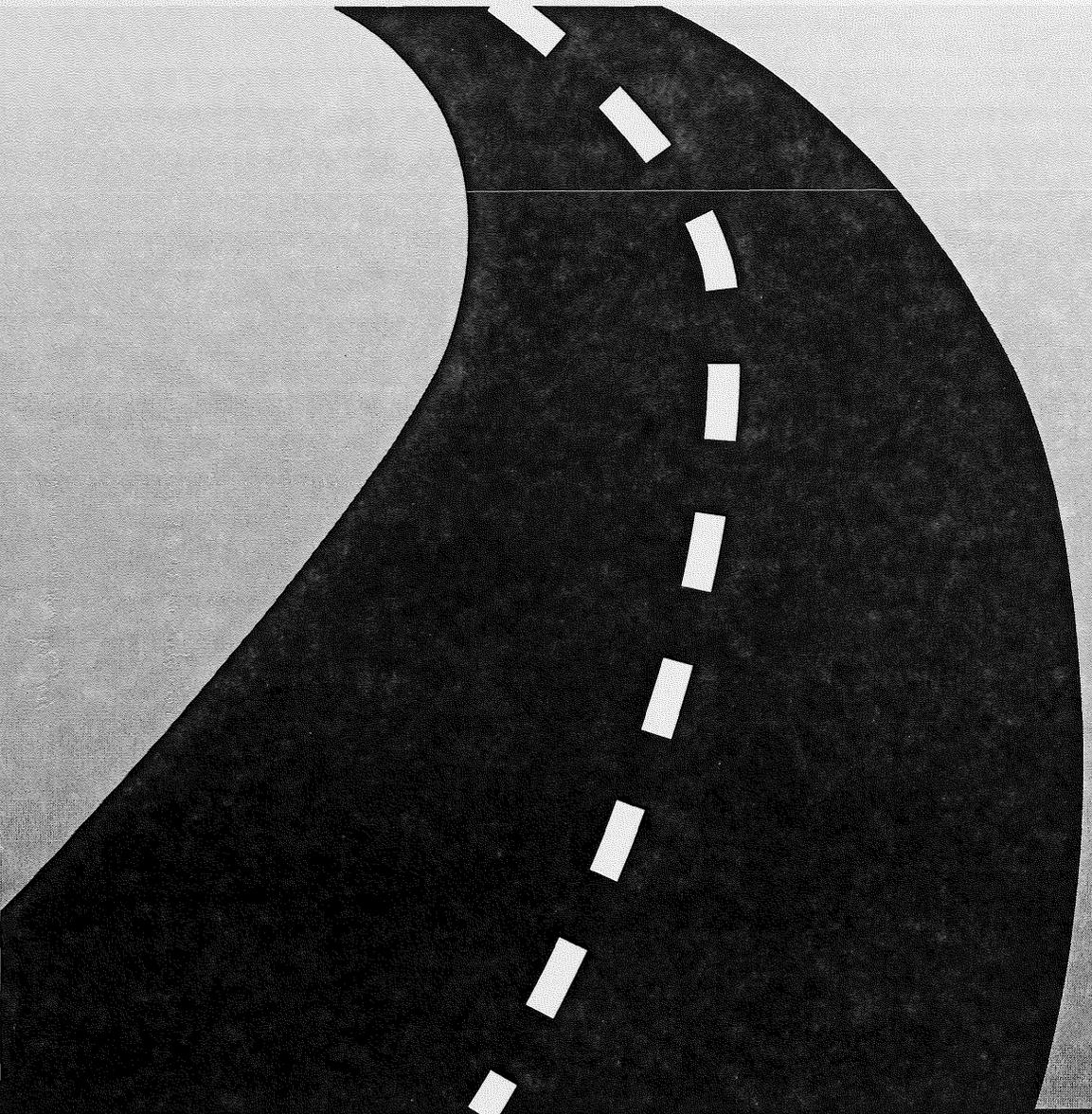


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TECH PREP IN IOWA

Final Report
1998 - 1999

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State of Iowa
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End of Year Report

State Tech Prep Program

**Laverne H. Hueholt
State Tech Prep Director**

December 1999

Tech Prep In Iowa

Final Report 1999

Acknowledgments

Appreciation is extended to all the Tech Prep Regional Coordinators across the state of Iowa who have provided the data that makes this report possible.

Executive Summary

The Iowa Tech Prep initiative is federally funded through the Carl D. Perkins Vocational and Applied Technology Education Act of 1990, which requires a cooperative effort between secondary and post-secondary institutions. Tech Prep involves joint faculty development of applied and integrated academic and technical instruction. Programs encompass the education in high school through the associate degree level of post-secondary education or an apprenticeship in a career field.

In Iowa, 15 Tech Prep consortia are geographically co-located with the community college system. A consortium includes all school districts, the community college, the area education agency, many businesses and industries in the specific region, the regional Workforce Development office, and many four-year colleges and universities in the geographic area.

What is Tech Prep?

Tech Prep is an articulated high school and community college four-year sequential program of study in a specific career field that provides high-level academic education and high-level technical career skills. Tech Prep students learn through examples from real life. By linking secondary and post-secondary career and technical education programs, Tech Prep offers students relevant learning that leads to an A.A.S. or A.S. degree in a specific career or field, to an apprenticeship, or to a four-year degree. Tech Prep opens opportunities and expands thinking about career goals and education or training choices. Tech Prep graduates are ready for successful employment in our increasingly competitive, high-technology job market.

What is the Tech Prep Advantage for students?

In the current and future workplace, approximately 80 percent of all jobs require academic excellence in oral and written communication skills, as well as, a high level of understanding of physical, mathematical, and scientific processes. Workers must think

critically, solve problems, communicate effectively, and work as members of a team. Tech Prep programs of study prepare students to become citizens with the skills—based on technical math, science, and communications—needed to become strong competitors in the job market, and to participate as knowledgeable decision-makers in their communities. After high school graduation, students may go on to a community college

without remediation and, often, with college credit earned through dual-credit classes taken during high school. At the community college, students may complete the requirements for an A.A.S. or A.S. degree, which can lead directly to employment or, in some cases, entry into a four-year college program where they may complete the requirements for a baccalaureate degree.

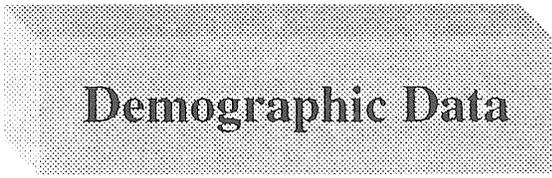
What is the Tech Prep Advantage for Iowa communities?

Within each Tech Prep geographic region, a special focus highlights careers related to both existing job opportunities and projected labor market needs in the region's communities. Regional employers, labor groups, and community leaders meet with educators to provide technical skill information during the curriculum development process, and they remain involved with the program's implementation. Representatives of workplace careers visit classrooms to bring their knowledge and advice to students. Teachers, counselors, and students are invited to visit and experience the workplace environment first-hand. Tech Prep program completers contribute to a better prepared local work force and a better educated local citizenry. Such connections between education and community leaders create positive results: win-win-win situations for education, communities, and students.

For more information about **Tech Prep in Iowa**, contact:

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Demographic Data

**of
Articulated Programs**

Tech Prep Performance Year-End Summary Report

Sources: Program data – community college program articulation agreements; student data – high school and community college class enrollments; graduation data – community college program completers

Definitions

Classical Tech Prep Program: A program consisting of two years of secondary school preceding graduation and two years of higher education or an apprenticeship program of at least two years following secondary education.

Modified Tech Prep Program: This category has been eliminated, as we move to quality 2+2 programs in the state.

Articulation Agreements

# of Program Agreements	1996-1997	1997-1998	1998-1999
Classical	80	188	762
Modified	136	494	n/a
Apprenticeship	1	4	n/a
Total	217	682	762
Operational Programs			
Classical	89	186	725
Modified	97	322	n/a
Total	186	508	725
Operational by occupational cluster			
Classical			
<i>Agriculture</i>	11	23	115
<i>Family & Consumer Science</i>	7	22	111
<i>Business</i>	36	55	206
<i>Health</i>	4	10	55
<i>Trade & Industry</i>	31	75	207
<i>Marketing</i>	0	3	31
Total	89	188	725
Modified			
<i>Agriculture</i>	1	39	n/a
<i>Family & Consumer Science</i>	10	60	n/a
<i>Business</i>	24	82	n/a
<i>Health</i>	14	30	n/a
<i>Trade & Industry</i>	46	98	n/a
<i>Marketing</i>	2	16	n/a
Total	97	325	n/a
New program being developed			
Classical	19	29	69
Modified	7	73	n/a
Apprenticeship	5	0	n/a
Total	31	102	69

Enrollment

	1996-1997	1997-1998	1998-1999
Classical			
<i>Agriculture</i>	300	654	2048
<i>Business</i>	289	2058	4854
<i>Family & Consumer Sciences</i>	542	611	1972
<i>Health</i>	36	407	1275
<i>Marketing</i>	0	153	234
<i>Trade & Industry</i>	712	1303	2254
Total	1869	5186	12077
Modified			
<i>Agriculture</i>	0	613	n/a
<i>Business</i>	268	1970	n/a
<i>Family & Consumer Science</i>	515	1011	n/a
<i>Health</i>	208	431	n/a
<i>Marketing</i>	11	165	n/a
<i>Trade & Industry</i>	956	1096	n/a
Total	1958	5186	n/a

Tech Prep Student Demographics

Number of Student Completers		1997-1998		1998-1999	
<i>Agriculture</i>		26		105	
<i>Business</i>		24		154	
<i>Family & Consumer Sciences</i>		13		26	
<i>Health</i>		92		219	
<i>Marketing</i>		21		12	
<i>Trade & Industry</i>		79		240	
Total		255		756	
Percentage of enrollment by gender		M	F	M	F
<i>Agriculture</i>		73	27	78	22
<i>Business</i>		46	54	42	58
<i>Family & Consumer Science</i>		34	66	34	66
<i>Health</i>		20	80	34	66
<i>Marketing</i>		57	43	52	48
<i>Trade & Industry</i>		88	12	91	9

Student with special needs served		1997-1998	1998-1999
<i>Disabled</i>		207	1085
<i>Limited English-speaking</i>		34	374
<i>Disadvantaged youth</i>		1050	2226
Students trained for non-traditional occupations			794

Synopsis of Statewide Activities in 10 Goal Areas

funded by

Tech Prep Section

of

Carl D. Perkins

TECH PREP GOAL AREAS

The activities listed are samples of those that were conducted during the year with Tech Prep funds.

1. Develop partnerships at regional and local levels with: K-12 education, post-secondary education, business, industry, labor, workforce development, economic development, governmental agencies, service agencies, community representative, and area education agencies (school improvement, special needs).

- Help identify regional and local expertise
- Identify with local partners the necessary regional partners and assist with linkage for participation in local partnerships
- Assist in development of local partnerships
- Assure that clear strategies are developed for maintaining strong relationships between workforce development centers, AEAs, and community colleges at a local and regional level

Activities funded by Tech Prep

- Increased work on articulation agreements, including addition of Cisco Network Administration training into 2+2 program
- Hired consultants as school district liaisons
- Developed new 28E agreement to serve all area students
- Staff development activities included state and national Tech Prep Conferences, McRel training, National Careers Conference, CHOICES, CADD, Facilitator training, and Educators Experience the Workplace
- Direct-benefit student programs included Career Showcase, Workforce Magic, WISE Conference, MayLAB
- Working lunch meetings with campus tours for new area superintendents
- Implemented and updated articulation agreements
- Career Days, Industrial Education in-service, attendance at National Tech Prep Conference
- Career Fairs involved all partners (LEAs, community college, Workforce Development Center, AEA, businesses)
- Provided assistance with grant information and facilitation of Careers Consortium clearinghouse and regional Resource Guide
- Implemented regional apprenticeship program in Culinary Arts, Access/Vision vocational option for special education students, and TEAM nutrition grant program, with 3 presentations each in 5 districts; CADD in-service workshop

- New CORE curriculum outlined competencies in job-getting and –keeping, entrepreneurship, and leadership
- Developed dual credit programs in 8 program areas at 13 sites
- Provided regional workshop for industrial technology teachers on “Articulated Apprenticeships in Industrial Technology,” resulting in 5 area school making preliminary commitments to participation in apprenticeship program from Associated Builders and Contractors
- Plans being finalized for articulated manufacturing training and internship program, with many local plants agreeing to participate as job sites
- Established regional partnerships to develop articulated career plans for industrial technology strands; strands implemented in 6 high schools
- 260 middle school students attended regional non-traditional career fair; demand results in scheduling of second career fair
- Career field trip to Pioneer Hi-Bred provided for 57 postsecondary students
- 4+2 Drawing Boards created for 22 programs; orientation session and program-specific meetings held for high school and community college instructors; information sessions held for principals, superintendents, curriculum directors

3. Plan integrated, applied, contextual curriculum and instruction, based on content/skill standards.

- Develop a networking structure to support the teams of instructors at the local level with developing and implementing integrated curricula and instructional strategies
- Work with local partners to promote an awareness and acceptance of Pre-K – life transition, especially as it relates to understanding pathways and necessary skills

Activities Funded by Tech Prep

- Provided training in use of GPS technology in the classroom, with 20 handheld units available for checkout through the AEA
- Sharing grid compiled and distributed to all school districts showing areas of expertise and contact person
- Business partners and Tech Prep coordinators developed recommendations for regional entrepreneurial education that became part of 99-00 strategic plan
- Nearly 1900 area students benefited from applied academics during past school year
- Provided annual workshops for area applied academics instructors
- Industrial Education in-service examined new technology, curricula, instructional strategies
- Provided semi-annual area-wide counselor meetings
- Teacher job-shadow opportunities provided ideas for integrating employability skills into curriculum
- Created pilot process in two school districts for training in Occupational Site Auditing to improve quality of business internships

- Created school-business partnership “Switch Day” where students went to job sites and parent/guardian/grandparent went to school
- Supported staff development in entrepreneurship
- Family & Consumer Science instructors met semi-annually to review national standards and develop assessment tools; model expanded to CADD, business, agriscience, health occupations
- Integrated curricula and instructional strategies included in Tech Prep Roundtable conferences; integration initiatives occurred throughout district, a priority for 99-00
- Web site developed for integrated curriculum and standards
- Collected information on effective practice
- Program partnership created with local Air National Guard
- Individual meetings held with school districts/advisory boards regarding integrated curricula, instructional strategies, career mapping/Drawing Boards, career pathways
- Outlined presentations for elementary-postsecondary around thematic units, project-based teaching, internship opportunities, service learning, teaching strategies, career games, PALS, assessment techniques
- DACUM reviews conducted for manufacturing technology and machining, electro-mechanics, structural drafting
- 27 educators participated in Teacher in the Workplace II, a week-long summer job shadow experience, and “Business Aspects” 3-day in-service for 21 educators, resulting in integration of real-life applications, employability skills, and career development standards in the classroom

4. Promote career guidance and career planning.

- Provide career development activities for all students
- Develop a base for an evolving career and education plan at the end of seventh grade for all students
- Establish flexible career pathways so that all students can gain contextual learning and workplace readiness skills while in high school
- Provide an array of opportunities for work-based learning for all students at elementary, middle school, and high-school levels
- Make career awareness, exploration, and guidance a part of all elements of the school program and at all levels
- Provide a linkage with realistic labor market information, based on current and projected needs

Activities Funded by Tech Prep

- Provided CHOICES software training for 33 counselors
- Work-based learning opportunities included business/industry site visits, guest speakers, career fairs, job shadowing, co-op learning, student internships, summer teacher internships

- Career interest survey administered area-wide in grades 8 and 10
- 3 LEAs used May term as part of Career Guidance program
- 45% of schools participated in workshops dealing with career development standards and benchmarks; plan needed between AEA and community college to increase participation
- Career Awareness workshops held to provide Career Guidelines, activities, resources
- Strategies provided to districts for implementing advisor/advisee programs and career plans for students
- Held weekly meetings of support groups for at-risk girls and for at-risk boys
- Created area-wide Career Development Task Team
- Strategies to expand career awareness included designing study around Career Pathways, implementing career development courses at middle/high school, developing Career Centers at high school level, creating Career Center Web sites for local districts, creating opportunities for job shadowing/internships/tours, implementing advisor/advisee system, providing tours of community college organized around Career Pathways
- Summer training for school teams (including counselors) emphasized career development and lifelong learning standards across curriculum
- On-going training provided for counselors, teachers, and administrators in career development standards
- Student career development opportunities included tours, job shadowing, internships, classroom speakers, regional and local career fairs, Future Fair Career Day, Carole Hughes Authors' Day, Writer's Camp, career inventories/assessment
- Annual WINGS conference for girls interested in math and science
- Created Career/Program Days for counselors and for high school students to visit community college programs, with demonstrations by current and former students
- Developed survey instrument for students receiving training in Career Pathways who select high school classes based on Career Pathway plan; results show 851 students enrolled in articulated programs
- Revised Counselor's Guide to WorkKeys includes 800+ occupation profiles
- Provided regional in-service for counselors on course-to-course articulation and 4+2 Drawing Boards
- Articulation/4+2 meetings held for high school counselors and community college faculty helped create Drawing Boards
- Held in-service programs on work-based learning, career guidance through advisor/advisee programs, Career Pathways

5. Provide in-service training for teachers.

In-service training will be provided for teachers, curriculum directors, and administrators that addresses these concerns:

- Develop strategies to assure that students meet high levels of achievement in academic and technical proficiencies
- Train on the use and application of technology, designed to assist students in understanding all aspects of an industry
- Promote participation of students in programs nontraditional for their gender
- Integrate vocational and academic education: contextual learning
- Develop the technical core of Tech Prep programs such as biotechnology, manufacturing technologies, construction technologies
- Develop and strengthen linkages between secondary and postsecondary education
- Meet the needs of special population students
- Stay current with the needs, expectations, and methods of business and all aspects of an industry

Activities Funded by Tech Prep

- Semi-annual sessions for vocational teachers on Family and Consumer Science, Agriculture, Industrial Technology, Business shared new technology, curriculum updates, and cutting-edge classroom units
- 42 teachers attended training in use of GPS technology in the classroom
- 34 participants completed summer Teacher in the Workplace graduate credit course by shadowing business and industry people for 15-40 hours per week
- 6-member team of teachers and administrators attended Madison Career Conference
- Week-long summer internships provided for educators at local business sites
- Staff development activities included Insights Color workshop, national and state Tech Prep Conference, McRel Training, Educators Experience the Workplace, National Careers Conference, Facilitator Training Workshop, CHOICES, CADD
- 18 area teachers attended state Tech Prep conference
- New programs included Industrial Technology Update, Faculty at the Factory
- Poster developed for Tech Prep articulation and 2+2+2 programs; 2+2+2 courses of study included on community college Web site
- Orientation sessions held for new instructors; secondary/postsecondary session studied effective methods to institute program linkages
- Developed "All Aspects of Industry" curriculum training, Career Pathways training

6. Provide training programs for counselors.

Recognizing that counseling can play a major role in assisting students in making career choices, activities funded for counselor education will target both secondary and postsecondary counseling staff. In-service for counselors will be designed to assist counselors, student services staff, and AEA personnel to:

- Provide career guidance and academic counseling for students participating in vocational and technical education programs
- Provide information to students about Tech Prep programs
- Assist in promoting the opportunities available to individuals participating in programs nontraditional for their gender
- Provide information on employment opportunities related to Tech Prep programs, including through use of computer assisted career information programs such as CHOICES
- Assist students in placement in appropriate employment
- Stay current with the needs, expectations, and methods of business, and all aspects of an industry

Activities Funded by Tech Prep

- CHOICES software training provided for 33 counselors area-wide
- Monthly Counselor Academy meetings held for all area D-14 counselors, as well as yearly CHOICES workshop, regular Career Readiness Council meetings, annual Bridge the Gap meeting
- Individual counselor meetings held to critique Career Days and develop individual LEA career guidance activities
- District counselors received community college advising manual and information about community college Web site for working with students in vocational/technical programs
- Training provided for all district counselors in CHOICES, Bridges, Making Connections
- Provided “Teaming Up – Opening New Doors for Equity” conference and Counselor Career/Program day to tour community college career programs
- 114 educators attended regional workshops supporting career guidance and counseling; CHOICES training provided for 17 educators

7. Assist local partnerships to move toward implementation of school I improvement.

- Assist locals in integrating school and community resources to support student learning
- Develop and implement strategies to address needs based on locally identified technical assistance needs

Activities Funded by Tech Prep

- Area wide listserv developed for Tech Prep coordinators to enhance communication and sharing
- Attendance at NSCI's Standards and Assessment Conference helped provide a framework for integrating information into school districts
- Sharing grid compiled and distributed to all school districts showing areas of expertise and contact person
- Continued planning and implementation of Tech Prep Hub site partnerships in local communities
- Provided assistance to local partnerships in linking Tech Prep goals to overall school improvement
- Developed and provided regional newsletter, standards curriculum support, Curriculum Change Consortium, Culinary Arts apprenticeship, grant writing assistance, data collection training
- Worked with individual district administrators, counselors, coordinators, and vocational education teachers to include networking, e-mail, Internet upgrades, special needs electronic IEPs, and advancements in technology

8. Assist local partners in identifying and using continuous quality improvement tools that help address student learning needs that were identified at the local level.

Utilize:

- | | |
|-------------------------------------|----------------------------------|
| a. multiple assessment | f. longitudinal studies |
| b. performance/authentic assessment | g. attitude surveys |
| c. skill attainment measures | h. knowledge attainment measures |
| d. self examination instruments | i. program assessment plans |
| e. follow-up surveys | |

Activities Funded by Tech Prep

- Tech Prep students take COMPASS test before starting senior year, are monitored in weekly progress reports, and experience Choices during job-seeking skills course
- Students must successfully complete applied/performance portion of courses
- Technical courses made competency based
- Students may check individual competencies before instructor assessment
- All Tech Prep students complete follow-up survey
- Beginning to gather statistics on entry into job market or further education
- Shared Tech Prep programs assessed locally and several have national certification
- Results of career interest surveys shared with LEAs to better address local needs
- Developed regional career portfolio through Careers Consortium
- Gathered data related to assessment tools used by consortium partners through Assessment Subcommittee of Careers Consortium
- Regional newsletter, standards curriculum, Curriculum Change Consortium, and assessment instruments developed to identify student and partner needs
- Professional development opportunities provided in multiple assessments, performance/authentic assessment, skill attainment measures, follow-up surveys, attitude surveys, knowledge attainment measures, and program assessment
- Assessments used include ITED, ASVAB, Pre ACT, ITBS, WorkKeys, standardized and authentic mixtures, standards and benchmarks, graduation surveys, test scores, attitude surveys, scholarship data, information from action plans
- Explained multiple assessment and performance assessment techniques at summer Cooperative Curriculum Project for vocational instructors

9. Assist local partners in achieving systems change through action planning.

- Provide curriculum development
- Assist with technology development
- Provide training in career development
- Assist with economic development
- Assist with staff development for all partners

Activities Funded by Tech Prep

- Technology development assistance provided in health occupations, industrial technology, family and consumer science, business education, information systems
- Technology Fair; new curriculum created in e-commerce, web design and development
- Economic development partnering through creation of 7 shared tech prep hub sites in 5 different communities, with 13 school districts committed to educating students in one or more hub sites; programs included manufacturing (tool & die), automotive technology, mechanical design, information systems technology, medical assistant
- Staff development offered through summer internships, institutes, workshops, sharing sessions for variety of instructors
- Annual Bridge The Gap evening continued linking education with business/industry
- Used WorkKeys Applied Technology assessments
- Achieved major capacity-building of local partnerships to understand career education and their role at the local level for supporting schools' efforts in school improvement
- Offered monthly technology development workshop for all technology coordinators
- McNellis Planning Process (through AEA) used to re-design alternative high school program and develop Five-Year Regional Plan
- Community college Web site supported local districts' information needs
- Partnership created with business/industry to establish regional work-based learning clearinghouse
- Facilitated technology development through purchasing technology for various vocational programs; provided training on Web Page, Microcomputer Processing, Computer Applications, and GPS/GIS
- Promoted career development through CHOICES training, K-12 Counselor and high school vocational Program/Career Days at community college, Drawing Boards, elementary guidance curriculum, career videos and electronic portfolio development
- Developed action plans based on input from all partners during consortium board meetings dealing with results of various needs assessment instruments, goals and objectives of Perkins, Tech Prep, Talent Search, S.P.A.C.E.

10. Promote management, data collection, recording, and reporting.

- Assist in the design of a reasonable and practical model for management and housing of certification records
- Notify public of the activities to support initiatives in the region and at the local level
- Assist locals in establishing data collection systems that measure progress toward the achievement of local school improvement goals

Activities Funded by Tech Prep

- Articulation forms simplified for user-friendliness and storage with Tech Prep Coordinator
- Provided monthly (during school year) area Tech Prep Newsletter that publishes June Tech Prep 'report card' of year's accomplishments; distributed to over 2500
- Local school-to-community-college liaison monitored and reported student progress on a weekly basis
- Developed form that records Tech Prep students by Pathway
- 50% of LEAs purchased IMSeries to monitor student achievement and progress toward school improvement goals; tracking benchmarks for employability, Six Career Pathways, and National Career Development Guidelines
- Collected monthly summary sheets of local Tech Prep activities
- Careers Consortium Marketing Subcommittee proposed as vehicle to better inform public of activities to support initiatives
- Promoted use of portfolios through resources and staff development
- Data collection training workshop series included Collecting Demographic Data, Using Spreadsheets to Create Graphs, Using the ITP System Manager, Creating Data Tables to Address HF2272 and Perkins Reporting Requirements
- Provided annual feedback to LEAs regarding their students who attend community college
- Developed Regional Career Pathways Portfolio Framework, including modifications to existing tracking and transition system to adequately track students in articulated courses or programs
- Published Regional Newsletter
- Community college and AEA plan to investigate data collection systems for possible regional and local use
- "Critical friends" assisted districts in data collection and measurement of progress
- Local School Team kept records on numbers of students and teachers participating in projects/programs involving Tech Prep
- Personal Portfolio used as model to help regional partners manage and house certification records
- Web page used to notify public of regional activities

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