

Consolidated Annual Report, Program Year 2017 - 2018 Virginia

Step 3: Use of Funds: Part A

1. During the reporting year, did your state use Perkins funds to develop valid and reliable assessments of technical skills?

Yes

Secondary

Implementing competency-based curriculum – Virginia's Educational Resource System Online (VERSO), is the state's web-based curriculum management system, which maintains CTE task lists, student competency records, and instructional frameworks. Each June, the CTE Resource Center posts the curriculum task lists and student competency records for the next school year and notifies educators of this new information through email distribution and through social media (i.e., Facebook and Twitter). Additional email and social media messages go out from the Center periodically throughout the year to inform registered users of new resources. The student competency records are a critical component for evaluating the validity and reliability of Virginia's CTE courses/programs. VERSO also identifies third-party state licenses, occupational competency tests, and industry-recognized certifications that are associated with each CTE course and that contribute to the assessment component of technical skills attainment.

CanDo – This server-based data system that tracks student performance of CTE competencies was developed by Arlington County Schools—in association with SchoolTool—and was built on open-source software. The CanDo system pilot project began in the second semester of the 2008-2009 school year with eight school divisions participating. The VDOE offered the second phase of the pilot in 2009-2010. Five school divisions participated in this phase of the pilot, which required school divisions to configure and house the data locally. Because there were no restrictions on the use of CanDo, several school divisions independently and voluntarily implemented the system outside the pilot. All participating school divisions had access to training and technical support by the CTE Resource Center. In the summer of 2012, major enhancements were programmed for CanDo, which would allow for multiple-year tracking of competency attainment. By June 30, 2017, 45 school divisions were using the system.

(CTE) actively partners with business and industry to design and provide high quality, dynamic programs to meet current, emerging and projected labor market needs. Virginia's nationally recognized 16 career clusters help students investigate careers and design a rigorous and relevant plan of study to advance their career goals. Each career cluster contains multiple pathways that represent a common set of academic, technical and employability skills. Career pathways lead to credentials that qualify students for a range of career opportunities from entry level to professional level.

The "Virginia's Credentialing Initiative" report provides a snapshot of the number of industry credentials earned by students in career and technical education over the past several years. "Virginia's Credentialing Performance Trends" annual report connects the value of earning industry credentials and postsecondary degrees with fulfilling workplace needs in high-wage high-skill, and high-demand careers. "Virginia Career and Technical Education Program Highlights" performance report summarizes statewide demographics and student performance. These data are posted on the Virginia Department of Education CTE Web page and disseminated widely to stakeholders throughout the year.

Developing valid and reliable assessments for technical skills – Industry Certification for teachers – As part of the "valid and reliable" assessment for technical skills, Virginia utilizes industry credentials and occupational competency assessments as part of the graduation requirement. In order for the students to qualify for a verified credit through industry credentials, the teachers must also have earned the appropriate industry credential (e.g., CISCO Certified Network Associate Examinations, A+ Certification Examinations, Automotive Service Excellence Exams). The state has provided both online training that is available 24/7 and also workshops that provide both training and testing for the teachers. The performance requirement for school divisions has been in effect since the 2008-2009 school year, and it has required additional continuous training, ongoing technical assistance, and reporting efforts.

Postsecondary

No

2. During the reporting year, did your state use Perkins funds to develop or enhance data systems to collect and analyze data on secondary and postsecondary academic and employment outcomes?

Yes

Secondary

Enhancing Data Systems – For certain research projects, the VDOE uses the National Student Clearing House to secure follow-up information beyond the one year required of CTE completers.

Postsecondary

No

Consolidated Annual Report, Program Year 2017 - 2018 Virginia

Step 3: Use of Funds: Part B

1. During the reporting year, how did your state assess the career and technical education programs funded under Perkins IV?

Secondary

Each LEA participates in an annual assessment of its local programs based on program improvement standards composed of two elements: performance standards and CTE follow-up survey of program completers. Data are provided to each school division based on programmatic results so that school divisions can identify areas of improvement in specific programs. In conjunction with the program improvement component, a monitoring system is in place to assess compliance with federal and state regulations, and is designed to focus on continuous program improvement and student achievement. Ongoing technical assistance during the process is provided to school divisions by webinars and individual teleconferences. The monitoring system consists of three phases: Phase I – requires the school division to conduct a comprehensive CTE self-assessment on a six-year cyclical schedule and develop a program improvement plan, as needed, to address identified deficiencies. During 2017-2018, twenty-two (22) school divisions participated in this compliance assessment of their CTE programs. Phase II – requires the VDOE to conduct an analysis of the self-assessment report and other relevant data that may include an onsite visitation to review specific CTE programs. School divisions that are identified to complete a self-assessment in the current school year are in the targeting pool for an onsite review the following year. Using the targeting criteria approved by the U.S. Department of Education, the seven highest ranking school divisions based on deficiencies are identified for an onsite review. During 2017-2018, seven school divisions identified from the 2016-2017 assessments received onsite monitoring reviews. Phase III – requires the school division to follow-up on the identified deficiencies and implement measurable corrective actions.

The Local CTE Plan also requires the school division to correlate their achievement on performance standards to the use of Perkins funds. VDOE measures the Technical Skills Performance Standard (2S1) by the number of industry credentials earned by CTE program completers.

Postsecondary

The Virginia Community College System (VCCS) has an ambitious six year strategic plan, Complete 2021. Concisely stated, Complete 2021's primary goal is to "triple the number of credentials in career and technical occupational fields awarded for the Commonwealth's economic vitality and individual prosperity". These credentials include industry certifications, licenses, and registered apprenticeships. Industry credentials must be industry-recognized, portable, competency-based, third party validated, and, where possible, stackable as part of a career pathway framework. The local colleges are required to submit annual plans to improve upon annual goals. The individual college presidents are evaluated on progress towards meeting those goals.

Wage and earnings outcomes for completers for all VCCS programs including career and technical education programs (CTE) are monitored by the State Council for Higher Education in Virginia (SCHEV). This provides reviews of earnings and employment 18 months post-graduation. Additionally, SCHEV approves the system's strategic plan including specific goals related to CTE for improved student enrollment, retention and program completion.

Accountability efforts to assess and improve post-secondary Perkins performance at the community colleges includes quarterly status reports of Perkins activities and outcomes, continued integration of local improvement plans in annual college post-secondary Perkins plans, and technical assistance for college faculty and administrative personnel for the purpose of reviewing previous performance outcomes and developing negotiated strategies to address areas where local colleges can better achieve and exceed performance measure benchmarks.

In 2017/2018, the VCCS continued its annual on-site Perkins Performance reviews. For these reviews, colleges complete a comprehensive self-assessment and are ranked according to a scoring rubric to provide a numerical comparison of performance. Three colleges are selected annually to undergo an on-site Perkins compliance monitoring review. Selected colleges are provided with a written detailed report within 30 days of the compliance review findings and recommendations for improvement. These colleges are required respond within 30 additional days with how they will address any recommendations or findings and to provide specific progress reports for the next twelve months on a quarterly basis.

Annually, the VCCS compiles state and individual college performance reports for all post-secondary Perkins performance measures. The reports are presented to the Virginia Department of Education Board at the conclusion of the award year.

2. During the reporting year, how did your state develop, approve, or expand the use of technology in career and technical education?

Secondary

Technology Training and Industry Credentials – Virginia provided multiple opportunities for CTE teachers to learn more about technical skills and industry certifications for the classroom. These opportunities included: regional training sessions for implementation of Microsoft Imagine Academy, summer professional development conferences provided training and were attended by approximately 1,112 teachers; the majority of the conferences offered hands-on computer labs whereby teachers had an opportunity to take the credentialing assessment examination following the completion of the training session.

Virginia's Educational Resource System Online (VERSO) - The CTE Resource Center continues to offer current, readily accessible information through this online curriculum management system. VERSO stores each piece of information with metadata attached. The system generates reports that pull from this metadata and assembles the results in a web-based format. The data can be used multiple times in various formats and sent to multiple reports/locations on the web. The 16 Career Clusters drive the entire system, which better aligns Virginia CTE courses with the national clusters that are used at the federal level for organizing and reporting all data pertaining to CTE.

Career Planning Guide (CPG) and the Administrative Planning Guide (APG) – In collaboration with the state CTE specialists, developed and managed by the CTE Resource Center, the CPG and APG use much of the online VERSO data to provide students, parents, and school counselors with a system for exploring career interests and scheduling correlated courses and to provide educators with the course-specific data for administering all state-approved CTE courses in local school divisions.

CanDo – The CanDo software, developed by Arlington County Public Schools in collaboration with SchoolTool, an industry-based foundation, allows teachers to use technology to track student attainment of course competencies. This online system is available to all school divisions in Virginia, with training and support provided by the CTE Resource Center. By June 30, 2017, 45 school divisions were using the system.

During 2017-2018, the CTE Resource Center's web activity had a total of 2,257,708 page views (About/Home-64,972, Services-12,075, Links-8,657, Career Planning Guide (CPG)-47,060, Administrative Planning Guide-108,000, VERSO-2,003,574, and CanDo-2,762).

Online Classes – The Virginia Department of Education has developed an online version of the Economics and Personal Finance course. It covers all the Standards of Learning (SOL) for Economics and Personal Finance and reflects the corresponding curriculum frameworks. This course is accessible through the Virtual Virginia program and is available to all school divisions as online, face-to-face, or blended instruction. The course is structured in two primary parts: (1) a series of media-rich instructional modules that employ underlying engines that make instruction engaging and learning relevant for students and (2) an overarching simulation/game that helps students practice acquired skills and knowledge. The course can be used in a self-paced, self-contained manner or to supplement teacher instruction. Plans began during the 2017-2018 academic year to review the course and that review is scheduled to be completed within the 2018-2019 academic year to ensure that the online course remains current and aligned with state and national standards.

A contemporary and interactive information portal, known as Trailblazers (hosted by the University of Virginia, Weldon Cooper Center) was upgraded as a resource portal for teachers and administrators to access materials for expanding educational and employment/career opportunities, regardless of gender. The portal also provided research-based occupational and employment information and resources relevant to CTE course development and program planning. <http://www.ctetrailblazers.org/>

Virginia Education Wizard (a multi-agency collaboration) – The Virginia Education Wizard is a web-based portal that has been developed to help students explore careers, find college majors, estimate and compare college costs, find and apply for financial aid and scholarships, plan their transition, and apply for admissions to postsecondary education institutions. Interests, skills, and values assessments are available and provide career pathway information for users. During 2017-2018, there were 3,866,197 page views, 593,942 visits/sessions, 406,836 unique visitors/users, 74,328 overall accounts created, and 33,941 new K12 accounts created, resulting in 1.2 million K12 accounts.

In 2017-2018, work began on new functionality for K-12 and was completed in June 2018, resulting in an additional 50,576 accounts activated by counselors for the time period of July 1-Oct 1, 2018. K12 usage is projected to triple 2017 numbers for FY 2018-2019.

VDOE annually develops and revises a technology-enriched equipment list for local divisions to use. Each cluster area specialist contributed to a technology-enriched equipment list for high-demand, high-wage, and high-skill careers. The equipment list encourages divisions to purchase and use the newest technology and equipment throughout career and technical education courses.

During 2016-2018, eleven new high school Cybersecurity courses were developed for implementation beginning fall 2017 and 2018. Five new courses will be developed during the 2018-2019 academic year for implementation beginning fall 2019. During high school, a student who has an interest in cybersecurity will have the flexibility to take two or more pathway courses in a concentration. Students must take at least two or more pathway courses in a concentration sequence along with the appropriate academic courses to meet graduation requirements to become a CTE program completer. More information about the CTE Cybersecurity initiative may be found on the CTE Cybersecurity webpage.

Postsecondary

This year, the VCCS worked to greatly improve the breadth and depth of the assessments, activities, and functionality of the Virginia Education Wizard (developed and managed by the VCCS), which is a highly integrated statewide, web-based portal designed to assist both secondary and post-secondary students in career and college advising. Designed with career pathways in mind, the Wizard is a free and effective service for students to assist them in career exploration and career direction. Current programs of study provide users with clear paths to careers and occupations. The VCCS's Coordinator for Student Support & Technologies conducted a statewide demonstration and training tour to train all school counselors on how to best use the Wizard to engage students and complete the state's required academic and career plans. These plans are first developed in kindergarten and follow students throughout their K-12 career. A special focus on CTE careers was also included in the updates.

Experiential Learning including cooperative education, internships, and/or other forms of on-the-job exposure and training are provided at all 23 Virginia community colleges. Collaborations with professional associations, industrial organizations, and community groups such as workforce investment boards and local chambers of commerce have proved to be an effective means by which to initiate and develop relationships with Virginia's business and industry sectors. Providing hands-on learning opportunities for students is considered core in many programs if study especially CTE programs.

Corporate Partnerships are rapidly increasing at many of the system's colleges. A prime example is the collaboration between Southside Virginia Community College and Microsoft to offer datacenter simulators and various technology programs, including computer technology, datacenter networking, graphic design, computer support specialist, desktop support and network cabling. A special outreach effort has been made to support women entering into this nontraditional field.

3. During the reporting year, what professional development programs did your state offer, including providing comprehensive professional development (including initial teacher preparation) for career and technical education teachers, faculty, administrators, and career guidance and academic counselors at the secondary and postsecondary levels? On what topics?

Secondary

Approximately 1,112 teachers participated in content specific professional development offered through all eight program areas (Agricultural Education - 118, Business & Information Technology - 167, Family & Consumer Sciences - 186, Health & Medical Sciences - 175, Marketing - 153, Technology Education - 134, and Trade & Industrial Education - 179) via summer professional development conferences.

During 2017-2018, a total of 332 high schools/CTE centers participated in the Microsoft Imagine Academy (MIA), 377 teachers earned Microsoft certifications and 5 teachers earned the Microsoft Office Specialist Master Certification.

Within the Agricultural Education Summer Professional Development Conference, the following content specific workshops were held: Cybersecurity Training (5 participants); GIW Certifications – Urban Forestry & Landscape (15 participants); VAAE General Business Session I (86 participants); Area Meetings (Central, Eastern, Northern, Southeast, South Ridge) (66 participants); Reality Works (11 participants); Envirothon – A Session for Newbies and Pros (18 participants); Student Leadership – Putting DIY to Rest (45 participants); Using Drones in Agricultural Education (22 participants); General Business Session II (88 participants); Reality Works (5 participants); Engage Your Students In Authentic Science Investigations (23 participants); Navigating the FFA Website (17 participants); Food Safety Detectives (9 participants); Agricultural Mechanics – Lab Maintenance (8 participants); Lincoln Welding (28 participants); Round Table Collaborations (77 participants); Offsite Workshops (Cherrystone Aqua-farms, Chatham Vineyards, ESAREC) (45 participants); Offsite Workshops (NASA Visitors Center, Chincoteague Wildlife Center, ESAREC) (63 participants); AET – Awards, Data, & Record Keeping Done Easy (16 participants); Using Google (19 participants); Sports Turf Management (9 participants); New Agriscience Fair Categories (2 participants); FFA Alumni, Young Farmers of Virginia (10 participants); VAAE Closing Session and Breakfast (68 participants)

Within the Business and Information Technology Summer Professional Development Conference, the following content specific workshops were held:

Industry Certifications Test Prep and Testing (40 participants); FBLA New Adviser Training (33 participants); It's Crunch Time! Achieving Success on the MOS Certification Tests (22 participants); Getting Started with Microsoft Imagine Academy (20 participants); MakeCode (10 participants); Wise Financial Literacy Teacher Certification (10 participants); MOS and GS4 Industry Certification Testing (16 participants); Google Apps—Basic (20 participants); Google Apps—Advanced (21 participants); Engaging Students with Mobile Technology (20 participants); Life After High School: Navigating Education, Career, and Debt (25 participants); Cybersecurity Content to Support Instruction for Business and Information Technology Teachers (25 participants); Cool Tools to Use in the Classroom (20 participants); Why We Make Mistakes: Learning from Things that Go Wrong (10 participants); Formative Assessment on the Fly—10; Next Gen Personal Finance Resources (22 participants); So You Want to Build a Classroom Escape Room (18 participants); Virginia CyberRange: Cloud-Based Resources for Cybersecurity Education (24 participants); Hacking STEM (12 participants); Risk and Return: Two Activities for Teaching Investments (18 participants); Everything You Wanted to Know about Perkins Funding, but Didn't Know Who to Ask (18 participants); CPA: Breaking the Stereotype (12 participants); Integrating International Culture/Language into the Business Classroom (14 participants); Project Based Learning in the Business Classroom (20 participants); OneNote and Class Notebook (16 participants); Writing a Winning Grant Application (24 participants); How to Add Value to You (identify personal gaps to become a more effective individual) (6 participants); and Teaching Outside the Box: Active Learning Resources from the Federal Reserve Bank (14 participants).

Within the Family and Consumer Sciences Summer Professional Development Conference, the following content specific workshops were held: Google Classroom (20 participants); Food Science (8 participants).

Within the Health and Medical Sciences Summer Professional Development Conference, the following content specific workshops were held: Revive! Opioid Naloxone Training (50 participants); Practical Nursing Director's and Instructor's Symposium (80 participants); Dental Instructor Education Programs (10 participants); Emergency Medical Technician Program Guidelines Update (20 participants); and HOSA 411 (80 participants).

Within the Marketing Education Summer Professional Development Conference, the following content specific workshops were held: Everything Else Is Just Noise (153 participants); DECA Update (124 participants); MDA: Purpose Driven Engagement (96 participants); Marketing a Theme Park (40 participants); Go Tribe! -24; How to Create a Fashion Forecast (22 participants); DECA Advisor's Role & Chapter Strategy (23 participants); The Consumer Journey (34 participants); Incorporating Project Management into the Classroom: A Dose of Reality (28 participants); Fashion Forecasting (25 participants); DECA's Competitive Events (33 participants); Concierge Travel (24 participants); The Three Pillars of Marketing in College Athletics (34 participants); Fashion Styling, an Introduction to the Profession (40 participants); DECA District Leadership (16 participants); Marketing Program Update (153 participants); A Destination Marketing Case Study (30 participants); Signed, Sealed, Delivered (7 participants); Ready, Set, Activate (25 participants); The Future is Now: Social, Digital & New Media Marketing (2 sessions) (86 participants); A Day in the Life (25 participants); Equipping Educators, Educating Students, and Providing Leadership Skills (13 participants); Think Before Ink: The Mind of a Modern Day Marketer – 29, and Round Table Sessions—Virginia DECA Foundation (13 participants), Virtual Business (12 participants), Personal Finance (10 participants), Sports Marketing (23 participants), Entrepreneurship (7 participants), Hospitality (3 participants), Marketing (16 participants).

Within the Technology Education Summer 2017 Professional Development Conference, the following content specific workshops were held: TSA: Getting, Starting and Keeping Momentum; Interior Architecture; Synthesis of Architecture and Interior Design; Sustainability in the Built Environment; Sensible Social Media Usage for Technology Education Teachers; Engineering for the Nuclear Power Industry; VEX Robotic Competition and VEX IQ Challenge; Core Information about Intellectual Property for STEM Teachers; Design Challenges for Middle School; Integrative STEM Practice in Action: Future Space Colony Project; Advanced 3-D Printing with Woods and Metals; Introduction to Coding using Scratch and Spheros; Physical Computing with Scratch; TinkerCAD for 3-D printing and Laser Cutting; Materials Camp Overview: Polymers; Introduction to RobotC for VEX IQ; Teaching STEM Concepts with Laser Cutters and CNC; Education and Virtual Reality; How to Promote Teamwork Duing PBL Activities; Mixed Methods GIS Instruction; Using Spreadsheets in Electronics; Incorporating the Microsoft TEAMS Learning Management System into Technology and Engineering Classrooms; Arduino 101; Makerspaces, Fablabs and STEM Labs: Designs and Safety Concerns; Best Practices to Support English Language Learners in the CTE Classroom; Materials Camp Overview: Metals; 2018-ing Your Technology Classroom; Outreach and Technology Experiences for Younger Visiting Students; Everyone Can Code in K-12; STEM Through Space Camp; Materials Camp Overview: Ceramics and Glass; Introduction to RobotC for VEX EDR; Best Practices in the CTE Classroom; Recruiting Female Students in STEM Classes; Jellybox---Own Your Own3-D Printer in a single Day; If you Can't Beat 'Em, Join 'Em; Federal and State CTE STEM Policy and Advocacy; Understanding State and Supplemental Benefits Available to You; Design and Engineering and the DAMES of STEAM; Real World Collaborations that Support STEM-Centric PBL; No Debate About It: Addressing Socio-technological Issues; Creating a Legacy; Practical Hands-on Coding, Logic and Control Activities for All; MasterCAM Workshop-Project Based Learning; Cybersecurity Content to Support Technology and Engineering Education; Profile of a Graduate; Go Baby Go; Connecting the Digital Dots; and Fundamentals of Photonics.

Within the Trade and Industrial Education Summer Professional Development Conference, the following content specific workshops were held: OSHA 510 Construction Standards (10); OSHA Fall Hazard Protection - Scaffolding (9); OSHA 502 Construction Industry Train-the-Trainer (12); and OSHA 500 Construction Standards (9).

Additionally, approximately 316 CTE teachers and administrators participated in the following regional professional development: Microsoft Imagine Academy/Certiport was provided for 140 teachers; Pharmacy Technician Instructor Clinical Training at VCU (15 participants); Virginia Association of Agriculture Educators Middle School Workshop (23 participants); Virginia Association of Agriculture Educators Winter In-Service (56 participants); Principles of Technology (12 participants); and Manufacturing Technician Train-the Trainer (70 participants).

In addition, the Office of Career and Technical Education collaborated with other instructional units within the VDOE to include CTE teachers in conferences and video conferences on Economics, Financial Literacy, Reduction of Dropout Rates, College Access and Success, and Academic and Career Plan Implementation.

Video-Streamed Training Series for CTE Administrators – Seventeen training sessions were conducted during the 2017-2018 school year for new and experienced CTE administrators. These sessions replace the typical two-day annual training for new CTE administrators. The goal is to support CTE administrators throughout the school year with sustained professional development on the responsibilities of the CTE administrator and identify resources. Topics offered included: Navigating the VDOE and CTE website, Navigating the CTE Resource Center website; Option of First Choice; Education Requirements Needed for Success in the Military, Youth Employment Rules and Regulations in the Commonwealth; Implementing Career Clusters: Preparing Students for High Skill, High Demand, and High Wage Careers; CTE Federal Program Monitoring Review Process; CTE Civil Rights Review Process; Beginning-of-Year: Financial Information, Reimbursements, and Reports; Authentic Project-Based Learning (PBL) in CTE Classrooms; Using Career Pathways/Career Academies as a Framework for School Redesign of Challenged Schools; Counseling for Careers; The 2018-2019 Perkins CTE Local Plan and Budget Submission; Education for Business Engagement: Expanding Opportunities for Students; Completer Follow-up; End-of-Year Financial Reports; Master Schedule Collection, Spring and End-of-year Student Record Collections, and CTE Student Performance Reports; and CTE Industry Credential Data Collection.

The Trailblazers web portal (hosted by the University of Virginia, Weldon Cooper Center) provides professional development resources on nontraditional, occupational, and employment topics including labor market data and employment projections; earnings and education by career cluster; and other topics of interest such as child labor laws pertinent to work based learning. In addition, University of Virginia researchers presented to meetings of new administrators.

Virginia Career VIEW – Resource website that supports the following Virginia Department of Education initiatives: Academic and Career Plan Portfolio Development, Profile of a Graduate, Virginia College and Career Readiness, Academic and Career Plan Development (Grades 7-8); and promotes career development materials focused on Engaging K-8 students in Career Exploration, STEM Careers, Career Assessments (K-8), Integration of career development into the classroom through Standards of Learning activities and meeting specific K-8 Virginia Counseling Standards for Personal/ Social Development, Academic Development, and Career Development. The total website hits: 159,194,609 (increased by 2 million since last year's record breaking website hits); average hits per day: 437,789; average users per day: 9,989; and total visiting users: 3,645,756 (15.58% increase since last year and 240% increase in the past 5 years).

Virginia Career VIEW conducted a total of five (no cost) workshops throughout the Commonwealth providing free CEU's from Virginia Tech's School of Education to 160 participants. Workshops were conducted in Abingdon, Virginia Beach, Arlington, Midlothian, and Roanoke. Workshop topics included a New to VIEW Tutorial, Knowledge About College: Create the Path, Imagining the Future: Helping Students Discover Their Passion, Exploring Careers with Project Based Learning, and VIEW and the New Academic and Career Plan Portfolio.

Virginia Career VIEW conducted outreach throughout the Commonwealth to a total 17,426 (16.69% increase overall since last year) individuals including 8,446 students (7.8% increase), 2,442 Professionals (7% increase), and 6,518 Parents (35% increase). Outreach events included state conferences, Richmond City-wide School Counselor's training, VT Collaborative events such as Central Appalachia STEM Summit, the Virginia Science Festival, the Virginia Tech Kindergarten to College Program, Virginia Tech's Kids Tech University and various school visits for career days and faculty training. This is the highest outreach in Virginia Career VIEW's 38 year history increasing totals from last year by 16.69%. The total website hits are also the highest in VIEW history increasing by 15.58% from 2016-2017. View's outreach included 51 events over 51 days, in 28 different cities /counties including 17,426 individuals.

New Teacher Institute – A weeklong institute is held annually for new career and technical education teachers. The goal is to help highly qualified professionals transfer technical knowledge from workplace to classroom instruction. The institute is led by the University of Virginia professors and upon completion of the course requirements; teachers receive three graduate credits toward their Virginia teaching license. Licensure for teaching is provided by issuing a provisional teaching license that allows three years to complete the educational requirements for a permanent teaching license. As a result, these professionals require intense staff development to assist in the transition from industry professional to a licensed teacher. In 2017, 49 new teachers participated in the New Teacher Institute.

Academic and Career Plan (ACP) – The requirement for the Academic and Career Plan became effective with 7th grade students beginning in the 2013-2014 academic year. School counselors, CTE educators, instructional personnel, and division leaders have requested training in best practices related to academic and career planning, utilizing career clusters, career pathways, and the Virginia Education Wizard.

Experience Works: A Convening of Business Leaders and Educators – A professional development opportunity targeted to Work-Based Learning (WBL) instructors, coordinators, career and technical education administrators, school counselors and career coaches was held in Richmond, June 20-21, 2018. A total of 130 participants, 23 exhibitors, and 23 presenters representing program areas of Agricultural Education, Business and Information, Career Connections, Family and Consumer Sciences, Health and Medical Sciences, Marketing, Technology Education, and Trade and Industrial Education attended. Highlights included an opening panel featuring the power and impact of work-based learning; a general session on facilitating crucial conversations with business partners for proper student placement; concurrent sessions featuring exemplary WBL practices in job shadowing, mentorship, internship, service learning, clinical experience, cooperative education and student registered apprenticeship, strategic discussions between business leaders and educators, and a selection of six industry tours in the Greater Richmond area.

A Work-Based Learning web page

(http://www.doe.virginia.gov/instruction/career_technical/work-based_learning/index.shtml), revised in 2017, to include youth registered apprenticeship, contains resources to help school divisions implement the eight methods of WBL instruction.

Postsecondary

In November 2017, the VCCS hosted the “Men in Nursing Summit” for all local Perkins Administrators. At this summit, administrators were able to hear from two hospital CEOs (who were previously nurses) to discuss their career paths and ways to attract more males to the field. Participants also heard from representatives from the Virginia State Board of Nursing who relayed methods to encourage continued growth of a male nursing student candidate pool. At the end of the summit, administrators were tasked with recording and submitting next steps their college could take in attracting and retaining male students to nursing.

With regard to professional development for academic and career counselors and advisors, the VCCS established new guidelines and performance outcomes for High School Career Coaches. These guidelines were officially rolled out on July 1, 2018; however, their development spanned the spring months of 2018. Advisors will continue to receive guidance to inform best practices on how to implement the new measures. The VCCS also instituted High School Career Coaching Supervisors quarterly webinars. These webinars were developed to re-engage supervisors and improve the quality of the program. Supervisors are regularly encouraged to continue to require regular data collection from their coaches to ensure data quality and show return on investment of the coaching program.

4. During the reporting year, how did your state provide preparation for non-traditional fields in current and emerging professions, and other activities that expose students, including special populations, to high skill, high wage occupations?

Secondary

Nontraditional – All local school divisions are required to address activities that they will implement to attract nontraditional students into their Nontraditional Occupations (NTO) programs. This is provided in the local plan's CTEMS Schedule 4 where the activities are outlined. In addition, school divisions that do not meet standards for participation, as well as completion and credentials, must develop an improvement plan addressing how they plan to meet the standards. Virginia has been very proactive in trying to provide support for nontraditional student participation, completion, and credentialing.

Trailblazer's web portal is a resource website for teachers and administrators to access materials for addressing nontraditional issues and data relevant to CTE course and program planning. On a monthly basis, documents analyzing recent labor market trends were posted on the site. Each issue addresses a specific career cluster and provides information for teachers and administrators.

Top 15 Employers in the Local Workforce Investment Area (LWIA) by Virginia School Division – These documents leverage state data to reveal the top employers in each locality, as well as each broad Local Workforce Investment Area, and are distributed via CTE's Statistics, Reports and Labor Market Data webpage.

Special Populations – Data is collected on all federally identified special populations through Performance Standards. Each year local school divisions are provided with an Annual Performance Report by school and division that is utilized in planning the expenditure of Perkins funds to localities. CTEMS Schedule 4 requires school divisions to describe how they will annually review career and technical education programs, and identify and adopt strategies to overcome barriers that result in lowering rates of access to and lowering success in program for special populations.

Postsecondary

The VCCS' state-wide Administrator (Specialist) for Post-Secondary Perkins Programs is a member of the Methods of Administration Compliance (MOA) review team. MOA compliance reviews are conducted annually at selected community colleges on a rotational basis to insure that college facilities, procedures, and opportunities provide for equitable representations of special populations including non-traditional students. Two colleges receive MOA on-site compliance reviews each year. Responsible VCCS monitoring staff annually attends the four-day training provided by the USDOE Office of Civil Rights each April.

(Please also reference comments relative to on-site Perkins Performance compliance reviews in Part B 1 above).

The VCCS' state-wide Administrator (Specialist) for Post-Secondary Perkins Programs created a system-wide intake form for High School Career Coaches to use when working with students. This form has a dedicated section for discussing nontraditional careers, with a special emphasis on nontraditional CTE careers.

The Virginia Institute for Excellence program provides funding for the development of programs of study that meet the state's need for workforce education and training in emerging career fields. A primary example of this is the current push establishing cyber security programs to meet the rapidly expanding needs of both public and private organizations in Virginia and surrounding states including Washington D.C. Annually, targeted funds are awarded to local community colleges to stimulate the development and improvement of in-demand, non-credit and credit, CTE programming.

All 23 of the local community colleges in Virginia have staff identified to serve as advocates for special population applicants and students. These designees are responsible for resolving complaints, insuring adherence to anti-discriminatory policies and that such policies are publically available. The main process for quality assurance of VCCS CTE programs is the system-wide annual review and assessment process. Subsequently, as relates directly to Perkins, there are additional reviews for all of the individual VCCS colleges system wide.

Each local college actively participates with external populations with interests in supporting, initiating, and expanding CTE programs. Such active involvement benefits CTE programs and students by providing workforce relevance, materials and equipment acquisition, student and graduate employment, internships, cooperative education, mentoring, and curriculum development. CTE program advisory committees are prominent in this process.

The VCCS is very proactive in integrating career exploration and planning through Career Pathways beginning at the middle school level and continuing through postsecondary. This is evidenced by the Governor of Virginia creating a position within his office to oversee the institutionalization of Career Pathways throughout the state's secondary and post-secondary public education systems including both academic and CTE career paths.

5. During the reporting year, how did your state provide support for programs for special populations that lead to high skill, high wage and high demand occupations?

Secondary

Virginia has full inclusion of students with special needs in both academic and elective courses, which includes Career and Technical Education (CTE). Special education teachers collaborate with CTE teachers and administrators to help ensure that special education students have the opportunity to participate in CTE classes offered within the school/division according to goals in their Individualized Education Plan (IEP). Technical assistance to teachers is provided through the cooperation of the special education and CTE offices within the VDOE. They utilize such resources as Virginia Career VIEW, <http://www.vaview.org>, Virginia Education Wizard, www.vawizard.org, and TrailBlazers, http://www.ctetrailblazers.org/live_data/live_site_page.php. CTE and special education teachers and administrators are encouraged to attend professional development opportunities offered through the Virginia Department of Education. CTE professional associations' summer conferences, the Virginia Transition Forum, webinars, and video streaming sessions assist CTE and Special Education personnel in the implementation of best practices when assisting students with academic and career planning.

In addition to providing funding for adaptive equipment and resource personnel (including interpreters and tutors) for special populations, the VCCS utilizes the Virginia Education Wizard online tool to assist students with disabilities to access secondary and postsecondary and position them to gain employment upon graduation. 2017-2018 school year, of the 294,402 CTE students, 156,224 special population students have access to the approximate 400 CTE credentialing tests in accordance with their IEP or 504 Plan.

Postsecondary

(Please reference comments regarding MOA and the Virginia Institutes of Excellence program included above).

Summer camps and workshops are effective methods to introduce special populations including underrepresented gender populations to career and technical educational opportunities in non-traditional fields. Such programs have been provided at VCCS campuses for middle and high school students exposing participants to STEM career opportunities such as engineering and engineering technology, various electrical and mechanical trades, and health sciences such as nursing and emergency medical technician among others. External organizations such as the Virginia Manufacturers Association and the Virginia Energy Council are actively involved.

PLUGGEDINVA is an example of a targeted program to support special populations and to direct their progress towards in-demand, high wage positions in Virginia (see 6R below).

As previously mentioned, the Virginia Education Wizard is an effective on-line program to assist all students, special population students included, in conducting career and college exploration for in-demand opportunities and to assist them in decision making and direction.

The VCCS provides funding for adaptive equipment and resource personnel, including interpreters and tutors for special population students.

6. During the reporting year, how did your state offer technical assistance for eligible recipients?

Secondary

Among its many technical services, CTE establishes, collects, and disseminates performance information to the local school divisions; awards grants to local school divisions for STEM activities; coordinates transition activities with postsecondary institutions; coordinates activities with other workforce agencies; coordinates curriculum efforts through the Virginia Career and Technical Education Curriculum Resource Center; provides technical services to teachers and administrators; provides presentations on career clusters/career pathways/programs of study; and provides professional development for school personnel. State staff responded to inquiries from school divisions on the selection of appropriate industry certification exams administered to students as they align to pathway courses for a certain occupation/career path.

Postsecondary

The VCCS state-wide Administrator (Specialist) for Post-Secondary Perkins Programs served as the main point of contact for all Perkins program-related questions. The VCCS provides technical assistance to its 23 community colleges including the following:

1. Collecting and disseminating performance progress information.
2. Coordinating formal and informal collaborative activities between the local colleges and other workforce agencies and organizations.
3. Providing professional development opportunities for community college personnel.
4. Providing administration leadership and college performance progress monitoring.

This position is also responsible for troubleshoot any Virginia Wizard Case Management System issues. To reiterate, the Wizard Case Management System is the main system that coaches and advisors use to record student interactions.

PLUGGEDINVA, is a career pathways program that provides adult learners with a contextualized GED curriculum integrated with industry-specific technical training as a means to develop essential workplace skills for entry-level jobs in targeted high demand industries. The pathways progress from the GED credential to a Career Readiness Certificate to industry recognized certifications and beyond. The partnership for this program includes the VCCS, Virginia Commonwealth University, and the Virginia Department of Education's Office of Adult Education and Literacy.

Partnerships involved with the VCCS in developing, promoting, and presenting the summer camps and workshops noted in 5R above include NASA, Women in Technology, the Virginia Manufactures Association, the Virginia Energy Workforce Council, and others.

7. Serving individuals in state institutions

Part I: State Correctional Institutions

Amount of Perkins funds used for CTE programs in state correctional institutions:

220000

Number of students participating in Perkins CTE programs in state correctional institutions:

6784

Describe the CTE services and activities carried out in state correctional institutions.

Secondary

Virginia Department of Corrections

The Virginia Department of Corrections (VADOC), Division of Education serves as a local education agency for incarcerated adults housed in state operated adult correctional facilities throughout the state of Virginia. All academic and career and technical education (CTE) teachers meet state certification and endorsement standards. Programs are geared toward helping individuals realize their potential through educational programs to become productive members of society when released from facilities. During the past year VADOC continued operating a number of dual enrollment programs through a partnership with the Virginia Community College System (VCCS). This included Business Software Applications, Computer Systems Technology, CAD/Drafting, Masonry, Commercial Foods, and HVAC. VADOC now has agreements in six adult facilities for 16 programs. Agreements continue that enable the schools to provide testing from Pearson VUE for CompTIA A+, Certiport for the Microsoft Office Specialist, and NOCTI for the Residential Construction Academy for several programs to include Carpentry, Plumbing, Building Maintenance Repair, Electricity, and HVAC trade areas. Additionally, we have begun conducting online testing in our Optical testing for our National Board Certified optician's exam. We have had 5 students pass this exam this fiscal year.

As part of VADOC's efforts to expand postsecondary opportunities, apprenticeship programs were expanded. A total of 684 apprentices were registered with a total of 77 apprentices completing their programs. A variety of programs are available, depending on the opportunities for establishing them at a particular prison. We were also able to get five CTE programs recommended through the ACE. The ACE courses include Introduction to Computers, Business Software Applications, Print Production, Communications Arts and Design and CAD. We had 439 completions this year in these 5 programs alone that are now nationally accredited with ACE for approved equivalent college credit.

Industry based certifications continued to be emphasized in spite of the difficulty of offering some of the exams inside prisons. Last year VADOC had a total of 1239 industry based certifications. These credentials provide external verification of student skills. Students have only been allowed direct Internet access for Optical testing as a pilot program at Fluvanna Correctional Testing for the since October of 2017. This makes certification testing much more involved, especially if it is computer based.

During the 2016-2017 school year, the VADOC offered CTE programs to adult inmates at 41 adult correctional facilities in 38 different program areas in three occupational trade areas. Educational evaluation and assessments are conducted at reception centers. During the 2016-2017 school year, VADOC had 6,676 adult enrollments with 2150 course completions. Students enroll at any point in the year rather than at a specific time of the year. This is necessary because of the constant entry and exit of offenders into and out of the system, and the transfer of offenders within the system.

During the 2016-2017 school years, the VADOC CTE central office administration continued to conduct on-site school evaluations of adult CTE programs. These evaluations are designed to look at all aspects of the instructional program and operating procedures to ensure that programs are operating in an appropriate and safe manner, and that they comply with all established standards.

Virginia Department of Juvenile Justice

The Virginia Department of Juvenile Justice/Division of Education (DJJ-DOE) serves as an independent school district for the Yvonne B. Miller High School (YBM). DJJ-DOE collaborates as appropriate with the Virginia Department of Education in the provision of Career and Technical Education (CTE) courses.

CTE program offerings support graduation criteria and prepare youth for productive employment futures while simultaneously meeting the state's need for well-trained and industry-certified technical workers. The Division of Education offered a wide range of recognized CTE courses.

Students working to earn a standard diploma are required to earn a career and technical education credential approved by the State Board of Education that could include, but not be limited to, the successful completion of an industry certification, a state licensure examination, a national occupational competency assessment, or the Virginia workplace readiness skills assessment.

To monitor the effectiveness of the Division's CTE offerings, data on industry credentials, competencies, and enrollment were reviewed and analyzed.

During the 2017-2018 school year, the DJJ-DOE offered CTE programs to juveniles at the Yvonne B. Miller High School. Programs included nine different courses focusing on six cluster areas.

DJJ-DOE had 153 students enrolled in at least one CTE course during the 2017-2018 school year. Due to length of stay, 111 students were enrolled for the entire duration of the course. Forty-one students were course completers as demonstrated by a mastery of at least 80% of the competencies for their CTE respective course and five students were CTE completers.

All students enrolled in CTE courses were provided multiple opportunities to take a Board certified industry credentials. In 2017-2018 the credentialing options for students were expanded to include: the WISE Financial Literacy Certification Test, the VA Workplace Readiness Skills Assessment, the ServSafe® Food Manager Exam and the ManageFirst® Customer Service Exam.

In 2017-2018, 46 students earned the WISE credential, nine students earned the WRS credential, four students earned a ServSafe® credential, and one student earn a ManageFirst® credential.

Postsecondary

For the past several years, the VCCS has annually served in excess of 2500 inmates of Virginia's correctional facilities to qualify for a Career Readiness Certificate certifying their basic workplace skills and received this nationally recognized credential designed to assist job seekers. These assessments were offered by the VCCS through Southside Virginia Community College with funding support from the Virginia Department of Corrections.

Part II: State Institutions Serving Individuals with Disabilities

Amount of Perkins funds used for CTE programs in state institutions serving individuals with disabilities:

0

Number of students participating of Perkins CTE programs in institutions serving individuals with disabilities:

0

Describe the CTE services and activities carried out in institutions serving individuals with disabilities.

Perkins funds were not used to support state institutions serving individuals with disabilities.

8. During the reporting year, did your state use Perkins funds to support public charter schools operating career and technical education programs?

No

9. During the reporting year, did your state use Perkins funds to support family and consumer sciences programs?

Yes

Secondary

Family and Consumer Science programs were offered in 556 schools (middle and high schools) with a total enrollment of 129,626 (duplicated count).

Training sessions were offered during the Family & Consumer Sciences summer professional development conference. All workshops were aligned to the related career cluster.

Postsecondary

No

10. During the reporting year, did your state use Perkins funds to award incentive grants to eligible recipients for exemplary performance or for use for innovative initiatives under Sec. 135(c)(19) of Perkins IV?

No

11. During the reporting year, did your state use Perkins funds to provide career and technical education programs for adults and school dropouts to complete their secondary school education?

No

13P. During the reporting year, did your state use Perkins funds to provide assistance to individuals who have participated in Perkins assisted services and activities in continuing their education or training or finding appropriate jobs?

No

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Step 3: Use of Funds: Part C

1. During the reporting year, how did your state provide support for career and technical education programs that improve the academic and career and technical skills of students through the integration of academics with career and technical education?

Secondary

Correlation of Virginia Standards of Learning (SOL) and CTE Instructional Resources and Guides – Virginia academic and CTE specialists continue to review every CTE course and correlate each task to the SOL for Mathematics, Science, English, and History/Social Science, where appropriate. Since its gubernatorial mandate in 2002, this academic standards correlation has been a part of each CTE task list and its attendant framework. Whenever a CTE course is revised, the academic correlations are also reviewed and adjusted as needed.

Virginia Education Resource System Online (VERSO) Resources – Within VERSO there are many resources that integrate academic and CTE instruction. First, the tasks for each CTE course in Virginia are correlated to the four core academic SOL, when appropriate. Courses in VERSO also have a variety of resources that address academic and CTE integration, including process/skill questions, scenarios, and lesson ideas.

Career Pathway Development – Virginia has developed sample career pathways programs of study (plans of study) for each of the 79 nationally identified career pathways. We also have teamed academic and career/technical specialists to develop career pathways programs of study that are identified as a combined academic/CTE specialty area (i.e., Journalism – English, Business & Information Technology, and Trade & Industrial Education) or a Fine Arts/CTE specialty area (i.e., Graphic Design). In 2011, a checklist was developed to better guide stakeholders in the development of local sample plans of study that meet all Perkins criteria. The checklist is available on the CTE Website (http://www.doe.virginia.gov/instruction/career_technical/career_clusters/) along with the state sample templates. The Web pages for clusters and pathways were expanded in 2013-2014 to provide individual pages for each of the 16 clusters. The pages are updated annually to contain descriptions, student spotlights, occupational data, programs of study samples, and career cluster planning and marketing resources. All CTE courses are aligned with one or more career clusters and career pathways within those clusters and are available online in a variety of guidance documents for stakeholders.

Academic and Career Plan (ACP) – Career and Technical Education staff continue to work with academic specialists, stakeholders, and other educators throughout the Commonwealth to provide guidance and resources for the Academic and Career Plan (ACP) graduation requirement. The ACP meets the Perkins criteria for a career pathway program/plan of study.

Enacted by the 2009 General Assembly, the Board of Education included in its 2009 revisions to the Regulations Establishing Standards for Accrediting Public Schools in Virginia, (8 VAC-20-131-5 et seq) provisions for each middle and high school student to have a personal learning plan that aligns academic and career goals with the student's course of study. Beginning with the 2013-2014 academic year, all schools shall begin development of a personal Academic and Career Plan for each seventh-grade student with completion by the fall of the student's eighth-grade year. Students who transfer from other than a Virginia public school into the eighth-grade shall have the Plan developed as soon as practicable following enrollment. Beginning with the 2014-2015 academic year, students who transfer into a Virginia public school after their eighth-grade year shall have an ACP developed upon enrollment.

The components of the Plan shall include, but not be limited to, the student's program of study for high school graduation and a postsecondary career pathway based on the student's academic and career interests. The Academic and Career Plan shall be developed in accordance with guidelines established by the Board of Education and signed by the student, student's parent or guardian, and school official(s) designated by the principal. The Plan shall be included in the student's record and shall be reviewed and updated, if necessary, before the student enters the ninth and eleventh grades.

Infusion units: Infusion units are optional instructional units that have been developed for teachers to add to an already existing curriculum framework. The infusion units offered are: Aquaculture, Customer Service, Cyber Security Foundations, Social Engineering and Personal Cyber Security, Cyber Forensics, Entrepreneurship, and Green Building.

During 2017-2018, the CTE Resource Center hosted 40 meetings for Henrico County Public Schools. Approximately 900 business representatives participated.

The Workplace Readiness Skills for the Commonwealth and Examination – Virginia has included workplace readiness skills in every CTE course since 1999. In June 2010, the Office of CTE announced the revision of these skills, which was undertaken with assistance from UVA's Weldon Cooper Center, the Career and Technical Education Consortium of States (CTECS), and the CTE Resource Center (CTERC). After an extensive literature review, research, and compilation of a revised list of skills, business/industry representatives from across the Commonwealth validated the updated list. The new 21 skills then were incorporated in the content of every CTE course as the first 21 tasks, effective for the 2010-2011 school year. These skills are correlated to the Virginia Standards of Learning and are accompanied by extensive teaching resources. During 2010 - 2011, information and activities pertaining to sustainability were infused throughout the 21 skills. The VDOE in collaboration with CTECS developed a credentialing exam to complement the updated 21 Workplace Readiness Skills, Workplace Readiness Skills for the Commonwealth Examination. The Board of Education approved this credential as a "stand-alone" examination towards a student-selected verified credit at its February 17, 2011, meeting. This online examination was field tested and became effective beginning spring 2011. It is designed to measure the 21 workplace readiness skills that are a required component of each CTE course. Students may earn a student-selected verified credit by passing this examination. The Workplace Readiness Skills for the Commonwealth Examination is an optional credentialing test that can be administered with any CTE course. Beginning with first-time ninth grade students in the 2013-2014 school year, requirements for the standard diploma shall include a requirement to earn a career and technical education credential that has been approved by the Board, that may include, but not be limited to, the successful completion of an industry certification, a state licensure examination, a national occupational competency assessment, or the Virginia Workplace Readiness Skills Assessment.

In 2017-2018, the CTE Resource Center hosted a two two-day meetings with Career and Technical Education Consortium of States (CTECS) representatives and educators to review, revise, and build questions used on the Workplace Readiness Skills for the Commonwealth Examination (October 15-16, 2017—35 participants; May 30-31, 2018—25 participants). The Center also began an extensive review of existing Workplace Readiness Skills resources for each of the competencies and added or updated those resources. The Workplace Readiness Skills for the Commonwealth examination will satisfy the graduation requirement. During 2017-2018, 59,726 students participated in this test and 50,620 (85 percent) passed. During 2016-2017, 55,217 students participated in this test and 42,313 (76.60 percent) passed. The maximum score possible is 100, of which the students' mean score was 83.09.

Economic Education and Financial Literacy – Effective with the ninth grade class entering in 2011-2012, all students must earn one credit in Economics and Personal Finance as a graduation requirement. Through collaboration with CTE, History and Social Science, and Mathematics, Standards of Learning have been developed for the Economics and Personal Finance course and approved by the Board of Education; and course competencies have been developed and approved by teachers and a business and industry panel. Curriculum Frameworks for CTE teachers and for History and Social Studies teachers have been developed and posted on a shared Economics and Personal Finance website. The course competencies and Standards of Learning were reviewed and revised during the last reporting period and implemented during this reporting period. The review identified a lack of information about funding postsecondary education and training and the course was enhanced to include that section. An interactive online resource website, TeachingMoneyVa.org, has been developed through collaborative efforts of CTE teachers and supervisors, academic teachers and supervisors, the Richmond Federal Reserve Bank, professional association representatives, and members of the financial services community. VDOE supports and provides judges for the Governor's Challenge for Economics and Personal Finance, a competition that promotes the integration of academics with career and technical education.

An online version of the Economics and Personal Finance course has been developed and is available at no cost to public school divisions through Virtual Virginia. The online course is also available as I-books for purchase by local divisions or as a free PDF for download. All of these efforts involve academic and CTE teachers.

The Office of Career, Technical, and Adult Education provided two training workshops through Southern Regional Education Board for Counseling for Careers planning and implementation with 50 participants.

In order to enhance the integration of academics with career and technical education, an Information Technology Strategic Review was conducted to see what technical skills in Business and Information Technology courses correlated with Labor Market and academic skills. As a result, several courses were combined into one, more relevant and rigorous course named Digital Applications, replacing Computer Applications, Keyboarding Secondary, Word Processing, and Keyboarding Applications. This will eliminate duplication of competencies among the courses and allow for more schedule flexibility in academic and CTE courses.

The Office of Career, Technical, and Adult Education is working closely with the Office of STEM in the development of the first Annual Virginia Computer Science Conference being planned for summer 2019.

Virginia Education Wizard – A function within the Wizard allows educators to create and maintain Academic and Career Plans (ACP) electronically. Administrators can create reports from the data stored in student accounts for planning and administrative purposes.

All students enrolled in career and technical education courses are members of the local CTSO related to their courses and area of interest and are provided with opportunities to apply academic, technical and employability knowledge and skills necessary in today's work force. During 2017-18, approximately 58,000 Virginia students participated in leadership experiences through DECA, FBLA, FCCLA, Educators Rising, FFA, HOSA, SkillsUSA and TSA. CTSOs extend Career and Technical Education in Virginia through networks of programs, business and community partnerships and leadership experiences at the school, state and national levels.

Postsecondary

The New Horizons Conference is partially supported with state leadership funds. As noted previously, New Horizons is the premier professional development for VCCS faculty, counselors, and administrators in the use of technology to improve in-class instruction and expand effective instruction and outreach through on-line distance learning and multimedia methodologies. Providing challenging and rigorous programs of study through the integration rigorous academics with career and technical education is the underlining emphasis of the conference.

2. During the reporting year, how did your state support partnerships among local educational agencies, institutions of higher education, adult education providers, and, as appropriate, other entities, such as employers, labor organizations, intermediaries, parents, and local partnerships, to enable students to achieve state academic standards, and career and technical skills.

Secondary

Automotive Youth Education Services (AYES) – The Office of Career and Technical Education Services continues its partnership with the Virginia Automobile Dealers Association and the Automotive Youth Educational Services (AYES). Virginia was one of the first states to adopt this partnership model that includes a manufacturer, retailer and educator all working together to provide students the opportunity to develop skills needed for a successful career in automotive technology. This partnership has enhanced both the curriculum and the equipment in auto technology labs and provided students with mentoring experiences and internships in local auto dealerships.

Career Success Stars in Career and Technical Education (CTE) - a new initiative called "Career Success Stars," began in 2018. It replaced the long running R U "College & Career" Ready Magazine. The new initiative features video profiles of the Commonwealth's brightest Career Success Stars, former students, who are now in their 20s and 30s. The individual success stories are available on the VDOE (Virginia Department of Education) website for students and teachers to view how CTE programs provide skills for career success.

former students' success stories selected represent each of the 16 career clusters and 79 related pathways and are available for viewing on each of the career cluster pages on the VDOE web site. Also, there are feature stories representing an entrepreneur, active military personnel, and an intern. se stories are posted on the CTE home page on the VDOE website. For each career success star, a video story and still photograph are available. Selection considerations included diverse representation by gender, race/ethnicity, and statewide regional locations.

For parents or guardians who want to engage with their children about life after high schools, postsecondary potential, and careers, parent guides are included on five career cluster pages: Education & Training, Government & Public Administration, Health Science, Hospitality & Tourism, and Transportation, Distribution, & Logistics. These parent guides complement the VCOE Career Success Stars videos, in which CTE graduates describe their education and career experiences.

Project Lead the Way (PLTW) – A sequence of courses which, when combined with college preparatory mathematics and science courses in high school, introduces students to the scope, rigor, and discipline of engineering and engineering technology prior to entering college. The courses are Introduction to Engineering Design and Principles of Engineering, and students can take specialization courses of Digital Electronics, Computer Integrated Manufacturing, Civil Engineering and Architecture, Aerospace Engineering and Engineering Design and Development, Software Engineering (Computer Science Principles) and Computer Science Essentials. These provide pathways for students to narrow their interests. Technical update workshops are provided for teachers, administrators and guidance counselors. As of 2017-18, there are 85 PLTW programs in Virginia. Local school divisions have begun offering the PLTW Biomedical Sciences program and the Computer Science program.

Microsoft Imagine Academy – The Virginia Department of Education continues its partnership with Microsoft to provide the Microsoft Imagine Academy (MIA) program. Through funding provided by the General Assembly, the MIA program is in its sixth year. The program offers many unique 21st century education benefits and fully prepares students to obtain internationally recognized IT industry certifications. During 2017-2018, the academy was in 326 high schools/CTE centers, serving nearly 50,000 students. The MIA program includes an annual subscription for digital curriculum and instructional resources to prepare students with industry-recognized skills and certifications to meet the rising technology needs of business and industry. Additionally, participating high schools and CTE centers receive a twelve month site license for unlimited certification testing at no cost to school divisions for the Microsoft Office Specialist (MOS) applications (Word, Excel, PowerPoint, and Outlook), and the GMetrix practice exams for all of the MOS applications. Also, a limited number of exam vouchers for the Microsoft Technology Associate (MTA) certifications were available to all schools/centers, but distributed as needed. During 2017-2018, a total of 19,637 certifications were earned as follows: of the total, 19,056 earned by students and 377 earned by teachers; and 199 students earned the Microsoft Office Specialist (MOS) Master Certification and 5 teachers earned the MOS Master Certification.

Governors STEM Academies – CTE provides leadership and coordination of activities for the Governor's Science, Technology, Engineering, and Mathematics (STEM) Academies which also include the CTE Exemplary Program evaluation process. Twenty-two STEM Academies have been established since the beginning of the initiative in 2007-2008 school year.

Governor's Health Sciences Academies – CTE provides leadership and coordination of activities for the Governor's Health Sciences Academy initiative which also includes the CTE Exemplary Program evaluation process. Nine Governor's Health Sciences Academies have been approved since the beginning of the initiative of in 2012-2013 school year.

The Governor's Academies are programs designed to expand options for the general student population to acquire critical skills, knowledge and credentials that will prepare them for high-demand, high-wage, and high-skill careers. All academy programs must include significant work-based learning and training beyond the classroom using instructional methods such as cooperative education, internships, youth-registered apprenticeships, clinical experiences, job shadowing, mentorships, or service learning. Students must earn at least 9 dual enrollment credits.

Virginia Jump\$tart Coalition – The Virginia Jump\$tart Coalition is a nonprofit, volunteer-driven organization representing more than 100 individuals and organizations in business, government, association/nonprofit and education who have joined together to improve the financial literacy of Virginians. A member of the Virginia Department of Education, Office of Career, Technical, and Adult Education—represents the VDOE on the coalition. The Business and IT specialist serves on the Board and on the Financial Literacy Summit planning committee. Each year from 2011-2018, 185-200 teachers participate in the Financial Literacy Summit. Other sponsors have provided nationally acclaimed speakers, such as Michelle Singletary, as the keynote speaker at this free event open to all Virginia teachers.

Financial Services Group – A group of business and industry representatives has provided knowledge, assistance, and financial support for the economics and personal finance initiative. Member organizations of the group provide funding for the online instructional resources website, TeachingMoneyVa.org, and for the major portion of funding for the Virtual Virginia online Economics and Personal Finance course. Members of this group also participate in curriculum revision initiatives for Career and Technical Education in Virginia.

Virginia Credit Union League – Several credit unions have made available regional training with emphasis on instructional resources to help with instruction in the Economics and Personal Finance course. The Credit Union League also provides training and start-up kits for the statewide Banking in the Schools program. The Business and IT Specialist is an invited presenter at each of the regional training workshops during the reporting period with over 50 teachers in attendance at each workshop. VDOE provided a judge for the Virginia Credit Union League statewide competition for community service for the member credit unions.

Virginia Council on Economic Education—Virginia Council on Economic Education provided workshops and professional development for teachers in preparation for teaching the Economics and Personal Finance course and preparing to take the teacher credential for Personal Finance (W!SE). During the 2017-2018 year, 1,415 teachers were trained during 101 workshops and presentations. Training was also provided through this partnership for teachers to use the Stock Market Game in their classrooms. VDOE was represented at the Economic Awards Luncheon sponsored by the Virginia Council on Economic Education by the Business and IT specialist, a former recipient of the Outstanding Economic Educator of the Year award.

The Office of Career, Technical, and Adult Education worked closely with Longwood University to develop, implement, and update a dual enrollment Economics and Personal Finance course. The course was offered during the past four summers and was a tremendous success. Plans are to continue and expand this dual enrollment offering. The Office is currently working with Longwood University and Radford University in the development of a Cybersecurity Fundamentals dual enrollment course.

The Office of Career, Technical, and Adult Education worked closely with George Mason University in the development of a new course, Game Design and Development. Members of the George Mason teaching staff served on the curriculum development team and as consultants for conference presentations on the newly developed course.

Radford University—The Office of Career and Technical Education (VDOE) worked with Radford University in the development of the Cybersecurity Fundamentals curriculum and promoted teacher professional development from Radford offered online free to Virginia teachers through announcements on the Business and Information Technology listserv and announcements at the Virginia Business Education Association Conferences and Cybersecurity presentations.

National Institute of Cybersecurity Education Research (NICERC)—VDOE has developed a strong partnership with NICERC, which provides training at each professional association conference. The Director of Curriculum also serves on Virginia Cybersecurity curriculum development teams as requested and participated in a videostreaming presentation focusing on Virginia's progress in Cybersecurity Education.

Virginia Extension Service (Virginia Tech)—VDOE provided a judge (Business and IT Specialist) for the LifeSmarts competition for students to compete for state recognition and an opportunity to compete at the national level.

Virginia CyberRange (Virginia Tech)—VDOE worked closely with the staff of Virginia CyberRange in promoting and providing training in the use of the electronic instructional resource, CyberRange. The Business and Information Technology Program Specialist presented a session on Virginia's progress in Cybersecurity Education at the first annual CyberRange Conference for Virginia teachers of Cybersecurity. The Office of Career, Technical, and Adult Education also planned and facilitated a videostreaming presentation on Cybersecurity and the use of Virginia CyberRange in the classroom, using a NICERC Director and the Director of Virginia CyberRange as the presenters.

Postsecondary

No

3. During the reporting year, did your state use Perkins funds to improve career guidance and academic counseling programs?

Yes

Secondary

Academic and Career Plan (ACP) – The requirement for the Academic and Career Plan became effective with 7th grade students beginning in the 2013-2014 academic year. School counselors, CTE educators, instructional personnel, and division leaders have requested training in best practices related to academic and career planning, utilizing career clusters, career pathways, and the Virginia Education Wizard.

Postsecondary

As described in STEP 3: Part B, state leadership funds are used to support expansion and emersion of high school career coaches and adult career coaches to assist secondary students and returning adult students in career exploration and decision making. State Leadership funds are used to partially support the administrator for the career coaching program. Additionally, state leadership funds have been used to develop and continuously improve the Virginia Education Wizard, the state's primary web-based portal designed to assist secondary, postsecondary, and adult students in career and education exploration and planning.

4. During the reporting year, did your state use Perkins funds to establish agreements, including articulation agreements, between secondary school and postsecondary career and technical education programs to provide postsecondary education and training opportunities for students?

Yes

Secondary

Dual enrollment and articulation agreements (secondary and postsecondary effort) – The 22 STEM academies, which includes students from 44 school divisions; and 9 Health Science academies, which include students from 10 school divisions, are required to develop plans of study that include dual enrollment/articulation agreements with community colleges and/or universities.

Postsecondary

The VCCS and the Virginia Department of Education work collaboratively to enhance the progression of secondary students to postsecondary education in CTE programs through articulated Programs of Study to provide students with clear pathways to the careers of their choice. Both programs of study and dual enrollment courses are well established at all state community colleges and public high schools.

5. During the reporting year, did your state use Perkins funds to support initiatives to facilitate the transition of sub baccalaureate career and technical education students into baccalaureate programs?

No

6. During the reporting year, did your state use Perkins funds to support career and technical student organizations?

Yes

Secondary

Participation by local divisions in state and national student competition is supported as appropriate.

Postsecondary

The state administrator (specialist) for postsecondary Perkins programs is working with the individual community colleges — namely Virginia Western Community College -- to develop student support groups and mentoring groups for non-traditional gender students to increase the participation and completion of underrepresented genders in CTE programs. Such support groups have been formed at several colleges in the last two years and additional colleges are in planning stages.

7. During the reporting year, did your state use Perkins funds to support career and technical education programs that offer experience in, and understanding of, all aspects of an industry for which students are preparing to enter?

Yes

Secondary

All Aspects of Industry (AAI) – The VERSO system (above) integrates AAI into all of the high school curriculum frameworks and competency/task lists for CTE in Virginia. VERSO also provides teachers access to instructional resources for AAI.

Postsecondary

The VCCS has been providing leadership to the colleges to increase various types of experiential learning for CTE students. Mentoring relationships has continued to be an emphasis in 2017-2018 and going forward. However, the colleges have numerous other means of providing students with greater understandings of business and industry through internships, cooperative education, shadowing, tours, guest instructors/speakers, etc.

8. During the reporting year, did your state use Perkins funds to support partnerships between education and business, or business intermediaries, including cooperative education and adjunct faculty arrangements at the secondary and postsecondary levels?

Yes

Secondary

Federal and State Labor Laws for Youth Work-Based Learning – Know the Rules is a resource, developed in collaboration with the University of Virginia Weldon Cooper for Public Service to compare federal and state labor laws for nonagricultural and agricultural occupations, parental exemption, and prohibited and hazardous occupations as they relate to youth work-based learning.

Postsecondary

The state postsecondary Perkins specialist also teamed with Virginia Western Community College, the Roanoke Chamber of Commerce, and Roanoke's RAMP Regional Accelerator to introduce a program to infuse the "growth mindset" and gig economy way of working into various community colleges courses.

9. During the reporting year, did your state use Perkins funds to support the improvement or development of new career and technical education courses and initiatives, including career clusters, career academies, and distance education?

Yes

Secondary

Career Cluster and Career Pathway Development (secondary and postsecondary effort) – With the assistance of the CTE Resource Center, the VDOE developed a set of Career Cluster posters, representing each of the 16 Career Clusters and featuring graduates of Virginia's CTE programs. These have been made available to all school divisions. Additionally, the graduates' photographs have been incorporated into the Resource Center's website. During 2017-2018, approximately 400 sets of the Career Cluster posters have been distributed to school divisions to promote high-demand, high-skills, and high-wages to students, school counselors, administrators, and parents.

The Virginia Education Wizard, an online college and career planning tool (www.vawizard.org), is available to every student in Virginia and provides career assessment results according to Career Clusters. Wizard version 5.0 allows students to create and store academic and career plans, as well as merge career pathways into those plans.

Postsecondary

See previous discussions in STEP 3: Part B.

10. During the reporting year, did your state use Perkins funds to provide activities to support entrepreneurship education and training?

Yes

Secondary

Entrepreneurship education is integrated into all CTE programs. Training and best practices sessions were provided during the program area summer conferences.

Postsecondary

No

11. During the reporting year, did your state use Perkins funds to improve the recruitment and retention of career and technical education teachers, faculty, administrators, or career guidance and academic counselors, and the transition to teaching from business and industry, including small business?

Yes

Secondary

Virginia Teachers for Tomorrow: This program introduces high school juniors and seniors to careers in education. In addition to the fundamental curriculum components, all students are required to participate in an internship outside the Virginia Teachers for Tomorrow classroom. The internship may involve the Pre-K through grade 12. During 2017-2018 school year, 1,123 students participated in the Virginia Teachers for Tomorrow program.

Educators Rising (formerly the Future Educators Association)—In 2017-2018 there were 1,229 members. This national leadership organization provides high school students opportunities to explore teaching as a career option. It helps students gain a realistic understanding of the nature of education and the role of the teacher.

New Teacher Institute – A weeklong institute is held annually for new career and technical education teachers. The goal is to help highly qualified professionals transfer technical knowledge from workplace to classroom instruction. The institute is led by the University of Virginia professors and upon completion of the course requirements; teachers receive three graduate credits toward their Virginia teaching license. Licensure for teaching is provided by issuing a provisional teaching license that allows three years to complete the educational requirements for a permanent teaching license. As a result, these professionals require intense staff development to assist in the transition from industry professional to a licensed teacher. In 2017, 48 new teachers participated in the New Teacher Institute.

Postsecondary

No

12. During the reporting year, did your state use Perkins funds to support occupational and employment information resources?

Yes

Secondary

Through the Trailblazers project, staff of the UVa, Weldon Cooper Center, Demographics & Workforce Group assisted VDOE Office of Career and Technical Education Services and administrators in individual school divisions to use and interpret national, state, and regional occupational employment data for course and program planning and student advising.

Professional Development for Teachers and Administrators – Staff provided professional development presentations on occupations and employment at state and regional meetings. In addition, they worked closely with the Office of Career and Technical Education Services staff to provide occupational and employment data used in the assessment of Virginia's workplace readiness skills.

Support for Course and Program Planning – Staff work one-on-one with division administrators to prepare and assess employment information relevant to course and program planning and development.

Support for Employer Partnership – Staff work with school divisions to develop and expand employer partnerships.

Trailblazers Blog, Newsletter, and Website – These resources keep teachers and administrators informed about labor market issues and provide resources to maintain and improve employer connections.

Virginia Department of Education, in partnership with the Virginia Community College System, the State Council for Higher Education in Virginia, and other Virginia agencies, continue to support the Virginia Education Wizard. The Web-based portal serves Virginia students at the Grades 5 – Adult level with postsecondary and career-related resources. www.vawizard.org.

Postsecondary

See discussions of the Virginia Wizard in STEP 3: Part B and number 3 above.