Achieve, Inc.
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POLICY BRIEF

The Perkins Act of 2006: Connecting Career and Technical Education with the College and Career Readiness Agenda

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EXECUTIVE SUMMARY

At the forefront of the movement to improve America's high schools and ensure all students are prepared for college and careers is the American Diploma Project (ADP). There currently are 32 states in the American Diploma Project Network, each dedicated to developing and implementing a college and career readiness agenda. At the same time, all fifty states are implementing requirements of the Carl D. Perkins Career and Technical Education Improvement Act of 2006. Although, on the surface, their approaches look very different, the Perkins Act and the American Diploma Project focus on a common objective: ensuring that all American youths graduate from high school with the skills and knowledge they need to be ready for college and careers.

This paper addresses the major components of the new Perkins Act, reviews how the Perkins Act currently is being implemented by states and suggests a number of specific strategies state ADP leadership teams could employ to implement the ADP agenda and the Perkins Act. The overarching purpose of the Perkins Act is "to develop more fully the academic and career and technical skills of secondary education students and postsecondary education students who elect to enroll in career and technical education programs." The 2006 reauthorization included four significant changes to the Perkins Act that have relevance to the American Diploma Project agenda. These changes focus on the improvement of CTE Programs of Study; the expansion of state and local accountability measures, including new measures of technical skill attainment; Tech Prep flexibility and accountability; and the link between CTE and personal and economic competitiveness.

By April 1, 2008, every state will be required to submit a "Multi-Year Plan" to the U.S. Department of Education to cover activities for the remaining five years of the authorization cycle. For the states in the ADP Network, this provides a timely opportunity to closely align the ADP agenda with the state's Perkins plan.

There are four major areas that offer the potential for alignment between the ADP and Perkins policy agendas, each representing their own opportunities and challenges for ADP leadership teams. Specifically, the two policy agendas may be coordinated as policymakers consider the alignment and integration of academic content standards to ensure multiple pathways that are equally rigorous; the use of CTE Programs of Study to encourage student preparation for college and careers; the measurement of technical skill attainment to determine "work readiness;" and the strengthening of accountability systems to measure and improve local results.

There are important opportunities to link implementation of the Perkins Act with a state's American Diploma Project agenda. In particular, state ADP teams can support the development of Programs of Study and support policies that give all high school students, not just CTE participants, the opportunity to create a personalized plan of study that includes a rigorous academic core paired with courses focusing on an identified career interest. States can also closely coordinate the development of CTE assessments and accountability mechanisms, and pay particular attention to graduation data and transition data that track students from secondary to and through postsecondary education. The following is a list of strategies that state ADP teams and CTE leaders can consider working on together:

- Coordinate Perkins planning with school improvement planning;
- Coordinate the development of CTE Programs of Study to include K-12, postsecondary and business representatives;
- Facilitate the integration of academic and CTE content and applications;
- Build shared longitudinal data systems between K-12 and postsecondary systems; and
- Assure portability of CTE dual enrollment credits.

INTRODUCTION

At the forefront of the movement to improve America's high schools and ensure all students are prepared for college and careers is the American Diploma Project (ADP). There currently are 32 states in the American Diploma Project Network, each dedicated to developing and implementing a college and career readiness agenda. These states are working to develop a public policy structure to ensure all students complete high school possessing the knowledge and skills they need to succeed in college courses or entry-level jobs with opportunities for advancement through skilled employment. According to Achieve, Inc., sponsor of ADP, 18 states have already adopted and are beginning to implement a college readiness curriculum requirement for all students.

At the same time, all fifty states are implementing requirements of the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Public Law 109-270), which was passed by the U.S. Congress and signed into law by President George W. Bush in August 2006. Some of the new provisions of this law took effect in the fall of 2007, and other reforms take effect beginning in the summer and fall of 2008. The provisions of the new Perkins Act reflect the reforms and reconfigurations of programs that have taken place in career and technical education since the 1990 and 1998 revisions of the federal law. In some places, state and local practices have preceded and shaped the new federal law, and in other places, the pace of change has been much slower.

Policymakers and educators around the nation are wrestling with an important challenge – how to raise expectations for high school achievement, while increasing relevance and engagement in learning to keep students in school. Career and technical education (CTE) is receiving renewed attention as a strategy for increasing school engagement and rigor as policymakers grapple with these complex challenges.

Although, on the surface, their approaches look very different, the Perkins Act and the American Diploma Project focus on a common objective: ensuring that all American students graduate from high school with the skills and knowledge they need to be ready for college and careers. If students complete high school with a high level of readiness for college and the workplace, it will help strengthen American economic competitiveness at the regional, state and national levels.

This paper is written to inform leaders, particularly those who are implementing the ADP agenda in their states, about the opportunities to align and coordinate strategies between ADP and the Perkins Act. It addresses the major components of the new Perkins Act, discusses CTE more broadly in the context of the ADP agenda and reviews how the Perkins Act currently is being implemented by states. Finally, the paper reviews a number of specific strategies state ADP leadership teams could employ to implement the ADP agenda and the Perkins Act, which are complementary and mutually supportive.

OVERVIEW OF THE PERKINS ACT

The overarching purpose of the Perkins Act is *"to develop more fully the academic and career and technical skills of secondary education students and postsecondary education students who elect to enroll in career and technical education programs."*

The Perkins Act of 2006 is the result of a multi-year process in which Congress and the Administration squared off over a number of widely varying policy options. In the end, the enacted legislation maintains a federal funding stream designated solely for career and technical education programs, while building upon and strengthening the existing CTE accountability system and emphasizing activities to ease the transition of students from secondary into postsecondary education programs.

Funded at a little over $1.3 billion, the Perkins Act is very small in comparison to other federal education programs such as $12.8 billion for Title I of the Elementary and Secondary Education Act/No Child Left Behind Act and $11.8 billion for the Individuals with Disabilities Education Act.[1] A 2001 estimate found that federal vocational grants amounted to about five percent of local spending on secondary vocational education programs and about two percent of spending at the postsecondary level.[2] Still, Perkins funds are the only federal funds designated for career and technical education services, and as such, the requirements of the law put a minimum set of standards in place that influence how all state and local funds are spent on CTE programs. As one state director of CTE said recently, "the Perkins Act is 10 times the driver of CTE policy in my state than other CTE funds appropriated by the state legislature."

Another unusual feature of the Perkins Act is that it influences CTE services at both the secondary and postsecondary levels directly and has leveraged a growing degree of cooperation between the systems.

Key Changes in the 2006 Legislation

There are four significant changes to the new law that all have relevance to the American Diploma Project agenda. These are CTE Programs of Study, Accountability, Tech Prep, and Competitiveness. All of these changes, as well as additional budgetary and non-discrimination requirements, must be addressed in each state's plan for Perkins implementation that is submitted to the U.S. Department of Education for approval.

Requiring New "Career and Technical Programs of Study"

Under Perkins 2006, states have the responsibility to create and/or recognize a series of new CTE offerings called "CTE Programs of Study." Programs of Study include a subset of the general types of CTE courses that are typically offered at high schools, regional CTE schools and community and technical colleges.

What makes Programs of Study distinctive from generic CTE is that each Program is meant to be a cohesive offering of academic courses paired with CTE courses. Currently, high school students often choose CTE courses without considering the academic courses necessary to pursue the career field at the postsecondary level, and select academic courses without making a connection to any area of career interest. The Programs of Study help ensure students are taking the right mix and sequence of CTE and academic courses.

[1] U.S. Department of Education (2008), "Department Of Education Fiscal Year 2008 Congressional Action", U.S. Department of Education, Washington, DC.
[2] Silverberg, Marsha, et al (2004), National Assessment of Vocational Education, Final Report to Congress, U.S Department of Education, Washington, DC. http://www.ed.gov/rschstat/eval/sectech/nave/navefinal.pdf

In addition to linking academic and career courses within the high school, a Program of Study has specific mechanisms that connect the entire high school program to a related postsecondary program. A Program of Study should have closely aligned content that is not duplicated across systems, and may allow qualified students to earn college credits while still enrolled in high school. A CTE Program of Study also is designed to culminate with a recognized credential, certificate or degree at the community or technical college level – although certificates could also be offered at the secondary level of the Program as an intermediate skill validation. A sample plan of study, selected from 81 sample plans of study created by the States Career Clusters Initiative is included in Appendix B.[3]

The Perkins Act description of CTE Programs of Study allows for programs that lead from high school directly to baccalaureate degree programs at colleges or universities, in addition to programs that lead to certificates and associate degrees at community and technical colleges. While the new definition of CTE does not actually shift Perkins funds to baccalaureate level programs, the broadening of the definition still represents a significant shift in philosophy for CTE and the Perkins Act.

Under the new law, each local recipient of Perkins funds, which includes school districts, community/technical colleges or area CTE schools, must offer the portion of at least one Program of Study that is appropriate to its students. This is a minimal requirement, since many colleges and districts that offered Tech Prep programs already met this requirement. Many states are considering how to require all or most of their high school-based CTE courses to be incorporated into Programs of Study.

For states that choose to require all secondary and postsecondary CTE programs to be aligned through the development of active and ongoing partnerships and shared program expectations, this will mark the beginning of a dramatic transformation of CTE.

Expanding State and Local Accountability for Results

Under the Perkins Act of 2006, local recipients are held accountable for the achievement of individual students in a series of performance indicators, while the previous version of the Perkins Act only held the state accountable for aggregated results. Typically, students are counted in the Perkins accountability system when they have invested a significant amount of time in a CTE program area. Although the Act defines CTE as a "sequence of courses," in local application, it is not always necessary or required that related classes be taken in a fixed sequence.

Measuring Achievement, Completion and Transitions

There are separate indicators set by the state for secondary and postsecondary education providers. High school programs must measure academic achievement and high school graduation; technical (career-related) skill attainment; and transitions to college, employment or the military. Postsecondary indicators include technical skill attainment; program retention and completion; and transitions to further postsecondary education, the military and employment. Both secondary and postsecondary programs are also accountable for "non-traditional" participation and completion, meaning the percentage of young men and women that participate in and complete a CTE program in which their gender is underrepresented significantly. For a full table of the various accountability indicators required under Perkins, see Appendix A.

For high school academic achievement, Perkins requires states to use indicators that are already established by the state through the accountability system under the No Child Left Behind Act, focusing on achievement in math and English Language Arts and high school graduation rates. Otherwise, the Perkins Act gives states the authority to establish their

[3] For the full list of sample Programs of Study developed by the State Career Cluster Initiative, see their website: http://www.careerclusters.org/resources/web/pos.cfm

own performance indicators in consultation with the local recipients of funds.

Performance targets are established for each of the indicators at the state level, and then also by each local recipient, based on the state performance target. If the state or local recipient does not come close to meeting its performance target for any one of the indicators, it must create a plan of action to improve performance on that indicator. Under certain circumstances, if a state or local recipient fails to make necessary improvement against the indicators, the federal government and state government is authorized, but not required, to implement sanctions. The U.S. Secretary of Education or the state is required to provide "technical assistance" targeted to improvement on the missed performance indicator, but no specific actions or supports are mandated.

In reporting on student performance on the indicators, student information is to be disaggregated by the group categories established in the No Child Left Behind Act,4 as well as the categories outlined in Perkins, and disparities and performance gaps are to be identified at both the local level and the state level. However, local recipients and states are not held accountable for student performance according to the subgroup categories. Accountability targets are established for the aggregate performance of all students across all high school pathways at the local or state level.

A New Approach to Assessing Career-Technical

The law now requires new measurements for technical skill attainment, using assessment instruments that are "valid and reliable," and based upon industry-recognized standards, where available. States are not necessarily required to use industry-based credentials and may choose not to. It can be difficult to obtain performance data from such credentials, since the results often are the legal property of the student, not the school or college. If the state does not use industry-based credentials for some or all of its programs, it must develop another assessment mechanism and justify that the assessment process meets the criteria for validity and reliability. In order to develop CTE assessments, many states are renewing and upgrading their CTE content standards, or developing them for the first time. Ultimately, as the new assessment mechanisms are developed and administered, the goal is for there to be a much higher level of comparability and accountability for program improvement.

Providing More Accountability and/or Options for Tech Prep

Tech Prep is a smaller program within the Perkins Act that was created in 1990 with the purpose of demonstrating a more rigorous form of CTE that held students to high academic expectations and helped them make smooth transitions into postsecondary studies and apprenticeships. The program required school districts and colleges to form consortia to which the Tech Prep state funds were distributed. Over the years, Tech Prep was implemented with a wide variation in quality.[5] Some Tech Prep programs developed explicit and active partnerships that helped students make successful transitions; in many other sites, results were difficult to measure. While many articulation agreements had been created between schools and colleges that linked programs, few students actually knew about or took advantage of the articulation agreements' opportunities to earn advanced college credit.

Given that the new CTE Programs of Study requirements in Perkins 2006 are very similar to previous requirements for Tech Prep, the Act gives states the option to maintain Tech Prep as is – with increased accountability indicators – or to merge Tech Prep into the general Perkins state grant program.

If a state maintains Tech Prep, it must identify Secondary Tech Prep students – students who have enrolled in at least

[4] See Section 1111(h)(1)(C)(i) of the Elementary and Secondary Education Act of 1965.
[5] National Assessment of Vocational Education: Final Report to Congress. U.S. Department of Education, Washington, DC, 2004. http://www.ed.gov/rschstat/eval/sectech/nave/navefinal.pdf

"two courses in the secondary education component of a tech prep program" – and Postsecondary Tech Prep students – students who have completed the secondary portion of a Tech Prep program and subsequently enrolled in the postsecondary portion of that program under the Tech Prep accountability model (See Appendix A).

New performance indicators for Tech Prep will measure how many students earn postsecondary credits while in high school, how many go on to enroll in postsecondary education, how many continue in the course of study at the postsecondary level in which they participated at the high school level, how many complete the postsecondary program in a reasonable length of time and what employment sector the CTE program completers enter.

About half the states are merging their Tech Prep funds into the Perkins state grant program. Some that are merging the funding are also exploring ways to continue Tech Prep activities by requiring and supporting local coordination to build partnerships between school districts and colleges, and supporting the implementation of CTE Programs of Study.

Economic and Personal Competitiveness

A new purpose of the Perkins reauthorization is to *"provid[e] individuals with opportunities throughout their lifetimes to develop, in conjunction with other education and training programs, the knowledge and skills needed to keep the United States competitive."* Additionally, throughout the Act, states are called upon to encourage preparation for "high-skilled, high-wage and high-demand" careers, while the specific working definitions of these terms are left to the states. In drafting these provisions, Congress drew a careful balance between helping individuals grow and advance in their areas of interest and aptitudes and making sure that available programs are focused on those areas that will help keep the United States competitive. There is an unavoidable tension between individual interests and relevance to the job market when an educational institution is deciding which programs to offer. In some CTE and job training programs, the pendulum may have swung too far to the side of individual interests. Restoring a good balance may mean that more attention should be paid to ensuring the market relevance of programs that are offered.

KEY OPPORTUNITIES AND CHALLENGES

By April 1, 2008, every state will be required to submit a "Multi-Year Plan" to the U.S. Department of Education to cover activities for the remaining five years of the authorization cycle (Federal Fiscal Years 2008 through 2012.) For schools and colleges, the Multi-Year Plans will govern activities for school years 2008-09 through 2012-13. For a state, the Multi-Year Plan explains what the state currently is doing to meet the requirements of the Perkins Act and how it will carry out new requirements of the Act.

For the 32 states in the ADP Network, this provides a timely opportunity to closely align the ADP agenda with the state's Perkins plan. Since the state agency with the lead responsibility for the Perkins Act is not always the state's K-12 agency, ADP coordinators may need to exert substantial effort to secure proper alignment between the ADP agenda and the Perkins Act.

This section reviews the following challenges and opportunities for that alignment:

- The Alignment and Integration of Academic Content Standards;
- Using Programs of Study to Encourage Student Preparation for College and Career Readiness;
- Measuring Technical Skill Attainment to Determine "Work Readiness;" and
- Aligning Accountability for Results.

The American Diploma Project (ADP) is an initiative, managed by Achieve, Inc., to ensure that all students graduate from high school prepared to face the challenges of college and the workplace. The ADP Network includes 32 states dedicated to the same goal. ADP is designed to ensure that all states:

1. Align high school standards with the knowledge and skills required for success after high school.
2. Require all high school graduates to take challenging courses that prepare them for life after high school.
3. Streamline the assessment system so that the tests students take in high school also can serve as readiness tests for college and careers.
4. Hold high schools accountable for graduating students who are ready for college or careers, and hold postsecondary institutions accountable for students' success once enrolled.

The Alignment and Integration of Academic Content Standards

Several provisions of the Perkins Act articulate how CTE programs should relate to established academic standards. One provision directs the state to support programs that *"include coherent and rigorous content aligned with challenging academic standards, that have been adopted by the state"* under the No Child Left Behind Act. Another provision requires the state to *"ensure that students who participate in such career and technical education programs are taught to the same challenging academic proficiencies as are taught to all other students…"* A third related provision in the Perkins Act promotes programs that *"integrate rigorous and challenging academic and career and technical instruction."*

Implications

Each of these sets of provisions addresses the concept of rigorous and challenging academic standards from a slightly different approach. The first approach is to ensure that CTE content is *aligned to* rigorous and challenging academic content – that CTE course content runs parallel to and complements challenging academic content standards. The second approach is to ensure that CTE students themselves are taught *to the same academic standards and expectations* as other students. Furthermore, the third expectation is that rigorous and challenging academic content is *integrated into and with the CTE content*.

These provisions originally were designed to counter the practice that prevailed at one time when CTE students were held to lower academic expectations than non-CTE students. They often were placed into a lower level "non college-bound" track. While some of the provisions are holdovers from previous Perkins authorizations, including ensuring CTE students are taught to the same academic standards as their non-CTE peers, the new Perkins improves upon the legislative intent to eliminate the two-track approach and raise expectations for students who take CTE courses.

As far as alignment to rigorous and challenging academics and teaching to the same standard, unfortunately these provisions carry little weight on their own. In states where there is a wide variation of expectations for students, CTE programs can still be aligned to less rigorous academic expectations and meet the requirements of the Perkins Act, particularly since there is no clear definition of "rigorous and challenging."

Integration of academic and career and technical education is not defined in the Perkins Act, but it typically is implemented through two notable approaches. One approach is to identify academic content that is inherent within a CTE program, and teach those skills more explicitly through applied lessons. The second approach is to fully integrate the content of an academic course and CTE content in a way that both academic credit and CTE elective credits can be awarded. For example, in some cases, an agriculture science program can be counted for a science credit on a student's high school transcript, and a business accounting program can be recognized as a mathematics credit.

A first step toward academic integration is creating a crosswalk of academic standards that reside in a CTE curriculum. A vital second step is to prioritize which academic standards should be taught and create clear processes for how to integrate academic content in CTE courses. This requires significant professional development and the creation of model lesson plans for academic integration.

Noteworthy State Practices

- Schools in ***Minnesota***, ***Colorado*** and ***Kentucky*** have participated in the "Math-in-CTE Project," coordinated by the National Research Center for Career and Technical Education. This project involves professional development in which groups of teachers from several CTE disciplines work with math teachers to identify and extract math concepts embedded in their courses. CTE and math teachers collaborate to develop CTE instructional practices that allow CTE instructors to teach these concepts using the same terminology and formats that students experience in their traditional math courses. On multiple measures, these activities produced measurable improvement in the math achievement of CTE students.[6]

- The ***Florida*** Department of Education provided support to the Volusia/Flagler Career Connection Consortium to develop a comprehensive set of standards, lesson plans and professional development relating to

[6] For more information, see http://www.nccte.org/

academic integration.[7] In a wide range of CTE courses, there are lesson plans that crosswalk and prioritize the teaching of relevant and assessed academic standards, as well as employability skills that are valued by employers. A number of other districts have been trained in the process and are now contributing additional resources and lesson plans to the project website.[8]

- ***Kentucky*** has created a series of fully integrated CTE/academic courses such as Construction/Geometry, Graphic Arts/Geometry, and Agriculture/Life Science. These courses are taught in a double block or over a two-year period and fulfill all the content requirements of an academic course and a CTE course. The courses are listed separately on the student's high school transcript.[9]

- In ***Colorado***, the Jefferson County School District has integrated academic standards into a number of its CTE courses offered at the Warren Technical High School and awards academic credit counting toward graduation for these courses. Loveland High School offers a fully contextualized Construction/Geometry course, primarily for 9th and 10th graders. Students who took this course last year (the first year of the program) scored at the highest level of proficiency on the Colorado Student Assessment Program geometry test of any other group of students in the Loveland school district.[10]

- In ***California***, the state Department of Education recently finalized its "CTE Framework," an extensive set of documentation that includes foundation skills and specific curriculum standards for CTE programs within each of the identified 15 Industry Sectors, a term which is parallel to the "clusters" terminology used in other states. An advisory group made up of over 50 individuals from business and industry, higher education (including community colleges), teachers and faculty developed and reviewed the CTE framework during a two-year process.

  The framework includes a crosswalk of state academic standards that can be infused into various CTE courses. In some program areas, such as agriculture, model CTE program criteria have been developed to describe how academic and CTE content can be delivered so that the course can be identified as part of the "A-G Curriculum."[11] Local school districts may build local programs based on the model curriculum standards with the confidence that the University of California and California State University systems will recognize the course as meeting the A-G requirement.

- In ***Massachusetts***, the Blackstone Valley Regional Vocational Technical High School has demonstrated consistently high levels of student achievement on the state Massachusetts Comprehensive Assessment System (MCAS) in English and Math. Blackstone's expected graduating class of 2009 reached its highest level ever, with 96 percent of its students scoring proficient or advanced on the first administration of the mandatory state graduation test.[12] Similarly, ***New York*** and ***Arizona*** have gathered data that indicate CTE students are scoring at higher level on the states' Regents and Arizona Instrument to Measure Standards (AIMS) exams, respectively, than the general student population taking these assessments.

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[7] Florida State Plan for Carl D. Perkins Career and Technical Education Act of 2006, 10/19/07 Draft. http://www.fldoe.org/workforce/perkins/perkins_home.asp

[8] For more information see http://www.career-connection.org/CTEfcatConnection.htm

[9] For more information see http://education.ky.gov/KDE/Instructional+Resources/Career+and+Technical+Education/Interdisciplinary+Courses/

[10] For more information, see research data at http://www.geometryinconstruction.org/

[11] The University of California has established the "A-G Curriculum" as the core high school courses that must appear on a student's high school transcript for the student to be eligible for university admission. This "A-G Curriculum," while not required for all California high school students, in large part drives the course-taking decisions of students who aspire to university participation.

[12] For more information see http://www.valleytech.k12.ma.us/

Using Programs of Study to Encourage Student Preparation for College and Career Readiness

The Perkins Act (Section 134) does include a provision in which school districts must describe how they will *"encourage career and technical education students at the secondary level to enroll in rigorous and challenging courses in core academic subjects (as defined in section 9101 of the Elementary and Secondary Education Act of 1965)."*

Perkins also requires that the school district or college *"describe how career guidance and academic counseling will be provided to career and technical education students, including linkages to future education and training opportunities"* (Sec 134(b)(11)).

Implications

The provision to encourage enrollment in rigorous and challenging courses is compatible with the ADP policy pillar of "requiring all high school graduates to take challenging courses that prepare them for life after high school." The difficulty is that there are really no "teeth" to the Perkins provision. First, schools are required only to "encourage" such course-taking. There is no related reporting requirement nor is there a clear or consistent definition of "rigorous and challenging."

Yet, in paragraph 11 of the local plan requirement, the district must ensure that it will provide integrated career and academic counseling to CTE students to help students understand future education and career opportunities.

States have the responsibility to develop frameworks for Programs of Study. It is logical for states to include a recommended core curriculum in the Programs of Study documentation, so that students will see the preferred academic courses that accompany preparation for their area of career interest. It would also be feasible to require that, in each introductory CTE course or in earlier grades, CTE students are introduced to all the Programs of Study and are made to understand the value of taking a "core" or "preferred" curriculum. Just as it is important for states to build CTE into their core curriculum requirements, states also should integrate the core academic courses into the CTE Programs of Study.

Additionally, the issue of academic course-taking is one of the most common and contentious sources of friction between leaders who are pushing for increased graduation requirements and some CTE advocates. Many CTE teachers and leaders are concerned about the "squeeze-out" factor. They perceive that increased academic course requirements for graduation will make it challenging for students to fit CTE courses into their schedules, leading to an overall decrease in CTE participation. For students who are behind academically, they may be required to take a double-block of academic courses, further crowding electives out of their schedules.

The other concern is that with increased math and science requirements in the 11th and 12th grades, scheduling becomes more constrained, and students may not be able to take CTE courses because of conflicts. These scheduling conflicts are exacerbated when students take their CTE courses at a regional CTE center, having to travel some distance to and from the center from their home school, taking away instructional time. In schools that utilize a block schedule, there are additional credits and courses available to students that fill their requirements, and generally there are enough available elective credits to accommodate a full sequence of CTE courses. Still, in many small or rural schools that have limited availability of higher level academic courses, perhaps only offered during one period per day, it is feasible that real scheduling conflicts may arise between academic courses and CTE courses. There are a variety of strategies states can adopt to address this issue, including the development of interdisciplinary courses, distance learning opportunities or incorporating remediation into applied and/or elective courses.

Noteworthy State Practices

- The ***Maryland*** Department of Education has been gathering and reporting data on the percentage of CTE students with three or more CTE credits who also obtain the necessary credits for admission to the University of Maryland system. Over the five years the state has been gathering and reporting this data, the percentage of "dual completers" has risen from about 14 percent to over 50 percent.[13]

- In recent years, ***Texas***, ***Arkansas*** and ***Indiana*** have implemented "default" college- and career-ready graduation course requirements, in which students are pre-enrolled in a challenging set of academic courses unless they choose to opt down into a set of lower-level academic classes, with parental consent. All three states also require a minimal level of CTE course participation or alternative courses as part of the core required curriculum.[14]

- ***Texas*** has implemented the **AchieveTexas** program that connects career awareness with the default core curriculum and college planning. Resources include student-friendly guides to each of the 16 career clusters and templates for creating a personalized plan.[15]

- ***New York*** offers a CTE endorsement to its Regents diploma for a student who completes an "approved" CTE program that meets certain quality criteria set by the state and takes and passes an approved technical assessment for the program.[16]

- ***Florida*** has implemented a Major Area of Interest (MAI) system in which every 8th grader will create a personal graduation plan based around core academic courses and an MAI. Students can choose an MAI from over 400 plans that were developed by districts throughout the state and meet the criteria set by the Florida Department of Education. Florida also offers an extensive web resource called FACTS.org that allows students to determine their career objectives, evaluate their high school progress, see their high school course summary and grades, learn about higher education opportunities in Florida, apply to college online, access their college transcripts and grades and track their individual progress towards college graduation.[17]

- ***Indiana*** has created a "Technical Honors" endorsement for the high school diploma for students entering high school in 2007. To earn the *Core 40 with Technical Honors* diploma, students must: complete all requirements for Core 40, a college- and-career set of graduation requirements; complete a career-technical program (8 or more semesters of related credit); earn a grade of "C" or better in courses that will count toward the diploma; and have an overall grade point average of a "B" or better.[18]

- ***Delaware*** has cross-disciplinary teams of teachers working together to ensure the Recommended Curriculum for academic and CTE courses are well-aligned and plans to develop at least one interdisciplinary course in the next year.

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[13] The 2007 Maryland Report Card indicates that 15,040 students who earned a high school diploma met the state's CTE program requirements. Of this number, 7,666 met both University and CTE requirements. For more information see http://mdreportcard.org/Demographics.aspx?K=99AAAA&WDATA=state

[14] For a full description of states with college- and career-ready graduation requirements, see http://www.achieve.org/node/980

[15] For more information, see http://www.achievetexas.org/

[16] For more information, see http://collegenow.cuny.edu/nextstop/finish_hs/creditreq/

[17] For more information, see http://www.fldoe.org/news/2007/2007_01_12.asp

[18] For more information on Indiana's Core 40 graduation requirement options, see http://www.doe.state.in.us/core40/diploma_requirements.html

- ***Delaware*** also has shifted its approach in how it delivers more equipment-intensive CTE programs. Delaware formerly had shared-time regional technical centers. Students would split their time between their comprehensive high school and the regional technical center. This approach led to a number of scheduling, administrative and transportation challenges that contributed to falling enrollment at the technical centers and CTE programs, as well as low achievement and low expectations for the students that did participate in the technical center programs. In the early 1990s, the state transformed the technical centers into full day regional technical high schools, where students could take academic and career tech courses under one roof. Expectations for academic achievement rose significantly for students in the technical high schools, academic and CTE content was integrated within CTE classrooms, and collaboration among core academic and CTE teachers increased, leading to significant increases in student participation in both CTE and academic courses.[19]

Measuring Technical Skill Attainment to Determine "Work Readiness"

The Perkins Act requires states to create new means for assessing student attainment of technical (occupational) skills. Section 113 (b)(2)(A) specifies that the core indicators of performance should be *"valid and reliable,"* and should measure *"student attainment of career and technical skill proficiencies, including student achievement on technical assessments, that are aligned with industry-recognized standards, if available and appropriate."*

Implications

This new provision complements the ADP agenda because it can bring CTE courses at the high school and postsecondary levels into alignment with the skills that are needed for success in the workplace. States are grappling with how to re-configure their assessment of technical skills in a way that is realistic, affordable and contributes to improved teacher practices. Teachers need to have access to assessment data that will allow them to reflect upon the data and respond to the data, but this is not often the case, particularly for states relying on industry-based certifications to assess their students' technical skills. A major challenge is how educators can gather data from these industry-based certifications that are provided by a third-party vendor off site. Legally, the scores from some of these assessments belong to the student and are not shared directly with the school system or college.

Another concern is that some certifications are too expensive for many students to afford to take and require the student to be at least 18 years old. Also, and perhaps most importantly, not all industry-based certifications have the same level of rigor, are well-aligned to a student's coursework and are utilized by employers. All of these issues, as well as issues that arise around state-developed career tech education assessments, need to be addressed so that valid and reliable data on student performance can be input into the Perkins accountability system and used to ensure all students leave high school with the academic and technical skills they need for success.

[19] American Youth Policy Forum. FORUM BRIEF: Exemplary Career and Technical Education Districts and Programs, September 21, 2007. 2007. http://www.aypf.org/forumbriefs/2007/fb092107.htm

Noteworthy State Practices

- ***Virginia's*** Path to Industry Certification: High School Industry Credentialing initiative encourages students to work toward a selected industry credential or state license while pursuing a high school diploma. Students who earn a credential by passing a certification or licensure examination may earn up to two student-selected verified credits to meet graduation requirements. A credential is defined as:
    - A complete industry certification program, e.g. Certified Nursing Assistant (CNA);
    - A pathway examination that leads to a completed industry certification, e.g. automotive technician examinations from the National Institute for Automotive Service Excellence (ASE);
    - A state-issued professional license, e.g. Cosmetology; or
    - An occupational competency examination, e.g. skill assessments from the National Occupational Competency Institute (NOCTI).[20]
- ***Georgia*** is working to develop end-of-program technical skills assessments to measure student learning. The Georgia Department of Education and Department of Technical and Adult Education, which oversees the state's technical colleges, are considering a system whereby a certain level of performance on the high school end-of-program assessment would be recognized by the technical college system as meeting program entrance requirements or counting for college-level credit.
- ***Florida*** has implemented a new program that does not fall directly under the rubric of the Perkins Act but is meant to measure work readiness. "Ready to Work" is a new workforce education and economic development program and its centerpiece is the Florida Ready to Work credential, a career readiness certificate that is signed by Governor Charlie Crist and certifies that a Florida student/jobseeker has fundamental job and employability skills. The assessment instrument is three components of the ACT WorkKeys© assessment: Applied Mathematics, Reading for Information and Locating Information. The assessments are paid by the state and free to the user. High school students are eligible to take the assessment at approved assessment sites, and high schools will be eligible to become assessment sites. A number of other states have adopted similar readiness certificates based on the WorkKeys assessment and have joined the Career Readiness Certificate Consortium.[21]

Strengthening Accountability for Local Results

Several performance indicators in the Perkins Act intersect with other school improvement indicators. For instance, the Perkins Act requires the state to report student graduation rates for CTE students, as measured by the state under the No Child Left Behind Act. Perkins also requires schools to report on the percentage of *"student[s] place[d] in postsecondary education or advanced training, in military service or in employment."*

For states that choose to keep Tech Prep as a separate funding stream and program, they will need to develop a number of data reporting functions that are new to the Perkins Act. Important data elements include:

[20] For more information, see http://www.doe.virginia.gov/VDOE/Instruction/CTE/Certification/
[21] For more information, see http://www.crcconsortium.org/

- Remediation at the postsecondary level for students who participated in a high school Tech Prep program;
- High school Tech Prep students who earn dual/concurrent enrollment credits while in high school;
- The percent of high school Tech Prep students who enroll in postsecondary education; and
- The percent of high school Tech Prep students who enroll in the same field or major in postsecondary education that they were enrolled in at the secondary level.

Implications

In 2005, all 50 governors pledged to implement the NGA Graduation Rate Compact formula, a new graduation rate methodology that would provide more accurate and meaningful data on the percentage of students who graduate from high school over a period of time. Progress in implementing this new definition has been slow. However, even using the cohort style graduation rate called for by the governors, measuring graduation rates among CTE students will be difficult. In most state accountability systems, states only will identify students for Perkins accountability if they reach "concentrator" status, meaning they have taken three or more CTE courses. In most places, students do not reach concentrator status until their junior or senior year of high school. Thus, the graduation rate of CTE concentrators is likely to be higher than the cohort graduation rate that tracks all ninth graders through graduation.

The Perkins requirement for high school "transitions" or placement into postsecondary education, military service and employment also has shortcomings. One major challenge is collecting accurate data on what students actually do once they leave high school. In many states, application of the Federal Education and Privacy Rights Act (FERPA) creates a barrier to the sharing of data, and many state data systems do not link a student's social security number (needed for employment and postsecondary education) with a student's education record. Because of these challenges, school districts generally are required to use survey methodology, which requires tracking down the student about six months after they leave high school and convincing a sufficient number of them to respond to the survey.

In addition to the quality of the survey data, the construction of the Perkins data element itself is also a challenge. School districts aggregate student information on college and training participation, military enlistment and employment into one data element. For a number of years, the average performance on this indicator has been in the 90-95 percent range, since almost all students do one of these three activities. The only other option is to be unemployed. If the data were disaggregated at the state level, states could have a more nuanced picture of what CTE students are doing after high school.

For states that are keeping their Tech Prep systems separate, there is an important opportunity to develop shared data elements and reporting processes to create stronger linkages between secondary and postsecondary education systems. At this point, states are in the early stages of developing these accountability elements and it is too early to describe how states will carry out these new requirements.

As of early 2008, the following 22 states and one territory have indicated intentions to merge (in full or partially) their Tech Prep systems with the Basic State Grant systems: Alabama, Arkansas, Colorado, Connecticut, Georgia, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maine, Maryland, Minnesota, Nebraska, Nevada, North Dakota, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Wyoming and Puerto Rico.

Noteworthy State Practices

- ***Nevada*** has decided to use a definition of CTE "concentrators" to report its graduation rate for CTE students that is slightly different from what was originally recommended by the U.S. Department of Education. The Department of Education's proposed definition of CTE concentrators requires student enrollment in several CTE courses, so the majority of students considered concentrators typically would be juniors and seniors in high school. According to this definition, concentrators would be those CTE students who generally had not dropped out of school before their junior years. Conversely, the common definition of a "cohort graduation rate" is the on-time graduation rate of a cohort of students identified as they enter ninth grade. This rate tracks which students drop out and which successfully progress to graduation. Nevada believes that the U.S. Department of Education's proposed definition of CTE concentrators would lead to the calculation of an inappropriately high graduation rate for CTE students compared to the general cohort graduation rate. By using a more inclusive definition of CTE concentrators, Nevada aims to provide a graduation rate for CTE that is more comparable to the state's general graduation rate and would demonstrate a more accurate impact of CTE involvement across the entire high school experience.[22]

- ***Louisiana*** established the TOPS-Tech Early Start Award as part of the Louisiana Tuition Opportunity Program for Students (TOPS) for eligible 11th- and 12th-grade students attending Louisiana public high schools. A TOPS-Tech Early Start Award may be used at any Louisiana public postsecondary education institution for the purpose of pursuing an industry-based occupational or vocational education credential. Additionally, under Louisiana's new graduation index, a school's accountability score will increase as more students earn a CTE Endorsement in high school.[23]

- ***Florida's*** longitudinal data system often is considered the most sophisticated in the country. The P-20 Education Data Warehouse collects data from the K-12 education system, all public and private universities in the state, as well as data from all of the state's private non-profit higher education institutions, career and technical postsecondary programs, programs offered though school district technical centers, GED participation and adult education programs. The data system even captures data on students enrolled in vocational and training programs that may not award any credits, but are for job-related, continuing education. These existing data systems could accommodate and allow for the reporting of new Tech Prep data elements, even though Florida has decided to merge Tech Prep with its Perkins Basic Grant. According to Florida's Perkins Plan for 2007-2008, "the data gathered through the Florida educational data system are reported using a uniform, coordinated statewide system of data elements and formats." Florida's Data Warehouse also houses many types of data on outcomes, including unemployment rates and wages, allowing the state to provide regularly updated reports on the relationship between Florida's education system, such as participation in CTE, and employment trends.

[22] Nevada Perkins State Transition Plan, April 2007, Nevada Department of Education
[23] Louisiana Office of Student Financial Assistance. For more information, see http://www.osfa.state.la.us/
[24] Florida Perkins State Transition Plan, April 2007, Florida Department of Education.
http://www.flboe.org/workforce/perkins/pdf/transition_plan1.pdf

POLICY OPTIONS TO LINK PERKINS IMPLEMENTATION WITH THE ADP AGENDA

There are important opportunities to link implementation of the Perkins Act with the American Diploma Project agenda. In particular, state ADP teams can support the development of Programs of Study and support policies so that all high school students, not just CTE participants, are given the opportunity to create personalized plans of study that includes a rigorous academic core paired with courses focusing on identified career interests. States can also closely coordinate the development of CTE assessments and accountability mechanisms and pay particular attention to graduation data and data that track the transition of students from secondary to and through postsecondary education.

As demonstrated in the previous section, many states have begun to pursue strategies that explicitly link the ADP and CTE policy agendas. The following is a list of strategies from a comprehensive standpoint that state ADP teams and Perkins leaders can consider working on together:

Coordinate Perkins Planning with School Improvement Planning

- Ensure that the state planning group for High School Redesign/American Diploma Project thoroughly reviews the Perkins Plan with the State Director of CTE and identifies activities that link the two processes.
- Require local plan submission for the Perkins Act and the general School Improvement/High School Redesign to create a joint addendum to both plans explaining how the efforts will be coordinated and integrated at the school district and district levels.
- Create a regional planning requirement in which local school districts and community/technical colleges must submit a joint operations plan for implementation of their CTE Programs of Study and related professional development and school reform.

Coordinate Development of CTE Programs of Study

- Create state policy so that every 8th grade student creates a personalized plan for high school graduation and beyond, identifying the rigorous academic courses and a concentration of interest-based courses necessary for success after high school. The student plans should be reviewed and updated annually to ensure the student is on track to meet graduation requirements and to modify career and interest-based courses as the student's plans change.
- Require the state's public colleges and universities to collaborate actively with the K-12 and community college systems to develop and implement CTE Programs of Study that extend from high school directly to associate degree and/or baccalaureate programs. Legislative or regulatory policy may be needed to require the collaboration, but much of the work will need to be done by consultation among high school teachers and college faculty within specific program areas.
- Require high schools and community/technical colleges to establish joint Employer Advisory Boards to provide input on Programs of Study and other CTE programs within related disciplines.

Facilitate Academic Integration

- Establish incentive funds to support schools and districts in developing academic integration tools and processes. Each approved CTE course and program should identify the state academic standards that will

be taught and reinforced in the CTE course. Standards that are measured on the state academic assessments should be prioritized for teaching in CTE courses. Integrated teams of CTE and academic teachers should develop and pilot integrated academic lesson plans. When the plans have been piloted and revised appropriately, they should be shared with other teachers and schools through professional development opportunities and web-based dissemination.

- Establish a "Real-Life Applications" initiative to bring career-based real-world applications into the core academic classes of English Language Arts, Mathematics and Science. The state should establish a goal that a certain percentage of academic standards will be taught in the context of a real-world application or career-themed approach, so students can understand the application of academic concepts. CTE teachers and core academic teachers should be convened to review academic standards and identify examples of career applications for this content. Career-themed lesson plans and problems should be developed around the academic standards and piloted by the academic teachers. Once piloted and revised as necessary, these resources should be shared with other teachers and schools.

- In each district's school improvement plan, create a new planning requirement to describe how academic teachers are collaborating with CTE teachers to integrate academic content into CTE courses and to insert contextualized lesson plans into academic courses.

- Build recommended sequences of academic core courses into CTE Programs of Study.

- Require each Program of Study to include a planning requirement for how students can "recover" missed academic credit so they can graduate on time and a list of special services that will be offered to help students succeed in completing the recommended academic core.

- Establish "AP-style" criteria by which students achieving at a certain level of CTE assessments can earn college-level credit. Ensure that these credits are immediately transcripted, rather than held in "escrow" and made available only if the student enrolls in the community college immediately after high school graduation.

- Explore the potential for credits earned through demonstrations of proficiency, rather than traditional "seat time." Allowing students to earn credit for academic and CTE courses through demonstrations of proficiency, through such instruments as assessments, portfolios, presentations and other projects, can facilitate interdisciplinary teaching and learning, as students may be able to demonstrate mastery of state academic and CTE standards at the same time in non-traditional ways. States need to develop processes and criteria for districts and schools to develop credit by proficiency models to ensure all students have mastered the content and skills required by the state, while providing local education agencies with flexibility to design and implement the curricula and courses as they choose. A number of states that are just beginning to put the ADP policy framework in place are incorporating this important approach at the beginning of the process, opening the door to significant collaboration and alignment in assuring that every pathway to high school graduation incorporates the same level of high expectation.

Build Shared Longitudinal Data Systems Between Secondary and Postsecondary Systems

- ADP leaders and Perkins leaders need to work together on development of P-20 longitudinal data systems. The Perkins Act accountability system needs stronger and more comprehensive data on student participation in postsecondary education, and the Tech Prep accountability requirements call for information on student remediation at the postsecondary level and student program enrollment. Longitudinal data systems that track individual student's progress from high school through postsecondary education (and beyond) are of tremendous value. With such capacity, states will be able to trace a student's postsecondary success (or failure) back to his or her high school experience and use that information to strengthen the experience for the next class of students.

Assure Portability of CTE Dual Enrollment Credits

- Create a data tracking mechanism where postsecondary programs annually report the number and percentage of upperclassmen in the feeder high schools that have earned dual enrollment credits and what percentage of these credits are transcripted by a local community college.

- Create state policy to ensure that college credits earned through dual enrollment are inserted immediately on a college transcript for the student and that these credits are portable and accepted by all other public postsecondary institutions within the state.

- Create state policy that community college credits earned through dual enrollment must be honored as credits in the CTE program area by other community colleges within the state. At colleges and universities, the CTE dual enrollment credits must at least be honored as fulfilling elective credit requirements.

CONCLUSION

The Perkins Act complements the college and career readiness agenda of the American Diploma Project. By definition, the standards and expectations of CTE programs are aligned closely to the expectations that the state and districts set for their students. If those expectations are low, then CTE expectations are similarly low. If expectations are high, CTE expectations will be high, and innovative CTE strategies can be employed to help meet those expectations. ADP can raise rigor of CTE, just as CTE can improve the relevance of ADP.

To maximize the synergy between CTE and the college and career readiness agenda, CTE teachers, administrators, and state leaders need to be invited as full partners in pursuing the college and career-readiness agenda.

ABOUT THE AUTHOR

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For additional questions about this paper or the American Diploma Project, please contact Sandy Boyd or Kate Blosveren at (202) 419-1540 or visit www.achieve.org.

APPENDIX A: PERKINS ACT PERFORMANCE INDICATORS

TYPE OF INDICATOR	SECONDARY [Section 113(b)(2)(A)]	POSTSECONDARY [Section 113(b)(2)(B)]	TECH PREP, SECONDARY STUDENTS [Section 203(b)(1)(B)]	TECH PREP, POSTSECONDARY [Section 203(b)(1)(C)]
ACADEMIC ACHIEVEMENT	Academic achievement for English Language Arts and Math, as measured by assessments adopted under NCLB.		The number and percent of secondary education Tech Prep students enrolled in remedial math, writing, or reading courses at the postsecondary level.	
TECHNICAL SKILL ACHIEVEMENT	Career and Technical Skill attainment, including technical assessments, aligned with industry-recognized standards, if available and appropriate.	Career and Technical Skill attainment, including technical assessments, aligned with industry-recognized standards, if available and appropriate.		
PROGRAM COMPLETION	Attainment of (1) Secondary school diploma, GED, credentials or other state-recognized equivalent; and (2) a proficiency credential, or degree. Student high school graduation rates, using the state's methodology adopted under NCLB.	Attainment of industry-recognized credential, a certificate, or a degree.	The number and percent of high school Tech Prep students who (1) complete a state- or industry-recognized certification or licensure; (2) successfully complete, as a high school student, courses that award postsecondary credit at the secondary level; and (3) enroll in remedial mathematics, writing, or reading courses upon entering postsecondary education.	The number and percent of Postsecondary Tech Prep students who (1) complete a state- or industry-recognized certification or licensure; (2) complete a 2-year degree or certificate program within the normal time for completion of such program; and (3) complete a baccalaureate degree program within the normal time for completion of such program.

TYPE OF INDICATOR	SECONDARY [Section 113(b)(2)(A)]	POSTSECONDARY [Section 113(b)(2)(B)]	TECH PREP, SECONDARY STUDENTS [Section 203(b)(1)(B)]	TECH PREP, POSTSECONDARY [Section 203(b)(1)(C)]
STUDENT TRANSITIONS and EMPLOYMENT	Placement into postsecondary education or advanced training, military service, or employment.	One from the following indicators: (1) Student retention in postsecondary education; (2) transfer to a baccalaureate degree program; (3) placement in military service or apprenticeship programs; or (4) placement or retention in employment, including high- skill, high-wage, or high-demand occupations.	High school tech prep students who (1) enroll in postsecondary education; and (2) enroll in postsecondary education in the same field or major as enrolled in high school	Postsecondary education Tech Prep students who are placed in a related field of employment within one year of graduation
NON-TRADITIONAL PARTICIPATION and COMPLETION	Participation in, and completion of, CTE programs that lead to non-traditional fields.	Participation in, and completion of, CTE programs that lead to non-traditional fields.		

Health Science

Health Science: Health Informatics

Career Pathway Plan of Study for ▶Learners ▶Parents ▶Counselors ▶Teachers/Faculty

*This Career Pathway Plan of Study (based on the Health Informatics Pathway of the Health Science Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. *This Plan of Study, used for learners at an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.*

EDUCATION LEVELS	GRADE	English/ Language Arts	Math	Science	Social Studies/ Sciences	Other Required Courses Other Electives Recommended Electives Learner Activities	*Career and Technical Courses and/or Degree Major Courses for Health Informatics Pathway	SAMPLE Occupations Relating to This Pathway
Interest Inventory Administered and Plan of Study Initiated for all Learners								
SECONDARY	9	English/ Language Arts I	Algebra I	Earth or Life or Physical Science	State History Civics	All plans of study should meet local and state high school graduation requirements and college entrance requirements. Certain local student organization activities are also important including public speaking, record keeping and work-based experiences. A foreign language is recommended.	• Health Science I: Introduction to Health Science • Information Technology Applications	**Occupations Requiring Less than Baccalaureate Degree** ▶Admitting Clerk ▶Community Services Specialist ▶Data Analyst ▶Data Information Manager ▶Health Information Coder ▶Medical Assistant ▶Medical Biller ▶Medical Information Technologist ▶Patient Financial Services Representative ▶Pharmacy Services Associate ▶Reimbursement Specialist ▶Transcriptionist ▶Unit Coordinator **Occupations Requiring Baccalaureate Degree** ▶Applied Researcher ▶Epidemiologist ▶Ethicist ▶Health Care Administrator ▶Health Educator ▶Medical Librarian/Cybrarian ▶Public Health Educator ▶Risk Manager ▶Utilization Manager
	10	English/ Language Arts II	Geometry	Biology	U.S. History		• Health Science II: Health, Safety and Ethics in the Health Environment	
	11	English/ Language Arts III	Algebra II	Chemistry	World History Sociology		• Health Science III: Employment in Health Occupations	
College Placement Assessments-Academic/Career Advisement Provided								
	12	English/ Language Arts IV	Statistics or other math course	Physics or other science course	Psychology Economics		• Health Science IV: Introduction to Health Informatics	
Articulation/Dual Credit Transcripted-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.								
POSTSECONDARY	Year 13	English Composition	Algebra	Chemistry Biological Science	American Government Psychology	All plans of study need to meet learners' career goals with regard to required degrees, licenses, certifications or journey worker status. Certain local student organization activities may also be important to include. Work-based learning is an integral part of this pathway.	• Health Science V: Health Informatics Preparation	
	Year 14	Speech/ Oral Communication Technical Writing	Statistics or Calculus	Microbiology	American History Sociology		• Continue Courses in the Area of Specialization	
	Year 15	Continue courses in the area of specialization.						
	Year 16						• Complete Health Informatics Major (4-Year Degree Program)	

League for Innovation in the Community College CCTI College and Career Transitions Initiative
NCTEF
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SAMPLE

ABOUT ACHIEVE

Created by the nation's governors and business leaders, Achieve, Inc., is a bipartisan, non-profit organization that helps states raise academic standards, improve assessments and strengthen accountability to prepare all young people for postsecondary education, work and citizenship. Achieve has helped more than half the states benchmark their academic standards, tests and accountability systems against the best examples in the United States and around the world. Achieve also serves as a significant national voice for quality in standards-based education reform and regularly convenes governors, CEOs and other influential leaders at National Education Summits to sustain support for higher standards and achievement for all of America's schoolchildren.

In 2005, Achieve co-sponsored the National Education Summit on High Schools. Forty-five governors attended the Summit along with corporate CEOs and K–12 and postsecondary leaders. The Summit was successful in making the case to the governors and business and education leaders that our schools are not adequately preparing students for college and 21st-century jobs and that aggressive action will be needed to address the preparation gap. As a result of the Summit, 32 states joined with Achieve to form the American Diploma Project Network — a coalition of states committed to aligning high school standards, assessments, graduation requirements and accountability systems with the demands of college and the workplace.

For more information, visit Achieve's website at www.achieve.org.

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