career and academic plan that requires students to articulate goals and the steps to successfully reach those goals. While many states require high school students to complete these plans, completing them even earlier would be better. These plans can facilitate conversations among counselors, teachers, students, and families.

Opportunities for teachers to connect with and learn from industry and postsecondary programs

Content knowledge matters for teaching quality.[41] High-quality high school pathways programs have teachers that have a clear understanding of the skills and knowledge they are trying to foster either through personal experience or through an understanding of the expectations of postsecondary institutions and industry and community partners.[42] This knowledge helps teachers effectively develop lessons and curriculum that are aligned to future opportunities and can increase the relevance of the coursework for students.

In middle grades, a similar idea should apply, but given that students are just beginning to explore career and postsecondary opportunities, it is more important for teachers to have a broad understanding of available pathways, future careers, and postsecondary opportunities than to have a deep knowledge of a specific industry.[43] Teachers may leverage this understanding of pathways, careers, or postsecondary opportunities to help students explore opportunities, plan lessons or projects that align to real-world situations relevant to the local economy, or organize experiential learning.

Schools and districts can foster this connection to industry partners and postsecondary institutions in different ways. Some middle school teachers may lack the personal relationships with industry partners to effectively align coursework with industry needs. District or school staff can close these gaps by working with intermediary organizations, workforce boards, or labor market partnerships to develop professional development resources or structured activities.

In addition, middle school teachers can work closely with high schools and with the central district office to understand postsecondary articulation statistics and available options within the region.

While these models can look very different, some independent school districts in Texas offer three-day industry externships for high school and middle school teachers to allow them to gain hands-on knowledge of industries. Local workforce boards or chambers of commerce help to organize the Texas program. The goal is to ensure educators have the opportunity to interact with business partners in specific industries and build strategies to integrate what they learn into their instruction.[44] Given that so many more industries are now working remotely, there may be fewer barriers to educators talking and collaborating with industries.[45]

Family engagement and frequent information on college and career pathways options

Parents and families play a critical role in helping students explore possible careers and navigate academic pathways, which is true now more than ever with families being the main source of student support during distance learning. As an example, some high-quality high school pathways are housed in public schools of choice—public schools that require students to apply and admit students by lottery or through admissions requirements. These may be magnet schools—traditional public schools that draw students from the overall district or region—or public charter schools. Students and families may have to research and apply to various schools to gain entry to these pathways programs. Many public school choice lotteries are complicated and, at times, burdensome or gameable.[46] It is logical to assume that having an involved, informed parent or family member will increase the chances that a student effectively participates in public school choice systems. As a result, strong middle school programs that prepare students for high-quality pathways should also engage, share options, and provide information with parents and families.

A recent CAP survey reinforces this approach, finding that families, teachers, and school leaders believe that sharing this type of information is important. Across all grade levels, 81 percent of parents, 77.5 percent of teachers, and 88.7 percent of school leaders reported that schools communicating information about college and career opportunities was "mostly important" or "extremely important."[47] While parents of high school students rated the importance of this type of information highest, parents of elementary school and middle school students still rated it very highly. Parents not only valued this type of information, but they wanted it more regularly even for students in younger grades. For both middle school and high school grades, parents reported receiving information about college and career preparation between quarterly and monthly, but they would ideally like it more often. On the other hand, parents of elementary school students reported receiving the information anywhere from yearly to quarterly but on average reported the ideal frequency for communication as between quarterly and monthly.[48]

Empowering families to help their students prepare for high school and beyond is especially important given the current shortage of school counselors as well as the new pressure placed on families in light of school closures. Parents and families can play an important role, acting as the child's advocate, helping students think through various options, and effectively planning to access an option that is best suited to the student's goals.

Exposure to role models who deviate from cultural and occupational stereotypes

According to a 2019 report by the Connected Learning Alliance summarizing research on occupational identity, middle school students are at a critical age to build the foundation for youth occupational identity—goals and expectations for an individual in the workforce.[49] Middle school students have greater capacity to plan and make decisions than students in younger grades, and yet, they are more impressionable than students in high school.

Exposure to individuals in certain professions helps form youth occupational identity.[50] In other words, students are more likely to want and work toward a career if they have seen or have personal experience with individuals who hold that career. Unfortunately, men and white individuals are still overly represented in many well-paying, prestigious careers.[51] For example, as of 2019, of the individuals who hold architectural and engineering occupations, 77.5 percent identify as white. Only 16 percent identify as women.[52] This means that it is less likely for certain demographic groups to gain exposure to certain competitive careers, particularly if they do not see individuals who look like them in those careers.

Data from a 2020 report by the Organization for Economic Cooperation and Development on teenagers' career aspirations compared with the changing labor market demonstrate the effect of occupation stereotypes on students' career goals. The report found roughly a 10 percentage point gap between top-performing boys and girls in math and science seeking careers in the high-growth, well-paying fields of health and science and engineering.[53]

To address this challenge, middle school programs can expose students to various careers early on while they are still impressionable and more open to possibilities. This exposure can occur through work-based learning opportunities or guest speakers. Whenever possible, schools should work with individuals from various career fields who may challenge common cultural and occupational stereotypes. While in-person meetings will be a challenge during the COVID-19 pandemic, schools can organize virtual experiences.

There are projects underway that attempt to mitigate occupational stereotypes among middle school students. For example, there are numerous STEM programs across the country that offer girls, who are traditionally underrepresented in STEM fields, the opportunity to explore a STEM project in after-school or summer programs. Many of these programs are not currently offered through a school, but rather a community or university organization. As an example, Worcester Polytechnic Institute (WPI) offers a two-week engineering camp for seventh-grade girls each summer. According to the data, the participants in the program were more likely to apply and get accepted to WPI than those girls who were not selected for the summer program.[54]

State policies on career and college exploration in middle school

The authors of this report conducted a landscape analysis of state policies across the nation to gauge how pervasive policies are that prioritize or encourage components of a rigorous grade five through eight program that sets students up for tomorrow's economy.

Due to limitations in data, the authors were unable to collect data or measures that align with all of the components that create strong building blocks for pathways that build college and career preparedness. Instead, CAP reviewed state websites, analyzed compilations of state policies, and searched state agency and legislative archives to determine if states have academic standards or expectations for all students to explore college and/or career opportunities in elementary or middle school, as well as dedicated programming or a requirement to advance counseling or exploration of college and/or career opportunities in middle school.

College and career exploration standards or expectations

The authors narrowly focused on states that have standards or expectations to explore and plan for college and careers that are broken down by grade or grade span. The authors did not count states that had a curriculum framework for various career clusters or specific standards for certain career clusters that started in middle school grades, as those are not required of all students and are, generally, specific to one or a few career clusters. However, this is not meant to devalue these career-specific standards and curriculum frameworks, which are critically important to build an aligned program to prepare students for college and career.

As mentioned previously, rigorous academic standards are vital to building the knowledge, skills, and mindsets to prepare for success in college and career, but the authors did not review or assess the rigor of core academic standards across states.

Counseling and individualized planning policies

The authors defined a policy for counseling around pathways to college and career broadly and counted states that had explicit requirements for all middle school students to develop a career and college plan, as well as those that provide a general framework to discuss high-quality pathways for middle school counselors.

Limitations

CAP conducted the search in the fall of 2019 and updated the data in the summer of 2020. The authors acknowledge that they may have missed some state policies related to prioritizing college and career exploration in middle schools, given that many states are considering implementing new policies to expand resources or programs to middle grades because Perkins V allows states and districts to begin using the funds in fifth grade. Further complicating the search, states use different terms and different structures to develop and implement policies regarding counseling and participation in CTE and other pathways programs.

In addition, the authors did not attempt to evaluate the college and career exploration standards nor whether the standards or the counseling policies are implemented with fidelity. So, while the policies themselves are an important starting point, the analysis does not assess the quality of middle school programs, curriculum, and resources nationwide.

Landscape review of college and career exploration policies

States with career and college exploration standards in middle school grades (16): Arkansas, Florida, Hawaii, Iowa, Kentucky, Maine, Maryland, Montana, New Hampshire, New Jersey, New York, Pennsylvania, Utah, Virginia, West Virginia, Wyoming.[55]

Note that Utah and Virginia have a required college and/or career exploration course with specific competencies in middle school.

States with policies that prioritize or support college and career counseling in middle school (36): Alabama, Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin.[56]

College and career preparation standards in middle grades

Sixteen states had specific standards for college and career preparedness in middle school grades, as defined by the authors. Two of these states—Virginia and Utah—require students to complete a college and career exploration course that has specific competencies in middle school.[57] Of those states, the standards varied in scope and detail. Some of these programs are described below:

- Iowa calls their CTE standards "21st Century Skills," which fall into five categories: civic literacy, employability skills, financial literacy, health literacy, and technology literacy.[58] Under each category, Iowa has 21st Century Skills standards for each grade level. Many of the overall standards are the same across grades. For example, students in fifth grade and ninth grade are expected to "adjust to various roles and responsibilities and understand the need to be flexible to change" as part of the employability skills; however, Iowa specifies different ways to demonstrate the standards based on the grade level.[59]

- Kentucky requires all students to develop capabilities and learning goals to "pursue a successful future" starting as early as elementary school. The state divides these capabilities and learning goals into three domains: essential skills – adaptability, diligence, initiate, knowledge, reliability, drug-free, and commination; careers, and financial literacy. Both the career and financial literacy domains explore postsecondary options to succeed in career paths in which students are interested. Starting in middle school grades, students complete an individualized learning plan with the aim of allowing students to explore careers, establish goals, explore college options, and consider financial aid options.[60]

- New Jersey has K-12 "career ready practices" that "describe career-ready skills that all educators in all content areas should seek to develop in their students." These practices outline skills, knowledge, and mindsets that students should develop within certain grade bands—K-4, grades five through eight, and grades nine through 12. While some of the content areas and strands for the standards are only relevant for grades nine through 12, financial literacy and career awareness, exploration, and preparation apply to students in all grades. For example, by the end of eighth grade, students should be able to "relate how the demand for certain skills determine an individual's earning power" and "evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career."[61]

- West Virginia's student success standards for middle-level programming "focus on the academic, career, social and emotional development" of middle school students. They are broken down by grade band; the middle school band covers grades six through eight. In West Virginia, middle school students must prepare for postsecondary success by "identifying how performance and course selections in middle school impacts high school course readiness and postsecondary choices" and making a plan to achieve their postsecondary goals.[62]

- Wisconsin has common career technical standards that are designed to "provide a foundation on which the discipline-specific CTE standards are built."[63] The standards are broken down by grade clusters: Pre-k through grade five, grades six through eight, and grades nine through 12. They focus on creativity, critical thinking, communication, and collaboration; career development; environment; health and safety; global and cultural awareness; information, media, and technology skills; and leadership.

Other states had standards for grades five through eight that described knowledge, skills, or mindsets to set up all or some students for success in specific career areas such as computer science or STEM.

College and career counseling in middle grades

The authors found that 36 states had some sort of policy or requirement that encouraged counseling around college and career preparation in middle school grades:

- Some states—including Iowa, Kansas, Kentucky, Oklahoma, and Virginia—require students in middle school to develop individualized career and academic plans to prepare appropriately for the options before them. These plans can help students think through the decisions that they would ideally discuss with a counselor if one-on-one counseling were available.

- Other states—including Washington, Utah, and Colorado—provide guidance or parameters for counselors in middle school to help students prepare for career and college pathways. For example, Utah requires that counselors spend 35 to 45 percent of their time in middle school on plans for college and career readiness. Washington state has a career guidance handbook guide designed to help counselors build a career and college guidance program for all students. It includes goals for counseling at the middle school and high school levels as well as lessons to achieve those goals.[64]

Colorado provides a rubric of career exploration mindsets and behaviors as well as questions for families, students, and the community to help drive career exploration conversations.[65] Georgia has a guidance document to help students, families, and counselors build out an individualized career and academic plan. This includes a number of career-related assessments to help students with their plan.[66]

- Still other states—including Tennessee, Indiana, Pennsylvania, and Alabama—have created tools or tests for middle school students to help explore possible career opportunities and discuss the results with a school counselor. For example, Indiana is piloting the Indiana Career Explorer tool for middle school students, which allows students to explore careers, complete skill and work value assessments, and begin developing a career plan.[67] And Pennsylvania has begun using a career readiness indicator, which shows the percentage of students who are "meaningfully engaged in career exploration." This includes students using Pennsylvania's PA Career Zone online exploration platform.[68] These tools can be a cost-effective way to ensure students have access to some guidance given the significant shortages of counselors nationwide.

Other policies that create strong building blocks

While they did not fit squarely in the landscape review, the authors identified other states that had some policies that related to the components of high-quality middle school programs. For example, many states had standards or curriculum for specific career clusters. These include Idaho, which has standards for computer science and technology,[69] and Nevada, which has middle school standards for each of its six career clusters.[70] Ohio requires school districts to offer general CTE courses to middle school students; however, districts are allowed to opt out of that requirement.[71]

Other states—including Hawaii, Georgia, Missouri, New York, and Vermont—have established working groups to refine their policies to bring career or college exploration to middle schools.

Discussion

This analysis demonstrates that states across the country are starting to recognize the importance of beginning career and college exploration in the middle, or even elementary, grades. Many states are beginning to expand policies that encourage

exploration of college and career opportunities in middle grades, and it is likely that the number of states with policies that are eligible—according to the authors' standards—will increase.

When it comes to the exploration standards, there is a much more significant emphasis on career development than future postsecondary opportunities. This makes sense because all education should prepare students for a career, and core academic standards should prepare students to enroll in postsecondary programs without remediation. However, exploring different postsecondary paths early will also help students to select an appropriate course progression that meets their career and postsecondary goals.

Recommendations

The authors recommend that federal, state, and district policymakers consider the following actions to help middle schools adopt the critical elements to build a strong foundation for college and beyond. These levers would help states, districts, and schools uncover inequities and encourage more districts and schools to implement the important middle school program elements as defined by this report. Most of these policies are not specific to COVID-19, but the following are a few ways to adapt these recommendations to fit the current education landscape:

Develop an articulated strategy to prepare students for college and career

In order to ensure that students are prepared for college and career, policymakers and practitioners should work to articulate pathways that prepare students for postsecondary programs and the workforce of tomorrow. This strategy should build on the effort to make academic standards more rigorous, and states, school districts, and schools should maintain and implement rigorous standards with fidelity. Policymakers and practitioners should backward plan and access available programs to ensure that students and families are aware of future opportunities and plan early enough to take advantage of opportunities that are best suited for a student's interests.

Middle school programs in particular should include a rigorous curriculum; course sequence; aligned standards; counseling and exploration for career pathways and college preparation; opportunities for teachers to connect with and learn from industry or postsecondary programs; parent engagement and frequent information sharing regarding college and career pathways options; and exposure to role models who deviate from cultural and occupational stereotypes.

COVID-19 has disrupted the normal curriculum, so it will be all the more important to identify whether or not students are missing prerequisite skills or courses to access future opportunities.

Establish better data collection to understand student trends

As mentioned throughout the report, there are limited data available on the quality of and participation in high school and middle school pathways programs. For example, it is difficult to measure the quality of CTE pathways. While Perkins V now requires that states report more—specifically states have to report one quality indicator for CTE programs—there is still more to include. States and districts do not necessarily collect and report data on the outcomes of students from particular CTE programs. As a result, it is difficult to map the participation of different student groups against program quality and to identify inequity feeder patterns or inequitable program requirements.

States should help develop metrics and a process to assess the quality of existing CTE pathway programs and determine if there is equitable access and participation across student demographic groups. Districts should use the Perkins V comprehensive local needs assessments to evaluate access to these programs and identify the barriers that may be causing inequitable access to certain groups. This is what Maryland does with its CTE data reporting, enabling it to reduce biased enrollment requirements for high school pathways programs.

Increase or at least retain funding for school counselors

In all but three states, student-to-counselor ratios far exceed recommended levels. As a result, counselors are stretched too thin and likely do not have the capacity or resources to help students and families explore available opportunities and prepare for a pathway that best meets their interests and goals. Unfortunately, given the projected state budget shortfalls as a result of the COVID-19 pandemic, it is likely that school districts will have to trim budgets and may cut school support personnel.[72] This would be detrimental, as students now need more support than ever to manage the stress of COVID-19 and set themselves on a course to successfully navigate tomorrow's difficult labor market. Instead, states and districts should consider increasing funding to hire and develop more counselors.

Moreover, counselors need training to better support preparation for college and career in addition to knowledge and experience to support students with other challenges.[73]

Even when counselors work within recommended ratios, it is unrealistic to expect that they can be the sole provider of information about college and careers for all students in middle or high school. States and districts should review existing tools or create new ones to help supplement counselors' work and help students and families self-explore options.

Provide professional development for school leaders, teachers, counselors, and staff

Implicit or unconscious biases may change the way a teacher behaves toward students of certain demographic groups and may change the behavior of that group even if a teacher's stereotype was untrue. Research shows that implicit biases may influence youths' career goals and can discourage some from working toward careers if their race or gender is not well represented in the field.[74]

Teachers should participate in professional development to identify personal biases that may perpetuate occupational stereotypes.[75] Teachers can also help students challenge cultural and occupational stereotypes by identifying and discussing bias in media or other sources.

Efforts to bring community members and professionals who reflect the student population into schools will not only help students see the diversity in different occupations but also test school staffs' implicit biases.

Engage early and regularly in family-school communication about opportunities to prepare students for college and careers

Families play an important role in helping students consider and plan paths toward college and careers. As indicated by the authors' analysis, parents of students in as early as elementary grades desire more frequent and more regular communication about college and career opportunities, so efforts to prepare students in earlier grades should also include strategies to communicate opportunities to families.

Make individualized academic and career plans a living document

Individualized academic and career plans can help students, families, teachers, and counselors clarify goals, identify deficiencies, and make necessary adjustments to academic plans. Both Advance CTE and ACTE recognize the importance of these documents and this type of planning, which is a feature of their principles for middle school CTE programs.[76] Based on the authors' analysis, many states require some sort of plan by the end of eighth grade, and still others require or recommend them for high school students. To be effective, these plans must be living documents; that is to say, they should be updated continuously. School and support staff should help students and families revisit these documents regularly based on their ongoing progress and changes in students' interests and goals. Given current school closures, these documents should be available online.

School districts can help encourage this planning behavior by ensuring that counselors and advisers have capacity to support students, providing professional development to middle school and high school teachers and counselors around these documents, and incorporating their development into the curriculum of core academic courses. Regularly providing families with information about college and career preparation opportunities for students will help them support this process outside of school as well.

Undertake opportunities to blend funding from federal programs to support pathways in middle school

Perkins V now permits states and districts to use some of the funds to support middle grades, and state and local policymakers should blend funding from various federal programs to begin high-quality pathways early.

The program services and goals should work together. For example, the Individuals with Disabilities Education Act (IDEA) requires that students who have an individualized education program begin to plan for their transition out of high school. While the law requires transition planning to begin by the time the child is 16 years old, schools can begin these conversations much earlier. Accordingly, funding for transition from IDEA can and should complement other federal funding to build pathways.

Conclusion

While more high-quality pathways are needed to prepare students for college and the workforce of tomorrow, those efforts were already being hampered by significant inequities that were present even before COVID-19 closed schools. The current pandemic will only perpetuate these opportunity gaps. Many of these pathways to success in college and career start in high school; but to be truly effective, students need to explore options much earlier to ensure that they are prepared to take advantage of opportunities once in high school. Amid the COVID-19 pandemic, it is all the more crucial for schools to help students and families begin to evaluate options and chart a course toward the path that suits their interests and strengths beginning in middle grades or before. Doing so will ensure that doors remain open to pathways in high school or institutions of higher education that prepare students for in-demand, well-paying jobs and that barriers to accessing those pathways are minimized.

More states, school districts, and schools should consider how to build a coherent pathway to these opportunities and start career and college exploration by middle school, if not earlier.

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Appendix: Methodology for landscape analysis

To conduct the analysis, the authors used various approaches to explore different websites that house this information. First, the authors visited and browsed each state's education website and also searched the sites for various terms, including "career counseling," "career exploration," "college exploration," "career and technical education," and "exploration standards." The authors also performed similar searches on Google.

The authors also reviewed other landscape or legislative analyses from other organizations, including ACTE and Advance CTE's "State Policies Impacting CTE: 2018 Year in Review."[77]

To verify the analysis, the authors emailed each state's CTE coordinator and asked them to review and verify the analysis and supplement it with any information that the authors would not have been able to find through their search.

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