



HIGH SCHOOL CAREER AND TECHNICAL EDUCATION:

Serving Pennsylvania's Student
and Workforce Needs

February 2016





The Education Policy and Leadership Center

BACKGROUND OF EPLC

The Education Policy and Leadership Center was established in 1998 as a 501(c)(3) not-for-profit corporation. The Center has offices in Harrisburg, PA and began to operate on a full-time basis in January 1999. The corporation is governed by a board of directors that includes members who have significant experience with education policy, government and not-for-profit organizations. The Center conducts its policy and leadership programs in cooperation with numerous local, statewide and national organizations.

MISSION OF EPLC

The Mission of The Education Policy and Leadership Center is to encourage and support the development and implementation of effective state-level education policies to improve student learning in grades P-12, increase the effective operation of schools, and enhance educational opportunities for citizens of all ages.

Ronald Cowell, President

Mattie Robinson, Manager of Operations and Communications

Career and Technical Education Project The Education Policy and Leadership Center

800 North Third Street, Suite 408

Harrisburg, PA 17102

717.260.9900

eplc.org

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INTRODUCTION

Youth unemployment rates in Pennsylvania and nationally are significantly higher than the overall state and national unemployment rates, and unemployment among African-American and Hispanic youth is even greater.

The cost of postsecondary education has increased at a rate far greater than the increase in cost-of-living while public financial support in Pennsylvania has decreased in recent years. In Pennsylvania, the cost of public higher education and the level of student indebtedness for those who leave college with or without a degree are among the highest levels in the nation.

Meanwhile, there is a very large gap between available and prospective jobs in Pennsylvania and the skills of available workforce. Leaders of business and industry and state and regional policy leaders worry about the capacity of Pennsylvania's workforce to fulfill the needs of employers in the Commonwealth, now and in the decades ahead.

In this environment, there are increasing calls among education, community, business, workforce, and public policy leaders for greater attention to career and technical education (CTE) and the public policies that currently or potentially impact on the availability, relevancy and quality of CTE in Pennsylvania.

Although career and technical education in Pennsylvania exhibits significant change and many success stories, there are many opportunities for improvement. This report is a call to action to build upon many excellent foundations, learn from and replicate some highly successful CTE programs found in district high schools and in career and technical centers (CTCs), and adopt state and local policies and practices that will assure we establish and sustain a system of career and

technical education for high school students in Pennsylvania that is the envy of other states.

While Pennsylvania's workforce development efforts and CTE assets are important for a broad range of students and workers, this project and report are focused on CTE at the secondary level for students in grades 9 to 12. Nonetheless, we note that much of this report, including many recommendations, are predicated on the reality that CTE for secondary students in Pennsylvania is very much affected by much of what educators and policymakers do concerning all of P-12 education and all of postsecondary education in the Commonwealth.

This report focuses on and organizes recommendations around several broad issues that are fundamental to improve the effectiveness of Pennsylvania's CTE system for secondary students. These are:

- Leadership and Governance
- Regional and Local Coordination
- Building Student and Parent Awareness About Career and Technical Education
- Relevancy and Rigor of CTE Programs
- Assuring CTE Opportunities for All Students
- Accountability for Effectiveness
- State Funding

The recommendations in the report are intended to provoke discussion and action. The recommendations are all proposed with some specificity about "who" should do "what". They are intended to assign responsibility and prompt the named entities or groups to take action soon.

The Education Policy and Leadership Center (EPLC) initiated its Career and Technical Education Project in 2014 and worked throughout 2015 with a 30-member Study Group

that has worked in an advisory role to help identify significant CTE issues, exemplary programs, and recommendations that are cited in the report. Members of the Study Group and their affiliations are noted in **Appendix A**.

Study Group members were able to participate in several site visits. Each visit included very informative meetings and conversations with administrators, instructional staff, and students, as well as wide-ranging discussions in forums with invited guests. Forum participants represented many stakeholder perspectives including regional K-12 education, postsecondary education, employers, organized labor,

workforce development and community development. The sites we visited are listed in **Appendix B**.

This report, including its findings and recommendations, is solely the responsibility of The Education Policy and Leadership Center. But the report would not have been possible without the valuable assistance of all who served on the Study Group, the hundreds who contributed to the success and value of our site visits and related forums, those organizations that contributed financial support for this work, and the many other individuals and organizations that provided helpful information and ideas for consideration.

Career and Technical Education (CTE) for high school students in Pennsylvania is not the vocational education of years past. In many regions of the Commonwealth, major changes have occurred as new programs have been created, new technologies embraced, more relationships developed, and new opportunities established for students to pursue varied pathways that lead to substantial employment and careers. This progress is found in career and technical centers (CTCs) as well as in CTE programs that are embedded in many school district high schools.

However, this transformation of career and technical education for high school students has not occurred uniformly across Pennsylvania. New or upgraded programs that offer contemporary and meaningful opportunities for all students remain elusive in too many communities.

Outdated views about CTE still persist among many education and policy leaders, and certainly among many students and their parents. The failure in too many instances to have clearly defined career pathways that include CTE options contributes to the attitude that CTE is only for those “not going to college” or a “dead end” option even for those students with postsecondary aspirations.

Insufficient attention to CTE is also apparent at the state level where CTE is not sufficiently represented on key policy boards and funding for CTE has been inadequate and unpredictable.

The observations and recommendations we offer are rooted in a belief that CTE is more vital than ever before for Pennsylvania’s students, employers, workforce and, subsequently, for the Commonwealth’s economic and community health.

PROFILE OF CAREER AND TECHNICAL EDUCATION FOR HIGH SCHOOL STUDENTS IN PENNSYLVANIA

[From Pennsylvania Department of Education (PDE) for 2013-2014 school year.]

Of 550,758 Pennsylvania students in grades 9 through 12, there were 65,563 students (approximately 12%) enrolled in CTE programs.

PDE worked with 135 high schools that hold PDE approval for CTE, with 14,994 students in grades 9 through 12 in CTE programs.

PDE worked with 86 Career and Technical Centers (CTCs) that enrolled 50,569 students.

CTCs are joint schools consisting of school districts within an approved Area Vocational Technical School attendance area that agree to offer their students CTE at a common location/campus. As a member of a CTC, each member school district has representation on the joint operating committee (JOC). The JOC performs the same duties as a school board, which includes approving the CTC budget. Member school districts fund the operation of the CTC as determined by the articles of agreement.

The 2014-2015 state budget included \$62,000,000 for career and technical education and \$3,000,000 for CTE equipment grants.

Pennsylvania receives approximately \$40 million related to the federal Carl D. Perkins Career and Technical Education Improvement Act of 2006 which support 97 secondary schools and 34 postsecondary entities.

PDE's Bureau of Career and Technical Education works with the 34 postsecondary institutions which receive federal Carl D. Perkins funds. These institutions include 14 community colleges, two private licensed schools, one state university, one specialized associate degree granting institution, four private 2-year colleges, one private state-aided university, three private colleges, one state-related university, and one college of technology. In addition, six career and technical centers offer Licensed Practical Nursing programs and receive Perkins funds to offer the programs.

Other postsecondary institutions that do not receive federal Carl D. Perkins funds are also engaged with school districts and CTCs through dual enrollment and articulation agreements and benefit many high school CTE students. These include public and private colleges and private licensed schools.



LEADERSHIP AND GOVERNANCE

Effective leadership takes many forms, including effective governance. Pennsylvania’s CTE system for high school students is very dependent on effective leadership, both formal and informal.

Leadership by state policymakers is critical especially because state policymakers have so many policy levers at their disposal to affect directly or indirectly the condition of CTE throughout the state. From their use of the “bully pulpit,” to enacting statutes and regulations, to the exercise of appointing authority to convening and planning activities, and to appropriating funding and attaching conditions to funding, state policymakers are in a position to dramatically make a difference – often very quickly.

Current staff members of the Pennsylvania Department of Education dedicated to CTE issues deserve kudos for commitment and effectiveness. However, current policies and practices at the state level leave opportunity for state policy leaders to demonstrate more serious attention and commitment to – and to effectively support – a strong statewide system of CTE for high school students.

The governor can strongly influence the statewide environment for CTE by his public statements, his direction to key cabinet officials, his appointments to

key agencies, and his recommendations for agency staffing and for legislation and budgets.

State agencies such as the State Board of Education (which is also the State Board of Vocational Education) and the State Workforce Development Board must each give substantial and strategic attention to CTE issues, genuinely engage all relevant stakeholders, and more regularly collaborate with each other about CTE issues.

The Pennsylvania House of Representatives is commended for establishing a Select Committee to consider a variety of career and technical education issues. A report on the findings of the Select Committee is due by the end of 2016. The committee should consider the findings and recommendations of this EPLC report, especially those directed to state agencies and state officials, including the Legislature. The committee is also gathering important information from many stakeholder organizations and will have an important opportunity through its report to acknowledge the importance of CTE and the responsibility for the General Assembly to take action to more effectively support CTE.

Leadership at the regional and local level is also vital. Site visits and many discussions with Study Group members



and others have emphasized repeatedly the importance of effective leadership in community and region to support CTE. Leadership at the regional and local level inevitably shapes public perceptions about CTE, resources for CTC and district programs, opportunities for students, and ultimate value for the workforce.

There is no “magic bullet” or single prescription for local and regional leadership. It takes many forms, but usually occurs when one or more individuals and organizations step forward.

On site visits, our Study Group learned more about various entities taking the lead to bring together relevant organizations to collaborate about CTE activities. Each is a model that might be replicated in whole or in part. Lessons can be learned from all. They included:

- Intermediate unit leadership for consolidating and operating CTCs in Chester County.
- Leadership by CTC boards and administrators in Lehigh Valley and in Berks County.
- Community college leadership providing a regional Advanced Technology Center in Westmoreland County.
- School district leadership in expanding CTE in the Chartiers Valley School District in Allegheny County.
- Regional leadership by the nascent Westmoreland County Leadership Forum on Workforce Development led by business organizations and workforce development agencies.

In each instance, there are present seasoned and dedicated school leaders who have a thorough knowledge of CTE, recruit a strong administrative and instructional team, and build a strong and widespread network of relationships and CTE supporters.

At each of the sites visited, regional collaboration is seen as a key “success” ingredient. Ideally, regardless of who is the primary convener, the regional collaboration brings to the table CTCs, school districts, intermediate units, postsecondary schools, local

workforce development boards, and other workforce, economic, and community development agencies.

It is often stated that business and industry needs to be more involved in the decision-making about CTE programs, be they in CTCs or in district high schools. This employer perspective leadership is essential, but cannot simply be ordained.

It must be noted that thousands of employers already serve on occupational advisory committees for CTE programs in CTCs and in district high schools. These employers are in very important positions to influence the programs and curricula for CTE offerings and undoubtedly play a very influential role in the decision-making about such matters. And some seek a larger role for employers in CTC governance.

We recommend a modest and voluntary change for the governance of CTC boards (joint operating committees). The members of CTC boards are now selected by the school district boards of directors that are a part of a CTC’s joint operating agreement. We recommend state legislation to allow a CTC board to expand its membership by adding by appointment no more than two individuals who represent a local private sector employer perspective.

But the commitment and attention of all school district boards of directors to CTE issues can be enhanced if more individuals with an employer perspective would choose to seek – and win – election to the boards of directors in school districts. Such individuals then would be very logical candidates to also represent their school district on the joint operating committees for their regional CTC. Statewide and local business organizations should encourage their members to consider school board service.

The interest of CTE and CTE students would be better served if all superintendents, school principals, and school board directors were well-informed about CTE issues and opportunities. The report therefore includes suggestions to enhance professional development about CTE for all school leaders and school board members.



REGIONAL AND LOCAL COORDINATION

The challenges confronting CTE planners and providers — including funding and other resources, the varied needs of students and employers, the complexity of forecasting workforce needs, and the multiplicity of education providers and CTE stakeholders — demand regional and local cooperation among all the relevant parties.

Who convenes this disparate group of interests and organizations may vary from region to region, but they must be convened and must collaborate. Only through effective collaboration will opportunities for students be maximized, workforce needs identified and addressed, and finite public and private resources most effectively utilized.

Site visits by our Study Group identified various sources of leadership as cited elsewhere in this report. But a common element present in all the sites visited was a broad base of relationships and partners, and genuine collaboration for planning and execution.

Most of the relevant “partners” for coordinated planning and execution of CTE efforts receive some form of state funding. If a coordinated effort for

regional and local CTE planning and execution is important — and it should be valued — the Governor and General Assembly should reasonably require relevant entities receiving state funding to demonstrate that they participate in regional and local partnerships for planning and delivering CTE programs for high school students, out-of-school youth, and others.

In most regions if not all, the local Workforce Development Board (WDB) is a key instrument for planning and coordinating workforce development efforts. In all cases, this has implications for CTE programs for students of all ages, including high school students. In all cases, therefore, the Workforce Development Board membership should include at least one administrator of a career and technical center, an intermediate unit, and a school district, and where such institutions are present in the region, at least one administrator of a community college, Pennsylvania State System of Higher Education (PASSHE) university, and private licensed career college or school. The federal requirement for a certain percentage of members on the WDB to be from

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business and industry is acknowledged, but does not detract from the necessary role of education providers to effectively address workforce development needs.

Business-education partnerships exist in many regions of the state and are a form of collaboration that can provide many kinds of support for effective CTE programs. These partnerships vary greatly in scope of activity and real engagement in CTE planning and implementation, but they offer another model for regional and local CTE coordination that is so necessary. A little more than a year ago, all local WDBs (WIBs at the time) received \$100,000 grants from state government to support the development or maintenance of business-education partnerships.

To develop regional leadership and operational partnerships among school districts, career and technical centers, postsecondary institutions, business and industry, labor, and other workforce and economic development entities, the Pennsylvania Department of Labor & Industry or the Department of Community & Economic Development should:

- Review and evaluate the use and effects of the recent round of state grants to WIBs to support business-education partnerships;
- Identify and make available information about the characteristics of successful business-education partnerships, especially those affecting CTE; and
- Offer competitive grants to regional business-education partnerships to develop and implement regional strategies to deliver CTE programs to high school students and others.





BUILDING STUDENT AND PARENT AWARENESS ABOUT CAREER AND TECHNICAL EDUCATION

Throughout this project, we have heard many times that CTE suffers an “image” problem. Many students and their parents, and even many educators, consider career and technical education to be of insufficient quality or relevancy for the vast majority of students. This “image” problem will not go away if it is left to CTE leaders alone to make the case for CTE.

The “image” issue is central to improving the effectiveness of the state’s CTE system to serve the needs of students and workforce and requires attention by state policy leaders and statewide leaders of the business community.

We recommend that the state departments of Education, Community and Economic Development, and Labor & Industry work with statewide business organizations to develop and implement through a public-private partnership a statewide public awareness campaign that promotes the importance of CTE and the multiple career pathways available to students, including CTE.

Many school districts and CTCs are already taking effective steps to address the CTE “image” issue. There are many excellent examples of outreach to students and parents about CTE options and career

pathways that include, but do not stop with, CTE. Successful efforts to address the image problem need to be identified and replicated in other areas.

It is generally agreed that the information needs to reach students and their parents, and that the flow of information needs to start early – no later than, and preferably earlier than, the middle grades.

Student and parent visits to CTCs are highly recommended, and it has been emphasized that the best “ambassadors” for CTE are students who are themselves in CTE programs. Messages from recent successful CTE graduates are a big plus!

It is equally important to familiarize school leaders, counselors, and teachers with the full-range of CTE options available. Everyone who can influence the education and career opportunities considered by students with whom they work needs to be fully aware of CTE value and options. This can be accomplished in many ways including visits by K-12 teachers and school counselors to CTE programs and centers and through professional development. These professional development opportunities should be prioritized and presented by CTCs, school districts, professional associations, and the Department of Education.



“Career and Technical Education in the past was viewed as the path for those students who were not going to college. Career and Technical Education today provides an opportunity for all students, those preparing for employment directly after graduation and those planning to continue their education at a postsecondary institution.”

Jacqueline L. Cullen

Executive Director, Pennsylvania Association of Career and Technical Administrators (PACTA)

It is particularly important that all school counselors be fully informed about CTE value and options, and that there are a sufficient number of counselors to provide all appropriate services to students, including information and advice about CTE options. It is generally agreed that many districts and schools have far too few school counselors to adequately serve the needs of all students. This longstanding problem was made worse in many districts that have reported counselor position cuts blamed on deteriorating fiscal circumstances in recent years.

While we do not suggest a mandatory student-to-counselor ratio in the schools, the current ratio is estimated to be about 450:1, nearly double the ratio of 250:1 that is often suggested by the professional community in Pennsylvania and nationally. State policymakers and local decision-makers need to work together to address a problem that has serious implications for all students. Thus far, the General Assembly has ignored the 2015-2016 budget request made by the governor for \$8 million to improve the number of school counselors with attention given to CTE opportunities.

The staff capacity of the Pennsylvania Department of Education has been adversely impacted by repeated budget cuts during the tenure of several governors

and legislative leadership of both parties. These cuts have had widespread and damaging effects for school districts, educators, and students. We recognize the precarious and unenviable budget reality that the General Assembly repeatedly presents to the Department, but some staff cuts must be reversed in order to serve educators and the interests of students.

The Governor and Secretary of Education can dramatically improve the capacity of the Department of Education to support the school counselor community by filling at least one full-time position in the Department of Education dedicated to working with school counselors. This will obviously benefit the entire school counselor community, but the position could be structured to have special impact on counseling for students about CTE value and options. There may already be sufficient flexibility in the use of federal Perkins funds to provide resources for this needed position in the Department.

The Pennsylvania Department of Education can help further to address the CTE image and information issue by developing and maintaining a one-stop on-line resource center about career and technical education for students, parents, educators, and school leaders. This resource center is in addition to the “best practices” site that is also recommended elsewhere in this report.

“A Pathway Program of Study is a program of interconnected academic and elective classes revolving around a career or subject theme, integrated with experiential learning and close connections between secondary and postsecondary education, training and apprenticeship, so that the individual can successfully enter and advance in a Career Pathway.”

Hans Meeder

President of the National Center for College and Career Transitions
Manager of Pennsylvania Pathways Innovation Network



RELEVANCY AND RIGOR OF CTE PROGRAMS

CTE programs are often criticized as too often not very rigorous or not relevant to real job opportunities and current or future careers in a workplace that increasingly requires technical competencies. In addition, too many CTE students are not performing well on the state assessments that are required of all high school students.

We support the current expectation that all students, including those in CTE programs, will demonstrate the same academic proficiencies and complete the same assessments provided in state regulations for high school students. It is not in the interest of CTE students or the long-term interest of CTE programs to create any appearance or reality of lesser academic requirements and expectations.

It is noteworthy, however, that many CTE students also complete one or more NOCTI exams and earn industry-related credentials that demonstrate competencies beyond the regular high school diploma. This fact should be celebrated widely rather than lamented as an undue burden. This is the reason why elsewhere in this report we recommend that this information be included on the School Performance Profile (SPP).

On site visits, our Study Group witnessed remarkable examples of modern, high quality, and rigorous CTE programs challenging students and preparing them with experience and skills that will serve them well in continuing education and the workplace. But one must not assume this is the fact for all students in all schools and all CTE programs.

Nor do we dismiss the suggestion that too many CTC and district high school programs still offer programs that prepare too many students for occupations that lack equivalent job openings – and not enough students for positions that offer opportunities for careers with higher wages and prospects for long-term employment and promotion in a workplace demanding ever more sophisticated skills.

For this reason, we recommend several specific actions to improve the capacity of policy leaders and educators for informed decision-making about establishing, strengthening, or curtailing CTE programs, and the advice given to students.

- The Department of Labor & Industry and local workforce development boards must assure high quality labor market data are provided to those



who develop and implement CTE programs and advise students. High quality and reliable data that is timely and user-friendly are vital for program planning and advice to students.

- The Department of Education should have responsibility to routinely identify and disseminate information about effective CTE programs and best practices to CTE policymakers, administrators, and faculty. This work to identify and disseminate information can build upon the current collaboration of the Pennsylvania Association of Career and Technical Administrators and the Pennsylvania Department of Education to provide a website that shares resources, tools and promising practices among Pennsylvania's CTE Community.

The information and resources found at pactresources.com were submitted by CTE administrators, instructors, and educational leaders and are intended for use by the CTE community. A number of the posted resources are the result of the Technical Assistance Program supported by the Pennsylvania Department of Education, Bureau of Career and Technical Education.

- The Department of Education and the board of directors of each school district and CTC should conduct program review, evaluation, and revision to ensure CTE programs are relevant and reflect the labor market demands of the district and CTC regions. This review, evaluation, and revision process must be at regular intervals, be informed by high quality data, and engage all relevant stakeholder groups.
- All approved secondary CTE programs should provide the opportunity for their students to earn recognized industry related certifications or credentials that lead to increased employability. Not all current CTE programs comply with this recommendation, thus denying students a valuable asset upon program completion.

The relevancy and rigor of CTE programs in district high schools and in CTCs can also be better assured where there is effective coordination among all relevant CTE providers and stakeholders. Our several recommendations to enhance coordination at the regional and local level will help to better assure the relevancy and rigor of CTE programs.

On site visits, our Study Group witnessed remarkable examples of modern, high quality, and rigorous CTE programs challenging students and preparing them with experience and skills that will serve them well in continuing education and the workplace. But one must not assume this is the fact for all students in all schools and all CTE programs.

NOCTI (National Occupational Competency Testing Institute) delivers a battery of assessments or standardized tests for students studying career and technical programs in high schools and technical colleges in the United States. The assessments, based on a job and task analysis process, incorporate input from subject matter experts representing regions of the United States in secondary and postsecondary education as well as business and industry. The assessments are updated on a regular basis and are aligned with national academic standards (math, science and language arts) as well as business and industry standards.



ASSURING CTE OPPORTUNITIES FOR ALL STUDENTS

Career and technical education is one of the very valuable options on the public education “choices” or opportunity menu for students, but this choice varies substantially for students depending on the school district where they live. This inequity is not due to financial considerations alone and is often attributable to matters more easily addressed.

We urge policy and education leaders to prioritize the interests of students in considering important CTE policy and program issues. Our recommendations build on existing law and successful practices that are the routine in some districts and CTCs.

Current law requires every school district to integrate Career Education and Work standards throughout the curriculum for all students. Every superintendent and school board needs to ensure their district is fulfilling this basic obligation.

Districts typically do some form of comprehensive planning. The comprehensive plan of every district should clearly articulate its commitment to multiple career pathways available to its students, and how the district will ensure that every student has the opportunity to pursue a career pathway appropriate to

the student’s interests and capabilities. School counselors and CTE administrators and instructional leaders should be engaged in the development of this part of the comprehensive plan and the school board should hold the superintendent and itself publicly accountable for the implementation of the district’s commitment to a career pathway for every student.

Promoting student and parent awareness about CTE value and options and ensuring student access to high quality CTE options will be advanced by appropriate professional development in the school district. Every school district should clearly articulate its commitment to professional development that will be provided to assure that all educators, administrators, and board members are informed about CTE needs and opportunities that are or should be available to its students. The school board should hold the superintendent and itself publicly accountable for the implementation of this commitment to professional development.

In too many instances, students prefer a CTC program or school that is not available to them under existing agreements. Often these are programs and schools that are closer to their home school or residence than



“Modern CTE is far different from the days of ‘Vocational Education.’ Students have the opportunity to take several pathways for the end goal of being gainfully employed and having a fulfilling life. With added academic rigor and the ability to earn college credits while in a Career and Technical program, CTE provides opportunities for a very academically diverse population.”

Seth Schram

Principal

Chester County Technical College High School
Brandywine Campus

is the CTE program usually available to them. In many cases, the interest of the student is accommodated, but not always. The interest of the student should be prioritized and the General Assembly should enact legislation that will require every school district and CTC to enter into any necessary agreements that will enable any student the option to attend any secondary-level career and technical program that is not available to them under existing agreements.

Transportation issues are often a practical barrier to students exercising this form of CTE school or program choice and current state law limits a school district’s obligation to transport a student only to a CTC of which the district is a member. The General Assembly should consider how to reduce the financial burden to students in these circumstances.

There are many examples throughout the state of CTE options for students that include “dual enrollment” opportunities for students to be earning postsecondary credits even while completing their CTE program and before high school graduation. We heard of one example

of a student who was awarded his associates degree just days before he walked across the stage to receive his high school diploma. These dual enrollment agreements are an important part of career pathways for many students. They enhance the learning opportunities for students, can better prepare them for work, and can make postsecondary education more affordable for many students.

There are exemplary examples of dual enrollment agreements in many districts and CTCs and they involve community colleges, PASSHE universities, non-public colleges, and many private licensed career colleges and schools. But these opportunities are not available to all otherwise academically qualified students.

State government has been inconsistent and unpredictable in its financial support for dual enrollment agreements for high school students. The General Assembly should provide some funding support as it did until 2010 and as proposed in 2015 by the Governor. The funding is important, but the funding also gives the Department of Education some leverage to influence the nature of these agreements that should be structured to promote greater access, affordability, and transferability of earned credits for students.

But dual enrollment agreements do not and should not exist only when and where there is dedicated state funding to help. Dual enrollment agreements should be the norm wherever they can serve the best interests of students and this is a responsibility of school districts, CTCs, and postsecondary education.

Dual enrollment agreements of necessity must remain voluntary and will vary in scope and details. However, the General Assembly should enact legislation to encourage every community college, PASSHE university, and private licensed career college and school, to enter into dual enrollment agreements with school districts and career and technical centers, and to report to the Secretary of Education annually all such dual enrollment agreements.



Similarly, articulation agreements between and among school districts, CTCs, and postsecondary institutions are increasingly vital to establishing predictable and industry relevant career pathways for students in CTE programs. But such relationships and agreements are not prevalent enough to benefit all students who could be better served. Many students can benefit when they see a predictable path forward, knowing that if they successfully complete certain courses and programs, they are assured access to next steps on the path to a career objective.

Like dual enrollment agreements, articulation agreements must remain voluntary and will vary in scope and details. But especially among publicly funded institutions, it is reasonable to expect articulation agreements will become more commonplace. The General Assembly has previously enacted legislation creating certain expectations pertaining to articulation between and among community colleges and PASSHE universities.

Articulation agreements can help to ensure the development and implementation of career pathways for all students, including those in CTE programs, and therefore the General Assembly should enact legislation to encourage every community college, PASSHE university, and private licensed career college and school to enter into articulation agreements with school districts and CTCs that will establish predictable and industry relevant pathways for students to move from high school to postsecondary education to career, and to report to the Secretary of Education annually all such pathways agreements.

CTE opportunities for students can be enhanced, public resources efficiently used, and additional private resources attracted when school districts, career and technical centers, and postsecondary education institutions strategically and routinely work together. We have elsewhere addressed the merits of regional and local coordination, but here want to stress the importance of educational institutions — especially those that are publicly funded — working together as much as is practical. Such collaborative efforts should

routinely extend to the planning of new programs and facilities and include the efficient sharing of existing and future facilities, faculty, and other resources.

State policies pertaining to requirements for school administrator preparation programs and professional development opportunities for all educators can help to improve a school culture that historically has undervalued career and technical education. The State Board of Education and Department of Education should revise requirements for administrator preparation programs to assure that these programs promote CTE familiarity and understanding for every educator seeking superintendent certification. Also, the Department of Education should include in its online menu of professional development for teachers, school counselors, and administrators courses that promote awareness and capacity building to support CTE opportunities for all students.

Real workplace experience is an important part of the CTE experience for students. State and local organizations representing employers should routinely encourage their members to create opportunities for high school students to have real work experiences through internships, apprenticeships, work co-ops, and summer employment.

We must note that the Study Group frequently heard about and discussed the challenges for some employers presented by state-required background checks for employers or their representatives who would have “regular contact” with students. The law was recently amended to ease some of this burden, but the issue was repeatedly cited as a barrier to securing more real work opportunities for students. We believe the interest of the students reflected in the current law is paramount and make no recommendation for changes. However, state lawmakers should be mindful of this issue whenever the law is further reviewed.



ACCOUNTABILITY FOR EFFECTIVENESS

Although there are frequent demands from policymakers and others for more accountability in the K-12 public education system, there is in fact more accountability than ever before. Expectations for student performance are more demanding than ever, and there is publicly available much more information about how schools are performing than in any past era.

Students in CTE programs in district high schools and in CTCs are expected to demonstrate proficiency on state assessments as are all other high school students. And in fact they are usually required to pass additional exams related to occupational fields for which they are studying.

In recent years, state government has begun to report on the performance of schools through the School Performance Profile (SPP). As with any report card, the items reported on the SPP suggest what is valued by those who require the reporting, and it would be quite natural that such an indication of “value” would influence the behavior of those who are required to do the reporting.

The Department of Education is currently conducting a review of the content of the SPP and is entertaining

suggestions about what changes might be made to the SPP. We recommend that the SPP should recognize school performance relative to career preparation and CTE by including items related to student performance on National Occupational Competency Testing Institute (NOCTI) exams and achievement of occupation certifications. It is also recommended that the SPP require districts to report on the percentage of students for whom an individual career and work plan has been developed by the 8th grade, and how many students complete a CTE program with an industry recognized credential.

In an environment in which CTE advocates and this report emphasize the importance of CTE and call for additional public and private investments in CTE, it would be helpful to education leaders and to policymakers at the state and school district level – and quite reasonable as well – to have better information about what happens to students after they complete various CTE programs in district high schools and in CTCs. Such information would better enable educators and policymakers to gauge the effectiveness of programs and schools to prepare students for postsecondary education, jobs, and careers.

Survey and anecdotal information provide some incomplete answers to this very fundamental question, but there is no systematic statewide data system to follow-up on CTE students after graduation. A collaborative effort by the departments of Education and Labor & Industry to use existing data would need to assure anonymity for individual students, but would produce valuable information to help inform educator and policymaker decisions about the value and effectiveness of programs and the direction of future investments. However, all should be cautioned to not make judgments about the “success” of students or the value or effectiveness of programs based upon wage information alone.

All school districts are required to integrate Career Education and Work standards throughout the K-12 curriculum, and also to have a career path plan identified for every student by the 8th grade. The fulfillment of these two requirements should complement other efforts to engage more students to seriously consider CTE options as part of one or more pathways to work and career.

State policy can further support these two K-12 requirements by requiring districts to publicly report on how the Career Education and Work standards are being implemented in the district and (as suggested above) to include a report on the SPP about the percentage of 8th grade students with completed career path plans. If state policymakers are serious about these two current requirements that are intended to improve student readiness for work and career, these modest accountability measures are very appropriate and necessary.

In an environment in which CTE advocates and this report emphasize the importance of CTE and call for additional public and private investments in CTE, it would be helpful to education leaders and to policymakers at the state and school district level — and quite reasonable as well — to have better information about what happens to students after they complete various CTE programs in district high schools and in CTCs.





STATE FUNDING

Funding is a significant variable that influences the availability of quality CTE programs and student access to such CTE opportunities. Currently, there is wide disparity of availability and student access, often dictated by the relative wealth of a student's home district or the regional CTC. The inadequate level of state support for public schools generally, and for career and technical education in particular, contributes to this great disparity.

It is not irrelevant to this discussion that Pennsylvania is judged by many to have the most unequal statewide system of resources and, subsequently, opportunities for K-12 students. This has serious implications for CTE opportunities as well.

For less wealthy school districts – those that are most dependent on state funding help – they often do not have sufficient financial capacity to initiate and maintain their own high quality CTE programs, especially those requiring large investments for equipment or for which there may be a small number of students interested. These same districts often do not easily absorb additional costs of sending students to CTCs.

Even wealthier school districts hard hit by state funding decisions and steeply increased pension costs in recent years have had powerful disincentives to increase the number of CTC students or the amount of financial support for CTCs.

Direct state support for career and technical education has been stagnant for several years. Dedicated funding proposed by Governor Wolf for 2015-2016 to encourage innovation in CTE has been caught up in the state budget impasse, and the future for all CTE-related funding looks cloudy and unpredictable.

The cost of equipment, especially high tech equipment that is costly and needs to be updated frequently, is a significant barrier for the establishment and maintenance of many of the programs that can best prepare students for new or evolving industries that promise job-growth in the foreseeable future. While better coordination and sharing among institutions can be of some relief, school districts and CTCs need more state help in meeting these extraordinary costs. This should include greater tax incentives for business and industry to provide support for CTE.

These are very challenging circumstances in which to hope many school districts and CTCs will expand and improve CTE opportunities for a larger number of students. It is therefore imperative that state policymakers increase financial as well as the rhetorical support for career and technical education for secondary students.

The forthcoming report from the House Select Committee on Technical Education and Career Readiness (due late 2016) will be an important opportunity to demonstrate real support for CTE. The committee needs to remind House and Senate colleagues of their responsibility to support CTE opportunities for all students, and to make recommendations about specific ways in which to increase state funding support.

We recommend that improved state support for CTE include increased basic education funding to all districts and increased dedicated funding for CTE. Ideally, the General Assembly will see fit to incorporate a component for CTE into the new basic education funding formula recommended in June 2015 by the Legislature's Commission on Basic Education Funding. Other important support should be in the form of CTE equipment grants, competitive CTE innovation grants, and grants to expand student counseling, especially pertaining to CTE opportunities. An expanded EITC program can help direct business and industry grants to CTE programs as well.

“The CEOs of Pennsylvania agree. If we want to improve our workforce in the Commonwealth, we have to invest in modern, high quality Career Technology Education. The hardest jobs to fill are the ‘middle skills.’ The best career pathway for these good paying jobs starts with Career Technology Education.”

David W. Patti
President & CEO
Pennsylvania Business Council



LEADERSHIP AND GOVERNANCE

Leadership in Harrisburg and local communities is vital to assure that an effective statewide system of career and technical education that recognizes and addresses the needs of students and employers is available. The need for leadership starts with elected state policymakers, and must include other state and local officials and agencies, and every school district and career and technology center (CTC) governing board, along with their postsecondary school partners.

1 The Governor should direct state cabinet-level officials who oversee relevant departments and agencies to develop and implement a strategic plan to support and promote high-quality career and technical education opportunities for all Pennsylvania students, thus preparing all students for success in the workplace.

2 The Governor and the State Senate, exercising their respective authority to nominate and approve members of the State Board of Education, should assure the State Board of Education includes at least two members on each of the two councils of the Board who have meaningful experience with career and technical education, as intended by language currently in the School Code. For at least one member on each council, this experience should include significant service as a CTE instructional leader or CTE administrator at the secondary level.

3 The Governor should assure that at all times one or more appointed members of the State Workforce Development Board has current or recent experience as a secondary level CTE instructional leader or administrator.

4 At least once a year, the State Workforce Development Board and the State Board of Education should meet concurrently to consider career and technical education issues and other education issues related to workforce development.

5 The General Assembly should amend the School Code to provide that the board of directors of a career and technical center shall have the authority to appoint on a staggered basis, for terms of four years, no more than two individuals representing business and private employer perspectives as additional board members with voting authority.

6 A comprehensive and strategic review of the Commonwealth's Perkins Plan and state CTE programs and policies should be initiated by the State Board of Education and the Department of Education as soon as practical, engaging all relevant stakeholders and recognizing that the CTE environment is dynamic and has changed significantly.

7 The State Workforce Innovation and Opportunity Act (WIOA) Plan to be submitted to the U.S. Department of Labor in March 2016, and the periodic revisions that are permitted thereafter, should not substitute for the need for comprehensive review and revision of the state's Perkins Plan, but should nonetheless reflect how career and technical education for high school students will be supported and strengthened as an integral part of the state's workforce development strategies.

8 State and local organizations representing employers should routinely encourage their members to serve on local boards of school directors, the governing boards of regional career and technical centers, and occupational advisory committees for secondary CTE programs.

9 The Governor and General Assembly must assure each annual state budget provides the Department of Education and other relevant state agencies the financial resources and authorized staff complement to effectively implement the recommendations of this report.

REGIONAL AND LOCAL COORDINATION

Within any geographic region of the state, there are usually many and varied educational and workforce development entities that contribute to preparing students for success in the workplace and careers, and to fulfilling the workforce needs of business and industry in the region. These objectives for students and workforce development can best be addressed where there is planning and implementation coordination and cooperation among relevant regional and local organizations.

10 The Governor and General Assembly should consider applying appropriate conditions and expectations to appropriations for funding school districts, intermediate units, career and technical centers, postsecondary institutions, and workforce development boards. These conditions and expectations should require funding recipients to demonstrate that they participate in regional and local partnerships for planning and delivering CTE programs for high school students and others.

11 Every local Workforce Development Board should include at least one administrator of a career and technical center, an intermediate unit, and a school district, and, where such institutions are present in the region, at least one administrator of a community college, state system university, and private licensed career college or school.

12 To develop regional leadership and operational partnerships among school districts, career and technical centers, postsecondary institutions, business and industry, labor, and other workforce and economic development entities, the Pennsylvania Department of Labor & Industry or the Department of Community & Economic Development should offer competitive grants to regional business-education partnerships to develop and implement regional strategies to deliver CTE programs to high school students and others.

BUILDING STUDENT AND PARENT AWARENESS ABOUT CAREER AND TECHNICAL EDUCATION

Career and technical education suffers to a significant extent an “image” problem among many students and their parents, and even many educators. Too often, they consider career and technical education as being of insufficient quality or relevance for the vast majority of students. Unfamiliarity and misinformation need to be combated with broadly disseminated information about the value of career and technical education and opportunities for students.

13 Through a public-private partnership, the Pennsylvania departments of Education, Community and Economic Development, and Labor & Industry and statewide business organizations should develop and implement a statewide public awareness campaign that promotes the importance of career and technical education and the multiple career pathways available to students, including CTE.

14 School district superintendents and board members should assure that all middle school and high school students, and their parents, are regularly informed about the multiple career pathways available to students, depending on the individual student’s interests and capabilities.

15 School district superintendents and board members, working with administrators and the governing boards of regional career and technical centers, should adopt policies and practices that assure every middle school student will have at least one orientation presentation and visit to a regional career and technical center to observe and to explore the programs and opportunities available to high school students.

16 Statewide professional associations representing school board directors, school administrators, principals, teachers, and school counselors should incorporate into the professional development activities for their respective members multiple opportunities to develop greater awareness of career and technical education programs and related workforce opportunities for students.

17 School boards and the boards of career and technical centers should ensure that there are sufficient school counselors in middle schools, high schools, and career and technical centers to provide appropriate career pathway information to all students and their parents.

18 The Pennsylvania Department of Education should develop and maintain a one-stop on-line resource center about career and technical education for students, parents, educators, school leaders, and others.

19 The Governor and the Secretary of Education should ensure that there is at least one full-time position in the Department of Education dedicated to working with school counselors.

RELEVANCY AND RIGOR OF CTE PROGRAMS

The relevancy and rigor of career and technical programs in regional centers and high schools should be assured by timely information from state agencies to school leaders, regional coordination among relevant agencies, continuous review by district and center boards, and the sharing of information about effective programs and practices.

20 The Pennsylvania Department of Labor & Industry in partnership with the state's local workforce development boards should periodically review the quality, accessibility and utility of labor market data provided to state agencies, school districts, career and technical centers, postsecondary education institutions, workforce development boards, and other workforce development organizations that use such

data to advise students and for CTE program development and improvement.

21 The Pennsylvania Department of Education should routinely identify and disseminate information about effective CTE programs and best practices, serving as a reliable resource for CTE policymakers, administrators, and faculty.

22 The Pennsylvania Department of Education and the board of directors of each school district and each CTC should conduct CTE program review, evaluation, and revision processes to ensure CTE programs are relevant and reflect the labor market demands of the district and CTC regions.

23 All approved secondary CTE programs should provide the opportunity for their students to earn recognized industry related certifications or credentials that lead to increased employability.

Also see Recommendations 10, 11, and 12 concerning Regional Coordination.

ASSURING CTE OPPORTUNITIES FOR ALL STUDENTS

Assuring the opportunity for career readiness for every student is a core obligation of education policymakers, and CTE must be a vital part of the opportunity menu available to all students in all schools districts. Decision-making by CTE policy leaders and administrators at the state, school district, and CTC level must prioritize the interests of students.

24 The superintendent and board of every school district should ensure that their district fulfills the obligation to integrate Career Education and Work standards throughout the curriculum for all students.

25 Every school district should clearly articulate in its comprehensive planning a commitment to multiple career pathways available to its students, and how the district will ensure that every student

has the opportunity to pursue a career pathway appropriate to the student's interests and capabilities. The school board should hold the superintendent and itself publicly accountable for the implementation of this commitment.

26 Every school district should clearly articulate in its comprehensive planning the professional development that will be provided to assure that all educators, administrators, and board members are informed about career and technical education needs and opportunities that are or should be available to its students. The school board should hold the superintendent and itself publicly accountable for the implementation of these professional development plans.

27 The General Assembly should enact legislation that will require every school district and CTC to enter into any necessary agreements that will enable any student the option to attend any secondary-level career and technical program that is not available to them under existing agreements.

28 The General Assembly should enact legislation to encourage every community college, PASSHE university, and private licensed career college and school, to enter into dual enrollment agreements with school districts and career and technical centers, and to report to the Secretary of Education annually all such dual enrollment agreements.

29 The General Assembly should enact legislation to encourage every community college and every PASSHE university, and private licensed career college and school, to enter into articulation agreements with school districts and career and technical centers that will establish predictable and industry relevant pathways for students to move from high school to postsecondary education to career, and to report to the Secretary of Education annually all such pathways agreements.

30 School districts, career and technical centers, and postsecondary education institutions should strategically and routinely work together wherever practical to maximize career and technical education awareness and opportunities for

students, including collaboration relative to programs, facilities, and faculty.

31 The State Board of Education and Department of Education should revise requirements for administrator preparation programs to assure that these programs promote CTE awareness for every educator seeking superintendent certification.

32 The Department of Education should include in its online menu of professional development for teachers, school counselors, and administrators courses that promote awareness and capacity building to support CTE opportunities for all students.

33 State and local organizations representing employers should routinely encourage their members to create opportunities for high school students to have real work experiences through internships, apprenticeships, work co-ops, and summer employment.

ACCOUNTABILITY FOR EFFECTIVENESS

Education leaders and policy leaders can benefit from improved information about the quality and effectiveness of career and technical education programs, especially pertaining to outcomes for students. Such information should help to inform decisions about the establishment, content, and curtailment of programs and schools; the use of financial resources; and advice to students.

34 The Pennsylvania Department of Education's School Performance Profile (SPP) report card should be revised to additionally report on career and technical education information such as: a) number of students successfully completing NOCTI exams and the number of NOCTI exams successfully completed; b) the percentage of students for whom an individual career and work plan has been developed by the 8th grade; and c) how many students complete a CTE program with an industry-recognized credential.

35 The General Assembly should enact legislation that requires each school district to periodically report publicly about how the statewide Career Education and Work standards for students are implemented in their district.

36 The state departments of Education and Labor & Industry, using student data and wage record data (while respecting the anonymity of individual students), should establish a data system and protocol to report on the effectiveness of career and technical education programs and to provide guidance for subsequent policy-making by school and public policy leaders.

STATE FUNDING

The unevenness of CTE opportunities for students, and the uneven capacity of districts and CTC's to support high quality CTE programs, is often related to funding issues. There are several state budget-related actions that the Governor and General Assembly should support to enhance career and technical education opportunities for all students and strengthen workforce development efforts for the Commonwealth. Most important, of course, is the state's general support for basic education since it is this annual appropriation that strongly influences each district's capacity to support educational opportunities and services for all students, including options for career and technical education. But several other areas of directed funding also can significantly affect CTE choices and quality.

37 The Governor and General Assembly should support and annually fund a statewide K-12 education finance system that is based on the principles of equity, adequacy, predictability, and accountability, and that assures sufficient resources to prepare every student to be ready for success in postsecondary education, career, and citizenship.

38 The Select Committee of the House of Representatives, in its report on technical education and career readiness due in 2016, should acknowledge and make recommendations that address the responsibility of the General Assembly to provide more sufficient financial resources to support career and technical education at the secondary level in order to address serious underfunding issues that serve as substantial barriers to the availability of high-quality, contemporary career and technical education opportunities that meet the needs of all students as well as the state's employers.

39 The Governor and General Assembly should support an amendment to the recently adopted Basic Education Funding Formula to reflect an added weight factor for career and technical education enrollment as a basic component of the cost of education for all school districts.

40 The Governor and General Assembly should provide an annual increase in the Career and Technical Education line item in the state budget at least equal to the annual published "index" increase allowed for school district revenues.

41 The Governor and General Assembly should provide for an annual appropriation of at least \$10 million to support equipment purchases for career and technical education programs.

42 The Governor and General Assembly should enact and annually fund a five-year School Counseling Improvement Program designed to assist school districts to enhance career counseling, with an emphasis on building more awareness among students and their parents concerning career and technical education opportunities.

43 The Governor and General Assembly should amend the Educational Improvement Tax Credit (EITC) program to provide for a separate category of tax credits for eligible taxpayers to support career and technical education equipment purchases, and to fund this category with an additional EITC allocation so as to not reduce current allocations for any other EITC categories.

EPLC Career and Technical Education Project Study Group Members

Carol Adukaitis, Pennsylvania State System of Higher Education

Bonita Allen, Pennsylvania PTA

Elizabeth Bolden, Pennsylvania Commission for Community Colleges

Judith Bookhamer, Pennsylvania School Counselors Association

Diane Bosak, Pennsylvania Department of Labor and Industry

Jim Buckheit, Pennsylvania Association of School Administrators

Lee Burket, Pennsylvania Department of Education

Joseph Clapper, Pennsylvania Principals Association

Jackie Cullen, Pennsylvania Association of Career and Technical Administrators

Jake Dailey, Pennsylvania Business Council

James Denova, The Benedum Foundation

Richard Dumaresq, Pennsylvania Association of Private School Administrators

Liz Ferry, Greater Philadelphia Chamber of Commerce

Laura Fisher, Allegheny Conference on Community Development

Dan Fogarty, Berks County Workforce Investment Board

Ty Gourley, The Hillman Foundation

Alex Halper, Pennsylvania Chamber of Business and Industry

Clyde Hornberger, Consultant

Eric Kratz, Pennsylvania Department of Labor and Industry

Nathan Mains, Pennsylvania School Boards Association

Kenneth Mash, Association of Pennsylvania State College and University Faculties

Kevin McKenzie, Allegheny Conference on Community Development

Jessica Meyers, ASSET STEM Education

Karen Molchanow, State Board of Education

David Namey, Pennsylvania State Education Association

David Patti, Pennsylvania Business Council

Cynthia Pulkowski, ASSET STEM Education

John Pulver, Pennsylvania Association of Career and Technical Administrators

Laura Saccente, PSAYDN, Center for Schools and Communities

Aaron Shenck, Pennsylvania Association of Private School Administrators

Abby Smith, Team PA Foundation

Stanley Thompson, The Heinz Endowments

Kirk Williard, Chester County Intermediate Unit

Stephen Zori, The College Board

APPENDIX B

Study Group Site Visits

The EPLC CTE Study Group visited several sites to learn more about CTE leadership models and CTE opportunities available to students.

EPLC and Study Group members want to express appreciation to the board members, administrators, instructional staff, and students at each site.

Appreciation is also extended to all of the community representatives who participated in very informative forums that were conducted in conjunction with each site visit.

Chester County Technical College High School – Brandywine Campus (October 26, 2015)

Advanced Technology Center at Westmoreland County Community College (November 4, 2015)

Berks Career and Technology Center (November 23, 2015)

Lehigh Career and Technical Institute (December 15, 2015)

Chartiers Valley High School (January 7, 2016)

