



THE STATE OF CTE: EARLY POSTSECONDARY OPPORTUNITIES

Executive Summary

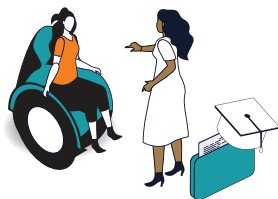
Early postsecondary opportunities (EPSOs) provide more than 5.5 million secondary learners annually an intentionally designed authentic postsecondary experience (such as dual or concurrent enrollment) leading to college credit that counts toward a recognized postsecondary degree or credential.¹ Studies demonstrate the value of these types of programs for learners, including increasing the likelihood of graduating high school and improving postsecondary attainment and other outcomes.² EPSOs also act as an effective entry point to postsecondary education for learners who are less likely to be familiar with available postsecondary opportunities.^{3,4}

Career Technical Education (CTE) courses make up approximately one-third of all EPSO enrollments and are a critical component of a high-quality CTE program of study, bridging secondary and postsecondary learning.⁵ CTE EPSOs also offer increased variety through new and innovative delivery options such as Pathways in Technology Early College High Schools, industry-recognized credentials and more. To better understand how CTE EPSOs serve learners, Advance CTE, in partnership with the College in High School Alliance, surveyed State CTE Directors to better understand state policies that support EPSOs in CTE. The survey revealed five key findings:



Expanding equitable access to CTE EPSOs is a top priority, but challenges remain in supporting access for historically marginalized learners.

Even though 87 percent of responding states reported that expanding access to EPSOs is a top or the highest priority, less than 30 percent feel that EPSOs are “very equitable” or “mostly equitable.” While states noted that scholarship and tuition supports reduce barriers to entry, burdensome entrance requirements and a lack of information about EPSOs limit a learner’s ability to participate.



More learner supports are needed to expand equitable access to and success in EPSOs.

Because of the highly decentralized nature of EPSOs, local education agencies or partner institutions of higher education are responsible for providing the majority of learner supports. Statewide support programs are limited and largely designed for instructors and counselors rather than learners. While a lack of capacity was reported as a major challenge for implementing these types of programs, research from statewide programs reveals positive outcomes for learner groups, especially historically marginalized populations, that receive these types of support.



Many states collect data on CTE learner participation in and outcomes from EPSOs but do not report data disaggregated by subgroup and by program. Most states reported collecting enrollment and outcome data for CTE concentrators, but less than half disaggregate outcomes data by learner subgroup or special population. Even fewer states (20 percent) make CTE EPSO data publicly available. Increasing transparency in collection and reporting allows states to make more informed decisions to target learner enrollment and supports in EPSOs and allows learners and families to make more informed decisions about what programs are most effective and appropriate for their career journey.



States have a critical role to play in improving credit transfer efficiency for CTE EPSOs. Barriers such as the decentralization of articulation agreements and a lack of collaboration between secondary and postsecondary systems make automatic credit transfer inefficient. These barriers limit options for learners and increase the burden to navigate complex postsecondary systems. While 71 percent of states reported having some level of statewide articulation for CTE EPSOs, many states reported that CTE credits do not transfer to certain institutions in their state. States are making progress toward ensuring intentional acts of dual enrollment by aligning articulated credit to CTE programs of study, but they can go further in reducing barriers in articulation and transfer to improve opportunities for all learners.



Recruiting and training qualified CTE EPSO instructors is a top barrier to expanding CTE EPSOs. CTE EPSO instructors often must be qualified in their industry and qualified to teach at both the secondary and postsecondary levels. Accreditation requirements can often limit districts' ability to recruit qualified EPSO instructors, and these difficulties are exacerbated by a lack of aligned supports and incentives. A plurality of states reported not having a statewide program to support or incentivize the hiring of CTE EPSO instructors, in particular.

As states recognize the ever-growing value of EPSO opportunities for CTE learners, they can take the following steps to better advance and support CTE EPSOs. These recommendations contribute to the full implementation of equitable, high-quality EPSOs.

- **Identify and remove barriers to access**, including restrictive costs or entrance requirements, and target specific learner populations for recruitment.
- **Increase supports for learners** enrolled in EPSOs to ensure completion.
- **Improve state data collection and reporting** for EPSOs, particularly highlighting outcome data disaggregated by CTE program and learner demographics.
- **Expand statewide and inter-state articulation agreements** to account for all types of CTE EPSOs.
- **Adopt flexible licensure requirements** that recognize the equivalent value of industry expertise and education for CTE EPSO instructors.
- **Expand innovative supports and incentives for CTE EPSO instructors**, including subsidizing pay gaps and providing additional benefits beyond salary.

Introduction

Advance CTE’s vision, *Without Limits: A Shared Vision for the Future of CTE*, calls on states to ensure that each learner’s skills are counted, valued and portable.⁶ At the state level, systems are needed to translate competencies and credentials into portable credit. One key way to accomplish this goal is to expand, simplify and standardize early postsecondary credit, articulation and transfer policies to better facilitate high-quality EPSOs for every learner.⁷ To this end, Advance CTE, in partnership with the College in High School Alliance, surveyed State CTE Directors to better understand state policies that support EPSOs in CTE. This report reveals key findings from the survey data and highlights examples of promising practices and opportunities to improve the quality of CTE EPSO programs and expand equitable access to and success in EPSO programs for historically marginalized learner populations.

What Are EPSOs?

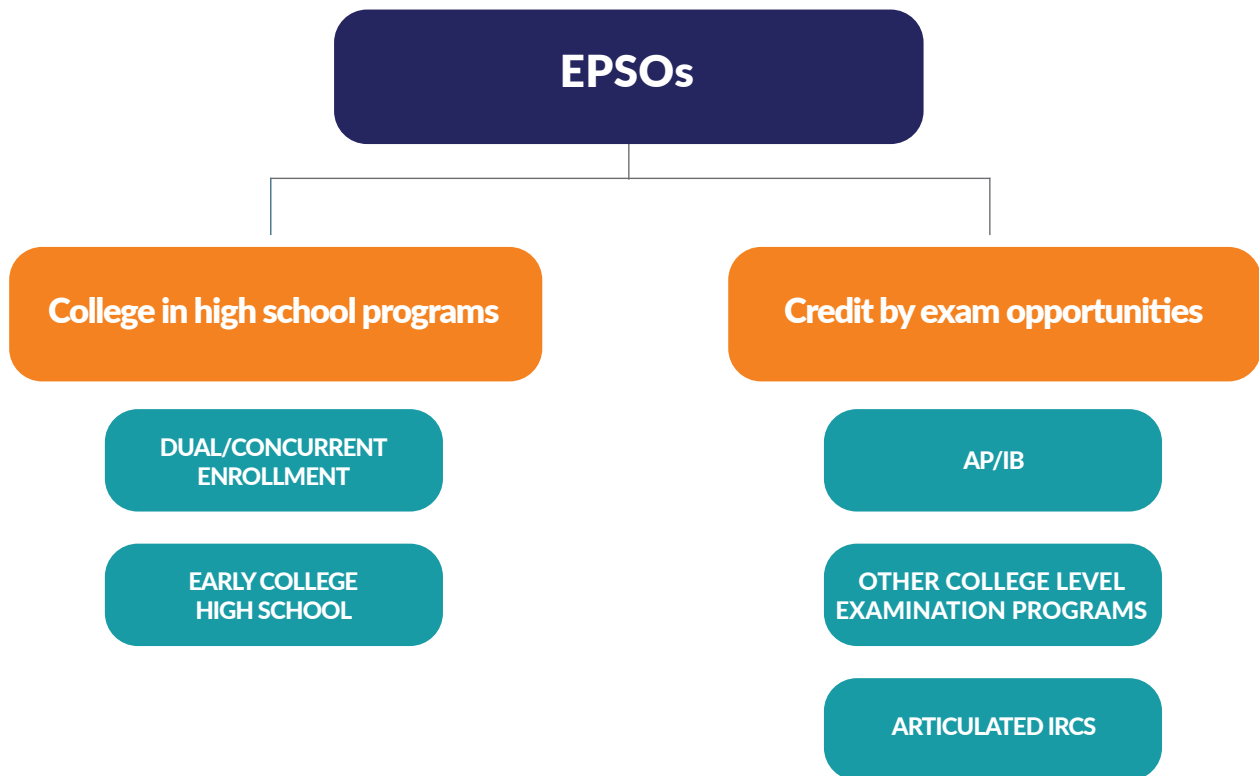
Every year, more than 5.5 million secondary learners – both CTE and non-CTE learners – take advantage of EPSOs, including dual and concurrent enrollment and exam-based courses.⁸ EPSOs provide high school learners with an intentionally designed authentic postsecondary experience leading to officially articulated and transferable college credit toward a recognized postsecondary degree or credential.⁹ A subset of these programs are referred to as college in high school programs, such as dual or concurrent enrollment, which transcript credit based on completion and passing of the course. These programs are distinct from credit by exam programs such as Advanced Placement and International Baccalaureate, as they function as collegiate courses through which students will always receive postsecondary credit if they pass the course. See Figure 1 for a non-exhaustive glossary of different EPSO types and associated terms and Figure 2 for a graphic organization of EPSO types.



Figure 1. Definitions of EPSO Terms

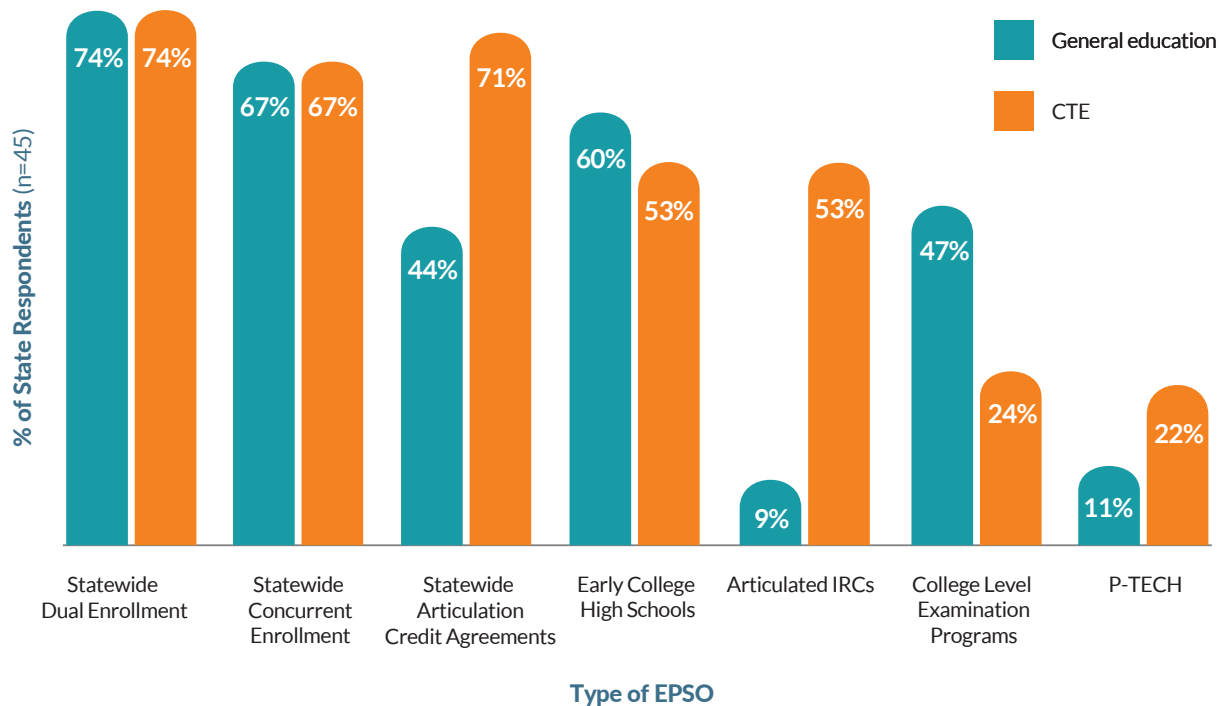
Dual Enrollment	Courses that allow learners to earn secondary and postsecondary credit simultaneously. Dual enrollment courses can be taught at the high school by high school faculty, at the high school by adjunct college faculty or college faculty, at the college or university, or sometimes through online courses or distance education.
Concurrent Enrollment	A subset of dual enrollment, college-level courses taught by high school teachers who are approved by the postsecondary institution awarding the credits.
Early College High School	A whole-school design that uses dual enrollment as part of a comprehensive model providing intensive supports and the opportunity to earn one to two years of college credit – up to an associate degree – for free. ¹⁰
Pathways in Technology Early College High School (P-TECH)	A partnership between a secondary school, community college and industry, creating an opportunity for a learner to earn a high school diploma and a postsecondary credential through a six-year integrated program with a specific focus on science, technology, engineering and math fields (STEM). ¹¹
Articulated Industry-Recognized Credentials (IRCs)	Articulated credit awarded to learners who earn an industry-recognized credential by demonstrating the knowledge and skills required to succeed in a specific occupation or industry, typically through a standard exam. ¹²
College Level Examination Program (CLEP)	A College Board program in which students take standardized tests and, if successful, can earn college credits.
Statewide Articulated Credit Agreements	Formal agreements created at the state level to align high school and postsecondary curricula to create sequences of courses offering skill attainment without unnecessary duplication to support the earning of articulated credit by learners.

Figure 2. Illustration of EPSO Organization



EPSOs are offered in every state to learners in both general education and CTE programs of study. In most states, the earliest a learner can access an EPSO is in their junior or senior year of high school, although many states allow learners to access some EPSO programs as early as the ninth grade. A small number of states allow learners in middle school to access EPSO programs, including **Oregon** and **Florida** where learners can access some EPSOs as early as the sixth grade.¹³ Figure 3 shows the types of postsecondary credit offered across states for both general education and CTE learners at the secondary level.

Figure 3. States Offering EPSOs by Type



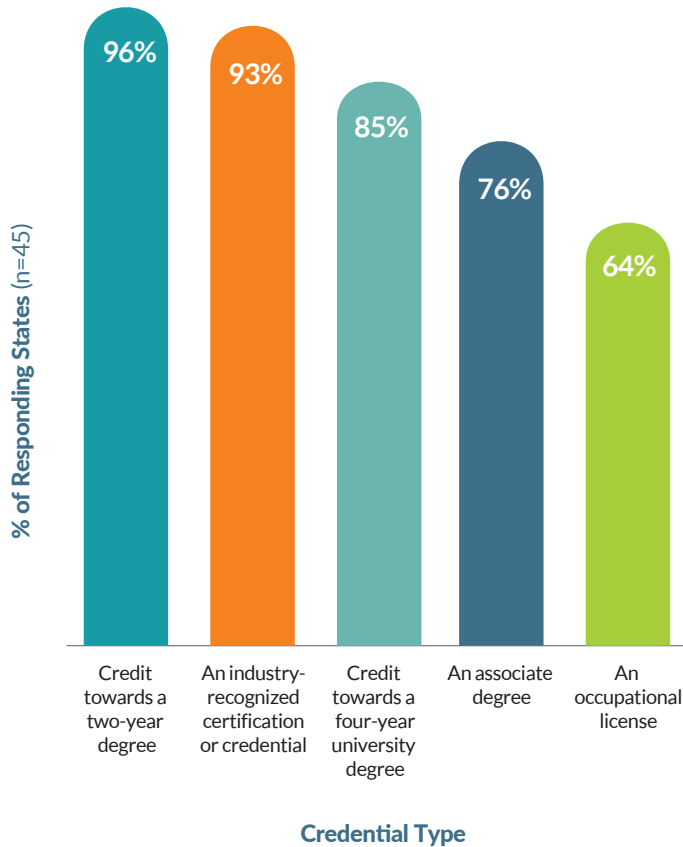
Benefits of EPSOs

EPSOs provide significant benefits to learners, including increasing the likelihood of graduating high school, completing college programs, and achieving success in the career of their choice.^{14,15,16} Access to high-quality EPSOs can also be an equalizer for learners from historically marginalized groups. Studies demonstrate significant positive effects from college degree attainment for learners from families with low income who participated in dual enrollment because EPSOs act as an effective transition between secondary and postsecondary programs and can help learners navigate available postsecondary opportunities.^{17,18} JFF found that early college high schools serving predominantly Black and Latinx learners and learners from families with low income have made progress on college enrollment due in large part to the supports they receive as a part of the program.¹⁹ Learners in P-TECH schools in New York City earned significantly more total secondary and postsecondary credits by the end of both their second and third years of high school than their peers who applied but were not accepted for enrollment due to a lottery system.²⁰

States with intentional and aligned statewide EPSO systems have seen considerable return on their investment in postsecondary attainment goals, in large part due to a learner's ability to work toward an industry-recognized credential or postsecondary credit at no cost.²¹ In almost all states, learners can earn credit toward a certification or two- or four-year degree by participating in an EPSO program. In some cases, a learner can earn an associate degree outright before graduating high school (see Figure 4). These responses align with the data presented in Figure 1 indicating that dual and concurrent enrollment are the most common types of EPSOs, due in large part to partnerships with community colleges and other two-year postsecondary institutions. Because learners have the opportunity to make significant progress toward, or even complete, a postsecondary credential or degree in high school, EPSOs enable learners to enter collegiate programs or their careers with a head start compared to their peers who did not participate in EPSOs.²²

EPSOs and CTE

Figure 4. Types of Credit and Credentials CTE Concentrators Can Earn through EPSOs



Historically, EPSOs were incorporated into CTE through Title II grants under the Carl D. Perkins Career and Technical Education Act of 1998 (Perkins III) and continued under the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV). Title II, or Tech Prep Education, allowed states to grant funds to local programs of study that combined a minimum of two years of secondary education (as determined by state law) with a minimum of two years of post-secondary education in a non-duplicative, sequential course of study. Because grant funds could be used to establish or improve articulation agreements, bolster career and academic counseling, and develop curriculum to support transitions between secondary and postsecondary learning (among other allowable uses), Title II helped to support and promote CTE dual enrollment.²³ However, in 2011, Title II funding was eliminated from Perkins IV, and in the 2018 Strengthening Career and Technical Education for the 21st Century Act (Perkins V), Title II was removed from federal law.

Despite the removal of Title II from federal law, EPSOs remain a priority for CTE administrators; about a quarter of states dedicated a portion of their Perkins V Reserve Funds to expanding dual enrollment and articulation, about one-third of states selected the percentage of learners graduating high school with a post-secondary credential as a secondary program quality indicator, and one-third of states referred to developing statewide articulation agreements in their Perkins V plans.²⁴ While the more common EPSOs such as statewide dual and concurrent programs enroll both CTE and non-CTE learners, CTE expands delivery opportunities through options such as articulated industry-recognized credentials and P-TECH programs.

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EPSOs also remain a critical component of any CTE program of study. When CTE learners earn postsecondary credit while in high school, they are better positioned to transition into a career, college or workforce development program. For this reason, more than half of states consider the intentional inclusion of EPSOs when evaluating applications for new CTE programs of study.²⁵ Additionally, more than 60 percent of states included dual enrollment and articulation within their size, scope and quality definition for Perkins V.^{26, 27}

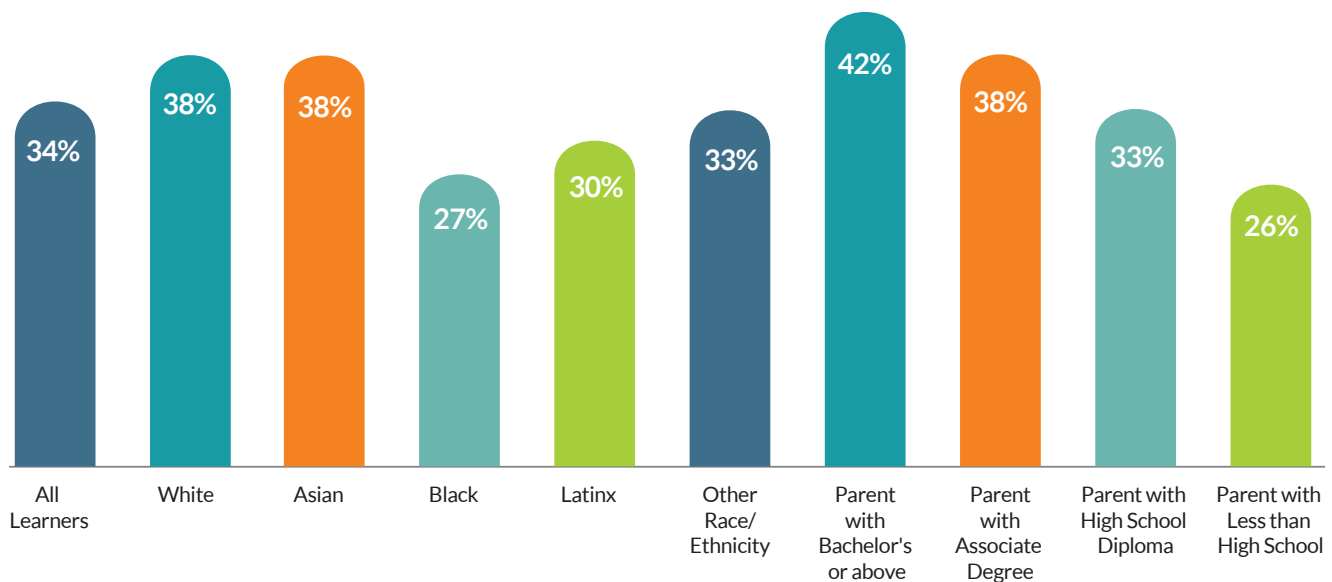
EPSOs provide CTE learners the knowledge they need to advance in their careers before they finish high school and expand the opportunities that are available to ensure that learners have the greatest possible say in their futures. Key findings from the survey of State Directors reveal significant challenges in expanding access to high-quality EPSOs but also illustrate the progress that has been made. As CTE learners participate in high-quality, equitable programs of study, these programs must incorporate EPSOs to provide learners the greatest opportunities for success.

Key Finding 1: EXPANDING EQUITABLE ACCESS TO CTE EPSOS IS A TOP PRIORITY, BUT CHALLENGES REMAIN IN SUPPORTING ACCESS FOR HISTORICALLY MARGINALIZED LEARNERS.



Equitable participation in high-quality EPSO programs remains an elusive goal in the United States. According to the most recent national report by the U.S. Department of Education’s National Center for Education Statistics, participation by both White and Asian learners in postsecondary credit courses in high school outpaces that of Black and Latinx learners by 11 and 8 percentage points respectively.²⁸ Furthermore, learners whose parents hold a high school diploma or less (often a proxy for socioeconomic status) were far less likely to participate in postsecondary credit courses in high school than learners whose parents held an associate, bachelor’s or postgraduate degree.²⁹ Equity gaps also exist for English language learners, who make up 6.1 percent of school populations but only 2 percent of dual enrollment participants, and for students with disabilities, who comprised 13 percent of school populations but only 4 percent of dual enrollment participants.³⁰

Figure 5. Percentage of Learners Who Ever Took a Course for Postsecondary Credit in High School (2009–13)³¹



Percentage of all secondary enrollment

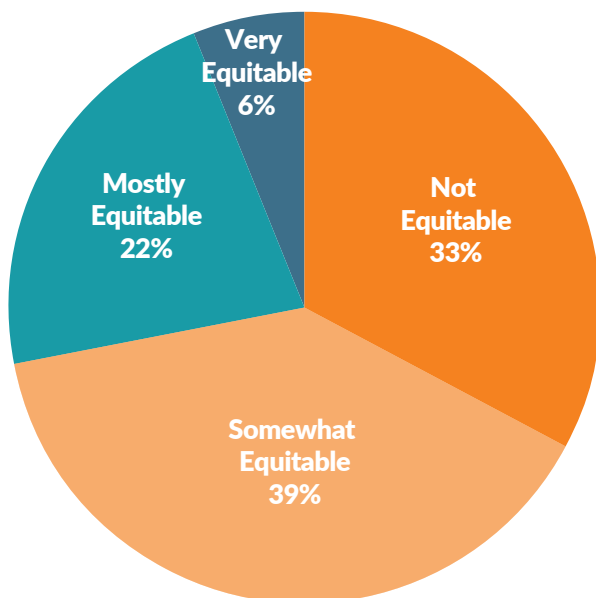
Source: National Center for Education Statistics

Key Finding 1

Given the demonstrated impact of EPSO participation on postsecondary education attainment and success for learners from historically marginalized populations, it is incumbent on states to ensure that all learners can access these invaluable opportunities and have the supports necessary to persist and succeed.

When asked about equitable access to EPSOs, state CTE leaders were particularly candid in their survey responses. Eighty-seven percent of states responded that expanding access is a top or the most important priority. This finding is supported by Advance CTE’s annual analysis of state policies, which documents that, since 2018, almost every state has passed some legislative, regulatory and/or agency policy aimed at expanding access to and improving the equity of dual enrollment and articulated credit for secondary learners.^{32,33} However, only 28 percent of state CTE leaders believe access to high-quality CTE EPSOs is “mostly equitable” or “very equitable,” with a third reporting access is “not equitable.”

Figure 6. Equitable Access to High-Quality CTE EPSOS Across States



States with statewide EPSO programs, particularly those with targeted equity goals, were able to reduce equity gaps by adjusting funding and tuition models, standardizing entrance requirements, providing statewide navigational supports and centralizing articulation agreements.³⁴

The primary way states support access to EPSOs is through funding for scholarships or subsidies that cover the prohibitive costs for learners that act as barriers to entry. Eighty-six percent of states reported that learners generally do not pay tuition for general education EPSO programs, and 93 percent reported that learners do not pay tuition for CTE EPSO

programs; however, those results vary widely within a state depending on the school district or EPSO program. In some cases, a learner can be responsible for some or all of the program costs, including tuition and fees. About half of the states reported providing financial compensation to cover additional costs for learners — CTE and non-CTE alike — who are enrolled in EPSOs.

Some states support EPSO enrollment by covering annual dual enrollment costs through a statewide scholarship program. In **New Hampshire**, the Governor’s Dual and Concurrent Enrollment STEM Scholarship allows New Hampshire general education and CTE learners in grades 10-12 who meet eligibility requirements to enroll in up to two dual or concurrent enrollment courses per academic year free of charge.³⁵ In New Hampshire’s

Key Finding 1

2021 biennial budget, the state set aside \$3 million over two years to fund the program.³⁶ One potential barrier to EPSO expansion is that colleges and universities may not support EPSOs because they do not receive the full tuition that full-time students pay; New Hampshire circumvents this barrier by covering the full cost of tuition.

Other states leverage statewide investment strategies to support EPSOs. **Maryland** funds EPSO opportunities as part of the Blueprint for Maryland's Future, a significant statewide investment in improvements for the state's secondary school system.³⁷ As part of the Blueprint, each local school district is required to provide any student access to EPSOs at no cost to the learner or their families, including fees, once the student meets the state's college and career readiness standards.³⁸ The law prohibits institutions of higher education from charging tuition to a student in a dual enrollment program, requiring the school system to pay a subsidized amount of 75 percent of the tuition costs for learners.³⁹

FUNDED BLUEPRINT FOR MARYLAND'S FUTURE PROGRAMS INCLUDE:

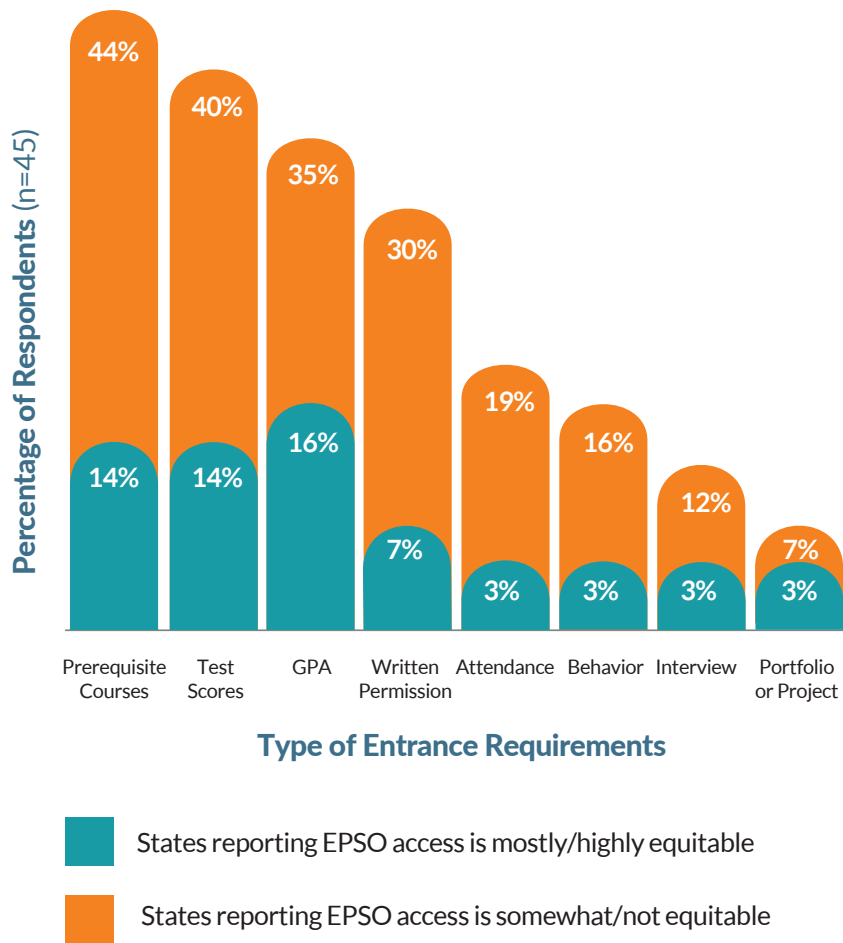
- An early college or dual enrollment program that allows a learner to earn an associate degree or at least 60 credits toward a bachelor's degree;
- A robust set of CTE programs that allow a learner to earn an industry-recognized credential or complete a Registered Apprenticeship or youth apprenticeship program;
- The International Baccalaureate diploma program;
- The Cambridge Advanced International Certificate of Education diploma program; and
- Advanced Placement.⁴⁰

While funding can increase access to EPSO programs, other barriers limit a learner's ability to participate. Learners generally have to satisfy some entrance requirements to access an EPSO program; however, states reported that these requirements are most often established by the postsecondary institution, school district or both. The most common entrance requirements are prerequisite courses, a minimum grade point average and test scores.

Entrance requirements can disproportionately limit access to EPSOs for learners from historically marginalized populations. Even states that reported having highly equitable access to EPSO programs also reported having various entrance requirements, suggesting entrance requirements are not prohibitive on their own but should be evidence based and accompanied by early supports to ensure that under-represented groups are not shut out of EPSO experiences.

Key Finding 1

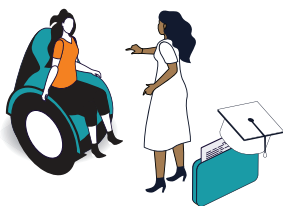
Figure 7. Common Entrance Requirements by State



One way to support learners in meeting entrance requirements is through early intervention programs that identify and support learners on the cusp of college readiness. Statewide early intervention programs are limited, however, by the highly localized nature of EPSOs and the lack of both staff and funding capacity to implement them. Forty-nine percent of responding states reported that they have no statewide early intervention programs to prepare learners for an EPSO or that the only support is a traditional course that is a prerequisite for the EPSO. Seventy-nine percent of responses indicated that local control or decentralization is a barrier to implementing these types of programs.

Increasing a state's role in adopting and implementing supports for EPSOs can help ensure equitable access statewide, instead of only in communities with strong postsecondary partnerships or with the resources to provide these types of supports. **Alaska** hosts one such statewide program, Acceleration Ready, which provides early EPSO interventions to rising ninth- to 12th-grade learners who do not score high enough on college placement exams to enroll in English and math gateway courses through the University of Alaska-Anchorage. Acceleration Ready is a five-week summer enrichment program that teaches learners the skills necessary to be successful on the prerequisite assessments. In addition to these developmental courses, learners also engage in hands-on, problem solving STEM projects.⁴¹

Key Finding 2: MORE LEARNER SUPPORTS ARE NEEDED TO EXPAND EQUITABLE ACCESS TO AND SUCCESS IN EPSOS.



Access to high-quality EPSOs for every learner is just one part of equity; equally important is ensuring that every learner is successful by providing targeted and specific supports, including navigation assistance and career advising throughout the EPSO experience. Learners from historically marginalized populations and first-generation postsecondary learners often have the most difficulty navigating participation in EPSOs and can benefit from targeted navigational supports such as high-quality course and career advising from highly trained school counselors, financial aid advising, easy access to centralized resources and wraparound social services.⁴² However, only 20 percent of responding states shared that there is “a lot of support” available to ensure learner success.

Of the statewide supports available, most are indirect supports targeting counselors and advisers, rather than learners. Sixty percent of states reported acting as a resource to support school counselors’ knowledge about EPSOs; 60 percent also reported providing some level of professional development. The most direct support offered is individualized career and academic planning (ICAP), with 58 percent of responding states reporting the use of ICAPs in supporting learners’ navigation through EPSOs, though these resources are not specific to EPSOs.

Most states (74 percent of responses) indicated that EPSO supports are largely the responsibility of local institutions and that local control or decentralization is a barrier to offering statewide supports. Most states also reported lack of staff capacity as a major barrier.

Some states, however, offer statewide programs to support success for historically under-supported learners in EPSO programs. One of **Maine’s** flagship EPSO programs is Bridge Academy, a CTE-focused EPSO program that helps students identify career pathways leading to a high-wage, in-demand career and provides learners with the supports necessary to earn an industry-recognized credential.⁴³ Bridge Academy recruits learners who have been historically under-served by Maine’s postsecondary education system, particularly learners from low-income backgrounds, learners of color and first-generation college students, and provides them comprehensive supports. Learners in Bridge Academy have access to multiple advisers and educators and attend two Summer Academies to prevent summer learning loss. Learners in Bridge Academy earn an average of 24-30 academic college credits, and most graduates go on to enroll in both the Maine Community College System and the University System of Maine to earn an associate and/or bachelor’s degree.⁴⁴

Key Finding 3: MANY STATES COLLECT DATA ON CTE LEARNER PARTICIPATION IN AND OUTCOMES FROM EPSOS BUT DO NOT REPORT DATA DISAGGREGATED BY SUBGROUP AND BY PROGRAM.



Data is vital to ensure quality and equity in any EPSO program. Data helps state CTE leaders better understand who has access to high-quality EPSO programs and where opportunity gaps exist. Data also helps state CTE leaders track the outcomes of learners in EPSO programs such as how many learners complete an EPSO, the types of credits and/or credentials learners earn, and what paths learners take once they graduate high school. Furthermore, data helps state CTE leaders evaluate program quality, make appropriate adjustments to policy and practice, and identify whether additional resources or support may be necessary.

Most states (80 percent) reported that they collect data on CTE concentrator enrollment in EPSOs, and 64 percent said that they collect data on the outcomes of CTE concentrators who participate in EPSO programs. Fewer states, however, are able to disaggregate EPSO data by learner population and/or by program area, creating difficulties for states and districts to design specific supports for CTE learners. Sixty percent of reporting states can disaggregate EPSO data by learner subgroups or special populations, but only 48 percent can disaggregate outcomes data by population. Because data transparency is a key step to achieving equity in enrollment and outcomes, states should collect and differentiate outcome and placement data, such as the percentage of learners completing a degree or credential post-high school, to better understand how diverse learners access and succeed in programs.⁴⁵

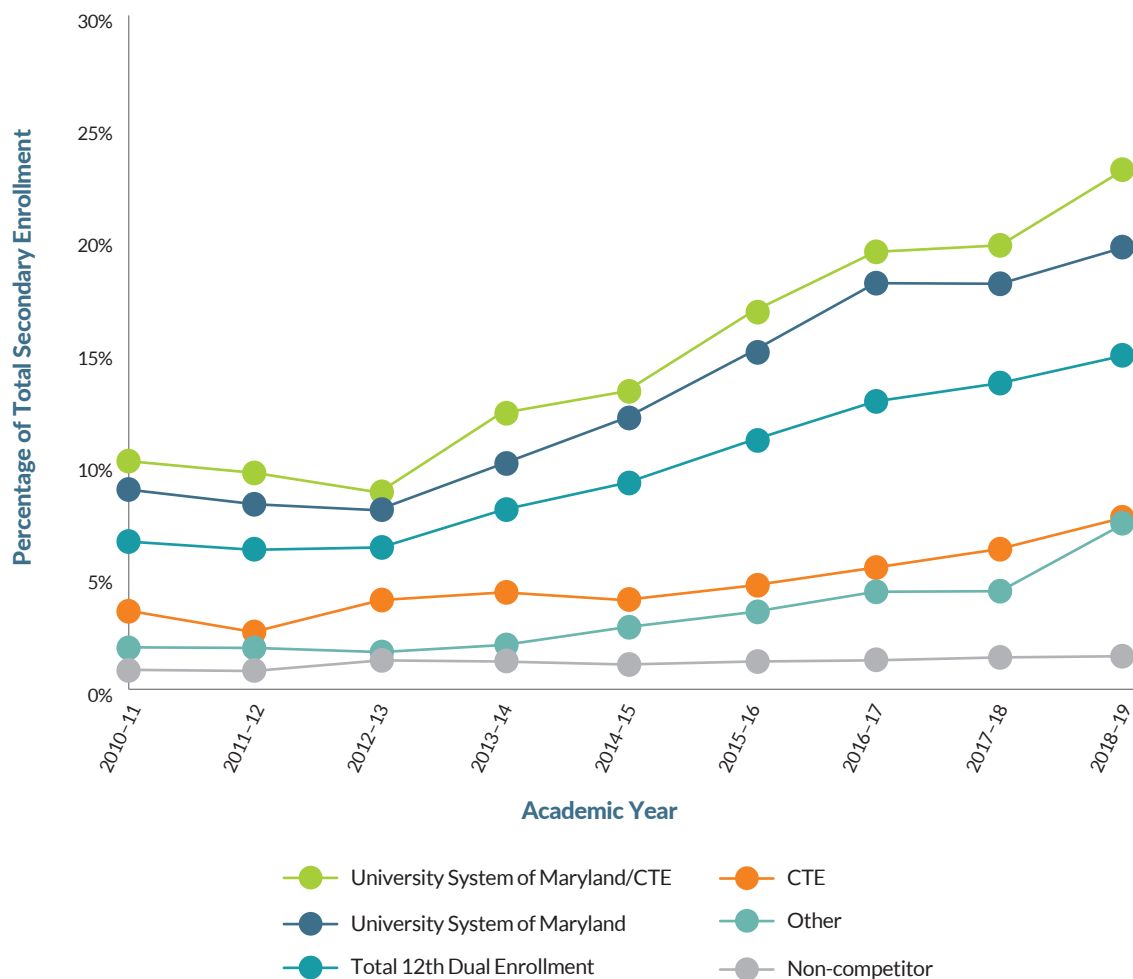
While many states are able to disaggregate data, far fewer states publicly report these data to stakeholders. Nationally, the data that is available on EPSOs often is outdated, is inconsistent, lacks detail, or does not account for or distinguish between various types of postsecondary experiences a learner can take advantage of while in high school.⁴⁶ At the state level, only 20 percent of responding states reported that they make their CTE EPSO data publicly available, though even in these states this data is not often disaggregated by program type or by student demographic. By making EPSO data available through public dashboards and reports, learners, their families and other stakeholders can hold the state and local school districts and postsecondary institutions accountable for outcomes. While not a widespread practice currently, 31 percent of states said they have plans to make their CTE EPSO data publicly available in the future. According to state CTE leaders, the most common challenges to collecting and reporting data are a lack of capacity and a lack of data sharing agreements. The most commonly reported challenge to collecting data on the outcomes of CTE concentrators is the lack of interoperability between secondary and postsecondary data systems.

Despite these challenges, states such as Indiana, Maryland and Kentucky have leveraged strong data governance structures and high-quality statewide longitudinal data systems to develop public dashboards and reports. **Indiana** reports EPSO enrollment and outcome data annually through a statewide early college credit report.⁴⁷ This report not only differentiates CTE credit from general education credits, but it also

Key Finding 3

disaggregates data by county and population demographics such as race/ethnicity and free and reduced-price lunch status. **Maryland** similarly collects and reports EPSO data through a public dashboard.⁴⁸ The dashboard shows the number of learners that participate in dual enrollment by grade level, race/ethnicity, gender and socioeconomic status. Maryland also provides data snapshots on outcomes such as the percentage of learners enrolled in a postsecondary education program one year after graduation. Figure 8 provides an example of a chart from Maryland's Dual Enrollment Data Report that track's a learner's completion in dual enrollment opportunities, including the University System of Maryland's Freshman Admission Course requirements (USM). **Kentucky** similarly reports EPSO data through annual school report cards. Kentucky's school report card includes dual enrollment data for both participation and completion in 27 program areas⁴⁹ and disaggregates data by 17 subpopulations.^{50,51}

Figure 8. Maryland Dual Enrollment in 12th Grade by Course of Study



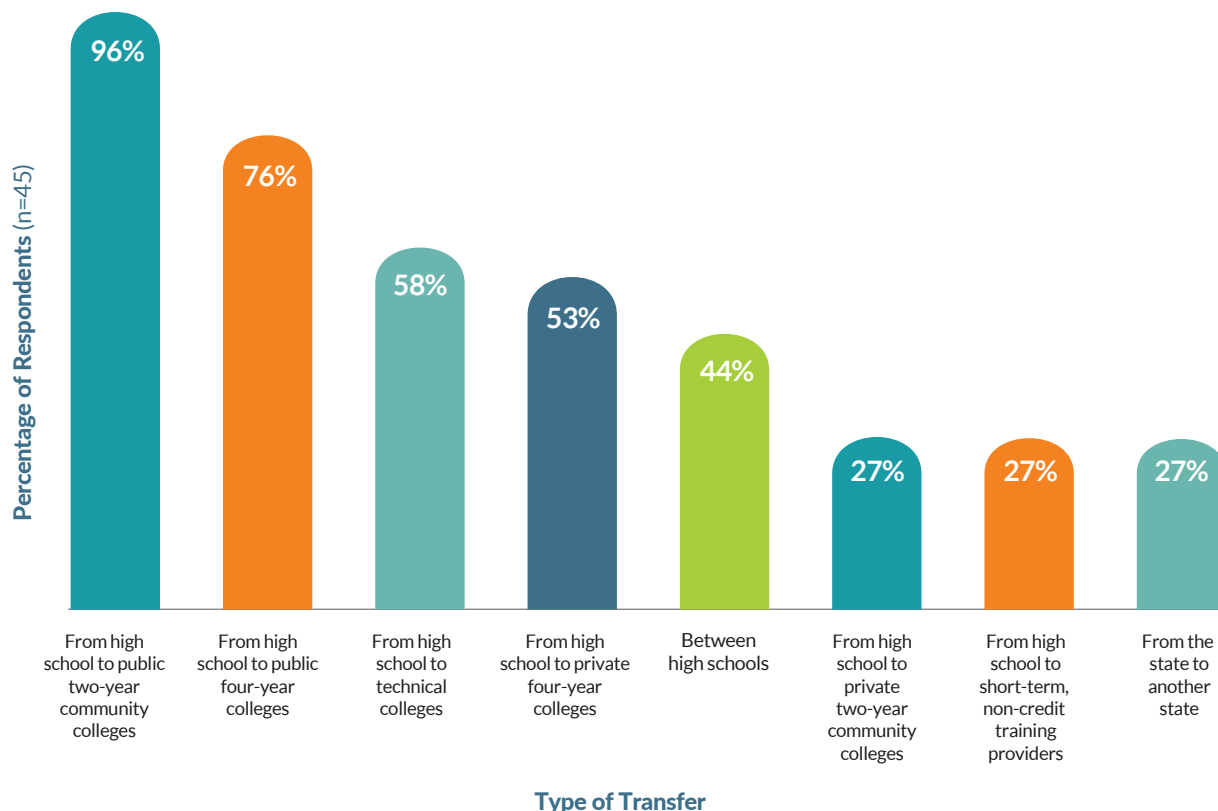
Key Finding 4: STATES HAVE A CRITICAL ROLE TO PLAY IN IMPROVING CREDIT TRANSFER EFFICIENCY FOR CTE EPSOS.



While CTE learners have multiple opportunities to earn postsecondary credit in high school, few states have a centralized system to ensure a smooth and seamless transfer of credit between institutions. Seventy-one percent of states have statewide articulation agreements in place for CTE credits, but these agreements are often not required and do not cover all CTE EPSO credits that are offered, meaning that credits may or may not transfer depending on the type of EPSO, the receiving institution, and the program in which it is offered. States reported that the biggest challenges to requiring statewide articulation agreements for CTE EPSOs are decentralization, lack of collaboration between secondary and postsecondary institutions, and postsecondary institutions awarding their own credit without state input.

This level of decentralization creates challenges for learners as they transition to postsecondary education in pursuit of a credential. CTE EPSO credits often do not transfer to private institutions or to institutions in other

Figure 9. How CTE EPSO Credits Are Transferred in States



Eighty-one percent of reporting states indicated that CTE EPSO credits are articulated toward core credits in the learner's program of study.

states. Additionally, while most states allow learners to use EPSO credit toward a four-year degree, 24 percent of states reported that CTE credits do not even transfer to a four-year institution.

Even when credits do transfer, the aforementioned barriers still create inequities. Only 30 percent of states reported automatic transfer of credit; other states reported that learners must meet a range of requirements or conditions, such as completing an application to the credit-receiving institution or earning a minimum grade, to transfer any credits earned. Articulating credits automatically could minimize the burden on first-generation learners and other populations with limited resources to navigate complex postsecondary systems.

Despite these challenges, states are making progress toward ensuring alignment with a learner's program of study. Eighty-one

percent of reporting states indicated that CTE EPSO credits are articulated toward core credits in the learner's program of study — an “intentional act of dual enrollment.” In their Perkins V state plans, 13 states selected postsecondary credit attainment as a secondary program quality indicator, which will allow for increased transparency around CTE EPSOs in those states.⁵²

States reported taking several approaches to ensure intentional acts of dual enrollment, including reviewing and approving articulation agreements and ensuring alignment of CTE programs of study offered through postsecondary institutions.⁵³ **Florida** has several state policies that work in tandem to support the articulation of early postsecondary credits. First, Florida has developed a statewide course numbering system for postsecondary and dual enrollment education in school districts, public postsecondary educational institutions and participating private postsecondary institutions, which determines in which grades learners can participate and how many credits they can earn.⁵⁴ This cohesive and aligned system, developed in conjunction with the commissioner of education and the chancellor of the state university system, subsequently helps facilitate the acceleration and transfer of credits between secondary and postsecondary institutions. Additionally, Florida law requires both statewide articulation agreements — such as those that guarantee the articulation of the secondary applied technology diploma in the state college system — and local articulation agreements — such as those between Florida's technical colleges and each high school in any school district that the technical college serves.⁵⁵ These local agreements must also address how information will be provided to learners and their families.⁵⁶

Delaware requires any approved CTE program of study to provide learners with early career and college opportunities and opportunities to earn postsecondary credit while in high school.⁵⁷ The program of study must identify course sequences that allow learners to pursue two- and four-year degrees and certification programs through EPSOs and provide learners an opportunity to demonstrate technical skill attainment by earning an industry-recognized credential, certificate or license that holds value at the professional level, at the postsecondary level, or in an associate or baccalaureate degree program.^{58, 59}

Key Finding 4

Figure 10. An Example of a Delaware CTE Program of Study That Articulates to Credit at Delaware Technical and Community College (DelTech)

Program of Study Technical Skill Assessment Title:	Other Required Course(s) for Advanced Studying:	DelTech Course Code:	DelTech Course Title	Number of Credits	Type of Advanced Standing
Fundamentals of Health Sciences	General Chemistry with Demonstration of Mathematics and English Language Arts Readiness	BIQ100	Medical Terminology	3 Credits	Articulation
Essentials of Anatomy and Physiology		BIQ110	Essentials of Anatomy and Physiology	4 Credits	Articulation
Nurse Assisting		HLH 130	Nurse Assistant Training	6 Credits	Articulation

Finally, **South Dakota** ensures that all CTE dual credit courses are aligned to a learner’s program of study through a dual credit crosswalk that lists eligible state-sponsored dual credit courses developed by the South Dakota Department of Education.⁶⁰ These courses also contribute to a high school student’s CTE concentrator status. The course must be aligned with an approved CTE program of study and offered through a state-sponsored dual credit program to meet the state’s graduation requirement of one CTE unit or count toward the state’s advanced career endorsement.⁶¹

Key Finding 5: RECRUITING AND TRAINING QUALIFIED CTE EPSO INSTRUCTORS IS A TOP BARRIER TO EXPANDING CTE EPSOS.

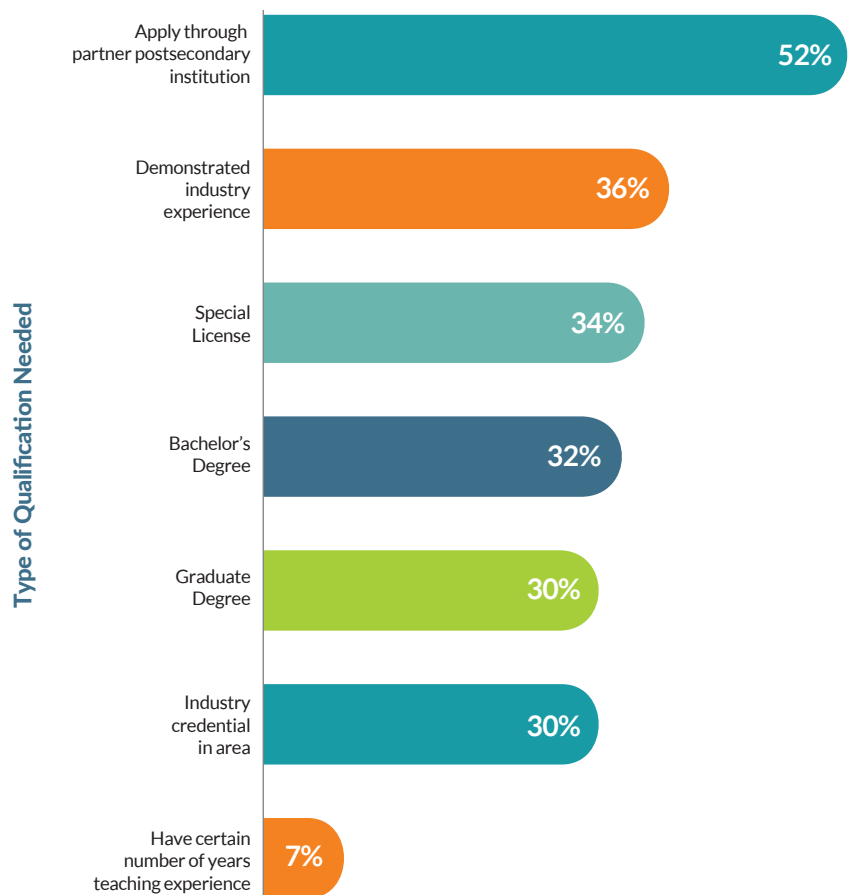


Recruiting and training highly qualified CTE teachers has been a challenge in the United States for many years, particularly for schools in districts serving large percentages of learners from low-income communities.⁶² The challenge of hiring EPSO instructors, particularly those teaching dual and concurrent enrollment programs, is unique because, in addition to meeting the qualifications necessary to teach at the high school level within a given school district, they often must meet the qualifications of the partnering institution awarding the postsecondary credits and also have industry expertise.

CTE EPSO TEACHERS OFTEN MUST BE:

- Qualified in their industry;
- Qualified to teach at the high school level; and
- Qualified to teach at the college level.

Figure 11. Minimum Qualification for CTE EPSO Instructors



Percentage of Respondents (n=45)

Key Finding 5

Additionally, CTE EPSO instructors often take non-traditional pathways into the classroom, and instructors recruited directly from industry may not possess the credentials required by postsecondary institutions or accrediting bodies to teach college-level classes.

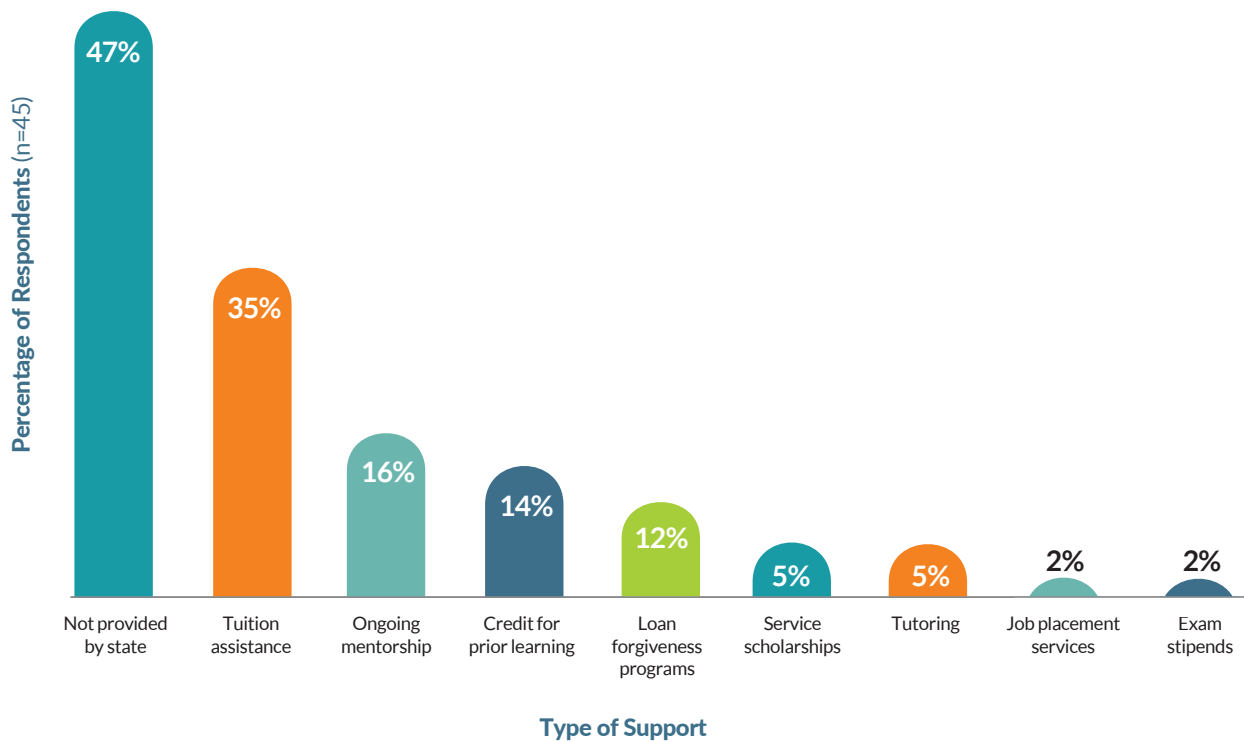
42 percent of respondents said CTE EPSO teachers must meet the same qualifications as both high school and postsecondary CTE instructors.

While the minimum qualifications for CTE EPSO instruction vary by and within states, and are often driven by the requirements of the regional accrediting body for institutions of higher education in the state, 70 percent of responding states reported that CTE EPSO instructors must meet the same qualifications as high school CTE instructors, 72 percent said they must meet the same qualifications as postsecondary CTE instructors, and 42 percent said they must meet the same qualifications as **both** high school and postsecondary CTE instructors. Additionally, 36 percent reported that instructors must have demonstrated prior experience working in the industry in which they are teaching, and 34 percent reported that instructors must have a special license or certification. At least 14 percent of responding states reported that CTE EPSO instructors must have a degree, a special license and industry experience. This

creates a specific challenge for CTE EPSO instructors who have heightened licensure requirements, including a separate educator credential, significant professional work hour requirements to demonstrate prior experience or additional graduate-level coursework.^{63, 64, 65}

EPSO accreditation requirements can often limit districts' and colleges' abilities to recruit qualified CTE EPSO instructors. A few states identified upcoming changes in the accreditation process by the Higher Learning Commission (HLC), one of six regional institutional accreditors in the United States responsible for accreditation in 19 states, as a barrier.⁶⁶ Effective in 2023, the HLC will require that minimally qualified faculty for general education dual or concurrent credit programs hold a credential in the discipline in which they teach that is at least one level above that of the course(s) being taught or a minimum of 18 graduate credit hours.⁶⁷ Faculty teaching college-level certificate and occupational associate degree programs should hold a bachelor's degree in the field and/or a combination of education, training, and "tested experience" — a breadth and depth of experience outside of the classroom in real-world situations relevant to the discipline in which the faculty member would be teaching.⁶⁸ Furthermore, faculty members teaching dual and concurrent enrollment courses must hold the same minimal qualifications as required by the institution of its own faculty.⁶⁹ While these licensure requirements theoretically ensure the qualification and experience of the educator teaching dual and concurrent enrollment coursework, they create additional hurdles for instructors who take alternative pathways into their role, especially in CTE programs in which industry expertise may be prioritized over educational background.

Figure 12. State Supports for CTE EPSO Instructors



Alternative licensing policies for CTE instructors already exist; 91 percent of states have an alternative licensure policy in place.⁷⁰ Given the relative ubiquity of alternative licensure for CTE more broadly, the option of substituting the education requirement with industry experience and training should also make recruiting CTE dual and concurrent enrollment instructors easier for states and postsecondary institutions. However, data shows the challenge persists.

The challenge of recruiting and retaining CTE EPSO instructors is perpetuated by a lack of aligned supports and incentives. A plurality of states reported not having a statewide program to support or incentivize the hiring of CTE EPSO instructors. Of those that do, the most common strategy is providing tuition assistance. However, the most common barrier reported by states to recruiting and training qualified CTE EPSO instructors is offering salaries that are competitive with private industry.

Some states leverage statewide grant programs to incentivize the recruitment and retention of EPSO instructors. **Colorado**, for example, has a Concurrent Enrollment Expansion and Innovation Grant Program, through which local education agencies and partnering postsecondary institutions can apply for up to \$100,000 to expand concurrent enrollment programs.⁷¹ Funds can be used to support costs associated with additional credentialing for instructors or to support the sharing of qualified instructors between districts.⁷² States should use programs such as these to overcome the aforementioned barriers and provide innovative incentives to CTE EPSO instructors who might not otherwise be able to teach CTE EPSO courses.

Recommendations

States continue to identify EPSOs, particularly in CTE, as an avenue to improve equity and access for learners and work toward postsecondary attainment goals statewide. Yet the work is unfinished. Without cohesive data systems, statewide supports for both learner and instructor recruitment and retention, and aligned and efficient articulation of postsecondary credits, the full implementation of equitable, quality EPSOs will remain a challenge. To that end, state leaders should consider the following recommendations to better advance and support CTE EPSOs in their states:

- ▶ **Identify and remove barriers to access, including restrictive costs or entrance requirements, and target specific learner populations for recruitment.** Data demonstrates significantly higher gains for learners of color in dual enrollment programs. As states look to increase postsecondary attainment goals, they can leverage enrollment and outcome data to identify opportunity gaps and examine root causes, such as restrictive admissions requirements that may affect learners disproportionately. A critical review of the data can allow states to target minoritized populations for participation while simultaneously ensuring that these learners have access to high-quality EPSOs. Finally, increasing communication with parents and learners about available EPSOs, their requirements and available supports will help first-generation learners and under-served groups not familiar with the post-secondary process access these programs.
- ▶ **Increase supports for learners enrolled in EPSOs to ensure completion.** While capacity challenges do exist, research indicates the value of early warning systems, counseling programs, and financial supports that remove or overcome barriers to completion. Statewide incentives can encourage districts to expand these types of systems that allow secondary learners to be successful in EPSOs.
- ▶ **Improve state data collection and reporting for EPSOs, particularly highlighting outcome data disaggregated by CTE program and learner demographics.** To better support specific populations and better understand gaps in CTE EPSO delivery, states should build capacity around data collection and reporting. Increasing the personnel and resources that are available will help states prioritize EPSO data and assist in the development of data sharing agreements. States should also report all available data; 60 percent of states collect disaggregated CTE EPSO data, but only 20 percent make this data available to and easily accessible by the general public. Greater transparency around enrollment and outcome data will help learners and their families make more informed decisions about participation in EPSOs.

- ▶ **Expand statewide and inter-state articulation agreements to account for all types of CTE EPSOs.** Statewide agreements can help guarantee recognition of CTE EPSO credit and facilitate automatic transfer between a secondary institution and a corresponding postsecondary institution of the learner's choice. Ensuring that the transfer of credit is as frictionless as possible is vital to supporting learners as they transition into postsecondary education and continue in a degree program. As states work to ensure that each learner's EPSO experiences are counted toward articulated credit, they should also ensure that this credit contributes to core credits in a CTE program of study and not just elective credit. States can develop additional guidelines and legislation that ensures the connection between an EPSO and a program of study.
- ▶ **Adopt flexible licensure requirements that recognize the equivalent value of industry expertise and education for CTE EPSO instructors.** As states recognize commensurate experience and education, they can provide increased guidance around the credentials required for instructors. States can also expand upon existing flexibilities within requirements from accreditors to ensure that recruitment of EPSO instructors has as few barriers as possible.
- ▶ **Expand innovative supports and incentives for CTE EPSO instructors, including subsidizing pay gaps and providing additional benefits beyond salary.** To bolster recruitment efforts for CTE EPSO instructors, states can apply innovative methods that incentivize instructors to teach EPSOs in subject areas with significant shortages. Statewide grant programs can provide the resources and flexibility to enable school districts and postsecondary institutions to adjust pay scales based on subject area and demand, provide reimbursements for instructors to obtain required certifications, and offer additional benefits and incentives to support local recruitment. States can also develop models to incentivize postsecondary instructors to teach at the secondary level and for postsecondary institutions and local education agencies to share CTE EPSO instructors.

Methodology

This report was compiled using a mixed methods approach, incorporating both quantitative and qualitative data from a variety of sources. A national survey was prepared in consultation with members of the College in High School Alliance. The survey was conducted from June to July 2021, targeting all 50 states, the District of Columbia and outlying territories. State CTE Directors or a member of their staff completed and returned the survey to Advance CTE for aggregation and analysis. Forty-six states responded to this survey, but not every state responded to every question. Although full participation was not met in this survey, the response rate was substantial enough to warrant interpreting results as nationally representative. Qualitative state examples were also collected through this survey or through additional research conducted by Advance CTE. Members of the College in High School Alliance reviewed this report for accuracy.

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