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Career and Technical Education programs in Kentucky are offered to students in middle and high schools, area technology centers serving secondary students, a virtual area technology center, community and technical colleges, adult and juvenile correctional facilities, and regional universities across the state. The Kentucky Office of Career and Technical Education (OCTE) is striving to improve the instructional quality of career and technical education programs throughout Kentucky. Input from industry, community leaders, students, parents and educators play a vital role in curriculum development and instructional improvement. We are committed to providing the leadership and guidance necessary to provide the citizens of Kentucky with relevant and rigorous career and technical education that meets the needs of business and industry. Our goals are for all career and technical education programs to continuously improve, meet the Perkins accountability indicators, informed by data from stringent program assessments, and to keep programs current with business and industry.

REQUIRED & PERMISSIVE ACTIVITIES

An assessment instrument has been developed with input from administrators, secondary and postsecondary teachers, and business and industry representatives to evaluate technical programs at the secondary level in area technology centers and locally controlled secondary programs located within the high schools. The goal of the assessment project is to ensure that all technical programs operated by state and local school districts are offering students the same quality of program offerings, and ultimately, the same opportunities for employment and a seamless path to post-secondary education. The assessment document evaluates 17 standards and impacts 485 programs.

Programs in 94 secondary state operated area technology centers and locally owned technology centers were assessed during a two year evaluation cycle. Approximately 50 percent of the schools were visited each year by assessment teams. These teams consisted of a university teacher educator as the leader, an industry representative, and state staff from secondary and post-secondary educational agencies. During each assessment visit, programs were thoroughly reviewed and evaluated in each of the following areas: technical and academic curriculum, lesson planning, postsecondary links, program contributions to the community, follow up and placement, classroom safety, involvement in student organizations, incorporation of technology in the classroom, work-based learning opportunities for students, teacher certification, and professional development.

Technical assistance was given to teachers, principals, and coordinators as visits were made. Training was provided throughout the school year and summer. A web site has been developed http://www.kytech.ky.gov/programassessment.htm to house the assessment

instrument and allow schools to access the instrument to conduct a self-evaluation at the end of the school year. The website also includes instructions, supporting documents, resources, and examples of documentation. The statewide school average for assessment team visits continues to increase. Improvements resulting from the assessment visits have included incorporating more writing into daily instruction, emphasizing related math embedded in the instructional content, and more student participation in student organizations. Perkins performance measures are incorporated into the assessment instrument, and this has helped instructors and administrators see the link between the federal and state evaluation criteria and make more effort to increase both.

The Office of Career and Technical Education continued their partnership with the Kentucky Department of Education – Kentucky Virtual High School to provide technical courses to students with limited access to technical education. Through this endeavor the Kentucky Virtual Area Technology Center (KVATC) is a recognized provider of online learning as part of the Kentucky Virtual Schools framework, which serves the K-12 community. The Office of Career and Technical Education currently has 1,500 students registered in online and online enhanced technical courses.

The KVATC is providing online content in Computer Aided Drafting, Geographic Information Systems, Computer Programming and Computer Applications to remotely located students. These courses serve students studying to be technicians and those pursuing careers in Engineering, Architecture and Software Engineering. In addition, KVATC is offering computer literacy training to OCTE staff in an effort to increase the use of instructional technology by all teachers. Training is also being offered to new CTE teachers to help enhance their classrooms and assist them in completing teacher certification requirements. Over 60 CTE teachers are taking advantage of KVATC capabilities by moving technical content to the online format. Students will be able to access class content from home or anywhere they have an internet connection. Teachers have commented that students are more likely to complete homework assignments, stay on task and current with course work.

Automotive Technology instructors within the KY TECH system utilized Melior Online Resources for the second consecutive year. Forty-eight instructors serving 1,037 students utilized the online reference and testing system. This was an increase of 508 students from the previous year. A total of 2,898 modules/classes were taken by the students in participating programs. The areas covered by the modules include brakes, electrical systems, suspension and steering, basic engine performance, safety, heating and air conditioning, engine repair, and manual transmission and transaxles. These resources include all of the basic concepts to provide a solid foundation for ensuing laboratory work and practice. The online material can be accessed by the student at school or home on a 24/7basis.

The Melior/Today's Class Online Curriculum Resource also include the industry online end-of –program test in partnership with ASE/NATEF for automotive technology students. Many of the KY TECH programs gave the ASE/NATEF End of Program tests online in May, 2008. Approximately 284 tests were given; the number of students passing the tests increased

10% from the previous year. Students who pass all four core areas of the exam are awarded certificates of recognition from ASE/NATEF.

Two interactive training applications, healthcare and solar power installation, were developed as stand-alone CD/DVD format and were easily delivered in an online format. The healthcare training takes place in a virtual hospital room and allows the student to go through the process as many times as necessary to master the tasks. The solar power electric power system training will enable students to design and install solar energy power systems. This includes proper sizing of solar panels, working with inverters, batteries or direct grid connections, and other technologies into electrical grids. This interactive training allows students to learn quickly and apply skills learned more rapidly. Simulation based learning provides teaching and assessing skills through authentic workplace problem-based scenarios to cultivate a student's workplace readiness and higher order thinking skills.

The Kentucky Community and Technical College System is continually planning and developing on-line courses. Partnerships are being formed between secondary and post secondary educational agencies to provide access to education for Kentucky citizens who would not have the opportunity to learn if not for the convenience and accessibility of e-learning through the Kentucky Virtual University.

One of the critical issues facing career and technical education teachers is to stay current with the knowledge and skills required for employees in the business and industry sectors their programs represent. Each year teachers have the opportunity to attend training to assure their instruction reflects any changes that may be happening in industry. Professional development activities were held throughout the year on a variety of topics requested by teachers, including learning to use technology in the classroom, integration of academics and technical skills, classroom management, and working effectively with special population students. In addition, short-term classes known as "technical upgrade" were offered during the summer. The classes were specifically designed for each program. The classes ranged in length from one to five days and provided hands on training in the latest equipment, software and teaching materials. The training was available for all CTE instructors including those from the universities, community and technical colleges, area technology centers, and locally controlled secondary programs. Over 540 instructors participated in the training; this was a slight decrease from the previous year. The majority of teachers attending, 504, were from secondary career and technical education. The workshops included the latest in industry processes and equipment, industry certifications, and enhancing academics in the CTE programs. Many teachers earned nationally recognized certification in their respective fields. Participants also had an opportunity to network, share ideas, and locate resources.

The annual statewide three day conference was also held during the summer with both secondary and postsecondary instructors and administrators invited to attend. Both pre and post conference sessions were provided. Those attending the conference had an opportunity to network, share ideas, locate resources, and develop new instructional strategies. The Kentucky Community and Technical College System (KCTCS) provided a variety of initiatives geared toward technical/program faculty development including a

Master Teacher Seminar, New Horizons Conference on Teaching and Learning, Scenarios Online, the Ashland Teaching Learning Conference, Content Literacy Training, and the popular Teaching Consultation Program as well as many discipline specific opportunities. A large vendor and exhibit area was provided to assure teachers had exposure to the latest educational materials.

The New Principal Institute (NPI) was designed to provide new area technology center principals overall information that focuses on major goals and objectives. The NPI Workshop provides information to support the new principal's growth as a professional person to continue improvement, learning and understanding of Instructional Improvement, Technical Education System in Kentucky, Management of a Technical School, Supervision, Administration and Budget Information, Rules, Regulations and Responsibilities, School and Program Issues, Working with Local Board of Education, and Working with Business and Industry/Community Relations. This workshop is conducted yearly and is designed to provide the new principal with learning activities such as Problem-Solving, Brain-Storming, Team Work, Role Playing, Time Management, and Communication Skills.

The New Teacher Academy (NTA) has been developed for 1st, 2nd and 3rd year secondary teachers that have completed a B.S. Degree and who are presently teaching in a career and technical education program. The workshop is designed to provide relevant teaching competencies based on the new teacher standards and target specific areas of instruction which participating teachers have identified as being a challenge. At the same time, NTA provides new teachers an opportunity to reflect on and analyze their teaching practices and to make curriculum and management adjustments necessary for ensuring maximum student learning.

The Kentucky Department of Education (KDE) continued its development and revision of the CTE Program of Studies. Particular attention was paid to the integration of math and science in CTE courses. Work began on adding Construction Geometry to the Kentucky Virtual High School course offerings. The course will be a stand alone course that can be used in a variety of secondary settings from credit recovery to career major completion. An entrepreneurship curriculum was developed and implemented for teachers of all areas and programs of study. A financial literacy course was launched in partnership with the Council on Economic Education that can satisfy Kentucky's fourth math requirement and can be used in completion of the Accounting/Finance program of study.

The Division of Career and Technical Education worked with a committee of secondary, postsecondary and industry partners to establish a pathway to energy careers. Using existing coursework to find courses that would lead students to jobs in energy related industries, content standards for an introductory energy course have been developed. This fundamental course will be utilized to offer students an entry level course that develops interest in and basic knowledge of energy concepts. This course will target students in grades nine and ten as well as provide activities that can be embedded in existing course such as those in the engineering program of studies.

Integrating academic and technical skills in the classroom is on an ongoing effort. The Math in CTE project has been very successful and utilizes academic and CTE teachers to develop lesson plans jointly. Teachers from the business, welding, automotive, and health programs worked with math instructors in adjoining high schools to map curriculum, and develop lesson plans including powerpoints, worksheets, assessment and other instructional materials. This is the fourth year of the project. A total of 42 teachers were involved in the experimental project. This included 10 business teachers, 11 auto technology teachers and 21 math teachers from both secondary and postsecondary programs. Each CTE teacher partnered with a math teacher to develop instructional materials and teaching strategies to increase students understanding and application of technical and related mathematical knowledge and skills. There were an additional 20 CTE teachers who pre and post tested their students (control group) to compare with the students in the experimental group pre and post test. The experimental group of teachers met for a total of 10 days throughout the year. They mapped curriculum, developed lessons which included power points, worksheets, tests, and other instructional materials to be used in the classroom. They also revised and revamped lessons after being delivered in the classroom. The purpose was to increased students' knowledge and skill in math embedded in the technical curriculum in which they were enrolled. In 2007 – 2008, the pre and post test scores showed a significant difference for the students in the experimental group. However, the 2008 – 2009 post test scores increased over the previous year, but the increase was not large enough to make a significant difference.

The equity coordinator for the Department of Career and Technical Education is providing support and guidance to secondary and post-secondary schools through workshops, technical assistance and the distribution of resource materials. Kentucky is an active member of the National Alliance for Partnerships in Equity (NAPE). Kentucky relies on the organizations distribution of current resource materials and research on a regular basis. Kentucky participates in the NAPE annual conference and uses the information to develop equity workshops to assist teachers in Kentucky. Since the 1996 legislation, increasing the participation of students enrolled in programs preparing students for nontraditional employment has been a statewide goal. Posters have been printed and distributed to schools that depict students in nontraditional careers. During the past year, an informational video has been produced introducing prospective secondary students and parents to career technical education. The video focuses on the link between academic and technical education and the importance of both in lifelong education and the workforce. Both current and former students are interviewed in the video, particularly students who have completed nontraditional programs and are successfully working in their chosen career field. Grants totaling almost $45,000 were awarded to several schools at both the secondary and postsecondary level to develop projects that could be used state wide to increase enrollment and completion in nontraditional programs. Hopefully, these efforts will increase student interest in nontraditional careers at an earlier age.

Kentucky is a member of the National Alliance for Partnerships in Equity. Kentucky utilizes the NAPE resources from this group to assist programs in improving enrollment and participation in non-traditional fields. A website is also available with teacher resources.

American Careers Magazine, Parent Edition for Non-traditional Careers was distributed to local school districts, area technology centers and postsecondary institutions. A total of 45,000 magazines were distributed to parents and students. Many local school districts used the magazines at local parent night; some used them in their career exploration classes then ask the student to take them to their parents to share their career information. Several of the postsecondary institutions used the magazines in their career resource department. For many parents this was the only career information they received.

Each CTE program is required to have an advisory committee made up of business and industry representatives to provide input for program and instructional improvement. The committees meet at least once each year. The contacts provided through advisory committees help in developing community partnerships that provide valuable resources to teachers and students, especially mentoring, cooperative work experience opportunities, and job placement. In addition to business and industry partnerships at the local and state level, partnerships among educational institutions and levels is ongoing. Secondary CTE educators work with postsecondary partners at the community and technical college level and university level in developing curriculum, assessments, and articulation agreements.

The Office of Career and Technical Education has formed an advisory committee made up of business and industry representatives from across the state. Forums are held regionally across the state to obtain input into improving CTE programs. The State Plan Advisory Committee was organized to secure input from individuals who have a stake in CTE programs in the state. Open steering committee meetings are also held and legislators from the area are invited to attend along with parents, students, educators and local business leaders.

The president of the Kentucky Community and Technical College System or his representatives continually meets with industry leaders to determine their needs. Information from these meetings is used by curriculum committees in the review of current curriculum and the development of new programs. Industry leaders were used in the KCTCS Delphi Studies project to determine if tasks were used in industry and how frequently they were used.

The Corrections Education Unit of the Kentucky Community and Technical College System provides educational opportunities for inmates housed within the adult public correctional facilities. Twelve technical certificate programs at ten correctional facilities are offered tuition free. Masonry and construction carpentry are offered at all facilities; other programs offered include electrical engineering, horticulture, air conditioning, small engine repair, automotive technology, business, auto body, upholstery, and welding.

The objectives of the programs are to improve student learning outcomes, integrated technical and academic studies, and provide training to teachers to more effectively integrate academics with technical education. Teaching assistants worked with students to improve academic skills needed for technical education. Each program was also visited by an occupational work group during the year to observe instructional techniques, utilization of technology in the classroom, integration of academics, etc. Results of the evaluation were used to improve instructional techniques and strategies.

Programs saw increased enrollment and expanded degree offerings during the school year. Perkins funding was utilized to provide new equipment to meet curriculum revisions and industry standards and provide professional development opportunities to faculty. A two-day conference focusing on the integration of academics into technical courses was held and 92% of the instructors in the Corrections Education Unit attended. Equipment purchases have continued to be a priority during the past year due to curriculum revisions. KCTCS' curriculum is developed using business and industry standards and is based on the input from business leaders in the state. Faculty continued to work on the implementation of collaborative programs between technical, academic and community college department to assist students in overcoming educational barriers to ensure students have the opportunity to reach the highest level of educational opportunities available through KCTCS. The goal of enhancing collaboration in statewide program improvement initiatives between administrative staff and faculty has been implemented through the creation of a corrections occupational technical work group. This group is in the process of conducting peer reviews to include the observation of teaching techniques, utilization of technology in the classroom, and integration of academics in instruction. Through continued curriculum development, state-of-the-art equipment, and adequate career counseling services, the correctional education program continually strives to meet the needs of its students. The juvenile career development centers primarily used their Perkins funding for professional development activities.

During the year, programs, services, and activities have been incorporated in CTE programs for individuals with disabilities, those from economically disadvantaged families, individuals preparing for nontraditional training and employment and those with limited English proficiency. Supportive services included the services of readers, tutors, special needs coordinators, disability coordinators, and liaison personnel.

The Kentucky School for the Deaf is a residential facility for students with hearing impairments and also serves some hearing students from surrounding school districts. The school offered five preparatory programs and three exploratory programs with a total enrollment of 38. The majority of the Perkins funds received were used for professional development for instructors. One of the activities was a business and industry exchange that allowed instructors at the school to develop connections within the community. Based on the connections made during the exchange, a work-based learning experience was developed and implemented after regular school hours.

The Office of Career and Technical Education in conjunction with the Kentucky Department of Education, Division of Career and Technical Education provided training sessions for career and technical education instructors, coordinators, principals, and counselors who work with students with special needs. These workshops helped CTE educators develop lesson plans, teaching strategies, and evaluation methods in providing services to help students from special populations. These workshops provided strategies for working with students with different learning styles as well as from the stand point of right-brain, left-brain, whole brain learning. The intent of the workshops was to improve academic and technical achievement of students with special needs to assist in meeting Perkins IV

accountability. The trainer, Dr. Mickey Wricenski, Professor of Applied Technology, Training and Development at the College of Education, University of North Texas, modeled the strategies that she talked about and engaged the participants in the strategies. The participants rated the workshop highly and received practical information for working with special populations. Ms. Wricenski presented information to both secondary and post secondary instructors and teacher educators from the state universities.

The New Teacher Institute includes a session to help new teachers understand how to work with students from special populations. Emphasis is placed on understanding the legal aspects of and definitions used in working with students from special populations, the different types of special populations, and strategies for working with students from special populations. Scenarios are used as tools to help the new teachers better understand students. Questions regarding special populations are included on the examination that is given to the new teachers.

Workshops are held each summer at the annual CTE Summer Conference to provide instructional strategies to assist teachers with special needs students. Sessions are available for teachers in all program areas. A hands-on learning approach and role playing are emphasized. Kentucky utilizes experts from all across the country in developing and or providing the workshops. Scenarios are used to help new teachers form strategies they can use when they are confronted with similar situations in the classroom. A suggested activities education program was developed that could be used by teachers in technical education to assist students with special needs. CD's with the information were distributed to principals. A statewide interagency transition institute was held to train regional teams to help students with special needs transition to the next level. Almost 100 people attended this institute.

Kentucky continued to improve it's implemented of a web based Individual Learning Plan (ILP) for all students grades six through twelfth. The ILP includes components for interest assessment, exploring careers related to interest, developing an academic/career plan and other major components. This plan provides a coordinated approach to career planning and transition to various post-school outcomes. The ILP, also, coordinates with Go Higher, a web-based plan focusing on post-secondary education. These systems provide a data base for all students including special populations. Although not Perkins funded, the web based ILP helps CTE students with career planning.

Employees in the Kentucky Community and Technical College System work with students who have physical or other disabilities. When students request accommodations, the counselor and the student discuss what is needed and the counselor works with appropriate teachers to see that the student gets the help needed. The Kentucky Community and Technical College System provided services to special populations at all colleges. Low-income students are provided with the opportunity to apply for financial aid and receive Pell Grants, CAP Grants and other aid if they meet the qualifications.

Students with disabilities are provided reasonable accommodations at all colleges. Each district has an employee who is designated to work with students with disabilities. If they

meet the ADA guidelines, they are provided with instructional accommodations, adaptive equipment, and assistive technology as needed. The schools also meet the requirements for physical access to buildings. Many programs and classes are provided for students who are not academically prepared for college level classes. All new students are required to take a placement test and must take developmental classes if the scores indicate they are needed. This insures that they are ready for the challenges of college level classes. Many schools already meet the needs of ESL students and others are implementing English as a Second Language classes as the community population changes. Postsecondary educators are always striving to improve their services to meet new needs of the students.

During the past twelve months, both the Kentucky Department of Education and the Office of Career and Technical Education conducted civil rights desk audits. On-site visits were used as monitoring tools for schools receiving Perkins funding.

Technical assistance is available on an ongoing basis. Consultants and managers can provide workshops as well as on site assistance for instructors and administrators for curriculum development, assessment development and instructional improvement. The Federal Programs Branch provides information on the KYTECH website for Perkins related issues, sends informational e-mails and correspondence and provides workshops and on-site assistance for a variety of issues. Assistance was provided to schools to assist them in preparing the local funding application, interpreting accountability reports, and preparing local plans for improvement. A large amount of support is provided for the Technical Education Database System (TEDS), Kentucky's data collection system for federal reporting. During the 2007-2008 school year, assistance was provided for 277 high schools, middle schools and locally operated area technology centers, 55 state operated area technology centers, 16 community and technical colleges with 67 campuses and six universities. Update training sessions were conducted for secondary and post-secondary staff. The database software was redesigned to assure data collection for Perkins IV.

Both secondary and post-secondary curriculum within our state is constantly undergoing revision and development to meet the changing needs of industry and provide students with skills to be successful in the workplace. Secondary curriculum for the KY Tech Area Technology Centers was reviewed and evaluated by teams of instructors, state supervisors of instruction and business and industry representatives to assure that skills demanded by industry were being taught. Instructors and business and industry representatives assisted with the review and revisions. The secondary curriculum used within KY TECH is aligned with that being used in post-secondary KCTCS technical colleges to allow a seamless transition for students from secondary to post-secondary technical education. The curriculum also integrates academic and technical skills. The web-based curriculum database system includes all skill standards available in Kentucky. A lesson plan database has been implemented for several years to assist new instructors in choosing appropriate educational activities for students that are aligned with KY TECH curriculum. Many lesson plans have compatible Power-Points, handouts, worksheets and tests attached. This database is available to anyone having web access. Both the lesson plan and curriculum databases have been very well received by teachers and are continually being updated to meet instructional needs.

Several schools participated in incentive grant renewal energy projects which provided students the opportunity to learn about energy and energy sources. These "green energy" projects allowed technical teachers to partner with math and science teachers as well as representatives from business and industry. Students learned how to install and maintain solar power systems at various sites. Desk top trainers were purchased to teach the students the different types of energy, how they work and how to gather data to see if these different types of energy systems are feasible in their area. Wind generation was also studied and students learned how to set up a solar power station.

Postsecondary curriculum revision is an ongoing process each year. Curriculum was reviewed in several program areas including automotive technology, business studies, cosmetology, culinary arts, childhood education, diagnostic medical sonography, early nuclear medicine, engineering technology, fire/rescue technology, homeland security and emergency management, human services, industrial maintenance technology, information technology, medical assisting, molecular imaging technology, paramedic technology, pharmacy technology, physical therapist assistant, practical nursing, radiography, registered nursing, respiratory care, and visual communications. The curriculum developed can be found online at http://unity.kctcs.edu/docushare/dsweb/View/Collection-12198. Accrediting body guidelines were utilized to update curriculum and to ensure that graduates were ready to enter the workforce as competent practitioners.

Articulation agreements for all technical programs offered in KY Tech secondary area technology centers are in place and are constantly being reviewed. Discussions are ongoing with two-year technical colleges and eight regional universities within the state, and with selected private and technical colleges in the neighboring states of Indiana, Illinois, and Tennessee. The goal is to provide Kentucky students the opportunity for a seamless transfer of credits from the secondary to post secondary level, encouraging a better-educated workforce and potential economic development opportunities for our state.

Students enrolled in career-technical education were encouraged to develop leadership skills through participation in student organizations. Regional, state, and national conference participation was encouraged. Approximately 5,000 students from Career and Technical Students Organizations (DECA, FBLA, FCCLA, FFA, HOSA, PBL, Skills USA-VICA, TSA) represented Kentucky at state and national leadership conferences to compete in and develop leadership skills. Through the leadership training opportunities and the competitions, technical skills taught in the classroom were enhanced. Approximately 147 advisors supervised students at conferences and attended updates for conference activities, award programs, ran competitive events, and participated in conference forums. Teachers who sponsor the student organizations participate in a leadership development seminar each year. The purpose of the seminar is to update the teachers on new competitive events and guidelines, and to enable them to make student organizations an integral part of their program. As a result, students and teachers became more aware of career and technical education initiatives. The networking opportunities provided through participation in conference activities assisted advisors in establishing resource contacts with fellow technical educators.

Teachers and administrators are encouraged to utilize data collected through the Technical Education Data System (TEDS) to impact instructional improvement within the classroom. Improvements continue to be made to the system which became operational in 2000 as a requirement of Perkins III. Each school is responsible for inputting student data for their programs, running summary reports, and utilizing the data for program improvement. The intranet software is becoming more user friendly as modifications are made yearly. User screens and summary reports were modified this year to make them more user friendly, import and rollover programs were developed and refined to eliminate the need for institutions to enter student data into TEDS that had already been entered into a similar system, and programming was evaluated and revised to assure accurate calculations in summary reports.

New data fields have been added, such as dual credit hours/postsecondary school where earned. Data entry screens allowing the user to enter the same type of data for multiple students and new reports have been identified and were available to schools in the 2008-2009 school year. In-service sessions were held throughout the year to train and retrain individuals to input data into TEDS. Approximately 120 school staff attended the training sessions including secretaries, principals, and institutional research coordinators. A CTE summer conference is held each year in July, and approximately 100 school staff attended four sessions offered on TEDS during the conference. On site workshops were held to teach teachers how to utilize information on the reports for program improvement. Statewide and school summary reports are routinely run at the state level to pinpoint schools not entering their data or identify schools and programs who are showing weakness in meeting their accountability goals. Schools are then contacted and assistance provided. Data audits are conducted routinely to identify problem areas, and efforts are ongoing to assist school personnel in accurately coding and entering information so that data more accurately reflects the success of the school.

The New Teacher Institute (NTI) is a joint effort between the state universities offering an approved teacher education-training program (certification) and the Office of Career and Technical Education. New technical teachers employed by the Education Cabinet, Office of Career and Technical Education, Job Corps training centers, and high school (non-degree) instructors participate in NTI in order to develop essential competencies in areas such as methods of teaching, working with special needs students, assessment techniques, group instruction, instructional media, classroom control, and lesson plan preparation in their first year of teaching. Participants are also required to prepare and present a lesson presentation that will be critiqued by participants. The initial five-day training is followed up three to six months later with a two-day workshop. The two-day workshop brings participants together with teacher educators and state department staff to share experiences and develop strategies in planning, managing, organizing and evaluating instruction and teaching techniques. This program is integrated into the teacher internship and field-based education programs offered through the universities in Kentucky. New teachers participating in NTI receive three hours of college credit upon successful completion of the workshops. Over 100 new teachers participated in the New Teacher Institute five day workshop, and 56 participated in the two day follow up workshop. The

NTI program is continuously improving its curriculum and delivery system to incorporate new teacher standards that are research based and reflective of best teacher practices in technical education.

In order to encourage newly hired technical instructors to pursue degree requirements, regional universities awarded up to 18 credit hours for the successful completion of a written and performance National Occupational and Competency Testing Institute (NOCTI) exam. Newly hired technical instructors are required to successfully pass the written NOCTI to determine their competence in the program area in which they are to be hired. In order to receive college credit, eight instructors also elected to complete the performance NOCTI. KY Tech instructors are required to obtain professional skill certification in their program area, such as ASE, AWS, CISCO, CTIA, NCCER, NIMS and MOUS.

TECHNICAL SKILL ASSESSMENTS: Development and Implementation

A performance-based training and assessment system known as the Skill Standards Certification System was initiated in 1999 for secondary students enrolled in technical education. The statewide implementation of the skill standards project has encouraged all teachers to ensure that they are teaching current curriculum that is aligned to the industry endorsed skill standards by occupational area. Aligning the curriculum is helping to ensure that students statewide are receiving high-level technical training in their chosen career area in addition to measuring academic and employability skills. The reporting of assessment results at the state, school and student level has been very beneficial to career and technical education teachers as they work to align their curriculum and evaluate how their students "measure up" to others statewide on the Kentucky Occupational Skills Standards Assessment (KOSSA). This endeavor is helping to shape the direction of career and technical education in our state. The Skill Standards Assessment implementation has placed a heavy focus on the need for all schools to accurately and consistently report student data at the secondary level. This system is helping to close the gap and guide districts in more thorough and accurate reporting. The skill standards assessment has served as one means of reviewing the performance level of secondary career and technical education programs in Kentucky.

The Skill Standards assessments were developed "in house" with input from business and industry representative and teachers. All senior preparatory students who are enrolled in technical programs at the secondary level in local high schools and area technology centers take the appropriate test for the career area in which they are enrolled each spring. When available, an approved industry certification may be taken by the student instead. Although successfully passing the test is not a requirement for their graduation, participation in the assessment process allows the student to see the skill level they have obtained in their class work in the technical field he or she is pursuing. In addition, the test results serve as a credential for students to provide future employers. The KOSSA system is serving as a meaningful tool at the school, district, and state level as a means for program evaluation and improvement in career and technical education in Kentucky.

Program areas for which the Kentucky Occupational Skill Standards Assessment are available include Business Education; Marketing Education; Family Consumer Science; Manufacturing; Agriculture Education; Allied Health; Communications; Construction; Transportation; and Engineering and Technology. The estimated percentage of students who would be reported as concentrators who took assessments: Of the 18,784 identified senior concentrators 15,506 took a technical assessment; 82.55% total. Currently, all program areas have at least one or more technical assessments available. There are a total of 21 assessments currently available. Development of standards and assessments is currently underway for an additional 13 areas with planned implementation in 2012.

Committees have been formed at both the secondary and postsecondary level to evaluate end of course and end of program assessment options. Kentucky has been working with VTECS to improve and expand assessment options. The Kentucky Community and Technical College System is working with ACT to add the National Career Readiness Certificate to its offerings. Post-secondary representatives from the Kentucky Community and Technical College System are working with state CTE representatives to identify assessment options that can be utilized at the post-secondary level. Kentucky would like to add at least one additional assessment each year.

IMPLEMENTATION OF STATE AND LOCAL IMPROVEMENT PLANS

Kentucky exceeded the 90% adjusted level of performance each of the required Perkins core indicators for FY 2009. The success of the schools can be attributed to several collaborative efforts with business, industry and other educational institutions. Curriculum updates, increased number of work-based learning activities offered to students, implementation of skill standard assessments, increased participation by schools in nationally recognized programs such as High Schools that Work, and the availability of numerous workshops assisted teachers and school administrators to meet the FY 2009 indicators. Workshops and on-site technical assistance was provided throughout the year to assure that student data was entered accurately. The data system used in the state can be accessed at any time by school administrators and summary reports created. This allows staff to see at any point in time how each program in the school is performing, and if a program is not meeting a performance level, can target that program for assistance or additional effort on the part of students, instructors or administrators.

The total number of eligible recipients who did not meet at least 90 percent of the agreed upon adjusted level of performance and will be required to implement a local program improvement plan for the succeeding program year are listed below by performance measure.

1S1 – Academic Attainment Math:	4 schools
1S2 – Academic Attainment Reading:	87 schools
2S1 – Technical Skill Attainment:	97 schools
3S1 – School Completion:	All schools met the objective
4S1 – Graduation Rates:	5 schools
5S1 – Placement:	48 schools

6S1 – Nontraditional Participation:	89 schools
6S2 – Nontraditional Completion:	124 schools

1P1 – Technical Skill Attainment:	5 schools
2P1 – Credential/Certificate/Degree:	5 schools
3P1 – Student Retention or Transfer:	10 schools
4P1 – Student Placement:	6 schools
5P1 – Nontraditional Participation:	23 schools
5P2 – Nontraditional Completion:	12 schools

At the secondary level, students with disabilities scored lower in math and reading attainment than any special population category; nontraditional enrollees scored 16.77% higher than the adjusted level of performance for math and 12.65% higher for reading. Asian students did extremely well in reading and math, exceeding the adjusted level of performance in both reading and math by 30%. Students with disabilities and LEP students performed the lowest on technical skill attainment while single parents did very well, beating the adjusted level of performance by 12.65%. All races of students exceeded in technical skill attainment except black and Hispanic students. Kentucky schools performed very well in school completion, with every category of special population students exceeding with the exception of displaced homemakers. Only three students were reported in this category so the data could be considered insignificant. Race was very evenly matched with ranges from 97.14% for Asians to 98.86% for whites. For graduation rates, all categories of students performed very well particularly LEP students. Disability, disadvantaged, single parents, non traditional students and tech prep students far exceeded the adjusted level of performance. Nontraditional student and tech prep student placement rates were above 90%. The weakest placement rates were with students with disabilities; 78.63% were placed. Placement was strong considering the economy in our state. Nontraditional students, tech prep students, American Indian and Asian placement was above 90%. The lowest, 87.37% was Hispanic. Many of our programs continue to struggle with increasing their nontraditional participation and completion rates. LEP students exceeded the adjusted level of performance for participation by 11.45% and also exceeded the adjusted level of performance for completion by 5.66%. Individuals with disabilities had the highest nontraditional completion rate at 19.07%

For postsecondary students, 1P1 and 1P2, students with disabilities, single parents, disadvantaged students, displaced homemakers and non traditional students exceeded the adjusted level of performance. LEP and tech prep students did not, but few students were reported in these categories (2 for tech prep and 10 for LEP). The inability of post secondary programs to identify and report tech prep students was one of the key factors in Kentucky deciding to merge the tech prep funds. Black students performed the lowest in technical skill attainment, credential/certificate/degree and placement but did well in student retention and transfer. For student retention and transfer, nontraditional students exceeded the adjusted level of performance by 19.63% and the economically disadvantaged students by 10.63%. Individuals with disabilities and single parents also did very well. All tech prep students identified were placed although again, the numbers for this group were very small. In nontraditional participation, single parents, individuals with

disabilities, and the economically disadvantaged students did well. Asian and American Indian students achieved the highest level of performance for nontraditional participation and completion.

In comparing results to the previous year, statewide performance improved in every indicator at the secondary level except completion which decreased slightly from 99.92% to 98.75% and placement which decreased from 96.65% to 89.88%. At the post secondary level, performance increased in every indicator except nontraditional participation which decreased from 17.88% to 15.20%.

Each school receiving Perkins funds has the capability to generate Perkins IV accountability reports by school and by program using the Technical Education Database System (TEDS). School principals and Perkins coordinators will be requested to provide accountability reports to their teachers so strengths and weaknesses in each school can be identified and a plan for improvement developed and implemented for any accountability measure not met. In the plan, the school must identify specific strategies that will be implemented, the timeline for implementation, the program to be impacted, and the person responsible for implementing the strategies. The school principal or Perkins coordinator in each school will monitor progress on the improvement plan throughout the school year. In addition, site visits will be made by central office staff, data audits conducted, and instructional plans will be reviewed as needed. Consistent non-improvement may result in funding being reduced or eliminated to the program or school. On site technical assistance sessions with state program area consultants are available to assist eligible recipients in planning program improvements.

Data will continue to be analyzed routinely by school and program to determine specific program areas or student populations in need of assistance. On site data audits and technical assistance visits are conducted periodically to verify information entered into the system and provide training to assure faculty and administration understands the Perkins definitions. Efforts will continue to evaluate the strategies used in the schools to determine if instructional techniques are affecting student performance. Reporting procedures will be evaluated to assure that all data is being reported and that it is reported accurately. Strategies will be reviewed and changes implemented to assure continued increases in performance for all accountability goals for next year.

TECH PREP

The 2008-09 funding year for Tech Prep in Kentucky was a pivotal year. This was the year that consortiums needed to prove to the state that they could collect the data that was required as part of the Perkins IV legislation. Professional development was provided during the year to secondary and postsecondary academic and vocational-technical teachers, administrators, and counselors through workshops, meetings, and conferences. An annual Tech Prep coordinators' meeting was held with over 200 people attending. The primary focus of the session was on Tech Prep program requirements and data collections. TEDS

consultants were invited to discuss topics from how to identify a Tech Prep student to postsecondary follow up.

Technical assistance continued to be provided on-site and through phone and e-mail correspondence to assist high schools and post-secondary institutions in implementing new projects or in making improvements in their current program. Articulation agreements, integration of academic and technical subjects and other major components of Tech Prep implementation continued in each consortium.

Several more consortiums focused on energy projects and Project Lead the Way during the 2008-09 funding period. Both of these projects helped the CTE programs to develop strong integrations activities with academic areas in the school.

In order to be funded, each Tech Prep consortium completed a request for proposal. The proposal included ten areas covering all the requirements of Tech Prep. Kentucky awarded Tech Prep grants to 13 consortiums for 2008-2009 fiscal year. The consortiums are composed of 102 high schools, 35 area technology centers, 11 local career and technical centers, and 20 postsecondary institutions. Each consortium was required to address all the components of Tech Prep. All but one consortium had a postsecondary fiscal agent.

Each proposal was reviewed and evaluated by a team of reviewers appointed by the Office of Career and Technical Education. A scoring rubric was used by the review team. Tech Prep funds were awarded on a competitive basis.

The Tech Prep consortium sites and the amounts they received are listed below.

Big Sandy Community and Technical College - $152,775
Bluegrass Community and Technical College - $152,633
Eastern Kentucky University - $258,873
Gateway Community and Technical College/Northern Kentucky University – $245,595
Jefferson Community and Technical College – $70,665
Jefferson County Board of Education – $243,600
Morehead State University - $144,546
Murray State University - $126,683
Owensboro Community and Technical College - $76,230
Somerset Community and Technical College – $79,496
Southeast Community and Technical College $64,890
West Kentucky Community and Technical College - $168,756
Western Kentucky University - $138,075

Our data system does not have the capability to look at tech prep results by consortium, but looks at results by school. Therefore, the data we can provide for Tech Prep this year is limited. As has been stated earlier, postsecondary institutions have difficulty in identifying Tech Prep students and as a result are reporting only a very small number of students at the postsecondary level. To summarize the statewide Tech Prep accountability results, the secondary schools exceeded the adjusted levels of performance in all secondary indicators of performance with the exception of nontraditional completion. At the

postsecondary level, only a very small number of tech prep students were identified. They met or exceeded only placement and nontraditional participation.

CONCLUSION

During the past year Perkins funds have provided professional development opportunities for instructors and administrators and purchased state-of-the-art equipment in classrooms and laboratories. The administration has emphasized the importance of integrated academics and technical skills and special projects have been developed to assist instructors in developing lesson plans that integrate math, science and writing into their curriculum. Materials have been provided to all schools to utilize for nontraditional recruitment and retention. Professional development opportunities were expanded during the year, especially those that allowed instructors to upgrade their knowledge and skills on equipment being used in industry. Opportunities were also provided for instructors to work with their academic colleagues to develop integrated learning projects, to improve their knowledge in the use of technology in the classroom, to learn about individual learning styles, and to become more effective in classroom management skills. The secondary program assessment process and assistance from state staff in curriculum, lesson plan database implementation, and instructional methodologies all contributed to student success. At the post-secondary level, equipment purchases have increased in all schools allowing students to be trained on the latest technology. Improved technology has increased student interest in class participation and increased their likelihood of being hired in industry upon completion of the program.

During the next school year, professional development opportunities will continue to be expanded to provide instructors with knowledge about the latest equipment, software, and instructional strategies. Workshops will continue to be provided to assist personnel at secondary and post-secondary institutions with special populations and gender equity initiatives and equipment will continue to be updated to meet industry standards. Integration of technical and academic programs will continue to be encouraged with assistance provided in developing integrated projects. Partnerships will continue to be formed between educational institutions, state agencies, business and industry and the community in order to assure that all students in our state receive a technical education of the highest quality available.