



# Connecticut State Department of Education

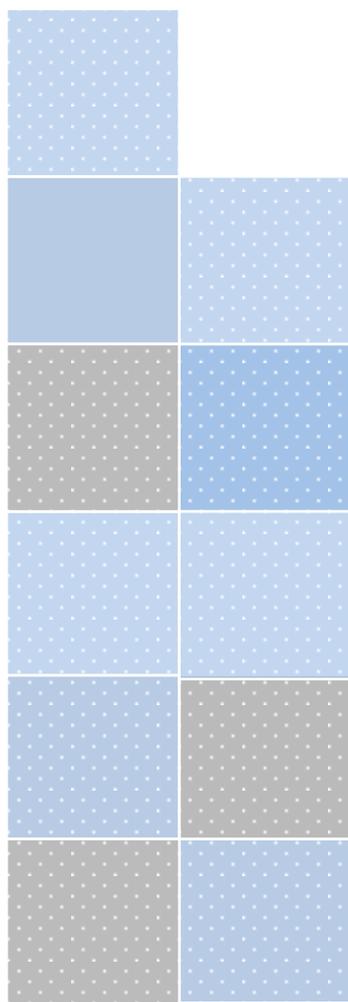
## Performance Improvement

### Perkins Core Indicators

**2010-2011**

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Bureau Teaching and Learning**

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Career Technical Education**



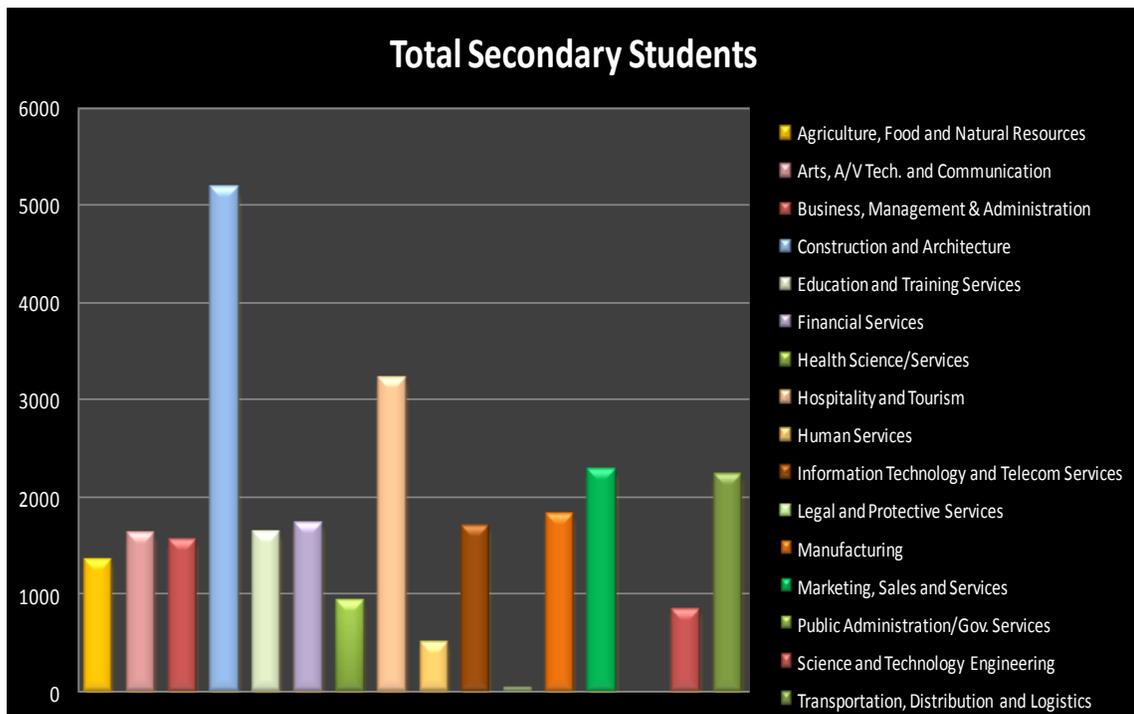
**Connecticut State Department of Education  
Carl D. Perkins Annual Report Narrative  
2010-11**

**Connecticut Educational Structure**

In Connecticut through the State Department of Education (CSDE), Carl D. Perkins funds are utilized to develop and enhance career and technical education (CTE) offerings in a multitude of educational settings. Funds are shared with schools that fulfill state and federal specified size, scope, and quality. Carl D. Perkins provides support to students who elect to take career and technical education courses in preparation for some form of postsecondary education and work. It is an expectation that all students will be college ready in a philosophy that “college is for all students”; however, that does not preclude student entry into industry certification, licensure, or on-the-job-training programs.

- 169 school districts (not all districts have high schools)
- 117 districts receive Perkins funding (comprehensive high schools)
- 17 high schools: Connecticut Technical High School System
- 19 Agriculture Science and Technology Education Centers
- 45 magnet schools with themed focus – some that are career and technical education
- Unified School Districts #1 (Department of Corrections) and #2 (Department of Children & Families)
- Community College System – 12 colleges
- University of Connecticut – multiple campuses
- State University System – four state 4-year colleges (no share of Perkins funding)

**CTE Student Concentrator Enrollment, 2010-11**



## Student Concentrator Enrollment by Cluster 2010-11

Career Clusters	Total Secondary Students
Agriculture, Food and Natural Resources	1342
Arts, A/V Tech. and Communication	1612
Business, Management & Administration	1553
Construction and Architecture	5176
Education and Training Services	1643
Financial Services	1734
Health Science/Services	916
Hospitality and Tourism	3211
Human Services	490
Information Technology and Telecom Services	1700
Legal and Protective Services	2
Manufacturing	1820
Marketing, Sales and Services	2280
Public Administration/Gov. Services	0
Science and Technology Engineering	825
Transportation, Distribution and Logistics	2217

### Student Definitions

#### A. Secondary Level

<p><u>Participant</u> – A student who takes at least one career and technical education course.</p>
<p>A student who is enrolled in courses (Academic or CTE) that include instruction in all of the competencies contained in one of the 20 state recognized CTE areas of concentration, documented in the 2011 Connecticut State Performance Standards and Competencies, totaling two credits, is to be identified a concentrator.</p>
<p>For students enrolled in one of the state regional agricultural science and technology education centers, a concentrator is defined as a student who is a senior who has completed the 2011 state performance standards and competencies in one of the content areas: Animal Science, Plant Science, Agriculture Mechanics, Natural Resources or Aquaculture and successfully meet the performance elements of premier leadership, personal growth, and career success through involvement in the National FFA Organization and a planned Supervised Agricultural Experience (SAE) project.</p>

#### B. Postsecondary/Adult Level

<p><u>Participant</u> – A student who is enrolled in a program of study leading to an occupational degree or certificate (excludes all liberal arts and general studies students).</p>
<p><u>Concentrators</u> – A concentrator is defined as any student in a given year who is enrolled in a program of study leading to an occupational degree or certificate (excludes all liberal arts and general studies students) and has completed at least 15 semester hours worth of course work.</p>

## CTE and Secondary School Reform

The Connecticut State Department of Education (CSDE) has taken bold action to promote and establish legislation for Secondary School Reform which includes the Student Success Plan (Programs of Study). On July 1, 2010, the Connecticut Senate and House of Representatives of the General Assembly enacted Public Act No. 10-111, "An Act Concerning Education Reform in Connecticut. P.A. 10-111 legislates many of the requirements identified under the State Fiscal Stabilization Fund (SFSF) requirements enacted with the American Recovery and Reinvestment Act (ARRA) which includes:

- increased rigor and requirements for high school graduation in Connecticut;
- required expansion of the Statewide Longitudinal Data System;
- requirement that all districts have an Advanced Placement course program and a policy for earning credits through online courses;
- a teacher evaluation system linking student and teacher performance, including multiple measures of student growth; and
- required Student Success Plans (SSP) with adequate student support and remedial services.

*The Connecticut Plan for Secondary School Reform* will begin with the state mandate for Programs of Study, in Connecticut called the "Student Success Plan" for every student beginning in Grade 6. Each school district will be required to establish the SSP for all students grades 6-12, beginning in 2012, which will support students' academic, career and social, emotional, and physical development. The major components of the **SSP** are located on the CCSDE Web site at <http://www.CSDE.ct.gov/CSDE/cwp/view.asp?a=2702&Q=322264>. The SSP mirrors the national model for career technical education (CTE) Programs of Study and Connecticut's Comprehensive School Counseling Program model which is described under Guidance Counseling and Career Advisement. The above-mentioned link on the CCSDE Web site provides guidelines for districts and colleges that have or will begin to plan and implement elements of the Secondary School Reform. A series of webinars detailing the major elements of the reform are being developed to further guide districts and will be updated on the CCSDE Web site. The gradual phase-in of the Secondary School Reform Plan will be fully implemented by 2020. The only element of the Secondary School Reform Plan going forward at this time is the Student Success Plan which is orchestrated primarily by the State Director of Career Technical Education. The flexible learner-centered SSP is focused on student engagement and relies on a critical adult(s) to help students create, monitor, and revise a plan which will guide them through their secondary and postsecondary career and to future employment. One of the major objectives through this application is to secure a statewide license for an electronic system which will allow students, parents and teachers to plan, support and evaluate student progress throughout their educational career. The **SSP** will allow students to:

- identify interests, set goals and explore possible career aspirations;
- establish a sequence of academic and career courses within a pathway which leads to postsecondary education;
- access a proactive, holistic support system that ensures academic and personal well-being;
- participate in experiential learning within an area of interest or career pathway;
- begin their postsecondary coursework in high school through high school/postsecondary education articulation agreements; and
- demonstrate learning using skills defined as 21<sup>st</sup> Learning through a culminating Capstone Experience.

### Data Collection Systems

The CSDE Longitudinal Data System will allow efficient collection of CTE data by use of unique student identifiers called the State Assigned Student Identification (SASID). The SASID follow the student on to postsecondary education. In addition, the CSDE has contracted with the Student National Clearing House and the State Department of Labor which will allow tracking of students through postsecondary education and work. The CSDE has also begun to align course titles to the NCES coding system. It will be a challenge to align the

numerous course titles; however, the department work to align CTE standards to the National Common Core may assist the process.

### **Connecticut Academic Performance Test**

Connecticut State Department of Education requires that districts administer the state Connecticut Academic Performance Test (CAPT) each year to all 10<sup>th</sup> graders which measures math and reading skill attainment. The results of the 2011 CAPT are shown below. While the reading performance level (90.3%) remained level, the math performance increased by 2% over the previous year for students who concentrated in CTE courses. Connecticut CTE student concentrators exceeded statewide student performance for 2010-11 for math and reading.

Connecticut is a member of SMARTERBalance and is working toward alignment of academic and CTE standards to the Common Core State Standards (CCSS). Presently, CTE staff are aligning to the CCSS math standards and will continue with the language arts standards in early spring of 2012. The CAPT test will be replaced with the CCSS national assessment system in 2014-15. The CTE Common Core of Teaching standards for Connecticut are also under revision.

### **Connecticut’s Overall CAPT Performance Results 2010-11**

<b>CAPT 2010-11</b>	<b>CT Proficiency NCLB Target 2010-11</b>	<b>CTE Student Concentrator Performance (Proficiency)</b>	<b>State-wide Student Performance (Proficiency)</b>	<b>State-wide Non-CTE Student Performance (Proficiency)</b>
Reading	81.0%	90.3%*	81.9%**	83.6
Mathematics	80.0%	88.0%*	80.3%**	80.5

\*Represents CTE student three-year CAPT assessment beginning in grade 10 and retakes thereafter through grade 12.

\*\*Statewide student 10<sup>th</sup> grade performance levels.

#### **a. Required Use of Funds**

##### **CTE Assessment**

Pursuant to Section 113 of the Carl D. Perkins Career and Technical Education Improvement Act of 2006, states must "... establish a State performance accountability system, comprised of the activities described in this section, to assess the effectiveness of the State in achieving statewide progress in career and technical education, and to optimize the return of investment of Federal funds in career and technical education activities."

The inclusion of this language in the Carl D. Perkins legislation focused the attention of Connecticut Career and Technical administrators and teachers to construct a sustainable and ever-improving process of CTE statewide assessment. To fully understand the ever-evolving statewide assessment program we begin with a historic context.

As we trace the origins of Career and Technical Education in Connecticut, accountability in one venue or another has been an integral part of our annual cycle of operations and development. From the Connecticut high school industrial and agricultural training programs created by the Smith-Hughes Act of 1917; to the creation of high school vocational programs in home economics, office practices and distributive education, resulting from the George-Barden Act of 1946; to the sweeping development of vocational education, brought about by the passage of the Vocational Education Act of 1963 and the Vocational Education Amendments of 1968, Connecticut has strived to measure quality now known as Career and Technical Education.

For decades, Connecticut has worked to ensure the highest quality career and technical education programs and instruction, providing statewide professional development in each of the CTE program areas, annual grant, and program reviews, and direct involvement of business and industry. Connecticut CTE has more than met the

challenge of every federal legislative mandate in spirit and in practice. The state has held firm in belief that one of the inevitable outcomes of education is that state citizenry will seek productive and fulfilling employment.

In April, 1983, *The Nation at Risk* document brought the national focus to the issue of accountability for everyone engaged in the process of education. Almost overnight, the national dialogue turned to the academic proficiency of America's youth. However, what many people fail to remember about *The Nation at Risk* document is the authors' stated purpose of education, contained in the opening statement of this landmark document that was to spur the development of accountability initiatives throughout the United States, "... (the promise of education) *means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment...*".

Our commitment to that universal life goal has prompted Connecticut CTE to seek improved methods of bringing about continued improvement throughout our schools, programs, and students. The Carl D. Perkins legislation required each state to establish performance standards for Career and Technical Education, and to design a method of assessment that would statistically demonstrate a plan for continuous improvement. The state continually evaluates the effectiveness of the overall CTE assessment system. Plans are underway to revise the existing areas of concentration in technology education to ensure that the CTE standards used for assessment are in step with agency academic rigor and are aligned to Connecticut labor needs. In addition to the improvement under technology education Personal Finance will be added to the list of assessment areas. The Connecticut State Department of Education in partnership with NOCTI met this mandate with enthusiasm and the belief that together, administrators, teachers, business, and industry could design a statewide system of assessment. The CSDE did not choose the path of least difficulty in the development of this statewide assessment program. Rather, the state sought to live out the spirit that has been "vocational/CTE" for almost a century. As national, state and local economic need varies and forever changes, we must continue to teach the core of knowledge and skill, necessary to meet daily challenges, while fostering professional appetite. In this era of massive specialization with unlimited menus of CTE course titles we must commit to teach, learn and test those measurable competencies that already have been established by the CTE national professional organizations.

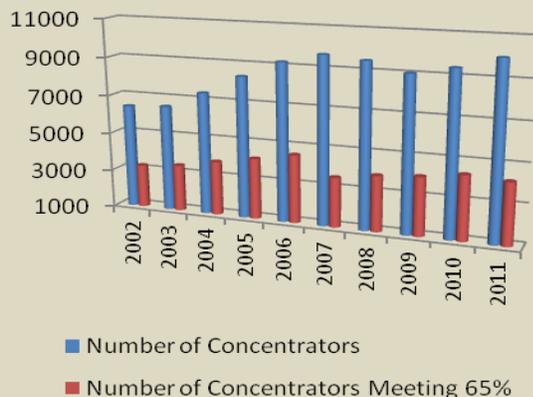
The chart below provides the areas of concentration, a longitudinal comparison of the number of concentrators assessed over the past ten years and the academic foundation competencies assessed under the Connecticut State CTE Assessment system.

## 2010-11 Connecticut CTE Areas of Concentration

- Agriculture Mechanics
- Animal Science
- Aquaculture & Marine-Related Technologies
- Natural Resources & Environmental
- Plant Science
- Accounting
- Business Management
- Computer Information Systems
- Personal Finance
- Cooperative Work Education
- Early Childhood Education & Services
- Nutrition, Food Production & Services
- Textiles & Design
- Marketing Education
- Medical Careers
- Certified Nursing Assistant
- Automotive Technology
- Computer Aided Drafting & Design
- Pre-Engineering Technology
- Video Production Systems
- Wood Technology

## Longitudinal Comparison

After two years in development, the Connecticut CTE Assessment program began testing concentrators in 2001. As the “national” standards were revised by the national CTE professional organizations, the Connecticut performance standards and competencies (PS&C) were also revised to align with the latest national PS&C. The revision of the PS&C resulted in a revision in the state CTE assessments. We believe it is critical to the validity of our assessment program to stay as current as possible while integrating our academic foundation competencies into each test. The continuous revision process requires that all members of the CTE education community strive for currency within CTE teaching and learning rather than relying on out-dated competencies and item banks.



## Academic Foundation Competencies

Career and Technical Education (CTE) provides a context for the development of academic teaching and learning. The commitment of CTE to enhance academic achievement in our schools, programs and courses, has led to the identification of these Academic Foundation Standards. Consistent with Connecticut's pledge to test CTE concentrators on the national/state performance standards and competencies, we are testing the textual application of the same mathematics and reading competencies assessed in Connecticut academic assessments. Taken directly from the measurable standards of the Connecticut Academic Performance Test (CAPT), these foundation competencies are incorporated into each of the 18 areas of concentration of the Connecticut CTE statewide assessment.

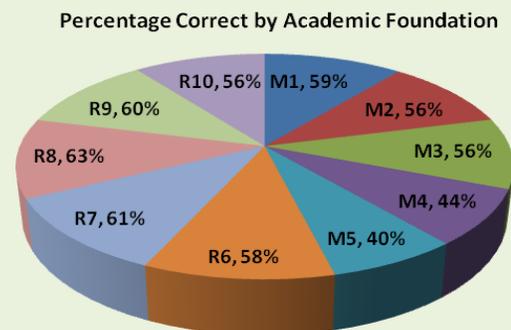
### Math

- M1: Extend the understanding of number to include integers, rational numbers & real numbers.
- M2: Interpret and represent large sets of numbers with the aid of technologies.
- M3: Develop strategies for computation and estimation using properties of number systems to solve problems.
- M4: Develop and evaluate mathematical arguments using reasoning and proof
- M5: Construct appropriate representations of data based on the size and kind of data set and the purpose for its use.

### Reading

- R6: Make connections between the text and outside experiences and knowledge.
- R7: Draw conclusions about the author’s purpose in including or omitting specific details.
- R8: Use evidence from the text to draw and/or support a conclusion.
- R9: Use information from the text to make a prediction based on what is read.
- R10: Evaluate explicit and implicit information and themes within a given work.

The chart below shows the percentage of concentrators correctly answering the items linked to the academic foundation competencies.



## Connecticut Statewide Career Technology Education Assessment - 2010-11

- The Connecticut Statewide CTE Assessment is a mandatory online testing system for all students who reach the threshold of concentrator.
- The Connecticut Statewide CTE Assessment is based on the most current “recognized” National Standards for each area of concentration, assimilated into the 2011 Connecticut CTE Performance Standards and Competencies.
- The Connecticut Statewide CTE Assessment includes test items representing the contextual application of Connecticut academic testing competencies in reading and mathematics. These academic/CTE items represent 20-25% of each area of concentration test.
- In 2011 Connecticut administered Version VI of the Statewide CTE Assessment. Versions of the statewide CTE assessment are revised with the revision of national standards, approximately every three years.

Area of Concentration	<u>Schools</u> Identifying concentrators	<u>Concentrators</u> by Area of Concentration	<u>Mean Score</u> by Area of Concentration	<u>% of Concentrators</u> <u>Meeting/Exceeding Federally</u> <u>Negotiated Performance Level</u>
Accounting	74	631	61.5	44.53%
Agriculture Mechanics	14	75	59.7	38.67%
Animal Science	17	207	67.1	61.35%
Aquaculture	5	85	62.2	45.88%
Automotive Technology	41	422	45.1	5.69%
Business Management	29	391	53.8	21.99%
Computer Aided Drafting and Design	62	628	55.1	19.11%
Computer Information Systems	46	570	59.7	40.70%
Cooperative Work Education	20	338	62.3	48.82%
Early Childhood Education and Services	69	1138	69.4	68.14%
Marketing Education	46	779	53.5	24.13%
Medical Careers Education	34	675	68.4	67.56%
Natural Resources and Environmental	14	83	58.6	36.14%
Nutrition, Food Production and Services	79	1231	61.9	47.03%
Personal Finance	35	525	58.5	39.24%
Plant Science	16	105	55.8	25.71%
Pre-Engineering Technology	46	701	59.5	42.94%
Textiles & Design	17	163	51.9	16.56%
Video Production Systems	45	575	59.5	35.30%
Wood Technology	37	389	50.3	12.60%

## **Use of Technology**

The CSDE has taken a new approach to the use of the technology for educational purposes. It was once thought that cell phones and other handheld computerized equipments were a deterrent to student learning. It is now clearly understood that if teachers are prepared to use such equipment effectively use it can offer students a world of opportunities to meet the challenges of future postsecondary education and the global workplace. It is recognized that the digital world is one that students expect and know how to navigate. The state is now approving the purchase of the IPod and other computer devices for local districts and colleges. CTE State staff received professional development on the use of the IPod for CTE instruction and to gain a better understanding of the practicality of applications as related to CTE curriculum.

Technology is seen as a tool to enhance academic rigor facilitating student transition to postsecondary education and the workplace. The state has taken the position where the use of smart phones and other handheld equipment should be considered a learning tool with the appropriate application and controls. State professional development workshops for all pathways are offered throughout the year to offer the latest in use of technology.

## **Curriculum Focus**

Perkins and other leveraging sources have provided focus on particular CTE pathways:

### **Personal Finance**

Funding from the Department of Banking and Perkins has resulted in an additional 49 Connecticut schools that have added Personal Finance as a half-year course; in some cases, it has become a graduation requirement. The CSDE overall goal is to reach 100% of schools statewide that will offer personal finance to students. Presently, the Personal Finance Standards are being aligned to the Common Core State Standards which may lead to the development of a Financial Algebra course for senior students.

### **Agricultural Science and Technology**

Connecticut's 19 agriculture science and technology education programs have established partnership with institutes of education including, the University of Connecticut, University of New Haven, Northwestern Connecticut Community College, Paul Smith's College, Manchester Community College, and Unity College. In total agriculture students may earn upwards of 26 credits for taking courses during their high school career.

Several agriculture centers have established adult education programs that offer a wide variety of informational courses from pet grooming and horse hoof care to lawn maintenance and invasive pest controls. Bloomfield has added a program that encourages women to see opportunities in agribusiness through a lecture series.

### **Technology Education**

In technical education, several schools have established programs to encourage non-traditional participants, especially females to look at careers in STEM fields with an emphasis in pre-engineering.

## **Professional Development**

The following conferences and workshops were sponsored by the Connecticut State Department of Education in 2010-11:

### **Conferences:**

#### **Career Pathways: Changing Times**

The new vision for Career and Technical was the focus of this conference. The discussions concerning the role of CTE in preparing students with 21<sup>st</sup> Century skills, along with presentations from Fairfield, Suffield, Bridgeport, and Southington schools, made this a very successful conference. December 7, 2010

#### **Planning for Non-traditional Success in Career Technical Education:**

#### **Boys in the Pipeline**

The Connecticut Women's Education and Legal Fund provided this conference on enrollment and retention of boys in CTE. April 13, 2011

#### **Teaching Personal Finance**

Nine sessions were offered over the course of the day, including Budgeting, the Math of Personal Finance, Teaching Personal Finance Using iPad, and Financial Education in Connecticut. April 8, 2011

#### **Business and Finance Technology Education Leadership**

Practical applications for the classroom, new software, and online resources were all discussed in this conference for Business Education leaders. May 6, 2011

### **Workshops**

#### **Perkins 101 Workshop**

An in-depth explanation of Perkins was provided to new administrators by the State Director. March 23, 2011

#### **21<sup>st</sup> Century Public Health – Concepts and Careers**

Educators discussed ways to raise student awareness of personal and community health issues. Participants visited public health worksites in the afternoon. April 12, 2011

#### **Google Apps**

Business Education teachers learned how to make the best use of the updates in Microsoft Office 2007. November 17, 2010

#### **Designing a Web page for Your Classroom**

CTE teachers learned how to design and maintain a Google web page for their classroom. May 9, 2011

#### **Working Papers**

The updated regulations for issuing working papers were explained and presentations were given by SDE, OSHA, and DOL. May 3, May 5, 2011

#### **Perkins, EDGAR, AEFLA and WIA Implementation Issues**

Perkins, Secondary, Postsecondary, and Adult Education Administrators Michael Brustein of the law firm Brustein and Manasevit, Washington, DC. Mr. Brustein spoke about compliance issues related to federal education grants management. June 1, 2011

#### **Completing the Secondary Perkins ED400**

Secondary Perkins ED400 Data Stewards, responsible for data collection and entry, met with June Sanford, SDE, to learn about new requirements for successful filing. June 1, 2011

### **Connecticut Concurrent Enrollment Forum**

Secondary administrators and guidance met with Higher Ed faculty to discuss how to develop a dual enrollment program and how to build better faculty-to-faculty relationships. The national trends in standards-based curriculum were highlighted. June 3, 2011

### **Frameworks Review and Revision**

Framework sessions were held to review existing Connecticut and national standards and to update Connecticut standards.

**Technology Education** – October 4, 2010, May 9, 2011

**Agriculture Education** – October 8, 2010

During 2010-11 the following trainings were offered by CWEALF/VERTEC:

### **GENDER EQUITY TRAINING**

VERTEC Report 2010-2011

Connecticut Women's Education and Legal Fund

### **VERTEC Goal**

The goal of the Vocational Equity Research, Training and Evaluation Center (VERTEC) is to expand and improve the educational and economic opportunities available to females through education and training programs and to assist educators and administrators in providing equitable, non-discriminatory programs. The purpose of these efforts is to increase the success of all students, males and females, in obtaining education and training leading to self-sufficient employment, particularly in nontraditional, high-skill occupations.

### **VERTEC Scope of Work, 2010-2011**

- ❖ Attend and provide technical assistance (TA) at consultants' regional meetings. Offer professional development related to math integration with Career and Technical Education (CTE) to districts in each region.
- ❖ Coordinate a statewide conference on best practices in recruiting and retaining males into nontraditional CTE areas (with an emphasis on health care and early childhood education).
- ❖ Facilitate a process to convene a CTE advisory board and create an asset inventory of best practices (in order to facilitate relationships between performing and nonperforming schools).
- ❖ Attend and/or present at CTE-related conferences.
- ❖ Review most recent district Continuous Improvement Plan submissions; collect and analyze five-year trend data for nontraditional enrollment and completion to be used in presentations and in technical assistance for schools/districts.
- ❖ Facilitate links to ongoing community college programs related to CTE and STEM.
- ❖ Plan to pilot an eighth grade Girls and STEM Expo in 2011-2012 which will highlight nontraditional CTE classes and the importance of math learning.
- ❖ Plan to implement a high school Girls and Stem Expo in 2011-2012 specifically for girls enrolled in CTE.

### **VERTEC Activities**

- ❖ Provided professional development activities to teachers and administrators; details described below.
  - Participation in the SDE-CTE Partnership meeting to discuss CTE mission and vision.
  - Provided Gender Equity training to approximately 30 Applied Arts teachers in Danbury as part of a day-long professional development activity
  - Presented on CT STEM Jobs Employer Needs data and Gender Equity at Region F Employer/Educator Outreach Program
- ❖ Implemented statewide half-day conference on April 13, 2011 entitled *The Career and Technical Education Pipeline: Boys' Nontraditional Opportunities*

- The conference offered a panel discussion by men engaged in nontraditional careers in early childhood education, social work and nursing.
  - Additionally, New Britain Public Schools presented on best practices in recruiting and retaining boys in nontraditional CTE.
  - Forty nine (49) teachers and administrators from secondary and post-secondary institutions attended.
- ❖ Reviewed and analyzed district Continuous Improvement Plans submitted to CTE consultants in 2010
  - ❖ Analyzed trend data for nontraditional enrollment and completion
  - ❖ Implemented a high school Girls and STEM Expo on February 4, 2011, to which girls in CTE and from technical schools were recruited to participate
    - Ninety three (93) students and ten (10) educators from 9 schools in the towns surrounding Three Rivers Community College attended the full-day event.
    - There were seven (7) workshops offered for students and two (2) workshops offered for teachers.
  - ❖ Facilitated links to ongoing community college programs related to CTE and STEM through leveraging involvement in other grant-funded programs.
    - CWEALF staff participates in workforce development projects related to manufacturing (SMART), sustainable operations (SOAR) and STEM occupations (CT STEM Jobs), as well as in health care occupations and training (HEI). CWEALF staff also has an active role in CONNVerge, the Connecticut Girls' Collaborative Project, and the Planning Committee of the Connecticut Technology Councils' Women of Innovation Awards Dinner. These projects are collaborations between workforce investment boards, community colleges, adult education, informal science and technology educators and other stakeholders. The relationships forged and the activities implemented within each project ground CWEALF staff's work in a variety of settings and activities related to secondary and post-secondary education and career opportunities.
    - During the last year, CWEALF staff piloted an initiative at Three Rivers Community College (TRCC) in collaboration with the Director of Technologies which provided support and career activities to community college women. The project, WiT (Women in Technology) Connect, was funded by the Department of Labor Women's Bureau; activities included a shop floor tour of a woman-owned laser manufacturer, a tour of Mohegan Sun's IT department (headed by a woman), a tour of Dominion's nuclear training facility (facilitated by a woman nuclear and computer engineer), a panel discussion on women in engineering with women engineers sharing their insights and experiences in many different settings; networking for participants and a presentation to college faculty on gender and its impact on teaching and learning in STEM areas in the community college. The project has received funding to continue at TRCC for the 2011-2012 academic year.
    - CWEALF staff continues to leverages Girls and STEM Expo program to bring hands-on activities and information about gender nontraditional education and careers to middle school girls and their teachers and school counselors. During the 2010-2011 academic year, CWEALF staff facilitating eight (8) Girls and STEM Expos and in total 761 girls and over 70 educators were served. One of these Expos, Three Rivers Community College, was a Perkins-funded activity, accomplished under our VERTEC contract.
  - ❖ Discussed process to convene CTE advisory board/ create an asset inventory of best practices (in order to facilitate relationships between performing and nonperforming schools).
    - Staff met with Anne Raymond at CREC to discuss best vehicle to convene CTE advisory board and/or create an asset inventory of best practices. Her suggestion was to convene regional meetings to gather names and information related to resources and practices, and hold regular regional meetings. This is a time-consuming process for all involved and resources might be better used elsewhere. Additionally, is difficult to convene a group which will be open to meeting many requests for information or time without someone to mediate the process. CWEALF/VERTEC staff decided that the connections between specific people and program resources are best made individually. Having a mediated process allows CWEALF/VERTEC staff to create and enhance its relationships and make sure district needs are best met.

## Partnerships

In 2008, a partnership team met to establish a priority list of career pathways which would best serve the State of Connecticut. This Pathways Partnership includes the Departments of Education, Labor (DOL) and Community and Economic Development, along with the Community College System, the Office of Workforce Competitiveness (OWC) and the Connecticut Business and Industry Association (CBIA). The collaboration resulted in the publication, *Connecticut Career Pathways*, which serves as a resource for districts and colleges to prepare students for their future careers. The document is located on the CCSDE Web site at [http://www.CSDE.ct.gov/CSDE/lib/CSDE/pdf/Curriculum/CT\\_Career\\_Pathways.pdf](http://www.CSDE.ct.gov/CSDE/lib/CSDE/pdf/Curriculum/CT_Career_Pathways.pdf).

In addition, a CCSDE/DOL partnership between the Connecticut Career Resource Network (CRNN) and the CTE Unit established in 1994 focuses on the intersection of education and employment/learning. Jointly, the partnership sponsors an annual “Connecticut Learns and Works” conference and two major publications which provide critical information on the state’s labor market aligned to the federal career clusters. These publications are disseminated statewide to schools, libraries, and one-stops. Another dimension of this long-standing CCSDE/DOL partnership oversees legal and young worker safety issues of work-based learning. For example, CCSDE works closely with the DOL Wage and Workplace Standards Division to monitor student internship programs, such as the ongoing programs at Sikorsky Aircraft and Electric Boat. This helps to ensure that all CCSDE Career Pathways experiential learning opportunities are aligned with Connecticut’s Child Labor Laws and the Federal Labor Standards Act. The DOL hosts the Connecticut Young Worker Safety Team, an interagency team, co-chaired by the CCSDE and the Department of Public Health that provides information and training on young worker/workplace safety issues not only to student learners enrolled in CCSDE Career Pathways programs, but also to youth enrolled in programs funded through the Workforce Investment Act (WIA). Lastly, high school graduates enrolled in CCSDE Career Pathways programs, who have an SSP and who have met established classroom and workplace learning eligibility requirements, may earn the Connecticut Career Certificate (CCC) signed by the Commissioners of Education and Labor.

Effective transition from high school to postsecondary education and into productive careers is recognized as a critical element of the state’s talent pipeline. The disconnect between the readiness of the state’s high school graduates and the demands of the college classroom and the workplace highlights the urgent need for effective pathways from our secondary schools into the state’s colleges and workforce. In order to address this increasing challenge heightened by the economic climate in our state and to increase the number of Connecticut high school graduates to be prepared for postsecondary education without remedial intervention, the High School, College, and Workforce Transition Committee was established. This committee between the CCSDE and the Connecticut Education and Training Commission (CETC), is co-chaired by the Commissioner of Education. Participants on the Committee consists of CCSDE staff, including the State Director of CTE, and a mix of CETC members representing private industry, stakeholders from higher education, local school districts, regional educational service centers (RESCs) and organized labor.

Connecticut has joined forces with four other New England states as a member of the **New England Secondary School Consortium** (NESSC). This multistate initiative encompassing five states, include: Connecticut, Maine, New Hampshire, Rhode Island and Vermont. This initiative was created to support and advance innovative approaches to secondary schooling. The NESSC brings together commissioners of education, policy makers, the business leaders and state, regional and national organizations and leaders to advance the common mission—and achieve the shared educational goals—of the member states. In addition, the NESSC designs, plans and implements a variety of school improvement strategies intended to bring greater coherence, alignment and common purpose to the promotion of best practices, school innovation and forward-thinking educational policy across the New England region. The NESSC is working to adopt rigorous 21st century learning standards, establish more accurate and relevant student assessments, and create data systems that will promote comparability of student achievement and educational outcomes across state lines.

A critical partnership between the National Occupational Competency Testing Institute (NOCTI) and the CCSDE has been established as an advisor to the CTE Statewide Assessment System. The System succeeds because of the depth of the collaboration and partnership between secondary education, higher education and business and industry.

In the spring of 2011, the Connecticut State Department of Education offered a symposium targeted toward policy leaders in business, education, and labor to unveil the National CTE New Vision, “*Reflect, Transform, and Lead*”. It was an extremely successful day as leaders brainstormed collectively to take CTE in new direction.

### **State Institutions**

In 2010-11, the CSDE provided \$75,000 to State Department of Corrections and \$10,000 to the Department of Families and Students in providing skill development to the incarcerated. A staff member of career and technical helps both departments develop a plan conducive to a more confined setting in ensuring CTE skill attainment. Plans are specifically drawn to prepare students for entry into the workplace to meet state economic trends and workforce demands or to transition to postsecondary education. Students learn by involvement with community non-profit organizations and in-house projects in gaining experiential learning concepts. Overall programming also includes acquisition of workplace skills including: problem-solving, decision-making, teamwork, self-management, and technological literacy.

### **Special Populations**

The CSDE provides opportunity to all students including those who require support services. During school site visits, the CSDE staff meets with the Special Education Director to discuss accessibility and accommodations for students with special needs who elect to take career and technical education courses. The state also asks for verification that CTE teaching staff is provided special services support for paraprofessionals and other accommodations to ensure student success. Under administration of the CTE skill assessment system, students with disabilities are held to the same high expectations as are all students who take CTE courses. However, policies have been established for students with disabilities/504 under administration of the grant to accommodate test setting, arrangements for readers, alternative test completion, time extensions, large print editions, and sign language interpreters.

The State works closely with the Connecticut Women’s Education and Legal Fund (CWEALF) annually to amplify the continuing efforts to attract and retain students in to nontraditional fields. In 2010-11 CWEALF collaborated with the State to highlight opportunity for males entering non-traditional fields at a professional development event. CWEALF is currently planning another conference for April 2012. CWEALF is also working with the state to enhance worker safety issues in CTE curriculum including sexual harassment on the job.

Pertaining to Student Success Plans (SSP) described in this report, specific guidelines to ensure SSP alignment to federally required special education Individual Learning Plans (IEP) are under development at this time. The SSP will inform the IEP when planning for career pathways and transition to higher education or work.

### **Technical Assistance**

The State Department of Education historically has had a regional approach for technical assistance to guarantee service to all districts and colleges. Each staff member has a designated geographical area to provide general information and grant administration. Each content specialist has state-wide responsibility for their respective pathways. In addition, leadership funds are designated to a regional educational resource center (RESC) which in turn works with all state RESCs to disseminate information and to provide technical assistance through workshops and conferences. Certain staff within the RESCs take a leadership role in coordinating some of the state Perkins consortiums. Within the consortiums meetings are scheduled for consortium partners to gain technical assistance and to share best practice. Information regarding updates on the CTE assessment system is communicated through the state regional informational meetings.

## **b. Permissible Activities**

Below are some of the major focus areas under Permissible Activities for Perkins 2009-10 in Connecticut:

### **School Guidance Programs**

The SDE has dramatically strengthened its relationships with school counselors over the past several years. In part, it is due to the growing awareness of career development and understanding its overall importance to a students’ academic success. Under the P.A. 11-135 legislated on July 1, 2012, as mentioned above, the Student Success

Plan will be required for all students in grades 6-12. This means that all students will develop a plan that will allow them to pursue a particular career path or area of interest. The plan is developed to ensure that it supports the whole child and that it better prepares them to be college and career ready.

The CTE unit has developed strong ties with the school counseling consultant as a single voice in development of student success plans under the comprehensive school comprehensive plan. As a result, joint conferences and workshops were and will continue to be provided to a wider audience both CTE teachers, administrators and schools counselors.

### **Secondary/Postsecondary Articulation Agreements**

The CSDE works closely with the Community College System to provide a full range of dual/concurrent enrollment for CTE students. A policy that sets Connecticut apart from other states throughout the nation is one that supports student academic attainment. The CSDE requires that every student who enrolls for College Career Pathway credit (formerly Tech Prep) must also enroll in a specific level math, language arts (Communication) and science college-level course (not remedial) in addition to a CTE college course. This policy was adopted to reduce the number of students who enter the Community College System unprepared for academic success. It has taken many years of collaborating with each community college and their faculty to achieve this goal.

### **Connecticut Concurrent Enrollment Programs**

The summary below is representative of all the state's Community Colleges' College Career Pathways (CCP) Programs; the community college academic deans; the University of Connecticut's (UConn) Early College Experience (ECE) Program; the State University System Office; and two state universities, Eastern Connecticut State University (ECSU) and Central Connecticut State University (CCSU).

The ECE program is a member of the National Alliance of Concurrent Enrollment Programs (NACEP) and uses their standards to certify high school teachers as UConn ECE Instructors:

NACEP Standards are measurable criteria that address quality in concurrent enrollment programs. The standards promote the implementation of policies and practices to ensure that concurrent enrollment courses offered in the high school are the same as the courses offered on-campus at the sponsoring college or university; students enrolled in concurrent enrollment courses are held to the same standards of achievement as students in on-campus courses; and instructors teaching college or university courses through the concurrent enrollment program meet the academic requirements for faculty and instructors teaching in the sponsoring postsecondary institution.

Additionally, the standards encourage greater accountability for concurrent enrollment programs through required impact studies, student surveys, and course and program evaluations (<http://nacep.org/standards>).

ECSU and Gateway Community College have partnership programs with local school districts. ECSU offers courses both on its campus and at Norwich Free Academy (NFA) for NFA students. For the 2009 fall semester, 198 NFA students were enrolled in ECSU courses where students may earn ECSU credits. Gateway Community College has both middle college programs, where New Haven high school students can take a community college course combined with their high school course at the Cooperative High School of Arts and Humanities and the New Haven Academy both interdistrict magnet schools. Gateway also offers special programs for high school students from Hillhouse, Wilbur Cross, and Hill Regional Cooperative High Schools to strengthen reading and math skills and summer programs that offer college credit and opportunities for high school students to fully participate in college life. These programs provide transportation and meals for high school students.

All 12 of the Connecticut Community Colleges and UConn offer CCP Programs funded by the CSDE through the federal Carl D. Perkins Post Secondary Grant. In these programs, high school students take four courses for 12 community college credits based on articulation agreements between the high school and the community college faculty. Under the CCP Program, students in their junior and senior years are required to take a rigorous college courses in math, science and communications, along with one or more CTE education courses. This policy was established by the CSDE to help alleviate the need for remediation upon entry to postsecondary education. No

college level remedial courses are allowed. In some cases, two high school courses are required to earn one college course credit. Students in CCP are enrolled in the community college and receive college ID cards in their junior year, giving free access to courses, libraries and other college facilities. Their college courses are available on a college transcript for application to four-year institutions. Quinebaug Valley Community College also has programs called “Running Start” and “Partnerships,” which allow high school students to take college courses for credit at Quinebaug Valley Community College. Most of the other community colleges have similar opportunities that go beyond the universally available CCP Programs. Three Rivers allows high school students to take its early childhood education programs. They are currently undergoing an accreditation review by the National Association for the Education of Young Children, which mean that credits earned at Three Rivers will be transferable to university early childhood teacher preparation programs. In addition, in alignment with CTE family consumer sciences programs, an articulation exists with UConn whereby high school students can earn college credit for Human Development Family Studies (HDFS). Many high school administrators take advantage of this opportunity for their students due to the rigorous course content articulated with the increasingly competitive status of UConn. High School teachers undergo specialized training to become qualified to teach the HDFS dual/concurrent course. Students enrolled in the HDFS course receive high school, community college, and UConn credit simultaneously. Another opportunity for dual/concurrent credit is offered through Asnuntuck Community College, also in alignment with CTE. High school students enrolled in business and other CTE programs can also earn high school/college credit simultaneously with Asnuntuck Community College and UConn. Programs of this nature accelerate a student’s career pathway to either a two- or four-year college.

Manchester Community College offers a highly successful Middle College Magnet High School, Great Path Academy, which is built on their campus and linked to the main college building. Great Path Academy is a recipient of Perkins funds to support CTE programs. Students at the magnet school have full access to college courses for which they qualify, and many graduate from high school with more than 30 college credits, allowing accelerated college completion. The college is able to use the high school, including its classrooms, gymnasium, and auditorium, in the afternoons and evenings after the high school day ends.

Manchester and Quinebaug Valley Community College host two of Connecticut’s five magnet high schools located on college campuses and provide opportunities for concurrent enrollment. The other campuses are Capital Community College, the University of Hartford, and the University of New Haven. Goodwin College has opened a magnet high school with a focus on Environmental Sciences on its campus.

Taken as a whole, these concurrent enrollment programs in Connecticut provide highly successful models for high-quality early college and career preparation for thousands of students across the state each year.

See work with **Partnerships** above.

See improvements to the **CTE Assessment** system below.

### **Progress in Developing and Implementing Technical Skill Assessments**

Future plans are to integrate virtual performance-based components to the skills assessment system. Presently, Connecticut has ten years of longitudinal data. The following improvements are underway for the current and upcoming year:

#### **1) Connecticut CTE Performance Standards and Competencies – 2011 Revision**

With the recent (2009-10) revision of national standards for CTE conducted by the national professional teacher organizations, Connecticut conducted a comprehensive revision of its entire package of Performance Standards and Competencies during the 2010-11 school year incorporating the new national CTE standards. CTE is currently aligning to the Math and Language Arts Common Core State Standards.

#### **2) Connecticut Statewide Assessment Program – Version VI**

Connecticut implemented Version VI of the statewide CTE assessment that includes an increase to 20 areas of concentration. Areas of Concentration are those CTE instructional categories with the highest statewide enrollment rates, requiring alignment with national/state performance standards and competencies. This is the third version of the state CTE testing program to contextually apply the Academic Foundation Competencies, the same reading and

mathematics competencies utilized in the Connecticut academic testing program. Each academic competency is contextually applied to all of the 20 areas of concentrations.

### **3) On-Testing Assessment**

Version VI of the Statewide CTE assessment program will be fully implemented as an on-line testing program. All secondary schools have been registered and logged into the statewide CTE testing network. All students identified as “concentrators” must be tested during the four week testing window. Each school receives three categories of score reports within ten days of the completion of testing including the Academic Foundation Competency Report, (individual) Concentrator Competency (by competency) Report, and the Summary Area of Concentrator Report. The score report package is designed to improve teaching and learning, guide curricular revision and provide numerical scores as final examination scores, the waiver of final examination, and/or a proportional value of the end of the year grade.

### **Implementation of Local Program Improvement Plans**

The CSDE has a continuous improvement district review system in place which is not located on the state website at: <http://www.CSDE.ct.gov/CSDE/cwp/view.asp?a=2678&q=320802&CSDEPNavCtr=#45488>

At this site, there is a power point with instructions, forms for completion, district yearly performance levels, and other supportive resources. Districts/community colleges are measured by using the federally agreed upon local performance targets. Following the federal model, districts are required to develop improvement strategies for targets not meet. The districts/community colleges are also required to submit any changes to the Perkins five-year plan.

### **Tech Prep Award Information**

The Connecticut CSDE has consolidated Perkins basic and Tech Prep funds. Comparable to the tech prep approach are articulations with the community college system and the University of Connecticut which are offered to students enrolled in career and technical education programs. The consolidation of Title I and Title II funds has allowed a shared vision and mission working toward common goals in the community college system. The programs has been renamed College Career Pathways. These linkages are critical to the design of the state Student Success Plan that offers a roadmap to postsecondary education and dual concurrent credit.