DOCUMENT RESUME

ED 393 483 JC 960 178

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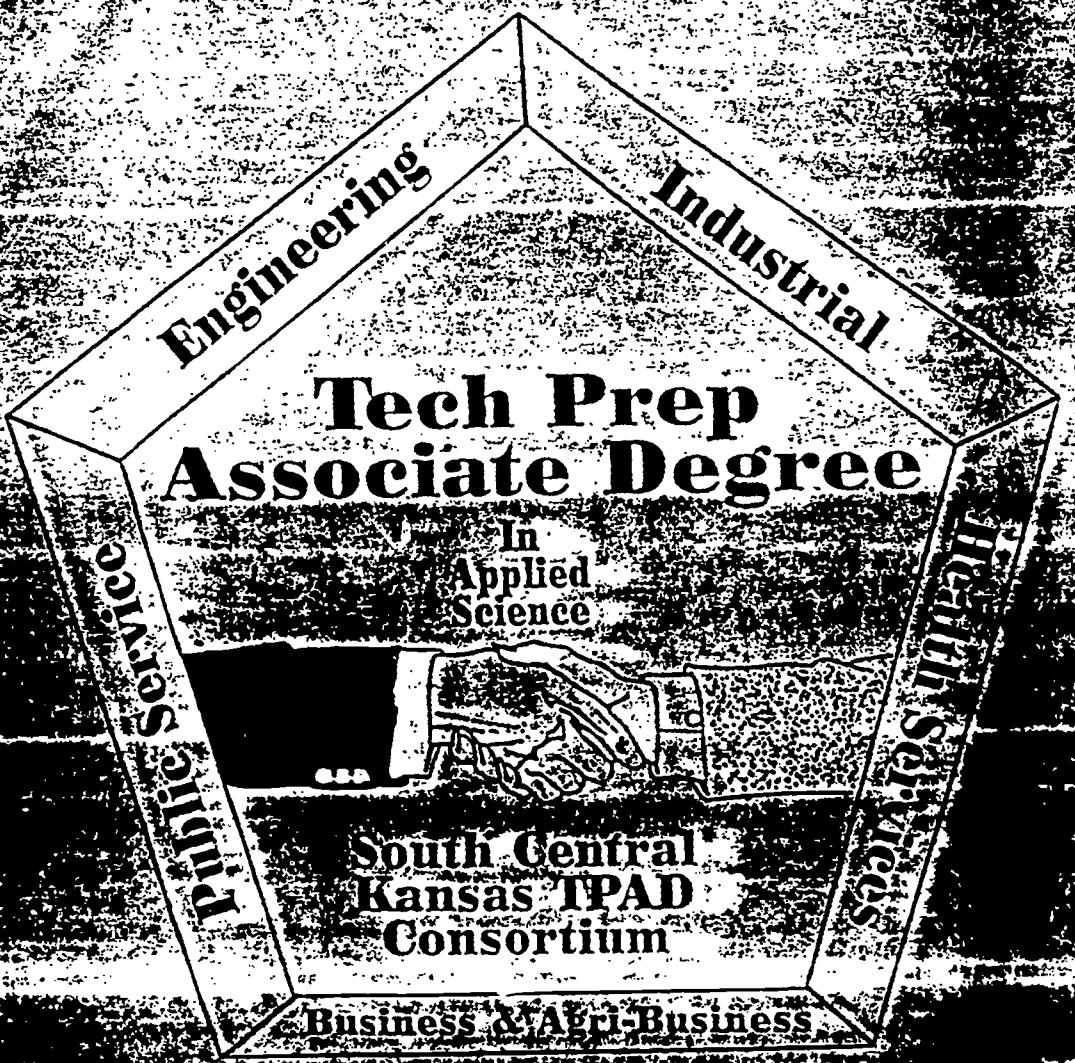
TITLE South Central Kansas Tech Prep Consortium Handbook [and] South Central Kansas Tech Prep Program Resource Catalog, 1994-1995.
INSTITUTION Cowley County Community Coll. and Area Vocational-Technical School, Arkansas City, KS.
PUB DATE [96]
NOTE 93p.
PUB TYPE Guides - Non-Classroom Use (055) -- Reference Materials - Directories/Catalogs (132)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Articulation (Education); College School Cooperation; Community Colleges; *Curriculum Development; Educational Strategies; Guidelines; *Integrated Curriculum; Job Skills; *Program Development; *Program Implementation; Technical Education; *Tech Prep; Two Year Colleges; Vocational Education; Workplace Literacy
IDENTIFIERS *South Central Kansas Tech Prep Consortium

ABSTRACT

Designed to provide resources and guidance for the design and implementation of tech prep programs at the local level, this document provides a handbook of strategies and guidelines developed by tech prep practitioners across the nation and a catalog of materials available at the South Central Kansas Tech Prep Consortium (SCKTPC) library. Following a brief introduction, the handbook provides information on the following: (1) the philosophy behind tech prep; (2) applied academics, or offering academic foundation courses in occupational settings, focusing on the benefits of the courses and their place in the tech prep curriculum; (3) the integration of academic and technical programs, including strategies and models of integration; (4) career guidance, focusing on the counselor's role in curriculum development, partnerships, and career awareness; (5) articulation between secondary and postsecondary education, providing 10 basic principles; (6) a history of tech prep in Kansas; and (7) a description of the SCKTPC, including the Consortium's mission, a list of participating institutions, goals, and sample forms related to articulation and advanced placement procedures. The handbook contains 16 references, while appendixes include definitions of terms, the Tech Prep Educational Act of 1990, information on workplace and career development competencies, tips on promoting tech prep, and a sample course sequencing model. Finally, the SCKTPC resource catalog lists books, videos, handouts, computer software, and transparencies available at the Consortium's library by subject area. (TGI)

South Central Kansas Tech Prep Consortium Handbook



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South Central Kansas Tech Prep Program Consortium Handbook [and} South Central Kansas Tech Prep Program Resource Catalog, 1994-1995

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The ***TECH PREP PROGRAM*** derives funding through the Federal Carl Perkins Vocational Equity Act.

SOURCES and ACKNOWLEDGEMENTS

During the course of many years of preparing for and developing national, state and local Tech Prep programs, the hard work and research of many individuals has paved the way for us. It is only through the fruits of their labor, perseverance and commitment to excellence in the Tech Prep initiative that we have come this far.

The contents, ideas and philosophies of this handbook are not original in nature. Rather, it is a compilation of a number of different publications/written materials developed and published by the leaders of the Tech Prep initiative. We have collected them here for your benefit as you forge the way for Tech Prep on the local level. The following is a listing of individuals, institutions, publishers and organizations and their respective written work(s) (where applicable) which are included within this text:

- Center on Education and Work: Tech Prep & Counseling: A Resource Guide. by Catherine Chew, 1993.
- Center for Occupational Research & Development (CORD)
- Hull, Dan: "Tech Prep: Practical Education for America's Workforce". Published in School Shop Tech Directions, March 1992.
- Hull, Dan & Parnell, Dale: Tech Prep Associate Degree A Win/Win Experience. Published by CORD, 1991.
- Division of Voc/Tech Education Services, North Carolina Dept. of Public Education: Secondary Education Plans for Career Preparation.
- Kansas State Board of Education.
- National Center for Research in Vocational Education (NCRVE):
  - Beyond Articulation: The Development of Tech Prep Programs.
  - "The Cunning Hand, The Cultured Mind:" Models of Integrating Vocational & Academic Education.
  - Strategies for Integrating Academic & Vocational Education.
- National Occupational Information Coordinating Committee: "Career Development Competencies by Area and Level."
- National Tech Prep Network.

- Roanoke Area Tech Prep Consortium: Promoting Tech Prep Programs.
- Southeast Kansas Tech Prep Consortium: Counselor's Handbook, March 1993.
- Tech Prep Associate Degree Consortium of Johnson/Douglas Counties: Tech Prep Action Team Handbook.
- U.S. Department of Labor, Secretary's Commission on Achieving Necessary Skills (SCANS): What Work Requires of Schools.
- Wichita Public Schools (USD # 259): Integration pamphlet.

TABLE OF CONTENTS

INTRODUCTION

The intent of this handbook is to provide resources and guidance for those individuals or teams who have the responsibility for the design and implementation of the Tech Prep Program at the local level. With the appropriate background knowledge and understanding of Tech Prep, these groups can be proactive in working with students, parents, other educators, business, industry and labor as schools respond to societal and workplace change through restructuring.

This handbook is organized to follow an orderly path through the general issues involved with Tech Prep. It will also provide a historical perspective of Tech Prep in Kansas and offer extensive information regarding the South Central Kansas Tech Prep Consortium. Within the appendix section, there is a sample of a local sequencing model and other resources. In addition, there are several other local supplemental resources that are either available now or will be released shortly:

- ♦ South Central Kansas Tech Prep Resource Library
- ♦ South Central Kansas Tech Prep Speakers Bureau
- ♦ South Central Kansas Gender Equity and Career Information Resource Library

Tech Prep is a continuously evolving process and new insights are constantly emerging. Planners must, therefore, remain alert and open to new ideas and perspectives.

What is Tech Prep?

Background.

The Tech Prep Program is a national educational reform movement that focuses on the "forgotten half", the average students who make up the middle fifty percent of our high school population. It is a total educational program that links the high school curriculum with the curriculum of a two-year community or technical college to produce a skilled technician capable of high productivity in today's globally competitive work force.

In its broadest form, a comprehensive Tech Prep Program:

♦ Parallels the college-prep program. Both programs share comprehensive programs and have many courses in common. In fact, it is possible to move from one program to the other with little, if any, loss of time or credit.

♦ Should replace the general education program that prepared students neither for college nor for work.

♦ Will prepare a high school graduate with enough skills to secure an entry level job and prepare for further education, whether right after graduation or sometime in the future.

♦ Has an applied academics foundation. A strong base in mathematics, science, and communications forms the foundation on which the specific job-related technical skills are built. These academic courses use real-life examples and emphasize "hands-on" learning activities. This applied or contextual teaching approach matches the learning style of the majority of our students (concrete learners). These courses are rigorous (not watered down) in their content while being understandable to the concrete learner.

♦ Includes courses in the liberal arts as well as courses in mathematics, science, communications, and technology. It prepares students to live as well as work in a technological society.

♦ Is competency based. Business and industry are active partners in identifying the education and training needed for today's work force.

♦ Should be preceded by a career-exploration program in the junior high (middle school) and career-awareness education in elementary school.

♦ Will provide students with the opportunity to earn college credit while in high school and/or gain enhanced skills for completing master technician programs in the community or technical colleges.

♦ Should provide the opportunity for the student completing an associate degree to continue on into a baccalaureate-degree program.

♦ Is a partnership program that involves all parts of the community. Education, business and industry, as well as state and local government all must work together. Educational reform requires cooperative and focused effort to succeed.

The Tech Prep Program has evolved over the past decade to become a vehicle, an opportunity, to bring about true reform in our educational system. It also will give the "forgotten half" the educational opportunity they deserve and the nation's work force the skilled workers it so badly needs. (Refer to Figure 1, page 4.)

Why are some students not learning?

...American schooling sequesters students from the real world.

♦ Breaks knowledge down artificially into theoretical disciplines.

♦ Breaks disciplines down into component pieces.

♦ Demands that students commit fragments of knowledge to memory.

♦ Applications are reserved for pen-and-paper exercises at the back of the chapter.

♦ Interdisciplinary applications are rare, and applications in the context of working groups are even more rare.

Everyone has a part.

Administrators must provide leadership.

Board members serve as catalysts to the community's recognition of Tech Prep as a viable occupational option for students that leads to rewarding technical careers.

Business leaders must be included in the planning for Tech prep as well as implementing and evaluating the program based on local employment needs. This will involve an increase in school-supervised work experiences to supplement students' learning and offering internships and job-shadowing opportunities for teachers so that they can keep current on workforce needs.

Counselors and coordinators are the most important communication link between the Tech prep program, students and parents.

Teachers' face-to-face interactions between academic and vocational teachers and secondary/postsecondary teachers are essential before Tech Prep programs can be implemented.

Parents influence students' attitudes toward work and technical occupations as career options. As role models, parents have the responsibility of involving themselves and guiding their children in the career decision-making process.

Students must take responsibility for their own futures. Choosing a career is one of the most important decisions a student will make. It should be made with an open mind and the goal of becoming contributing members of society.

Changes required.

Expectation--high level of performance must be expected from all our students.

Attitudes--ideas about the quality and worth of technical education and careers must be re-evaluated.

Teaching Styles--teaching styles and techniques must correspond to the learning styles of all students, not just part of the students.

Organizational structures--segmented, bureaucratic, hierarchial organizations are counterproductive to the initiative and flexible team efforts required of front-line workers (and teachers).

TECH PREP/ASSOCIATE DEGREE (TPAD)
The K-12...14...16 Connection

A Key Element of the
TECHNICAL EDUCATION PLAN

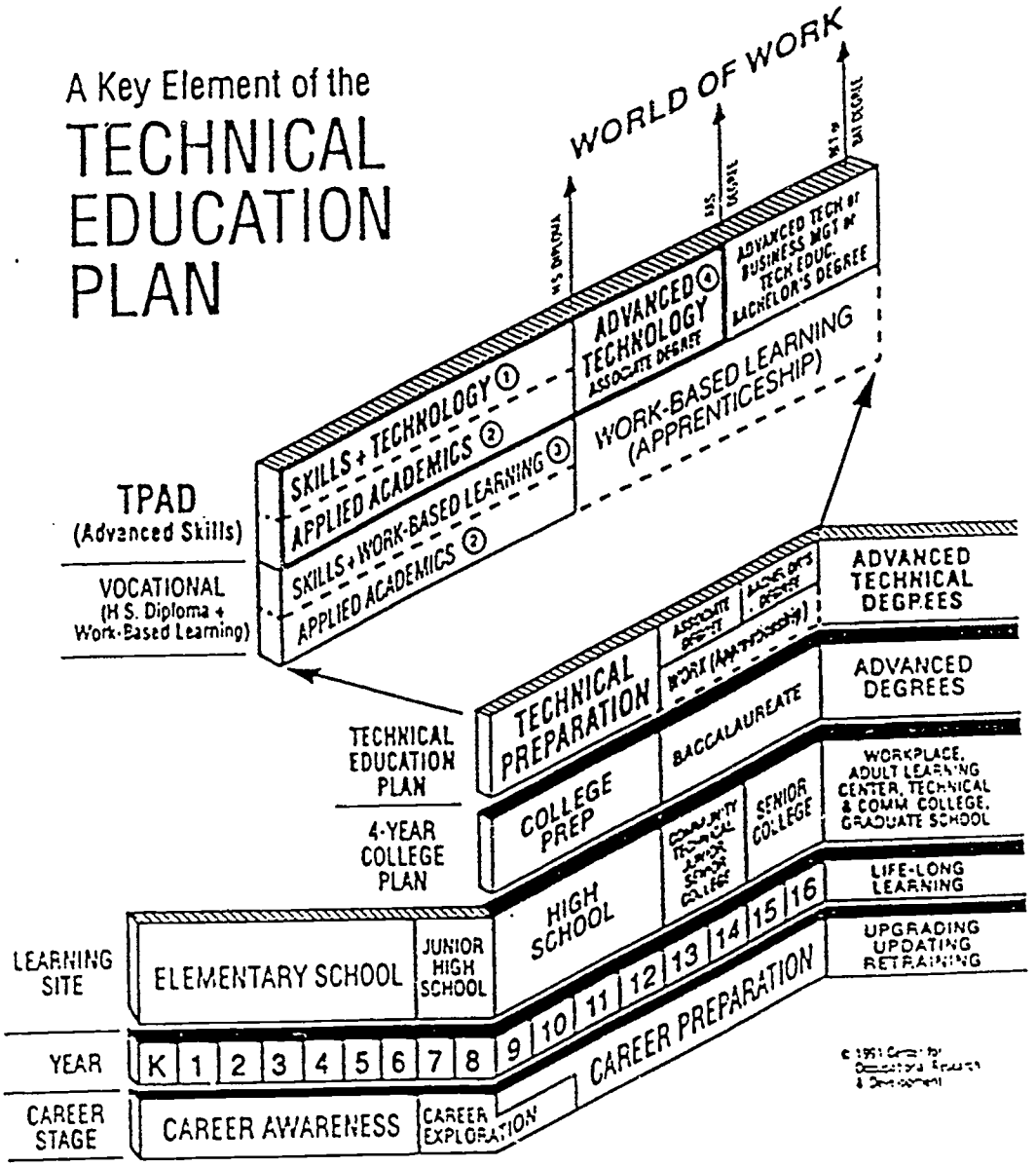


Figure 1

What Are Applied Academics?

Today, the advent of rapidly changing technologies, both at home and abroad, clearly signals the need for an educational system that combines the best in vocational and academic learning--that is, teaching academic foundation courses in an occupational setting. Such a strategy is generally referred to as applied academics. **Applied Academics can be defined as the presentation of subject matter in a way that integrates a particular academic discipline (such as math, science, or English) with personal work-force applications (hands-on laboratories dealing with practical equipment and devices).** The mathematics and science principles that are taught, for example, are related to and explained in terms of the operation of real devices and applications in the everyday work world.

The SCANS (Secretary's Commission on Achieving Necessary Skills) report concluded that:

> The most effective way of teaching is 'in context'--placing learning objectives within real environments rather than first insisting that students learn in the abstract what they will then be expected to apply.

The SCANS report also suggested that basic skills and problem-solving skills are not sequential, but mutually reinforcing and should be taught together. The SCANS report states that real know-how--foundation and competencies--cannot be taught in isolation, but rather that students need practice in application of their skills.

> Choosing between teaching the foundation and the competencies is false; students usually become more proficient faster as they learn both simultaneously . . . Learning 'to know' must never be separated from learning 'to do.'

Findings from cognitive research (how people learn) indicate that the most productive approach to teaching are to provide learning opportunities that take the student from (1) concrete to abstract, (2) specific to general, (3) practice to theory, and (4) familiar to unfamiliar. The Applied Academics courses are designed to incorporate all of these findings and to meet the learning styles of the majority of our students.

Applied Academics are not "watered-down" courses. Applied Academics is a coordinated, sequential curriculum designed to be rigorous and challenging while adhering to certain standards of development. Applied Academics course material must make sense to both the college bound and the non-college bound student. The course material must be practical and relevant, related wherever possible to the real world of work. Delivery of the overall course material must emphasize and include hands-on learning experiences in laboratory environments. The integrity of the academic discipline must be retained with all presented course materials.

Why Do We Need Applied Academic Courses?

The complexity and rapid change of modern technology requires that all students have a solid foundation in mathematics, science, and communications. The content taught in these courses must be rigorous, however it must be taught in a manner that meets the learning styles of the majority of our students, not just the learning style of a few. No longer can we speak of the liberal arts versus the practical arts as if we live in two separate worlds. The worker of the future will need to understand both academic concepts as well as technical practices. Future changes in technology will leave behind students brimming with specific job skills but lacking in an associated academic foundation. An understanding of basic mathematical and scientific concepts is critical to productive living and working in a technological society.

Who Benefits From These Courses?

Everyone benefits when applied academic courses are carefully implemented and used as a foundation for a Tech Prep curriculum. For students, applied academics builds a solid foundation of math, science, and communication principles while providing a broad knowledge base that ensures flexibility in a changing work force. Applied academics also make science, math, and communication sources more accessible and less threatening to a large majority of learners and may create a heightened interest in pursuing technical postsecondary study. For educators, teaching applied math, science, and communication becomes a more successful and enjoyable experience that not only relates the academic principles to the practical world of business and industry, but bridges the gap between the vocational/technical and academic sides of the "house." Applied academics benefit local employers by raising the levels of mathematic, science, and communications skills for entering workers and providing a work force that can easily adapt to changes in the work place. Applied academics also provide opportunities for new and closer partnerships between education and industry.

Description of Courses.

Applied Mathematics: is a two-year, high-school mathematics course based on an integrated presentation of topics in arithmetic, algebra, geometry, trigonometry, probability, estimation, problem solving, and statistical process control. Applied Math is oriented toward application and practice of mathematical concepts and skills, and practical world-of-work problems that involve extensive measurement and problem-solving activities in health occupations, home economics, agriculture/agribusiness, industrial technology, and business/marketing. Ideally, students should begin Applied Mathematics I in the ninth grade and complete Applied Mathematics II in the tenth grade. This then prepares them for entry into Algebra Two if their high school program calls for higher level mathematics courses. Applied Mathematics is being taught in 44 states to over 80,000 students.

Principles of Technology: is a two-year course in applied physics for students interested in technical careers. The PT curriculum is designed to be taught in either comprehensive high schools or vocational-technical centers to tenth and eleventh grade students who may or may not be planning to enroll in four-year colleges and universities in engineering or science programs. The PT curriculum consists of 14 units (two years) which includes such areas as force, energy, power, energy converters, transducers and radiation. Students who complete Applied Math I in the ninth grade can begin PT in the tenth grade with a high level of success. If time permits a second year of PT may then be taken in the eleventh or twelfth grade. PT is currently being taught in 48 states and two Canadian provinces to over 100,000 students.

Applied Biology/Chemistry: is an integrated, two-year course of competency-based materials that can be infused into existing courses or taught as a stand-alone course. The ABC course presents biology and chemistry in the context of work, home, society, and the environment. The applied academic approach treats biology and chemistry as a unified science, just as the two subjects are most often found in real life experiences. The ABC curriculum consists of 12 units including natural resources, nutrition, plant growth and reproduction, disease and wellness, and microorganisms. ABC should be taught at the ninth and/or tenth grade level. ABC, the newest of the Applied Academics courses, is being taught in 38 states.

Applied Communications: is a comprehensive set of video-based learning materials designed to help students develop and refine job-related communication skills. The 15 units in Applied Communication cover areas such as communicating in the work place, using problem solving techniques, participating in groups, and upgrading, retraining, and changing jobs. Of the 46 states now using Applied Communications, many are trying the one-year course at different grade levels, and some are infusing Applied Communications into English courses during all four high-school years.

(NOTE: All of the existing applied academics courses consist of a students text with lab activities, video, a teacher's guide, a bank of test questions, and a resource guidebook. The applied academics courses are written generally at an eighth grade reading level.)

How Do Applied Academics Fit Into A Tech Prep Curriculum?

Experience has shown that students derive maximum benefit when all four years of high school become available for selection and positioning of applied-academics courses. Having these courses in math and science early in high school 9th-10th grade provides the student with a solid foundation upon which new types of technical education curricula can be built. The accompanying chart is an example of how Applied Academics "fit" into a four-year high-school program. (Refer to Figure 2, page 8.)

WHERE DO APPLIED ACADEMIC COURSES FIT ?

	9th Grade	10th Grade	11th Grade	12th Grade
MATH	APPLIED MATH I	APPLIED MATH II	ALGEBRA II	FORMAL GEOMETRY
SCIENCE	APPLIED BIOLOGY/ CHEMISTRY	PRINCIPLES OF TECHNOLOGY I	PRINCIPLES OF TECHNOLOGY II (OPTIONAL)	
ENGLISH	ENGLISH I, II, III AND APPLIED COMMUNICATIONS			
HUMANITIES	GEOGRAPHY, HISTORY, AND GOVERNMENT			
OTHER			VOCATIONAL EDUCATION CONCENTRATION	

For more information, please contact: The National Tech Prep Network c/o Center for Occupational Research and Development
601-C Lake Air Drive Waco, Texas 76710 1-800-231-3015 Attn: Laura L'Esperance

Figure 2

Integration.

What Is Integration?

Integration is the combining of academics and technical education in programs through coherent sequences of courses that help students achieve both high academic and high occupational competencies. All students, whether preparing for 2, 4, 6, or more years of postsecondary educational training, need to be academically and technically prepared to meet today's workplace demands. Our economy will depend upon a competent workforce regardless of years of postsecondary training.

Below you will find a summary of a research project conducted by the National Center for Research in Vocational Education. The researchers used a qualitative design to the study

utilizing on-site visits and phone interviews. Their report, "The Cunning Hand, The Cultured Mind: Models of Integrating Vocational and Academic Education," is descriptive in nature and presents eight models of integration which were observed in secondary schools across the country.

Model 1: Incorporating more academic content in vocational courses.

Model 2: Combining vocational and academic teachers to enhance academic competencies in vocational programs.

Model 3: Making the academic curriculum more vocationally relevant.

Model 4: Curricular "Alignment": Modifying both vocational and academic courses.

Model 5: The senior project as a form of integration.

Model 6: The academy model.

Model 7: Occupational high schools and magnet schools.

Model 8: Occupational clusters, "career paths," and occupational majors.

(Refer to Figure 3, page 10.)

Strategies for Integrating Academic and Vocational Education.

- ♦ Seek support of the entire school staff for establishing the goals of integration projects and include vocational and academic teachers as well as counselors in all stages.

- ♦ Publicize to students, parents, and community the purposes and anticipated outcomes of integration.

- ♦ Provide for extensive staff development, including workshops with clearly defined outcome goals.

- ♦ Seek funds for release time, equipment, and materials from federal and state grants and local businesses.

- ♦ Work cooperatively with local postsecondary institutions to provide staff development activities at a reasonable cost.

- ♦ Commit time to discussions between vocational and academic teachers about their own subject matter in order to find matching complementary objectives.

Models of Integrating Vocational and Academic Education

	Curriculum Changes	*Teacher Changes*	*Students Targeted*	*Institutional Changes*
1. Incorporating more academic content in vocational courses	Vocational courses include more academic content	Vocational teachers modify courses	Vocational students	None
2. Combining vocational and academic teachers to enhance academic content in vocational programs	Vocational programs include more academic content, in either vocational courses or related applied courses	Academic teachers cooperate with vocational teachers	Vocational students	None
3. Making academic courses more vocationally relevant	Academic courses include more vocational content; sometimes new courses (e.g., applied academics) adopted	Academic teachers (usually) modify courses or adopt new ones	Potentially all students; in practice, vocational and general-track students	None
4. Curricular alignment: horizontal and vertical	Both vocational and academic courses modified and coordinated across courses and/or over time	Vocational and academic teachers cooperate; numbers range from two to all	Potentially all students; actual targets vary	None necessary; curriculum teams may foster cooperation
5. Senior projects	Seniors replace electives with a project; earlier courses may change in preparation	None necessary; teachers may develop new courses or modify content to better prepare students	All students	None necessary
6. The Academy Model	Alignment among academy courses (English, math, science, vocational) *may* take place	Vocational and academic teachers may collaborate on both curriculum and students	Usually potential dropouts; sometimes students interested in specific occupational areas	School-within-a-school; block rostering; smaller classes; links to employers
7. Occupational high schools and magnet schools	Alignment among all courses may take place, emphasizing the occupational focus	All vocational and academic teachers assigned to an occupational school or magnet within a school; collaboration facilitated	Students interested in specific occupational areas	Creation of a self-contained occupational school or magnet school
8. Occupational clusters, "career paths," and majors	Coherent sequences of courses created; alignment may take place among courses within clusters	Teachers belong to occupational clusters rather than (or in addition to) conventional departments; collaboration facilitated	All students	Creation of occupational clusters; enhancement of career counseling; possible cluster activities

Figure 3

- Involve teams of teachers, counselors, and business persons in reviewing and developing the curriculum and materials.

- Send groups of vocational and academic teachers to observe how the skills they teach are applied in local workplaces.

- Let teachers risk trying new ideas even though results are not guaranteed.

- Operate summer retreats where groups of vocational and academic teachers share their experiences and devise possible ways of collaborating during the coming year.

- Provide release time and travel funds for academic and vocational teachers to visit school sites and interact with teachers and counselors who have already begun to integrate academic and vocational education.

- Consider a teacher-selected, problem-focused curriculum dealing with real-world problems that need solutions.

- Facilitate collaborative planning and teaching efforts by arranging schedules to ensure the flexibility of the teachers. Reducing the isolation of teachers seems to make them more enthusiastic about what they are doing; they understand the connections among courses better; and there is a common enterprise in shaping the education of young people.

- Provide a professional reference library on the subject of integrating academic and vocational education, tech prep, teacher collaboration, and other pertinent topics.

- Utilize student projects and portfolios to reinforce academic and vocational concepts.

- Sequence academic and vocational courses back-to-back so that students have sufficient time in classroom and laboratory experiences to see the parallels between the subject matter and to become engaged in activities of sufficient time and depth to facilitate teaching and learning.

- Mix students from different curricular areas and move students to new areas of the building to overcome the limitations of tracking. Students may become more enthusiastic, make better connections between subjects, and discover practical benefits for life beyond school.

Career Guidance

How Does Career Guidance Fit In A Tech Prep Program?

Looking to the future and helping students understand the influences of change as it relates to their understanding and their career aspirations is the responsibility of all educators. Career guidance and counseling are a cornerstone of Tech Prep. Therefore, the counselor's role in facilitating career development and planning is critical in the process of implementing Tech Prep. Few decisions that are made in life are as influential on lives as the selection of an occupation or career. It influences income and standard of living, personal and social identity, and affects self-esteem and educational attainment. Unfortunately, the choice of one's vocation is often left to chance or made with inadequate information. Applying the knowledge of future trend, Tech Prep introduces students to the opportunities of technical careers and encourages exploring a variety of postsecondary options including, but not limited to, a baccalaureate degree.

A Comprehensive Developmental Guidance Model (like the one displayed below) provides an appropriate umbrella to incorporate Tech Prep career counseling. It is based on the recognition that all pupils pass through specific stages as they mature. What happens or fails to happen to students at each developmental stage affects the individual's attitude toward learning, attainment of career goals, and feelings regarding self, society, family, and career. This model stresses prevention of problems by providing students with age-appropriate skills and information. (Refer to Figure 4.)

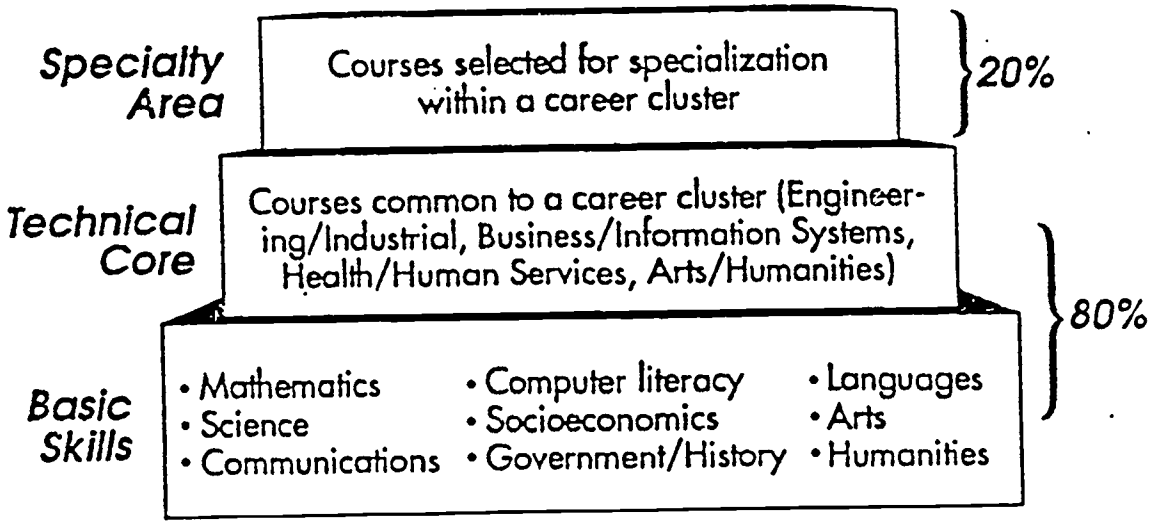


Figure 4

What is the Counselor's Role in Tech Prep?

The counselor brings unique skills and knowledge that can be helpful in the implementation of the Tech Prep initiative. The counselor's top priority is to serve as an advocate for the student. **A counselor's position is not one of "recruiter" for any program, but rather "informer of options."** It is the responsibility of counselors to inform students or present them with a variety of academic and career options available during and after high school. Tech Prep is a viable option for a large number of students.

Too often counselors, many educators, and most parents have encouraged students to pursue a bachelor's degree with the notion it represents the exclusive degree of rigor and excellence. Little attention has been given to the fundamental changes that have occurred in the workplace as a result of technology and the kinds of skills and educational requirements that are needed. The kinds of jobs that are available today and the way in which work is organized and performed have been profoundly influenced not only by technology, but by new management styles such as Edwards Deming's "Total Quality Management." Public education is responding with its own "quality schools" as William Glasser states in his book, The Quality School Managing Students Without Coercion.

A bachelor's degree is not the only "quality" degree. Associate degrees in a technical or community college, and apprenticeship provide excellent educational and career opportunities. These options can no longer be ignored and attitudes must change. The associate degree and jobs in the technical fields can no longer be considered less desirable than those requiring a 4-year baccalaureate degree. Regardless of the occupation, many skills, such as the ability to use technology and information systems, to think creatively, to manage resources, and to manipulate data, are being required across occupational lines.

Counselors must inform students of the changing workforce and job trends and encourage them to consider a variety of educational pathways, not only the traditional 4-year college path. Counselors must help parents understand that employment in America is in the process of a transformation that is changing where work is performed, who performs it, and how it is performed. The U.S. Department of Labor predicts that by the year 2000, 44% of jobs will be in collecting, analyzing, synthesizing, storing, or retrieving data. Knowledge of technological systems is becoming a basic skill necessary for nearly all future employees. Tech Prep is preparing students for a technological world.

Ways Counselors Can Be Involved in the Curriculum Development Component of Tech Prep:

- Serving on local Tech Prep Councils and subcommittees
- Understanding and facilitating student acquisition and application of new basic skills (critical thinking, problem solving, teamwork)
- Being informed of the content of applied courses

- Being knowledgeable of articulation agreements
- Understanding the sequencing of courses
- Understanding the career cluster approach to restructuring curricula
- Supporting the classroom teacher with career information and resources

Ways Counselors Can Support Tech Prep Partnerships:

- Become agents for change
- Work with instructional staff to infuse career awareness activities and experiences throughout the curriculum
- Help bridge the gap that often exists between academic and technical faculty
- Serve as the catalyst for promoting a positive and healthy school image
- Be aware of the partnerships between education and business and industry and the skills needed for success in a technological world
- Provide business, industry, and labor with a greater understanding of the issues facing educators and students
- Interact and communicate with counselors in postsecondary institutions
- Be actively involved in staff development activities
- Form partnerships with other school personnel

Ways Counselors Can Enhance Career Awareness:

- Implement a developmental guidance model for K-12
- Provide all students with interest and aptitude assessments
- Provide school-wide activities that promote the awareness of technical career opportunities
- Provide students with information about community or technical colleges

◆ Give attention to women, minorities and students with special needs, and provide them with knowledge of opportunities

◆ Must have access to appropriate materials and resources that explain the options of Tech Prep and technical careers

◆ Help students develop a portfolio that summarizes their educational and experiential credentials

◆ Utilize career planners

Career/Occupational Clusters.

What are Career/Occupational Clusters?

To build stronger foundations, provide opportunities for student choice, and increase competency level, tech prep has adopted a career-cluster approach. This approach is based on the concept that many clusters of occupations require common knowledge. It is possible, therefore, to design a curriculum that has a core of courses common to several related specialties. All students in the cluster take the core classes, approximately 80% of the curriculum, and then branch out in specialty areas.

Nationally, four career clusters are prominent: engineering/industrial, information systems, health/human services, and arts/humanities. (Locally, we advocate: Agriculture, Business, Industrial/Engineering, Health, and Public/Human Services.) These clusters can incorporate both tech prep and traditional college prep options since many courses are relevant for both groups of students, as well as those who plan to go directly from high school to employment. The opportunity for students who are pursuing a variety of future plans to merge in much of their high school preparation is a positive feature of clustering. (Refer to Figure 5)

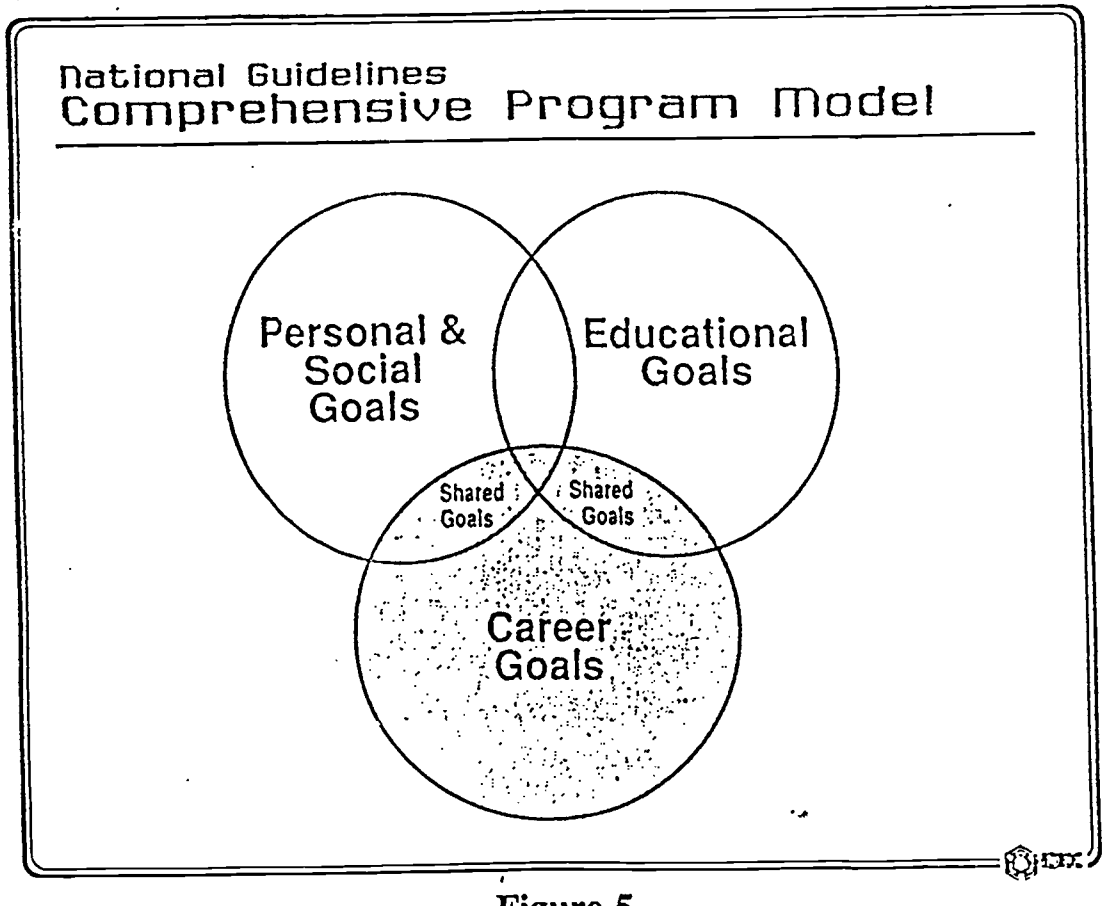


Figure 5

Articulation.

What is Articulation?

In addition to integrating academic and vocational subjects, the tech prep program places heavy emphasis on articulation from secondary to postsecondary education. Articulation is a process for coordinating the linking of two or more educational systems within a community to help students make a smooth transition from one level to another without experiencing delays, duplication of courses or loss of credit. A clear, comprehensive, meaningful description of articulation presents it as a process, an attitude, and a goal:

> As a process, articulation is coordination of policies and practices among sectors of the educational system to produce a smooth flow of students from one sector to another. As an attitude, it is the willingness of educators in all sectors to work together to transcend the individual and institutional self-interest that impedes maximum development of the student. As a goal, it is the creation of an educational system without artificial divisions, so that the whole educational period becomes one unbroken flow that varies in speed for each individual and which eliminates loss of credit, delays, and unnecessary duplication.

Articulation between high school and community or technical colleges, generally referred to as a 2 + 2 or 4 + 2 program, is a competency-based, technical-vocational curriculum, designed jointly by business, secondary schools, and postsecondary institutions, to link either 2 or 4 years of high school with the first two years of postsecondary education to allow teaching of competencies not possible in just 2 or 4 years. A common core curriculum for tech prep in secondary school is combined with specialty courses in a chosen field at the postsecondary level.

Ten Principles of Articulation

- ♦ Leadership and Commitment
- ♦ Early Faculty Involvement
- ♦ Respect and Trust
- ♦ Mutual Benefits To All Parties
- ♦ Written Articulation Agreement
- ♦ Open, Clear and Frequent Communication
- ♦ Modest Initial Goals

- Accountability
- Competency-Based Curricula
- A Common Focus on Mutual Goals Rather Than On Individual Turf

The Tech Prep Story in Kansas.

The Tech Prep programs of Kansas are funded much like those of other states--through the Federal Carl Perkins Vocational Education Act. The Perkins Act was designed to give states wide latitude in the content and range of programs and supplemental services. In providing this latitude, the Perkins Act also earmarked funds for program improvement, innovation, and expansion; in turn, it provided a mechanism by which some states initiated the development of tech prep programs. This foundation has been significantly enhanced with the re-authorization of the Perkins Act which includes the Tech Prep Education Act of 1990.

As stated in the Tech Prep Education Act, federal funds are available to support the development and operation of articulated 2 + 2 programs. In addition, grants are awarded to a consortia of local educational agencies and postsecondary educational institutes. The Act also specifies some elements of the content of tech prep programs. For instance, the programs must include a common core curriculum of mathematics, science, communications, and technologies. In addition, student competence in these curricula should be achieved through a sequential course of study and through using applied academics. Tech prep programs must be designed to lead to an associate degree or certificate in a specific career area. Finally, the Act specifies that tech prep programs must include inservice training for teachers and counselors, provide equal access to members of special populations, and provide preparatory services to assist program participants.

Kansas Definition of Tech Prep Student.

> A Tech Prep student is a learner who is enrolled in a sequenced, articulated set of courses/competencies that blends technical education with contextually-based math, science, communications and technology education to provide knowledge, skills and attitudes needed for employment and leading to an associate degree, apprenticship or professional certification.

Kansas Tech Prep Network:

Kansas State Board of Education, Tech Prep Specialist:
Carolyn Olson
120 East 10th Ave.
Topeka, KS 66612-1182
(913) 296-3958

Kansas Tech Prep Coordinators and Contacts:

Les Able/Alene Knedlik
Southeast Kansas Area Vocational School
6th & Roosevelt
Coffeyville, KS 67337
(316) 251-7700

Dr. Daun Anderson/Karen Sadler
Barton County Community College
Rt. 3, Box 136Z
Great Bend, KS 67530-9283
(316) 792-2701

Jerry Burkhart
Pratt County Community College
Highway 61
Pratt, KS 67124
(316) 672-5641

Eldon Chlumsky
428 South Broadway
Wichita, KS 67202
(316) 833-4662

Ben Cleveland/Laura Dodson
Cowley County Community College & AVTS
125 S. Second
Arkansas City, KS 67005
(316) 442-0430

Judy Crymbal
Garden City Community College
801 Campus Drive
Garden City, KS 67846
(316) 276-5185

Dr. James Douglas
Cloud County Community College
P.O. Box 1002
Concordia, KS 66901
(913) 243-1435

Carol Fagan
Johnson County Community College
12345 College at Quivera Road
Overland Park, KS 66210
(913) 469-8500

Judy Riffel
Seward County Community College
Box 1137
Liberal, KS 67901
(316) 626-3132

Dale Shipps
Southwest Kansas AVTS
P.O. Box 1576
Dodge City, KS 67801
(316) 227-1612

Peggy Torrens/Keith Stover
Flint Hills AVTS
3301 West 18th Street
Emporia, KS 66801
(316) 342-6404

Doyleen Turner/Brenda Willis
Southeast Kansas Education Service Center
Box 189
Girard, KS 66743
(316) 724-6281

Dr. Frank Wright
Hutchinson Community College
1300 North Plum
Hutchinson, KS 67501
(316) 665-3500

The South Central Kansas Tech Prep Consortium.

Our Mission Statement:

It is the MISSION of the South Central Kansas Tech Prep Consortium to provide a planned program of studies that meets the academic and technical demands of today's job market for all students entering the workforce, pursuing additional education, or both. This mission is accomplished by the creation, establishment, and sharing of uniform course content and program standards that link and align secondary and postsecondary faculties and curricula into a progressive learning sequence which is based on business and industry standards.

Participating Schools/Institutions:

Argonia High School (USD #359)
Box 7
Argonia, KS 67004

Arkansas City High School (USD #470)
1220 W. Radio Lane
Arkansas City, KS 67005

Belle Plaine High School (USD #357)
820 N. Merchant
Belle Plaine, KS 67013

Burden High School (USD #462)
P.O. Box 128
Burden, KS 67019

Caldwell High School (USD #360)
North Osage
Caldwell, KS 67022

Clearwater High School (USD #264)
150 S. Prospect Box 248
Clearwater, KS 67026

Conway Springs High School (USD #356)
Box 218
Conway Springs, KS 67031

Dexter High School (USD #471)
P.O. Box 97
Dexter, KS 67038

Mulvane High School (USD #263)
915 Westview Drive
Mulvane, KS 67110

Oxford High School (USD #358)
Box 188
Oxford, KS 67119

South Haven High School (USD #509)
Box 229
South Haven, KS 67140

Udall High School (USD #463)
301 W. 4th
Udall, KS 67146

Wellington High School (USD #353)
605 North A Street
Wellington, KS 67152

Winfield High School (USD #465)
Viking Blvd.
Winfield, KS 67156

Consortium Organization:

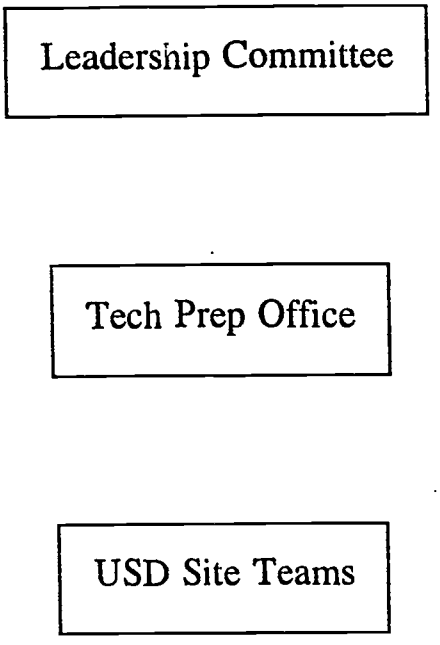


Figure 6

Goals for Leadership Committee:

♦ Enhance the academic levels of high school math, English and science courses in the general education program;

♦ Increase student's motivation to learn academic concepts by using career-related examples from business, industry, engineering technology, and health and public service fields in teaching math, communications, and science courses;

♦ Provide a coordinated sequenced series of academic and vocational-technical courses starting in grade nine and continuing through completion of a diploma, vocational certificate or associate degree at a technical school or community college;

♦ Motivate students to graduate from high school by making their secondary studies more "hands-on" and relevant to the world of work;

♦ Raise self-esteem level of general and vocational education (Tech Prep) students by enabling them to identify with a program that has direction, status, and visible support from local employers;

♦ Increase students' level of academic and vocational preparedness to enter a college career-degree program without remediation or to enter the workforce directly after high school with enhanced skills that will provide employment opportunities;

♦ Motivate more high school students to pursue postsecondary education by enabling those who qualify to earn college credit for equivalent vocational/technical or academic courses in high school or by taking courses, while in high school, at a technical school or community college;

♦ Expand students' understanding of mid-level technology careers and their ability to set realistic career goals through materials presented in applied courses and specialized counseling activities;

♦ Provide clear, concise information to high school counselors, teachers, students and parents on the preparation needed for two-year college programs and on the careers available to graduates;

♦ Encourage implementation of business and industry-sponsored programs providing part-time employment, scholarships, promotional materials, plan tours, and use of equipment;

♦ Increase the number of graduates from associate degree programs and thereby the number of employees for the local workforce that posses technical, academic, and critical thinking skills.

Goals for Site-based Implementation Teams:

♦ Determine what the sequence of courses will be to meet the Tech Prep core foundation proficiencies.

♦ Establish what technology and/or career clusters will be developed and sequenced.

♦ Investigate whether the math, science and communication curricula are properly sequenced K-12 to provide a smooth transition at each grade level.

♦ Determine if there are provisions in place to allow for differences in learning styles.

♦ Examine and implement a career exploration and guidance program grades K-12.

♦ Provide a career counseling and education program that would enable students to select a career cluster that matches their interests and abilities.

♦ Infuse the workplace readiness skill competencies throughout the Tech Prep curricula and determine which courses will include instruction in and/or exposure to each competency.

- ♦ Encourage use of competency-based, contextual or applied instruction in all Tech Prep courses.

- ♦ Determine what integration efforts and/or model will be most appropriate and effective to implement.

- ♦ Serve as a source of information on Tech Prep and Consortium liaison for faculty and staff.

Sequencing, Articulation and Advanced Placement Procedures:

The following forms and documents outline the above mentioned procedure. (Refer to Figures 7 through 13.)

South Central Kansas TPAD Consortium
Suggested Sequence for Enrolling in _____

Unified School District # Curriculum	Credits
Grade 9	
Grade 10	
Grade 11	
Grade 12	

Cowley County Community College and AVTS Suggested One-Year's Curriculum	Credits

Suggested Electives:

Figure 7

South Central Kansas TPAD Consortium

REQUEST FOR ARTICULATION

From the Principal of USD _____ to establish an Articulation Agreement with Cowley County Community College & AVTS in the

_____

program.

We are offering the following course(s) in this program:

_____

_____

_____

Please contact me immediately to set a date to start the articulation process.

_____

USD Principal Signature

_____

Date

Copy distribution:
Original to CCCC & AVTS Registrar
Copy 1 to CCCC & AVTS Instructor of Record
Copy 2 to USD Principal
Copy 3 to Tech Prep Coordinator

Figure 8

SOUTH CENTRAL KANSAS TPAD CONSORTIUM

125 South Second Street
Arkansas City, KS 67005
(800) 593-2222

MEMORANDUM OF AGREEMENT

THIS AGREEMENT, by and between Cowley County Community College and Area Vocational Technical School in Arkansas City, KS 67005 and Unified School District ___ in _____, KS 67___ is made to provide Tech Prep students enrolling in the _____ program the option to earn an Associate Degree from Cowley County Community College and Area Vocational Technical School.

It is the hope of the parties that this cooperative effort to offer the Associate Degree in _____ will enhance the employment opportunities of the students.

NOW, THEREFORE, it is agreed by and between the parties as follows:

1. The Associate Degree in _____ may be granted by Cowley County Community College and Area Vocational Technical School. The awarding of such a degree is contingent upon the joint operation of the specific program by the two institutions.

2. Cowley County Community College and Area Vocational Technical School will provide the courses shown on the attached materials along with competencies for the _____ program.

3. USD ___ will provide the sequence of courses shown in the attached materials. The advanced courses in this listed sequence of courses will be reviewed each year for necessary articulation.

4. Both parties may advertise the programs and will jointly advise the students that this option is available to them.

5. Cowley County Community College and Area Vocational Technical School will supply all of the attached courses and competencies with no exchange of reimbursement between or among the institutions.

6. USD ___ will supply all of the attached courses with no exchange of reimbursement between or among the institutions.

7. To receive college credit for a course taken in high school the student may:
   a. Enroll and pay the necessary tuition when the class begins.
   b. Take the competency exam, obtain a "Petition for Credit" and present it to the CCCC & AVTS Registrar within one year after successfully completing the course; pay the required tuition and/or fees to have credit placed on their college transcript.
   c. Request and successfully complete a test-out competency exam to be given by the Instructor of Record at anytime after completing the stated course(s).

*The student need not complete other credit hours at CCCC & AVTS to have articulated course(s) recorded on a transcript.

8. Students who have completed the secondary component of the program more than two years prior to starting the postsecondary program must have their occupational competency validated by the degree granting institution.

9. Cowley County Community College and Area Vocational Technical School will collect the normal graduation fees from the students who earn this degree.

10. This Agreement may be revised by mutual agreement and shall be modified in the event of cancellation, discontinuance or disapproval of any course or program by the Kansas State Board of Education.

11. Both parties agree to evaluate this program on an annual basis and in the context of student benefits, program efficiency, and effectiveness.

12. The terms of this Agreement may be terminated by either party, and shall be effective only upon approval of the State Board of Education.

13. The respective parties shall retain ownership in any physical facilities used to provide technical education under this agreement.

14. This agreement is subject to change or cancellation by the Legislature at any time in accordance with Article 6, Section 5 of the Kansas Constitution.

IN WITNESS WHEREOF, the parties accept and approve THIS AGREEMENT.

by _____
Dean of Instruction
CCCC & AVTS

by _____
Principal USD _____

Figure 9

COWLEY COUNTY COMMUNITY COLLEGE
AND AREA VOCATIONAL TECHNICAL SCHOOL

THE ARTICULATION PROCESS

PURPOSE:

The purpose of the process is to provide the means to articulate USD courses with similar CCCC & AVTS course(s). The end result will be a smoother transition from high school to college, the elimination of course work duplication, an incentive to begin education/training at advanced levels, and a better utilization of resources.

Students may receive credit hours in a particular career program after successfully completing the articulated course(s) and final examination(s).

GENERAL AGREEMENTS:

1. Any USD Principal in the Consortium may request that a course be considered for articulation. The contact person for any question about the courses at CCCC & AVTS is the Registrar.

2. CCCC & AVTS may initiate articulation with any consortium USD Principal.

3. The content and integrity of the course(s) articulated must be agreed upon and maintained. Students must successfully complete the articulated course(s) to earn college credit.

4. It is the responsibility of the Registrar at CCCC & AVTS to maintain the process in place and assure that appropriate faculty are participating in good faith.

5. Curriculum, including competencies, is subject to review at the request of either party. The participating USD High School and/or CCCC & AVTS may find it necessary to revise their curriculum to maintain up-to-date content and assure transferability.

6. Course objectives, outlines, and/or competencies need not match 100 percent, however, an acceptable minimum number of competencies will be agreed upon during the articulation process.

7. All participating faculty and administrators will have orientation on and access to the curriculum of the articulated course(s). Faculty and administrators participating in articulation must have received an orientation on the articulation process. An annual Spring articulation review meeting will be held for representatives from all participating schools.

8. The CCCC & AVTS "Instructor of Record" for the course(s) will provide the final examination for the articulated course. The final examination may be administered by the USD Instructor or the Instructor of record, or both.

9. The Instructors of articulated course(s) will meet annually with their respective Advisory Committees to keep the committees informed of the progress and maintenance of articulation.

10. Articulation agreements will be valid from the date signed unless voided by one of the parties.

PROCEDURE:

1. Any USD Principal desiring to articulate a course will complete and submit a "Request for Articulation" form directly to the CCCC & AVTS Registrar, to be channeled to the Instructor of record. Forms will be available from the CCCC & AVTS Registrar. The Instructor of record is any full-time CCCC & AVTS Instructor who teaches the articulated course in the regular, day-time program at CCCC & AVTS.

2. The CCCC & AVTS Instructor of record will arrange for meetings with the requesting Instructor(s) to:

   a. Compare articulated courses and note similarities and differences.

   b. Review the competencies required in the college course and the process for earning college credit.

   c. Mutually develop and adopt a list of competencies based on the existing entry-level curriculum at CCCC & AVTS.

   d. Assist the requesting Instructor in making any curriculum adjustments, evaluating laboratory needs, sharing instructional materials, visiting sites, etc.

   e. Identify in-service training needs.

3. The CCCC & AVTS Registrar will coordinate in-service training for personnel and monitor the progress of the articulation process.

4. To receive College Credit for a course taken in high school, the student may:
   a. Enroll and pay the necessary tuition when the class begins.
   b. Take the competency exam, obtain a "Petition for Credit" and present it to the CCCC & AVTS Registrar within one year after successfully completing the course; pay the required tuition and/or fees to have credit placed on their college transcript.
   c. Request and successfully complete a test-out competency exam to be given by the Instructor of Record at anytime after completing the stated course(s).

5. The student will pay regular tuition and fees for each college credit hour recorded on their transcript. The articulated course(s) credit must be recorded within one year after successful completion of the articulated course.

6. The articulated subject area co-chairs will arrange for an annual review meeting.

Figure 10

COWLEY COUNTY COMMUNITY COLLEGE
AND AREA VOCATIONAL TECHNICAL SCHOOL

Course

ARTICULATION

Instructions for the Student

IMPORTANT NOTE: To Receive CCCC & AVTS credits for the articulated course after successfully completing the final examination, you must send or present a completed "Petition for Credit" form to the CCCC & AVTS Registrar along with correct payment for tuition and fees within one year after completing the course(s).

FOLLOW THESE STEPS:

1. The final examination may be administered and graded by the USD Instructor or CCCC & AVTS "Instructor of Record" or both.

2. Apply for admission to CCCC & AVTS through the CCCC & AVTS Admissions Office.

3. To receive College Credit for a course taken in high school the student may:
   a. Enroll and pay the necessary tuition when the class begins.
   b. Take the competency exam, obtain a "Petition for Credit" and present it to the CCCC & AVTS Registrar within one year after successfully completing the course; pay the required tuition and/or fees to have credit placed on their college transcript.
   c. Request and successfully complete a test-out competency exam to be given by the Instructor of Record at anytime after completing the stated course(s).

4. The CCCC & AVTS Registrar will record the credit on your CCCC & AVTS transcript and return the "Petition for Credit" form to you for subsequent use. Please keep it in a safe place.

5. For best results in the educational process, you should continue your course work toward the Associate Degree without excessive delay. If you do not maintain continuous enrollment, you will be required to follow the graduation requirements that are in effect at the time of re-enrollment.

Figure 11

COWLEY COUNTY COMMUNITY COLLEGE
AND AREA VOCATIONAL TECHNICAL SCHOOL

_____
Course

ARTICULATION

Instructions for the Instructor

1. The articulated class USD Instructor contacts CCCC & AVTS "Instructor of Record",_____ _____, to arrange for the final examinations.

2. The student must pass the competency examination to receive credit on the CCCC & AVTS Transcript.

3. To receive College Credit for a course taken in high school the student may:
   a. Enroll and pay the necessary tuition when the class begins.
   b. Take the competency exam, obtain a "Petition for Credit" and present it to the CCCC & AVTS Registrar within one year after successfully completing the course; pay the required tuition and/or fees to have credit placed on their college transcript.
   c. Request and successfully complete a test-out competency exam to be given by the Instructor of Record at anytime after completing the stated course(s).

4. The CCCC & AVTS "Instructor of Record" _____ will provide the final examination which may be administered by either or both Instructors. The Instructor of Record may review the final competency examination at his/her discretion. The final grade for the course(s) will be assigned by the USD Instructor.

5. For those students taking option B above, the articulated class instructor will issue a "Petition for Credit" form to the student, keep one in the students file, and send two copies to the CCCC & AVTS Registrar. The Registrar will give one copy to the CCCC & AVTS "Instructor of Record".

6. The CCCC & AVTS Division Instructor of Record,_____ can be reached at the address or telephone number listed below:

Cowley County Community College
and Area Vocational Technical School
125 S. Second St. ♦ P.O. Box 1147
Arkansas City, KS 67005

(316) 442-0430 or
1-800-593-2222

Figure 12

SAMPLE NOT FOR REPRODUCTION

South Central Kansas Tech Prep Consortium
Petition for Credit/Advanced Placement

Date: _____, 19____

Student Information:

♦ Student Name: _____
♦ Student SSN: _____
♦ Student Address: _____

High School Information:

● High School Name: _____
● Course Title: _____
● Student's Grade: _____ (on an A-F scale)
● Instructor's Name: _____
● Student _____ has _____ has not taken the "final exam" required by the Cowley County Community College & AVTS Instructor of Record.
● Student's grade on CCCC & AVTS "final exam": _____

CCCC & AVTS Information:

○ Course Department, and Number: _____
○ Equivalent Course Title: _____
○ Credit Hours: _____
○ Instructor of Record: _____
○ Student _____ has _____ has not taken the "final exam" required by the Cowley County Community College & AVTS Instructor of Record.
○ Student's grade on CCCC & AVTS "final exam": _____

Signatures:

_____	_____
♦ Student	○ CCCC/AVTS Division Chair
_____	_____
● USD Instructor	○ CCCC/AVTS Dean of Instr.
_____	_____
○ CCCC/AVTS Inst. of Record	○ CCCC/AVTS Registrar

For office use only:

Business Office: Tuition: _____ paid _____ not paid
Fees: _____ paid _____ not paid

c: CCCC & AVTS Registrar
Student
Instructor of Record
Dean of Instruction

Figure 13

Reimbursement and other policies:

South Central Kansas TPAD Consortium

Reimbursement Procedure

When TPAD grant funds have been approved for a certain expenditure by the Leadership Committee, the following procedures will be followed to receive reimbursement:

1. The USD or CCCC will prepay the expense (group or individual), and then bill the Consortium Office for reimbursement.

2. An individual USD authorized personnel or CCCC authorized personnel prepays their expense and bills the Consortium Office for reimbursement.

NOTE: The Consortium Office will prepay bills when possible. For example, Tuition for larger enrollments in Principles of Technology I - II - III. Each Tech Prep Facilitator will be notified when prepayments are possible. See attached policies for using TPAD Grant Funds for In-Service Training Expenses and purchasing materials and equipment to implement courses.

Figure 14

South Central Kansas TPAD Consortium

Policy for Requesting TPAD Grant Funds Purchasing Materials and Equipment to Implement Course.

The College or USD will submit a typewritten request to the Leadership Committee through the Tech Prep Coordinator, containing the following information:

1. Name of course or courses planned for implementation.

2. The date for scheduled offering.

3. The date the funds will need to be approved and available.

4. List of materials and/or equipment to be purchased.

5. Signed by the two leading administrators.

Figure 15

South Central Kansas TPAD Consortium

Policy for Using TPAD Grant Funds
Paying for Consortium Members Inservice Training Expenses

- Required Certification Courses such as Principles of Technology I, II, and III.

  Pay the costs for tuition, fees and book for employed teachers or administrators that the college or a USD recommends as a possible teacher when Principles of Technology I and/or II are implemented.

- Required Training to teach Applied Math I and II, applied Communication, applied Biology/Chemistry I & II, and to implement Career Guidance and Education Programs.

  Pay the registration fees and mileage, at .23 per mile, to attend these required training workshops.

- Recommended seminars and conferences on the TPAD Program for Consortium members and their employees.

  Pay the registration fees for Consortium member employees.

The above mentioned opportunities will be approved and advertised by the Coordinators office, Any other Tech Prep Course, Training, Workshop, Seminar or Conference attended can be approved or denied upon request before or after attending the vent.

The adopted "Reimbursement Procedure" will be followed for claiming these costs.

Figure 16

SAMPLE

South Central Tech Prep Consortium
Request for Tech Prep Funds 1993-94

Deadline for application: _____

Date: _____

School Information:

Initiator's Name: _____
Position: _____
USD No. & Name: _____
Address: _____
_____

Funds Requested:

Principles of Technology (PT) Lab Equipment (Funds available)

- Request funds for the purchase of PT I ____ PT II ____ equipment. (please check)
- USD # _____ will begin offering the above course(s) starting _____.
  start date(s)
- The maximum number of students that could enroll in the above course(s): _____.
  per course
- Number of stations planned for the above course(s): PT I _____ PT II _____.
  NOTE: • ONE STATION WILL SERVE FOUR STUDENTS
- Total funds needed for the above equipment $_____
  Local funds available $_____
  Tech Prep funds requested $_____

Applied Curricula (Funds available)

- Request funds for the purchase of the following curricula. (please check)
  - Principles of Technology I _____.
  - Principles of Technology II _____.
  - Applied Biology/Chemistry _____.
  - Applied Math I _____.
  - Applied Math II _____.
  - Applied Communications _____.

-OVER-

- Total funds needed for the above applied curricula $_____
  Local Funds available $_____
  Tech Prep funds requested $_____

Guidance & Counseling

Marketing Tech Prep (Funds available)

- Total funds needed for marketing Tech Prep $_____
  Local Funds available $_____
  Tech Prep funds requested $_____

- Please provide a brief narrative regarding how the District intends to utilize these funds in the area of marketing Tech Prep on the local level.

Career Exploration (Funds available)

- Total funds needed for Career Exploration $_____
  Local Funds available $_____
  Tech Prep funds requested $_____

- Please provide a brief narrative regarding how the District intends to utilize these funds in the area of career exploration.

Apprenticeship Programs (Funds available)

- Total funds needed for Apprenticeship Programs $_____
  Local Funds available $_____
  Tech Prep funds requested $_____

- Please provide a brief narrative regarding how the District intends to utilize these funds in the area of apprenticeship.

RETURN TO:
South Central Kansas Tech Prep Consortium
125 South Second
Arkansas City, KS 67005

Figure 17

Appendix

Definition of Terms

There are a number of terms that are frequently used in referring to Tech Prep programs. The following are several such terms:

Advanced Placement: Programs that are time-shortened and eliminate course redundancy. Advanced placement is often granted when courses are waived at the postsecondary level.

Advanced Skills: Programs that are skill enhanced or contain advanced curriculum programs. Advanced skill programs add more advanced training, eliminate course redundancy, and enable students to graduate with higher-level skills,

Advanced Standing: A process through which a student may be eligible to receive credit for all or part of a course due to competencies mastered previously. The determination of advanced standing is made by each community or technical college upon a student's enrollment in a program. Advanced standing may be granted through (1) validation of experiential learning (work, military, leadership or organizational); (2) successfully passing a challenge examination; (3) transfer credit by education from another postsecondary institution; (4) transfer credit from secondary school under the terms of an articulation agreement; (5) evaluation of advanced sequential course work.

Applied Academics: The presentation of subject matter in a way that integrates a particular academic discipline (such as mathematics, science or English) with personal workforce applications. They serve as the foundation for Tech Prep and are not watered-down courses.

Articulation: A process for linking two or more educational systems within a community to help students make a smooth transition from one level to another without experiencing delays, duplication of courses, or loss of credit. Horizontal articulation generally refers to student transfer of credit from one institution to another at the same level. Vertical articulation refers to the transfer of credits from a lowerlevel institution to a higherlevel one.

Articulation Agreements: Written agreements between the local school system and the postsecondary institution that are signed early in the developmental stages of Tech Prep. Articulation agreements allow a student the opportunity to avoid duplication of course work.

Bridge Program: A postsecondary program that provides entering students who have not been in Tech Prep with the same academics and basic technology that have been taught to high school tech prep graduates.

Career Cluster: A Tech Prep curricular approach designed to build stronger foundations, provide opportunities for students choice and increase competency levels. This approach is based on the concept that many clusters of occupations require common skills and knowledge. It is possible, therefore, to design a curriculum that has a core of courses common to several related specialties. All students in the cluster take the core classes, approximately 80% of the curriculum, and then branch out in specialty areas.

Career Decision-Making: A process in which a student learns about him/herself, the world of work, and the relationship between the two. Career planning includes career awareness for K-6, career exploration at the middle level, and career preparation beginning in grade nine and carried through grade 14.

Challenge Exam: A form of advanced standing in which a student may receive credit through examination by challenging courses through formal testing procedures which have been approved by the division offering the course. A challenge exam may consist of written, oral, performance or practical test, interview, or any combination of these tests.

Competency Based Education: An organizational structure for learning/teaching which requires description in advance of the knowledge, skills and attitudes that a student must possess upon exit from a program or course. Competency based curricula clearly identify expected outcomes, organize instruction based upon performance standards, and evaluate student performance based upon mastery of competencies.

Comprehensive Developmental Guidance: A K-12 systematic preventative program that meets the person/social, career and educational needs of students with age appropriate skills and knowledge through classroom instruction, group interaction, and individualized counseling.

Contextual Learning: Learning that focuses on making the learning environment as rich as possible in multifaceted learning opportunities. Multiple intelligences, multiple learning styles, theory, and various teaching approaches (i.e. experimental, holistic, applied) are included.

Core Abilities: The transferrable skills essential to an individual's success regardless of occupation or community setting. These skills are regularly identified by employers, employees, and educators as essentials to lifelong learning: (1) work productively; (2) think critically and creatively; (3) act responsibly; (4) communicate clearly; (5) learn effectively; (6) value self positively; and (7) work cooperatively.

Integration: The act or process of blending or forming a whole. In Tech Prep, applied and technical curricula are integrated into a single curriculum.

Internship: Refers to postsecondary work-based learning in which a partnership is established between the community or technical college, and an employer or business, and the student for the purposes of providing practical education to the student through productive work opportunities. A signed agreement between all parties outlining a student's cooperative learning plan is a necessary component of an internship.

Neglected Majority: The high school audience that Tech Prep is designed for that often involves the middle 50% of the students who are in an unfocused general education track.

School-to-Work Transition: An initiative that strives to ensure that today's young people be adequately prepared for the future workforce within states and the nation.

Tech Prep: Tech Prep is a program of studies designed to meet the need for high school graduates to have more technically oriented educational backgrounds. Through a blending of higher level academic and vocational courses, Tech Prep prepares students for the advanced courses required by 2-year technical and community college.

Tech Prep Consortium: Partnerships between secondary and postsecondary institutions that are funded to implement and promote Tech Prep initiatives throughout the United States.

Youth Apprenticeship: A broad effort to improve the transition from high school to work. Youth apprenticeship is explicitly intended to link high school students with business and industry through integrated education and work based learning programs leading to a credential of proficiency.

Tech Prep Educational Act of 1990

"PART 3--TECH-PREP EDUCATION

"SEC.341. SHORT TITLE.

"This part may be cited as the "Tech-Prep Education Act'.

"SEC.342. FINDING AND PURPOSE.

"(a) FINDINGS.-The congress finds that-

"(1) rapid technological advances and global economic competition demand increased levels of skilled technical education preparation and readiness on the part of youth entering the workforce;

"(2) effective strategies reaching beyond the boundaries of traditional schooling are necessary to provide early and sustained intervention by parents, teachers, and educational institutions in the lives of students.

"(3) a combination of nontraditional school-to-work technical education programs, using state-of-the-art equipment and appropriate technologies, will reduce the dropout rate for high school students in the United States and will produce youths who are mature, responsible, and motivated to build good lives for themselves;

"(4) the establishment of systematic technical education articulation agreements between secondary schools and postsecondary educational institutions is necessary for providing youth with skills in the liberal and practical arts and in basic academics, including literacy instruction in the English language, and with the intense technical preparation necessary for finding a position in a changing workplace;

"(5) by the year 2000 an estimated 15,000,000 manufacturing jobs will require more advanced technical skills, and an equal number of service jobs will become obsolete;

"(6) more than 50 percent of jobs that are developing will require skills greater than those provided by existing educational programs;

"(7) dropout rates in urban schools are 50 percent or higher, and more than 50 percent of all Hispanic youth drop out of high school; and

"(8) employers in the United States pay an estimated $210,000,000,000 annually for formal and informal training, remediation, and lost productivity as a result of untrained and unprepared youth joining, or attempting to join, the workforce of the United States.

"(b) PURPOSE.-It is the purpose of this part-

"(1) to provide planning and demonstration grants to consortia of local educational agencies and postsecondary educational institutions, for the developments and operation of 4-year programs designed to provide a tech-prep education program leading to a 2-year associate degree or a 2-year certificate; and

"(2) to provide, in a systematic manner, strong, comprehensive links between secondary schools and postsecondary educational institutions.

"SEC.343.PROGRAM AUTHORIZED.

"(a) DISCRETIONARY AMOUNT.-In any fiscal year in which the amount made available under section 3(d)(1)(E) to carry out the provisions of this part is equal to or less than $50,000,000, the Secretary, in accordance with the provisions of this part which are not inconsistent with this paragraph, shall award grants for tech-prep education programs to consortia of-

"(1) local educational agencies, intermediate educational agencies or area vocational education schools serving secondary school students, or secondary schools funded by the Bureau of Indian Affairs; and

"(2)(A) nonprofit institutions of higher education which offer a 2-year associate degree program, a 2-year certificate program, and which are qualified as institutions of higher education pursuant to section 481(a) of the Higher Education Act of 1965, including institutions receiving assistance under the Tribally Controlled Community College Assistance Act of 1978, or a 2-year apprenticeship program that follows secondary instruction if such nonprofit institutions of higher education are not subject to a default management plan required by the Secretary; or

"(B) proprietary institutions of higher education which offer a 2-year associate degree program and which are qualified as institutions of higher education pursuant to section 481(a) of the Higher Education Act of 1965 if such proprietary institutions of higher education are not subject to a default management plan required by the Secretary.

"(b) STATE GRANTS.-(1) In any fiscal year for which the amount made available under section 3(d)(1)(E) to carry out the provisions of this part exceeds $50,000,000, the Secretary shall allot such amount to the States in accordance with the provisions of section 101(a)(2).

(2) From amounts made available to each State under paragraph (1), the State board, in accordance with the provisions of this part which are not inconsistent with this paragraph, shall award grants on a competitive basis or on the basis of a formula determined by the State board, for tech-prep education programs to consortia described in subsection (a)(1).

"SEC.344. TECH-PREP EDUCATION PROGRAMS.

"(a) GENERAL AUTHORITY.-Each grant recipient shall use amounts provided under the grant to develop and operate a 4-year tech-prep education program.

"(b) CONTENTS OF PROGRAM.-Any such program shall-

"(1) be carried out under an articulation agreement between the participants in the consortium;

"(2) consist of the 2 years of secondary school preceding graduation and 2 years of higher education, or an apprenticeship program of at least 2 years following secondary instruction with a common core of required proficiency in mathematics, science, communications, and technologies designed to lead to an associate degree or certificate in a specific career field;

"(3) include the development of tech-prep education program curricula appropriate to the needs of the consortium participants;

"(4) include in-service training for teachers that-

"(A) is designed to train teachers to effectively implement tech-prep education curricula;

"(B) provides for joint training for teachers from all participants in the consortium; and

"(C) may provide such training in weekend, evening, and summer sessions, institutes or workshops;

"(5) include training programs for counselors designed to enable counselors to more effectively-

"(B) recruit students for tech-prep education programs;

"(B) ensure that such students successfully complete such programs; and

"(C) ensure that such students are placed in appropriate employment;

"(6) Provide equal access to the full range of technical preparation programs to individuals who are members of special populations, including the development of tech-prep education program services appropriate to the needs of such individuals; and

"(7) provide for preparatory services which assist all participants in such programs.

"(c) ADDITIONAL AUTHORIZED ACTIVITIES.-Each such program may-

"(1) provide for the acquisition of tech-prep education program equipment; and

"(2) as part of the program's planning activities, acquire technical assistance from State or local entities that have successfully designed, established and operated tech-prep programs.

"SEC.345.APPLICATIONS.

"(a) IN GENERAL.-Each consortium that desires to receive a grant under this part shall submit an application to the Secretary or the State board, as appropriate, at such time and in such manner as the Secretary or the State board, as appropriate, shall prescribe.

"(b) THREE YEAR PLAN.-Each application submitted under this section shall contain a 3-year plan for the development and implementation of activities under this part.

"(c) APPROVAL.-The Secretary or the State board, as appropriate, shall approve applications based on their potential to create an effective tech-prep education program as provided for in section 344.

"(d) SPECIAL CONSIDERATION.-The Secretary or the State board, as appropriate, shall give special consideration to applications which-

"(1) provide for effective employment placement activities or transfer of students to 4-year baccalaureate degree programs;

"(2) are developed in consultation with business, industry, and labor unions; and

"(3) address effectively the issues of dropout prevention and re-entry and the needs of minority youths, youths of limited English proficiency, youths with handicaps, and disadvantaged youths.

"(e) EQUITABLE DISTRIBUTION OF ASSISTANCE.-In making grants under this part, the Secretary shall ensure an equitable distribution of assistance among States and the Secretary or the State board, as appropriate, shall ensure an equitable distribution of assistance between urban and rural consortium participants.

"(f)NOTICE.-(1) In the case of grants to be made by the Secretary, each consortium that submits an application under this section shall provide notice of such submission and a copy of such application to the State educational agency and the State agency for higher education of the State in which the consortium is located.

"(2)The Secretary shall notify the State educational agency, the State agency for higher education, and the State council on vocational education of any State each time a consortium located in such State is selected to receive a grant under this part.

"SEC.346.REPORTS.

"(a) REPORT TO THE SECRETARY.-In the case of grants made by the Secretary, each grant recipient shall, with respect to assistance received under this part, submit to the Secretary such reports as may be required by the Secretary to ensure that such grant recipient is complying with the requirements of this part.

"(b) REPORT TO THE CONGRESS.-After grant recipients who receive grants in the first year in which grants are made under this part complete their eligibility under the program, the Secretary shall submit to the Congress a report evaluating the effectiveness of the program under this part.

"SEC.347.DEFINITIONS.

"For purposes of this part:

"(1) The term 'articulation agreement' means a commitment to a program designed to provide students with a nonduplicative sequence of progressive achievement leading to competencies in a tech-prep education program.

"(2) The term 'community college'-

"(A) has the meaning provided in section 1201(a) of the Higher Education Acto of 1965 for an institution which provides not less than a 2-year program which is acceptable for full credit toward a bachelor's degree; and

"(B) includes tribally controlled community college.

"(3) The term 'tech-prep education program' means a combined secondary and postsecondary program which-

"(A) leads to an associate degree or 2-year certificate;

"(B) provides technical preparation in a least I field of engineering technology, applied science, mechanical, industrial, or practical art or trade, or agriculture, health, or business;

"(C) builds student competence in mathematics, science, and communications (including through applied academics) through a sequential course of study; and

"(D) leads to placement in employment.

"(4) the terms 'institution of higher education' and 'higher education' include institutions offering apprenticeship programs of at least 2 years beyond the completion of secondary school."

SCANS Report Excerpts

WORKPLACE OF THE FUTURE

*A THREE PART FOUNDATION**

BASIC SKILLS

Reading, Writing,
Arithmetic/Mathematics, Listening,
Speaking

THINKING SKILLS

Creative Thinking, Decision Making,
Problem Solving, Seeing Things in the
Minds Eye, Knowing How To Learn,
Reasoning

PERSONAL QUALITIES

Responsibility, Self-Esteem, Sociability,
Self-Management, Integrity/Honesty

*Taken from the SCANS report 1991

WORKPLACE OF THE FUTURE

FIVE COMPETENCIES*

RESOURCES

Time, Money, Material and Facilities, and Human Resources

INTERPERSONAL

Participates as a Member of a Team, Teaches Others New Skills, Services Clients/Customers, Exercises Leadership, Negotiates, Works with Diversity

INFORMATION

Acquires and Evaluates Information, Organizes and Maintains Information, Interprets and Communicates Information, Uses Computers to Process Information

SYSTEMS

Understands Systems, Monitors and Corrects Performance, Improves or Designs Systems

TECHNOLOGY

Selects Technology, Applies Technology to Task, Maintains and Troubleshoots Equipment

*Taken from the SCANS report 1991

Career Development Competencies by Area and Level

Elementary	Middle/Junior High School	High School	Adult
Self-Knowledge			
Knowledge of the importance of self-concept.	Knowledge of the influence of a positive self-concept	Understanding the influence of a positive self-concept.	Skills to maintain a positive self-concept.
Skills to interact with others.	Skills to interact with others.	Skills to interact positively with others.	Skills to maintain effective behaviors.
Awareness of the importance of growth and change.	Knowledge of the importance of growth and change.	Understanding the impact of growth and development.	Understanding developmental changes and transitions.
Educational and Occupational Exploration			
Awareness of the benefits of educational achievement.	Knowledge of the benefits of educational achievement to career opportunities.	Understanding the relationship between educational achievements and career planning.	Skills to enter and participate in education and training.
Awareness of the relationship between work and learning.	Understanding the relationship between work and learning.	Understanding the need for positive attitudes toward work and learning.	Skills to participate in work and life-long learning.
Skills to understand,m and use career information.	Skills to locate, understand, and use career information.	Skills to locate, evaluate, and interpret career information.	Skill to locate, evaluate, and interpret carer information.
Awareness of the importance of personal responsibility and good work habits.	Knowledge of skills necessary to seek and obtain jobs.	Skills to prepare to seek, obtain, maintain, and change jobs.	Skills to prepare to seek, obtain, maintain, and change jobs.
Awareness of how work relates to the needs and functions of society.	Understanding how work relates to the needs and functions of the economy and society.	Understanding how societal needs and functions influence the nature and structure of work.	Understanding how the needs and functions of society influence the nature and structure of work.
Career Planning			
Understanding how to make decision.	Skills to make decisions.	Skills to make decisions.	Skills to make decisions.
Awareness of interrelationship of life roles.	Knowledge of the interrelationship of life roles	Understanding the interrelationship of life roles.	Understanding the impact of work on individual and family life.
Awareness of different occupations and changing male/female roles.	Knowledge of different occupations and changing male/female roles.	Understanding the continuous changes in male/female roles.	Understanding the continuing changes in male/female roles.
Awareness of the career planning process.	Understanding the process of career planning	Skills in career planning.	Skills to make career transitions.

National Occupational Information Coordinating Committee ♦ Suite 156, 2100 M. Street, N.W., Wahington, D.C. 20037 ♦ (202) 653-5665

MARKETING TECH PREP PROJECTS

Develop Marketing Startegies

What?
Why?
When?
Where?
Who?

Develop Marketing Tools

Brochures
Booklets
Videos
Displays

Write News Releases

Newspapers
Radio
Television

Identify Speakers Bureau

Educators
Parents
Business/Industry Reps

Make Presentations

Faculties
Administrators
School Boards
Parents
Students
Community

MARKETING POSSIBILITIES

GENERAL STUDENT BROCHURES

CUPS AND PINS FOR CONSORTIUM MEMBERS

T-SHIRTS AND POSTER FOR STUDENTS ENROLLED IN TECH PREP

NEWS EVENTS

NEWS RELEASES

PUBLIC SERVICE ANNOUNCEMENTS

TRADE SHOW STYLE EXHIBITS

VIDEOS - CHANNEL 1

SPEAKERS BUREAU

COUNSELOR MATERIALS

COUNSELOR LUNCHEONS

SPECIFIC TARGETING

STEPS:

IDENTIFY TARGET AUDIENCES

CLARIFY GOALS AND PURPOSES

PLAN MARKETING STRATEGY

GO FROM GENERAL TO SPECIFIC

EVALUATE

POINTS TO STRESS:

ACADEMIC - SKILLS BLEND

SUPER COMPETENT WORKER

PARTNERSHIPS

FILLING A NEED

INDUSTRY DRIVEN CURRICULUM

NEW ROUTE TO AN ADVANCED DEGREE

NEW BREED OF WORKER (STUDENT)

KEY POINTS

Promoting Tech Prep*

1. Identify your market segments.
2. Identify "what" you will market.
3. Identify marketing methods to reach segments.
4. Identify the market mix you want to use.
5. Set a marketing timetable.
6. Develop a budget.
7. Develop marketing materials.
8. Train participants (if applicable).
9. Implement your promotional campaign.
10. Revise and refine your procedure and/or materials.

*Presented by:
Ms. Charlotte Kuchinsky
Public Relations Director
Master Technician Project
Hampton, Virginia

PROMOTING TECH PREP

I. Developing Your Marketing Plan

A. Identify Your Audience Segments

1. Education
   a. School administrators
   b. Guidance personnel
   c. Instructors
   d. Others (as identified)

2. Business/Industry/Government
   a. CEOs
   b. Personnel Specialists
   c. Training specialists
   d. First Line Supervisors
   e. Others (as identified)

3. Parents
   a. PTAs/PTOs
   b. Civic Groups/organizations
   c. Business Men and Women

4. Students

B. Identify "What" You Will Market To Each Segment

1. 2+2 Tech Prep Concept
   a. Education
   b. Business/Industry/Government
   c. Parents
   d. Students
2. End Product - - The Technician
   a. Business/Industry/Government

C. Identify Methods of Reaching Each Audience

1. Radio
   a. Parents
      1) Easy listening
      2) Country/Western
   b. Students
      1)Rock
      2)Rap

2. News Articles (paper and/or magazine)
   a. Business/Industry/Government
      1) Newspaper business section
      2) Business magazines
      3) Newsletters
   b. Education
      1) Newspaper education section
      2) Education magazines
      3) Newsletters
   c. Parents
      1) Newspapers
   d. Students
      1) School newsletters

3. Formal Presentations
   a. all audiences

4. Displays (mall, school, business, etc.)
   a. Students
   b. Parents

5. Materials
   a. Business/Industry/Government
      1) Brochures
   b. Education
      1) Brochures

I.C. 5.c.Parents
1) Flyers
2) Brochures
d. Students
1) Stickers
2) Flyers
3) Brochures

6. Audio/Visuals
a. Business/Industry/Government
1) 2+2 Tech Prep Concept (video or slide/tape)
b. Education
1) 2+2 Tech Prep Concept (video or slide/tape)
2) Student recruitment
c. Parents
1) Student recruitment
d. Students
1) Student recruitment

7. Project Involvement
a. Business/Industry/Government
b. Education

II. Implementing Your Marketing Plan

A. Identify What Makes Your Program Unique

1. Innovativeness
a. 2+2 Concept
1) Allows for advanced training
2) Leads to higher paying jobs
b. Academic and Vocational Mix
1) Provides a well-rounded education
c. Partnerships
1) Secondary with postsecondary
2) Academic with vocational
3) Business/Industry/Governments with education
d. Flexibility
1) Student can get on/off track at various points without losing time
2) Entry-level skill guaranteed employment out of high school
3) Advance-level skills guarantee upon postsecondry completion
4) Academic/vocational mix guarantees broad-based education
5) Articulation beyond community college for further education
6) Good salary possibilities
7) Strong emphasis on basics
8) Occupational survey

B. Identify The Possible Pitfalls

1. lack of Bosiness/Industry/Government Commitment to Hire Graduates

2. Lack of Education Commitments to Teach to Identified Skills

3. Unclear Marketing Mission
a. What you are marketing
b. Who your audience is

4. Lack of Consistency in Marketing
a. What you are marketing
b. Why you are marketing
c. Who will benefit

III. Developing A Promotional Campaign

A. Develop Marketing Materials

1. Logo

2. Tag Line

3. Training Materials
a. Speakers bureau packet
b. Guidance packet

4. General Information Materials
   a. Brochures
      1) 2+2 Tech Prep Concept
   b. Flyers
   c. News releases
   d. Newsletter
   e. Audio/visual presentation

5. Recruitment Materials
   a. Brochure
   b. Flyers
   c. Gimmicks
      1) Bumper stickers
      2) Book marks
      3) Stickers
   d. Audio/visual presentation
   e. Displays

6. Displays

B Provide General Information to Market Concept

1. Launch News Campaign About the Program
   a. Newspaper
   b. School newsletters
   c. Business newsletters
   d. Information brochures
   e. Orientation event
      1) School administrators
      2) Key business leaders
      3) Mayors
      4) City Managers
      5) Chamber personnel
      6) Economic development personnel
      7) Others (as identified)

C. Market to Encourage Cooperation/Participation

1. School Administrators
   a. Invite their participation
      1) At decision-making level
      2) At curriculum development level
   b. Provide orientation
   c. Identify potential problems and meet one-on-one to overcome
   d. Provide information to keep them informed
   e. Recognize contributions
   f. Involve in recruitment presentations

2. Business/Industry/Government Personnel
   a. Invite their participation
      1) At decision-making level
      2) At curriculum development level
   b. Provide orientation
   c. Meet one-on-one with key contacts
   d. Build curriculum based on their needs
   e. Provide information to keep them informed
   f. Recognize their contributions
   g. Involve in recruitment presentations

3. Guidance Personnel
   a. Invite their participation
      1) At decision-making level
      2) At curriculum development level
   b. Provide general orientation
   c. Provide specific orientation spelling out needs for guidance support
   d. Meet one-on-one with problem personnel
   e. Provide information to keep them informed
   f. Recognize their contributions
   g. Involve in recruitment presentations

III.C.4. Instructors
- a. Invite their participation in curriculum writing
- b. Provide orientation
- c. Meet one-on-one with problem personnel
- d. Provide information to keep them informed
- e. Provide incentives for participation
  - 1) College credit for inservice training
- f. Recognize their contributions

5. Key Area Leaders
- a. Provide orientation
- b. Provide information to keep them informed
- c. Provide formal presentations

D. Market To Recruit For Program

1. Parents
- a. Provide information
- b. Provide formal presentations
- c. Provide updates

2. Students
- a. Provide information
- b. Provide formal presentations
- c. Develop promotional gimmicks

IV. Evaluate And Revise/Refine Procedure

A. Test for Audience Absorption (externally)

1. Each market segment
2. Each marketing material

IV.B. Evaluate Audience Segments (internally)

1. Each market segment
2. Each marketing material
3. Each marketing procedure

Sample of Wellington Sequencing Model

UNIFIED SCHOOL DISTRICT #353
WELLINGTON, KANSAS

TECH PREP CAREER AREAS

	AGRICULTURE	*BUSINESS*	*HEALTH/HOME*	*INDUST TECH*	GRAPHIC ARTS
9 T H	English 9 Citizen/Amer History Driver Ed/PE Science Gen Math, Pre-Alg, AlgI Keyboarding I Consumer Ed	English 9 Math/Pre-Alg/ Alg I Government Health/PE Science Comprehensive HE I Drivers Ed/PE	English 9 Citizen/History Drivers Ed/PE Science Pre-Alg/Alg I Indust Tech	English 9 Citizen/History Drivers Ed/PE Science Pre-Alg/AlgI/Math Keyboarding Indust Tech	English 9 Citizen/History Drivers Ed/PE Science PreAlg/AlgI/Math Keyboarding Indust Tech
10 T H	English 10 World History Biology Appl Math I (AlgI,Geo) PE Ag Ed II	English 10 World History Psych/Socio PE Biology Trans Math/AlgI/App Math Keyboarding I or II Computers I Acct I Pascal	English 10 AlgI/App Math I Biology Fashion Merch Nutrition/Health Food Science Early Child Dev PE Keyboarding I	English 10 World History (Appl Math)Alg I Biology PE Mech Draw I Wood Small Engine	English 10 World History Appl Math/Alg I Biology PE Vis Comm
11 T H	English II/ Appl Comm Amer Hist (Psych,Socio) Ag Ed III Appl Math II	English II/ Appl Comm Amer Hist AlgI,Geo,App Math I or II Acct I or II Comp I Shorthand or Superwrite Keyboarding I or II Pascal	English II/ Appl Comm Appl Math II/ AlgI/Geo Amer Hist Gen Sc/Physics Foods & Nutrition Child Dev Int Design Keyboarding II	English II/Appl Comm Amer Hist Geometry Metal Princ Tech I Mech Draw II/CAD	English II/ Appl Comm Amer Hist Princ Tech I Vis Comm Screenprint Adv Print
12 T H	English 12 Government Ag Ed IV	English 12 Government Geo, Alg II, Trig Acct I, II or III Keyboarding I or II Shorthand or Superwrite	English 12/ Appl Comm Math/AlgI/AlgII/ Geo Government Chemistry Occup Home Ec	English 12/ Appl Comm Government Alg II Princ Tech II Cabinet Making	English 12/ Appl Comm Government Alg II Princ Tech II Adv Print Adv Photo
	*ELECTIVES App Math II (Alg I,II, Geo, & Trig) Computers Accounting Sm Engines Prin of Tech I,II Metal Tech Speech/ Appl Comm College Classes	*ELECTIVES Office Ed I Office Ed II Business Law Word Proc Bus Mach/Filing Business Econ Marketing Retailing Business Math Entrepreneur	*ELECTIVES Keyboarding I, II Business Law Business Ec Word Proc Fashion Merch	*ELECTIVES Keyboarding Intro to Computers Word Proc (IBM) 1/2	*ELECTIVES DTP Mech Drawing Art

Wellington High School (USD #353) Tech Prep Option

Industrial-Technology Careers/Drafting Technology Career Cluster

Suggested Sequence of Courses:

9th Grade:
English 9
Citizen/History
Drivers ED./Physical Ed.
Industrial Technology

10th Grade:
English 10
World History
Applied Math/Algebra I
Biology
Physical Ed
Mechanical Drawing I*
Wood
Small Engine

11th Grade:
English 11/Applied Comm
American History
Geometry
Principles of Tech I
Mechanical Drawing II (CAD)*

12 Grade:
English 12/Applied Comm
Government
Algebra II
Principles of Tech II
Intro to Microcomputers

Suggested Elective Options:

Keyboarding, Intro. to Microcomputers *, Word Processing (IBM) 1/2 *

* denotes articulated courses for college advanced placement (may/may not count toward completion of program)

Cowley County Community College & AVTS Drafting Program

Associate of Applied Science Option:

First Semester:
Technical Drafting I
Technical Math/College Algebra
Industrial Graphics I/CADD
Industrial Graphics II/CADD
Composition I or Technical Writing I

Second Semester:
Technical Drafting II
Industrial Graphics III/CADD
Industrial Graphics IV/CADD
Interpersonal Comm/Speech
Measurements
Industrial Materials or Elective

Third Semester:
Technical Drafting III
Industrial Graphics V/CADD
Industrial Graphics VI/CADD
Composition II/Technical Writing II
Introduction to Microcomputers
Total Quality Assurance

Fourth Semester:
Advanced CADD
Industrial Graphics VII
Industrial Graphics VIII
Technical Physics
Team Work/Statistical Process Control
Applied Economics

Suggested Electives:

College Algebra, Trigonometry, Architectural Graphics, Social Science, General Psychology, Freshman English II, 3-D Modeling

Certificate Option:

First Semester:
Technical Drafting I
Industrial Graphics I/CADD
Industrial Graphics II/CADD
Technical Math/College Algebra

Second Semester:
Technical Drafting II
Industrial Graphics III/CADD
Industrial Graphics IV/CADD
Measurements
Total Quality Assurance

Third Semester:
Technical Drafting III
Industrial Graphics V/CADD
Industrial Graphics VI/CADD
Technical Physics

Fourth Semester:
Advanced CADD
Industrial Graphics VII
Industrial Graphics VIII
Applied Economics

Suggested Electives:

Architectural Graphics, 3-D Modeling

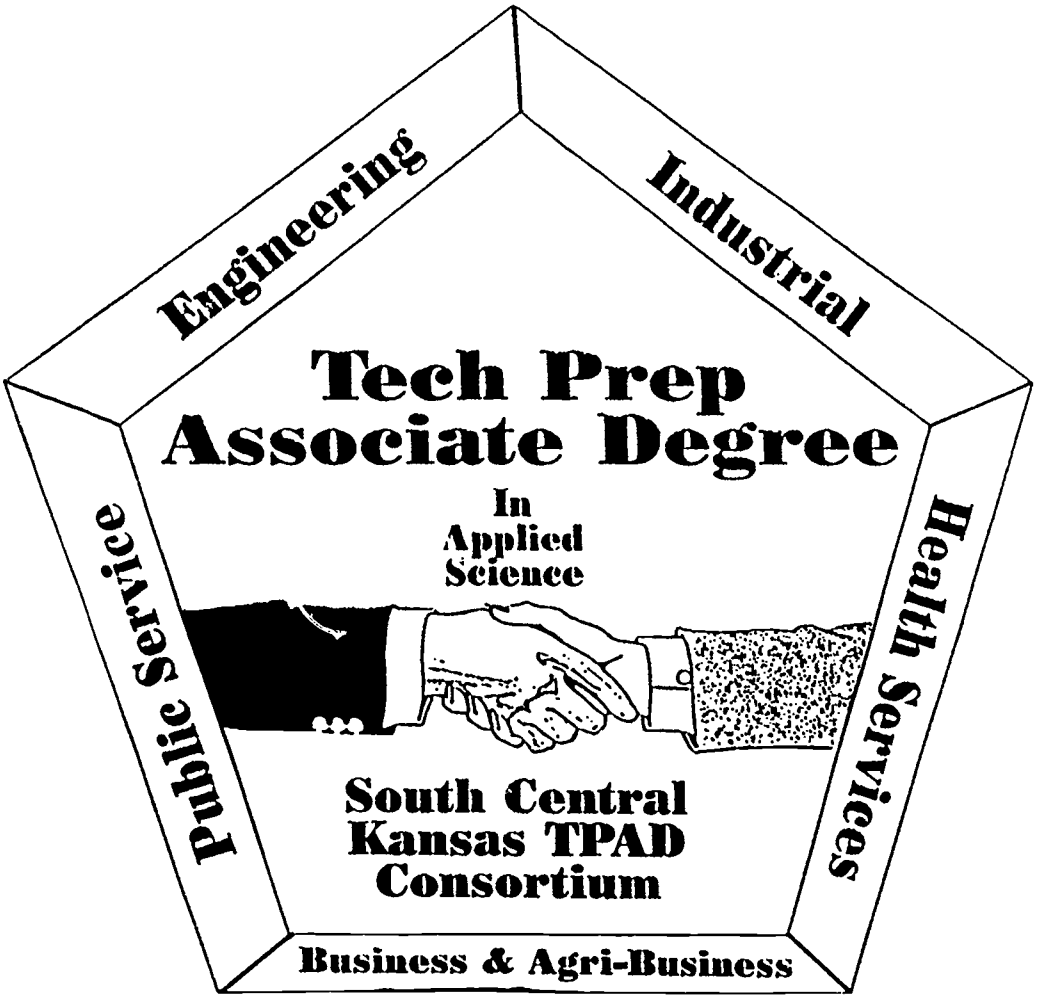
TPADHB

South Central Kansas

TECH PREP PROGRAM

Resource Catalog

1994-1995



Cowley County Community College
& Area Vocational Technical School
125 South Second Street ♦ P.O. Box 1147
Arkansas City, Kansas 67005
(800) 593-2222 or (316) 442-0430

INTRODUCTION

This resource catalog lists the educational materials housed in the South Central Kansas Tech Prep Library located at Cowley County Community College & AVTS. The resources encompass books/booklets, videos, handouts, computer software, and transparencies. These are categorized by subject then type of material, e.g., book, video, etc., within separate sections of the catalog. We have added many new materials to the library this year especially in the Special Populations area.

Requests for materials listed in the catalog should be directed to the Tech Prep Program Office. All items may be borrowed for a thirty-day period. However, if you need the materials longer, please contact our office and we will renew them provided they are not on reserve. There is no charge to check out materials from the Resource Library.

As the Tech Prep Resource Library is continually growing and searching for new sources of materials, please feel free to inform us of any materials we should consider for the collection.

Many other Tech Prep materials are available from Washburn University be contacting Ben Clay at (913)231-1010 ext. 1534.

Table of Contents

APPLIED BIOLOGY/CHEMISTRY

BOOKS

TITLE	AUTHOR	PUBLISHER
Applied Biology/Chemistry Student Text Unit One: Natural Resources Center for Occupational Research and Development		
Applied Biology/Chemistry Student Text Unit Six: Nutrition		
Applied Biology/Chemistry Student Text Unit Seven: Disease and Wellness	Center for Occupational Research and Development	
Teaching Resources for Applied Biology/Chemistry	Center for Occupational Research and Development	

VIDEOS

TITLE	AUTHOR	PUBLISHER
Video Master: Applied Biology/-Chemistry Natural Resources; Disease and Wellness		
Video Master: Applied Biology/-Chemistry Nutrition; Continuity of Life		
Video Master: Applied Biology/-Chemistry Water, Air, and Other Cases; Overview		

APPLIED COMMUNICATIONS

BOOKS

TITLE	AUTHOR	PUBLISHER
Interpersonal Communication Instruction Applied Methodology Through Workplace Scenarios		
Applied Communication Supplement Module 1-15		
Applied Communications Instructor's Guide Modules 1 - 4	Agency for Instructional Technology	
Applied Communications Worktext Modules 7 - 9	Agency for Instructional Technology	
Applied Communications Worktext Modules 13 - 15	Agency for Instructional Technology	
Applied Communications Worktext Modules 4 - 6	Agency for Instructional Technology	
Applied Communications Instructor's Guide Modules 5 - 8	Agency for Instructional Technology	
Applied Communications Worktext Modules 1 - 3	Agency for Instructional Technology	
Applied Communications Instructor's Guide Modules 9 - 15	Agency for Instructional Technology	
Applied Communications Worktext Modules 10 - 12	Agency for Instructional Technology	
Exciting Writing, Successful Speaking (Teacher's and Activity Guides)	Martin Kimeldorf	1994
Teaching Applied Communication a Supplemental Curriculum Guide and Instructional Plan for Material Originally Developed by the Agency for Instructional Technology		Kansas Competency-Based Curriculum Center, 1993
Technical Writing Module 16 Instructor's Kit		AIT Learning Source

Electronic Communication Module
17
Instructor's Kit

AIT Learning Center

VIDEOS

TITLE	AUTHOR	PUBLISHER
Master Video: Applied Communication 13A, 13B, 14A, 14B, 15A, 15B		
Master Video: Applied Communication 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B		
Master Video: Applied Communication 5A, 5B, 6A, 6B, 7A, 7B, 8A, 8B		
Master Video: Applied Communication 9A, 9B, 10A, 10B, 11A, 11B, 12A, 12B		

APPLIED MATHEMATICS

BOOKS

TITLE	AUTHOR	PUBLISHER
Applied Mathematics Student Text Unit B, C, 2, 4, 6, 7, 8, 9, 12, 13, 15 Teacher's Guide Unit 3	Center for Occupational Research and Development	
Applied Mathematics Teachers Guide Unit Two: Estimating Answers	Center for Occupational Research and Development	
Applied Mathematics Student Text Unit A, B, C, Unit 1, 2, 3	Center for Occupational Research and Development	
Applied Mathematics Teacher's Guide Unit 13, 14, 15	Center for Occupational Research and Development	
Applied Mathematics Student Text Unit 4, 5, 6, 7	Center for Occupational Research and Development	
Applied Mathematics Teacher's Guide Unit 6, 7, 8, 9	Center for Occupational Research and Development	
Applied Mathematics Student Text Unit 8, 9, 10, 11	Center for Occupational Research and Development	
Applied Mathematics Student Text Unit Nineteen: Working With Statistics	Center for Occupational Research and Development	
Applied Mathematics Student Text Unit Eleven: Using Signed Numbers and Vectors	Center for Occupational Research and Development	
Applied Mathematics Teacher's Guide Unit 10, 11, 12	Center for Occupational Research and Development	
Applied Mathematics Student Text Unit 12, 13, 14, 15	Center for Occupational Research and Development	
Applied Mathematics Teacher's Guide Unit A, B, C, Unit 1	Center for Occupational Research and Development	
Assessment Alternatives in Mathematics An Overview of Assessment Techniques that Promote Learning		EQUALS, 1989
Curriculum and Evaluation Standards for School Mathematics	National Council of Teachers of Mathematics, 1989	

EdTalk: What We Know About Mathematics Teaching and Learning	Nancy Kober	Council for Educational Development and Research
Family Math	Stenmark, Thompson & Cossey	
Get It Together (Math Problems for Groups Grades 4-12)		EQUALS, 1989
Opening Up the Mathematics and Science Filters Our Schools Did It, So Can Yours!	DeAnna Banks Beane	1992
Mathematics and Science, Critical Filters for the Future	DeAnna Banks Beane	1988
The Tranisition Skills Guide An Integrated Curriculum with Reading and Mathematic Activities	Jerry L. Wircenski, Ph.D.	Aspen Publishers, Inc.

VIDEOS

TITLE	AUTHOR	PUBLISHER
Master Video: Applied Mathematics Units A-22		

Career Academies Partnerships for Reconstructing American High Schools	Stern, Raby, and Dayton	1992
Career Counseling for Change: Helping Students Transition from School to Work	Judith Ettinger, et.al.	Career Development Training Institute
Career Education Responsive to Every Student (CERES) Teacher Guides For: Industrial Arts, Art, Health, English, Literature, Journalism, Agriculture, Science, Social Studies, Business, Math, Home Economics, Physical Education	CERES	
Careers Tomorrow Outlook for Work in a Changing World	Edited by Edward Cornish	1988
Carl D. Perkins Vocational and Applied Technology Act of 1990 A Selected Resources for Implementation	TASPP	1992
CBE Professional Development Series	Mid-America Vocational Curriculum Consortium, Inc.	
Collaboration for Instruction of LEP Students in Vocational Education	Elizabeth Platt	1992
Competency-Based Education Planning for Competency-Based Education and Aligning Curriculum	Mid-America Vocational Curriculum Consortium, Inc.	
Concepts and Techniques of Machine Safeguarding	U. S. Department of Labor Occupational Safety and Health Administration	
Connecting the Curriculum Through Interdisciplinary Instruction	John H. Lounsbury, Editor	1992
Cross Cultural Communication, An Essential Dimension of Effective Education	Orlando Taylor, Ph.D.	1990
Crossing the Tracks How "Untracking" Can Save America's Schools	Anne Wheelock	1992

Cunning Hand the Cultured Mind Models for Integrating Vocational and Academic Education	National Center for Research in Vocational Education, University of California at Berkeley	
Designing Interdisciplinary Curriculum in Middle, Junior High, and High Schools	Richard E. Maurer	Allyn & Bacon
Develop System to Manage Learning	Kansas Competency-Based Curriculum Center, Washburn University	
Directory of Human Resources to Better Serve Learners with Special Needs in Vocational Education	Compiled by: Sheri C. Kallembach	National Center for Research in Vocational Education
Directory of Human Resources to Better Serve Learners with Special Needs in Vocational Education	Sheri Kallembach	1989
Do What You Are Discover the Perfect Career for You Through the Secrets of Personality Type	Tieger and Barron-Tieger	1992
Dropping Out or Hanging In What You Should Know Before Dropping Out of School (Leaders' Manual & Workbook)	Duane Brown	1990
Education and Work for the Year 2000: Choices We Face	Arthur G. Wirth	Jossey-Bass Publishers
Educator's Guide to The Americans with Disabilities Act	Patricia A. Morrissey	1993
Effective Schools for Language Minority Students	Lorraine Valdez Pierce, Ph.D.	1991
Effective Strategies for Dropout Prevention of At-Risk Youth	Lynda L. West	Aspen Publishers, Inc.
Effective Vocational Education for Students with Special Needs: A Framework	Phelps and Wermuth	1992
Effective Schools for Culturally Diverse Students An Annotated Bibliography	Sheyl Denbo, Ph.D.	1990

GENERAL RESOURCES

ARTICLES

TITLE	AUTHOR	PUBLISHER
An Instructional Model for Teaching Students How to Learn	Donald D. Deshler and Jean B. Schumaker	University of Kansas
Industrial Competitiveness and Productivity Case for a Comprehensive Work Force Training System	Scott Hessell	Kansas Inc.
Teaching Technical Writing: Strategies, Criteria, and Assignments	Dr. Steven M. Gerson	Johnson County Community College

BOOKS

TITLE	AUTHOR	PUBLISHER
"THEIR CHANCES? SLIM AND NONE" An Ethnographic Account of the Experiences of Low-Income People of Color in a Vocational Program and at Work	Glynda Hull	1992
1991 Agenda for the National Center for Research in Vocational Education		National Center for Research in Vocational Education
61 Cooperative Learning Activities Thinking, Writing, and Speaking	Ann Bourman	1989
A Resource Guide for Vocational Educators Working With Special Populations	Kansas Competency-Based Curriculum Center, Washburn University	
Access to and Use of Vocational Education in Teen Parent Programs	Zellman, Feifer and Hirsch	1992
Annotated Resource List: Assessing Special Populations in Vocational Programs	TASPP	1992
Annotated Resource List: Collaborating to Improve Vocational Program Effectiveness for Special Populations	TASPP	1992
Annotated Resource List:	TASPP	1992

Funding Resources for Vocational Special Needs Programs		
Annotated Resource List: National, State, and Regional Curriculum Development and Coordination Contacts	TASPP	1992
Annotated Resource List: School-Business Partnerships	TASPP	1992
Annotated Resource List: Supplemental and Support Services in Vocational Education	TASPP	1992
Annotated Resource List: Vocational/Career Counseling and Career Education for Special Populations	TASPP	1992
Apprenticeship for Adulthood: Preparing Youth for the Future		
Assessment of Students with Handicaps in Vocational Education A Curriculum-Based Approach	Leonard Albright & R. Brian Cobb	American Vocational Association
At-Risk, Low Achieving Students in the Classroom	Judy Brown Lehr & Hazel Wiggins Harris	National Education Association Publication
Automotive Tools and Equipment Manual for NATEF Technician Training Certification Program	NATEF	
Basic Skills Improvement A Handbook for Reading, Math, Writing and Oral Communication	Vocational Studies Center	1986
Betwixt and Between Education, Skills, and Employment in Sub-Baccalaureate Labor Markets	Grubb, Dickinson, Giordano, and Kaplan	1992
Black Americans and Vocational Education Participation in the 1980s	Arnold and Levesque	1992
Bright Hopes, Dim Realities: Vocational Innovation in American Correctional Education	Schlossman, Grubb, and Spillane	1992
Career Exploration Inventory A Guide for Exploring Work, Leisure, and Learning	John J. Liptak	1992

Exemplary Programs Serving Special Populations	Zipura Burac	1992
Exemplary Programs Serving Special Populations Volume II	TASPP	1992
Exploring Technology Education (with 5 accompanying videos)	Donovan Bowers, John Dugger, & Jimmy Wood	
Factors that Influence the Academic and Vocational Development of African American Youth and Latino Youth	Girggs, Copeland and Fisher	1992
Formulating a Conceptual Model of Nontraditional Student Attrition and Persistence in Postsecondary Vocational Education Programs	David Johnson	1991
Formulating A Conceptual Model of Motivation: Implications for Enhancing Accommodation of At-Risk Learners in Postsecondary Vocational Education Programs	James M. Brown, Diane Fjeld-Joseph, Joseph Wotruba	National Center for Research in Vocational Education
Handbook of Vocational Special Needs Education, Second Edition	Gary D. Meers	Aspen Publishers, Inc.
Handbook for Advisors of Vocational Student Organization Third Edition	American Association for Vocational Instructional Materials	1993
Hands and Minds Redefining Success in Vocational Technical Education	A Report of the Education Writers Association	Education Writer Association
Hanging In and Dropping Out Voices of At-Risk High School Students	Edwin Farrell	1990
Home Economics Teachers' Survival Guide	Margaret F. and Robert C. Campbell.	1993
How to Integrate the Curricula	Robert Fogarty	IRI/Skylight Publishing, Inc.
Improving the Transition From School to Work in the United States	Richard Kazis	American Youth Policy Forum

Improving Vocational Curriculum	Lester G. Duenk, Editor	1993
Increasing Vocational Options for Students with Learning Handicaps A Practical Guide Institute for the Study of Family, Work, and Community		1989
Industrial Technology Education Exploratory Curriculum Level II	Nebraska Industrial Technology Teachers	Nebraska Advisory Council for Vocational Education
Influences on Adolescents' Vocational Development	Mortimer, Dennehy, and Lee	1992
Instructional Strategies for Using Microcomputers in Vocational Education Judith Rodenstein, Ph.D.	Vocational Studies Center University of Wisconsin-Madison	
Integrating Occupational and Academic Education in Community Colleges and Technical Institutes	W. Norton Grubb, Eileen Kraskouskas, National Center for Research in Vocational Education (NCRVE)	
Integrating Occupational Information and Guidance for Improved Career Decision Making in a Changing World Two-volume set	Edited by Judith M. Ettinger	1991
Integration Handbook (a compilation of 5 separate works)		Kansas Competency-Based Curriculum Center Washburn University-SAS
Kansas Employability Skills Curriculum Guide	Kansas State Department of Education Division of Community Colleges and Vocational Education and Kansas Competency-Based Curriculum Center, Washburn University	
Kansas Employability Skills Curriculum Guide	Kansas State Department of Education Division of Community Colleges and Vocational Education and Kansas Competency-Based Curriculum Center at Washburn University	
Kansas Mathematics Curriculum Standards	Kansas State Board of Education	
Keeping Students in School A Guide to Effective Dropout Prevention Programs & Services	Margaret Terry Orr	Jossey-Bass Publishers

Kindness of Strangers: Adult Mentors, Urban Youth, and the New Voluntarism	Marc Freedman	Josey-Bass Publishers
Learning Styles Inventory	Rene E. Krajnak	Friends University, Wichita State University
Learning Under Stress: Children of Single Parents and the Schools	Margaret Barnwell Hargreaves	
Learning a Living: A Blueprint for High Performance A SCANS Report for America 2000	Secretary's Commission on Achieving Necessary Skills, U.S. Department of Labor	
Legal Responsibilities of Education Agencies Serving National Origin Language Minority Students	James J. Lyons	1992
Life Skills Instruction for All Students with Special Needs A Practical Guide for Integrating Real-Life Content into the Curriculum	Cronin and Patton	1993
Making the Transition A Teacher's Guide for Helping Students with Special Needs	Susan B. Asselin	American Vocational Association
Managing a Diverse Work Force Regaining the Competitive Edge	John P. Fernandez	1991
Marketing Vocational Education	American Vocational Association	
Middle-Level Education: Implications for Vocational Education		American Vocational Association, 1992
Midwest Desegregation Assistance Center Resource Catalog February 1992	College of Education Kansas State University	
Multidisciplinary Perspectives in Vocational Assessment of Impaired Workers	Steven J. Scheer	1990
Myth of the Coming Labor Shortage Jobs, Skills, and Incomes of America's Workforce 2000	Lawrence Mishel, Ruy A. Teixeira, Economic Policy Institute	
National Standards for Arts Education		Developed by: The Consortium of National Arts Education Associations

Negotiating Skills	Mike Brooks	
Negotiating the Special Education Maze A Guide for Parents and Teachers	Anderson, Chitwood, and Hayden	1990
Occupations Digest (1993-94)		Wisconsin Career Information Services
Opening Minds, Opening Doors Rebirth of American Education	Dan Hull	
Opportunities in Vocational and Technical Careers	Adrian A. Paradis	1994
Participation of Special Education Students in High School Vocational Education Influence of School Characteristics	Phillip Kaufman	1989
Peterson's Guide to Colleges with Programs for Students with Learning Disabilities	Mangrum and Strichart, 1992	
Preparing Students for Tomorrow's Office	Bright & Coomer	1988
Preparing a World-Class Work Force to Compete Internationally We Must Educate Youth for High Skill Jobs	Winifred I. Warnat	
Red Cross CPR Module Respiratory and Circulatory Emergencies		
Resources to Facilitate the Transition of Learners with Special Needs from School to Work or Postsecondary Education	Sheri Kallembach	1989
Roller Coaster Science 50 Wet, Wacky, Wild, Dizzy Experiments about Things Kids Like Best	Jim Wiese, 1994	
SCANS Roadmap to the Future	American Vocational Association	
School Survival Guide for Kids with LD Ways to Make Learning Easier and More Fun	Rhoda Cummings and Gary Fisher, 1991	

School To Work Opportunites Act of 1994 Public Law 103-239, May 4, 1994		American Vocational Association
School-To-Work Opportunities Act (Overview)		American Vocational Association, 1994
Schools and Social Justice	R. W. Connell	1993
Schools that Work: America's Most Innovative Public Education Programs	George H. Wood	Plume Books
Schools for the 21st Century: Leadership Imperatives for Educational Reform		Phillip C. Schlechty
Science Framework for California Public Schools Kindergarten through Grade Twelve	Science Curriculum Framework and Criteria Committee	California State Board of Education
Science Model Curriculum Guide Kindergarten through Grade Eight	California State Department of Education	
Series of Informational Booklets on Competency-Based Education: Administrator's Role, Learning Environment,Developing Competencies,Terminal Performance Objectives	Kansas State Board of Education	Kansas Competency-Based Curriculum Center
Seven Ways of Teaching Artistry of Teaching with Multiple Intelligences	David Lazear	
Seven Ways of Knowing Teaching for Multiple Intelligences, Second Edition	David Lazear	
Student Team Learning: A Practical Guide to Cooperative Learning Third Edition	Robert E. Slavin	National Education Association Publication
Students with Limited English Proficiency Selected Resources for Vocational Preparation	Kallemback, Coyle-Williams and Glaeser	1990
Students with Limited English Proficiency Selected Resources for Vocational Preparation	TASPP	1992
Students at Risk	TASPP	1990, 1992

Selected Resources for Vocational Preparation (Volumes I and II)		
Survival Guide for Teenagers with LD	Rhoda Cummings and Gary Fisher, 1993	
Teachers' Guide for Entrepreneurship	Vivien K. Ely	1983
Teaching and Assessing Workplace Skills A Compilation of Instructional Resources	Kansas Competency-Based Curriculum Center	
Teen Parents: Selected Resources for Vocational Preparation	Sheri Kellembach	1990
Testing for the Two-Sided Mind A Guide to Right Brain/Left Brain Education	Linda Verlee Williams	1983
Think and Act, Make an Impact! (A Handbook of Science, Technology & Society) Volume I: A Theoretical and Conceptual Overview of Science, Technology & Society Education	M.O. Thirunarayanan, Ph.D. 1992	
Thinking About Our Kids An Agenda for America Education	Harold Howe II	1993
Treasure Chest A Teacher Advisory Source Book with 120 Classroom-Ready Activities	Hoversten, Doda and Loundsbury	
Tutoring: Learning by Helping A Student Handbook for Training	Elizabeth Sabrinsky Foster	1992
Using Self-Management Skills: Taking Responsibility; Exhibiting Self-Esteem	Kim Leewright	Comprehensive Adult Student Assessment System (CASAS)
VGM's Careers Encyclopedia Third Edition	VGM Career Horizons	1992
Vocational Instructors Survival Guide	Ralph Turlington	1983
Vocational Education for the Disadvantaged and Handicapped A Guide to Program Administration	Leonard Albright	American Vocational Association
Vocational Education for Special Populations	Phelp, Wermuth and Crain	1991

Recommendations for Improving State Policy		
Workplace Skills Series: Problem Solving A Synthesis of Curriculum/Instruction Materials		Kansas Competency-Based Curriculum Center
Workplace Skills Series: Managing Resources: Time Management A Synthesis of Curriculum/Instruction Materials	Judy Crymble	Kansas Competency-Based Curriculum Center
Workplace Skills Series: Teamwork Skills Instruction A Synthesis of Curriculum/Instruction Materials	Randy Smith	Kansas Competency-Based Curriculum Center
World of Work Careers and the Future	Howard F. Didsbury, Jr., Editor	1983
Writing Down the Days (365 Creative Journaling Ideas for Young People)	Lorraine M. Dahlstrom, 1990	
Youth Apprenticeship in America: Guidelines for Building an Effective System	James E. Rosenbaum et.al.	American Youth Policy Forum

HANDOUT

TITLE	AUTHOR	PUBLISHER
Using Applied Academics to Integrate Vocational and Academic Education	AVA Annual Convention Vocational Instructional Materials Division 1991	

TRANSPARENCIES

TITLE	AUTHOR	PUBLISHER
Workplace Skill	Ben Clay	Kansas Competency-Based Curriculum Center, Washburn University

VIDEOS

TITLE	AUTHOR	PUBLISHER
Career Counseling for Change: Helping Students Transition from School to Work Teleconference March 10, 1994	Ann Rudolf	Center on Education and Work
Career Self-Assessment Where Do You Fit? Video and Handbook	Learning SEED	1993
Interactions in Science and Society (includes Teacher's Guide)		

Six Programs for Teachers, Ten Programs for StudentsWisconsin Public Telecommunications for Education		
Opportunity Line	Cooperative Education Wichita Public Schools	
Redirecting and Refocusing Florida Education for the Future	Laurey T. Stryker, National Tech Prep Network	Center for Occupational Research and Development
Secretary of Labor Robert Reich's Address to the Annual Convention of the American Vocational Association Importance of a Skilled Workforce		1993
What Is C.H.E.C.? C.H.E.C. Installations Version 92A	C.H.E.C. Systems, Utah State University Research Park	
Workplace Readiness Instructor Program Using Self-Management Unit		

PRINCIPLES OF TECHNOLOGY

ARTICLES

TITLE	AUTHOR	PUBLISHER
Technology: New Workers, New Modes of Training		CORD

BOOKS

TITLE	AUTHOR	PUBLISHER
101 Physics Tricks Fun Experiments with Everyday Materials	Terry Cash	1992
101 Science Tricks Fun Experiments with Everyday Materials	Roy Richards	1990
Applied Physics I Middle School Curriculum	Technology Education Writing Team Representing the Wichita Public Schools and Wichita State University	
Associate in Applied Science Degree Policy Statement	Approved by AACJC Board of Directors	
EdTalk: Science in American Education What We Know About Science Teaching and Learning	Nancy Kober	Council for Educational Development and Research
Industrial Technology Course Modules for Investigations in Technology Ninth and Tenth Grades	Project Director and Contributing Author, Dr. Alan A. Aagaard, Wichita State University	
Principles of Technology (Second Edition) Student Text Unit Six: Power	Center for Occupational Research and Development	
Principles of Technology (Second Edition) Student Text Unit Three: Rate		
Science Is . . . A Source Book of Fascinating Facts, Projects and Activities	Susan V. Bosak	1991

HANDOUTS

TITLE	AUTHOR	PUBLISHER
Principles of Technology Introductory Information		

VIDEOS

TITLE	AUTHOR	PUBLISHER
Principles of Technology Unit 13		
Principles of Technology Unit 9		
Principles of Technology Unit 12		
Principles of Technology Unit 4		
Principles of Technology Unit 7		
Principles of Technology Unit 6		
Principles of Technology Unit 3		
Principles of Technology Unit 10		
Principles of Technology Unit 2		
Principles of Technology Unit 1		
Principles of Technology Unit 14		
Principles of Technology Unit 5		
Principles of Technology Unit 11		
Principles of Technology Unit 8		
Video Master: Principles of Technology Units 1-2, 3-4, 5-6, 7-8, 9-10, 11-12, 13-14		

SOFTWARE

TITLE	AUTHOR	PUBLISHER
Explorations in Technology Computer Discs of Total Curriculum		

TECH PREP

ARTICLES

TITLE	AUTHOR	PUBLISHER
Beyond Tech Prep: An Effective Partnership for Recruitment, Preparation and Placement	Eileen Troutt-Ervin Presented to the American Vocational Association Convention, 1992	

BOOKS

TITLE	AUTHOR	PUBLISHER
An Integrated Curriculum Plan for Incorporating Technology Education, Language Arts, Mathematics, Science, Social Studies	Cynthia A. Matherne O'Keefe	
Applied Academics and Tech Prep: An Overview 1992 Train the Trainer Workshops	Leno S. Pedrotti	Kansas Competency-Based Curriculum Center
Beyond Articulation Development of Tech Prep Programs	Carolyn Dornsife	National Center for Research in Vocational Education
Help Them Find Their Way A Guidance System for Aiding Students in Pursuing a Tech Prep Program of Study	Ginny Riser, National Representative Career Programs, Educational Testing Service	
Illinois Tech Prep Planning Strategies	Illinois State Board of Education	
Speakers' Forum Key Components of "The Big Picture"		Kansas Competency-Based Curriculum Center
Take A New Direction With 2 + 2		
Tech Prep: A Viable Solution for the Forgotten Half	James L. Hoerner	1991
Tech Prep: Effective and promising Practices Guide	Babrielle Banick Wacker, Ph.D.	
Tech Prep and Counseling: A Resource Guide	Catherine Chew	Center on Education and Work, School of Education University of Wisconsin-Madison
Tech Prep: Effective & Promising Practices Guide	Gabrielle Banick Wacker	Center on Education & Work, University of Wisconsin-Madison
Tech Prep Education A Total Quality Approach	Charles J. Law, Jr	1994

Tech Prep Associate Degree A Win/Win Experience	Written and Compiled by Dan Hull and Dale Parnell	Center for Occupational Research and Development
Tech Prep Marketing Guide A Complete Book of Strategies and Practical Experiences	Dr. Patty Williamson	1993
Tech Prep Resource Series Creating a Tech Prep Curriculum	Walter Edling, Ph. D.	Center for Occupational Research and Development
Working Papers: Tech Prep and Educational Reform	James L. Hoerner	Kansas Competency-Based Curriculum Center
Working Papers: Integrating Academic and Vocational Education Guidelines for Assessing a Fuzzy Reform	Cathy Stasz, W. Norton Grubb	Kansas Competency-Based Curriculum Center
Working Papers: Tech Prep Programs: Issues in Implementing the Carl Perkins Amendments of 1990 (notes from a conference presentation)	W. Norton Grubb	Kansas Competency-Based Curriculum Center
Working Papers: Developing Cooperative Programs and Partnerships National Satellite Teleconference Proceedings	Inservice Education Project	Kansas Competency-Based Curriculum Center
Working Papers: Current State of Occupational and Technical Training: Need for Integration and High Quality Programs	Charles S. Benson	Kansas Competency-Based Curriculum Center
Working Papers: Tech Prep Programs: Issues in Implementing the Carl Perkins Amendments of 1990 Notes from a conference presentation	W. Norton Grubb	Kansas Competency-Based Curriculum Center

HANDOUTS

TITLE	AUTHOR	PUBLISHER
Tech Prep/Associate Degree (TPAD) the K-12...14...16 Connection		
What Will Applied Foundation Courses Accomplish?	Center for Occupational Research and Development	

TRANSPARENCIES

TITLE	AUTHOR	PUBLISHER
Tech Prep Presentation to High School Students		

Tech Prep Resource Series Transparency Masters and Transparencies	Tech Prep Associate Degree by Hull and Parnell
Tech Prep Associate Degree Overhead Transparencies	

VIDEOS

TITLE	AUTHOR	PUBLISHER
2 + 2 Business Information Specialist Student Video		
Building Teams for Tech Prep	National Center for Research in Vocational Education (NCRVE)	
Employer Demands and Support Tech Prep Business and Industry Involvement	Carver C. Gayton, G. R. Ferguson, and Carroll Marsalis	National Tech Prep Network: Center for Occupational Research and Development
Involving Key Players One and One-Half Hours in Tech Prep	Dr. Dale Parnell	December 15, 1993
Laying the Foundation for Integration 12:30-2:00, October 14, 1992		
Overview Video for Applied Biology/Chemistry; Applied Mathematics; Principles of Technology		
Promises to Keep plus Travis Asklund	Center for Occupational Research and Development	
Sierra College 2 + 2 Video	Terry Taplin	
Tech Prep: Developing Cooperative Programs and Partnerships Satellite Conference on CCCC Campus, Tuesday, October 29th (3 tapes)		
Unless We First Dream Tech Prep Introductory Video	National Tech Prep Network, Center for Occupational Research and Development	
Using Tech Prep to Reform Public Education: The Oregon Initiative with Dr. Dale Parnell	National Tech Prep Network, Center for Occupational Research and Development	
You Can Integrate College Prep and Vocational Studies	Teachers Winter Conference	

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