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ABSTRACT

This publication provides information and materials on the tech prep initiative of the Partnership for Academic and Career Education (PACE). It begins with questions and answers addressing the why and what of tech prep, for whom tech prep is designed, and what the goals of tech prep are. Diagrams illustrate PACE tech prep components, school-to-work transitions activities, the PACE model for tech prep, and methods of entry. Other contents include the following: a fact sheet on the PACE model, a list of requirements of effective education, a definition of integration, a depiction of the integration spectrum, a list of suggestions for curriculum integration, a diagram showing tech prep positioning of students for post-high school opportunities, a list of characteristics of the tech prep ideal, and a diagram of tech prep pathway options. The publication concludes with a diagram that depicts the interrelationships among the four participants in the tech prep initiative--secondary, postsecondary, business and industry, and parents and community--and charts that list their responsibilities. (YLB)

The Partnership for Academic & Career Education (PACE) & Tech Prep Programs

The PACE Consortium

The Partnership for Academic and Career Education, established in 1987, is a business and education consortium involving the seven school districts of Anderson, Oconee, and Pickens counties, local businesses and industries, the Anderson County and Oconee County Business & Education partnerships, Tri-County Technical College, Clemson University/College of Education, The Career and Technology Center, and the National Dropout Prevention Center at Clemson University.

A coordinating board, chaired by Dr. Karen Callison Woodward, superintendent of Anderson School District Five, includes 22 top administrators representing all partner institutions and agencies. The board provides leadership for implementing Tech Prep programs in the 16 high schools, four career centers, and one technical college in the PACE Consortium service area. A small administrative staff, housed on the campus of Tri-County Technical College, provides assistance and support to all participating schools.

In 1991, the PACE Consortium received the first U.S. Department of Education award for Tech Prep Program Excellence and one of three national awards given by the American Association of Community Colleges. In 1993, PACE received one of nine U.S. Department of Education demonstration grants for model Tech Prep programs.

Why Tech Prep?

The PACE partners believe that Tech Prep (PREParation for TECHnologies) programs can help motivate more young people to finish high school, to complete more challenging academic and occupational coursework, to pursue postsecondary occupational education at least through the associate degree level, and to enter the local workforce with the skills needed to help area businesses compete in a global economy. The PACE partners also believe that Tech Prep provides an important, viable alternative for students who do not plan or prepare for baccalaureate study while in high school.

What is Tech Prep?

Tech Prep is a sequenced, integrated program of academic and occupational studies preparing students to begin rewarding careers in mid-level technology fields—the types of positions for which a high school diploma with vocational training up to and including an occupational associate degree is required for entry and/or advancement. Tech Prep includes rigorous academic study, enhanced and focused occupational coursework, and structured guidance experiences throughout high school and two years of postsecondary education. The program prepares students for careers in the following cluster areas: industrial/engineering technologies, health technologies, business technologies, and human/public service technologies.

Who is Tech Prep Designed For?

Tech Prep targets primarily high school students in the general education program. (This program historically enrolled up to 50 percent of the total student population and produced the greatest number of school dropouts while providing inadequate preparation for either meaningful employment or postsecondary education.) Because Tech Prep emphasizes strong academic as well as occupational study, high school students in traditional vocational education programs are also considered Tech Prep students. While Tech Prep targets general and vocational education students, it also enables academically gifted students interested in mid-level technology careers to participate while completing baccalaureate admission requirements and advanced academics.

What are the Goals of Tech Prep?

The school districts and the technical college in the PACE Consortium shape the direction of their own Tech Prep programs under the general framework agreed upon by the PACE Coordinating Board and under the guidelines established by the South Carolina Department of Education and the South Carolina Board for Technical and Comprehensive Education. The general goals of Tech Prep programs are to:

- increase the academic preparedness of high school students through rigorous, challenging coursework which may be of an applied nature or which may include traditional college preparatory courses, or a combination;
- increase students' motivation to learn academic concepts in applied courses by stressing relevant, contextual learning experiences that relate theory to real world applications;
- provide a coordinated, sequenced series of academic and occupational courses beginning in grade 9, which provide strong, purposeful preparation for meaningful employment and/or postsecondary occupational education;
- motivate more students to complete high school by making their coursework more meaningful and participatory and by helping them set goals in order to transition successfully into the workplace and/or postsecondary education;
- increase students' understanding and use of information technology in order to facilitate their success in school and in the workplace;
- increase students' awareness of mid-level technology careers, as well as their ability to plan for and obtain the skills and abilities required to enter and advance in those fields;
- provide students with learning experiences that integrate academic and occupational study and that blend classroom and work-based learning;
- increase the number of high school graduates who pursue postsecondary education at the associate degree level and beyond;
- provide students with opportunities to earn advanced standing at the postsecondary level in order to save time and/or money in completing an associate degree;

- provide students who have transitioned into a postsecondary environment with integrated, relevant, and engaging learning experiences which blend the classroom and workplace in meaningful ways and are supported by appropriate advising services;

- expand opportunities for postsecondary Tech Prep students to earn advanced standing at four-year colleges in related baccalaureate majors;

- increase the numbers of graduates from two-year college occupational degree programs (i.e., programs with the primary goal of preparing graduates for the workforce) who possess the technical, academic, team-working, and critical thinking skills required by area employers.

What is the Relationship Between Tech Prep and Youth Apprenticeship?

Comprehensive Tech Prep programs provide the academic, occupational, and career planning foundation needed for effective Youth Apprenticeship experiences. Students participating in Youth Apprenticeship blend their classroom learning with structured, yet broad-based, learning experiences in the workplace. Coordinated by schools, employers, and the technical college, Youth Apprenticeship is typically a four-year program (grades 11-14) providing students with paid work experience, advanced standing at the technical college, continuation of workplace competencies through grade 14, and credentials, including a high school diploma and vocational certificate, an associate degree, and a certificate of mastery for competencies gained at the workplace.

How Many Tech Prep Programs Are There in the United States?

Tech Prep consortia involving public schools and community/technical colleges have been developing throughout the country since the early 1980s. As a result, approximately 850 Tech Prep programs now exist across the United States (including Puerto Rico and the Virgin Islands), and more are developing every day! The current federal appropriation of $104 million has helped encourage rapid development of the nation's Tech Prep education movement.

For Additional Information...

on the PACE Consortium and the Tech Prep initiative in Anderson, Oconee, and Pickens counties of South Carolina, please contact:

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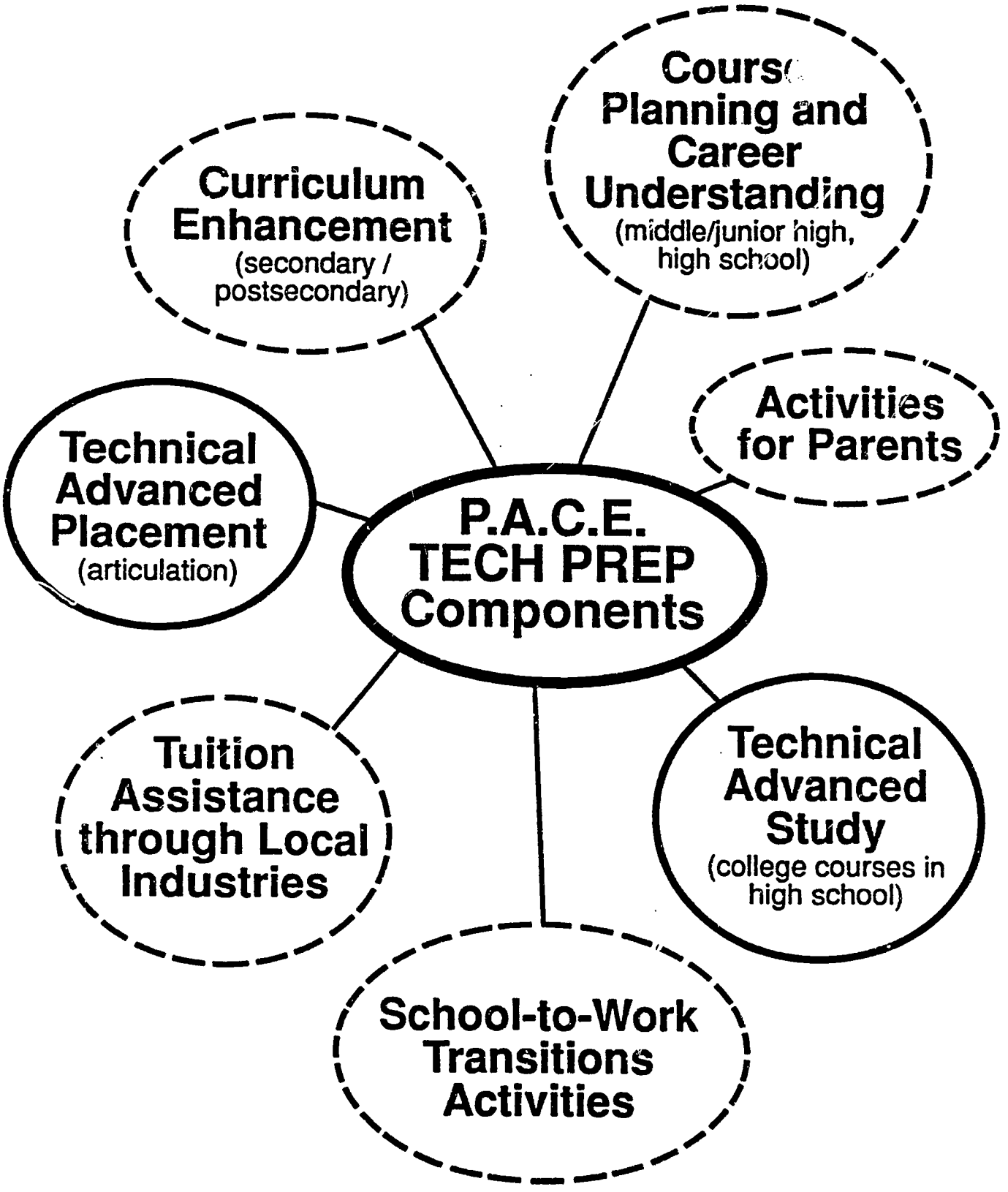
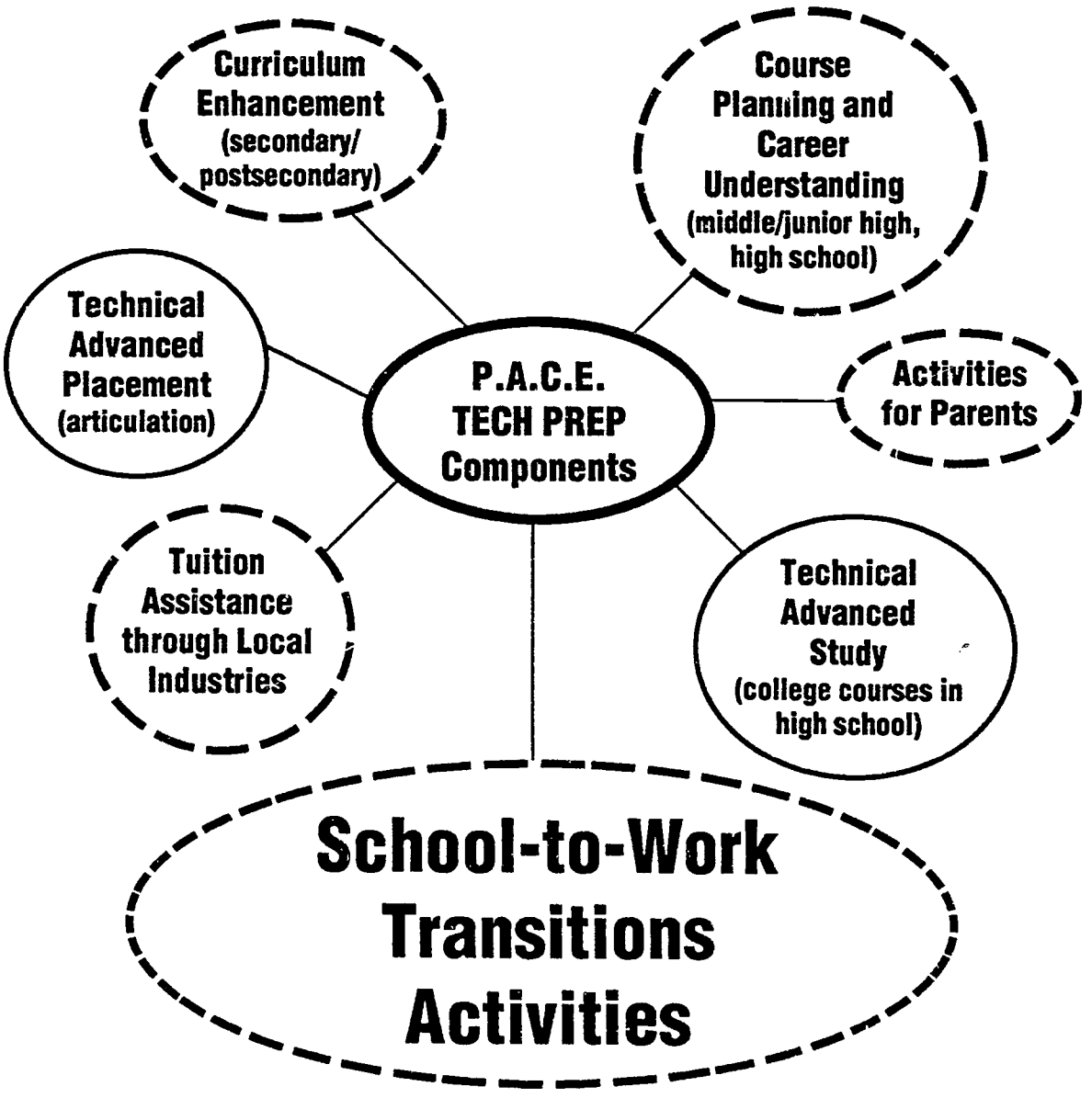
(October 1993)



Dotted lines indicate areas where business/industry involvement occurs.



- Youth Apprenticeship
- Adult/registered apprenticeship
- Coordinated co-op (secondary/postsecondary)
- Shadowing
- Community service
- [Summer internships]

P.A.C.E. MODEL FOR TECH PREP

Career Understanding for Mid-level Technologies
(grades 6-8)

Tech Prep Curriculum
(grades 9-12)

Introduction to Technologies
(grade 9)

Academic Base + **Technology Base**

- sequentially build students' academic skills
- use applied academics, CP courses or combination
- use local and other applications to enhance academics and provide career understanding

- use existing occupational courses
- students select courses to meet career goals and to qualify for advanced standing

Postsecondary (two-year college) with advanced standing

- Technical Advanced Placement (articulation)
- Technical Advanced Study (college courses taken during grade 12)

certificate | **diploma** | **associate degree** + option to earn certificate in advanced technologies

workforce / mid-level technology positions:

- industrial/engineering technologies
- health technologies
- public service technologies
- business technologies

PACE Model for Tech Prep

- Approach is flexible and can be adapted to meet needs, interests, resources of individual districts, regardless of district/school size.

- Can offer districts the opportunity to reduce "tracking" and to improve focus of programs by offering two curriculum options: College Prep (baccalaureate-bound or transfer-bound) and Tech Prep (two-year college-bound for career degrees or workforce).

  Students who complete Tech Prep and *then* decide to pursue a bachelor's degree can enter a University Transfer program in a two-year college (with less need for remediation than from the previous general "track" option) and transfer into a four-year degree program. (Or, students may prepare for freshman admission while in the Tech Prep program by completing appropriate prerequisite courses.)

- May reach as much as 60 percent of high school population (students currently enrolled in vocational/general education programs.)

- Middle school/junior high component provides "frame of reference" for curriculum option in high school.

- Applied academics start in grade 9—provide continuity in teaching methodologies and develop career understanding as part of academic courses, help promote district/school occupational offerings.

- Mission of vocational education remains skills-preparation but is expanded (and promoted) to include preparation for postsecondary study.

- Advanced placement (with credit) possible for all postsecondary programs at the local technical college.

- Students will have option to graduate with 2 credentials in the time it would normally take to finish an associate degree (initially for programs with time-shortened articulation)—**or** students may graduate with 2 credentials in 1-2 terms beyond normal associate degree.

- Current vocational programs that lead to meaningful employment are not put "at odds" with Tech Prep—the program will increase vocational enrollment and will result in students entering vocational courses with stronger academic skills.

- Sets stage for curriculum enhancement in vocational areas (students can learn more, faster when they enter with stronger academic skills).

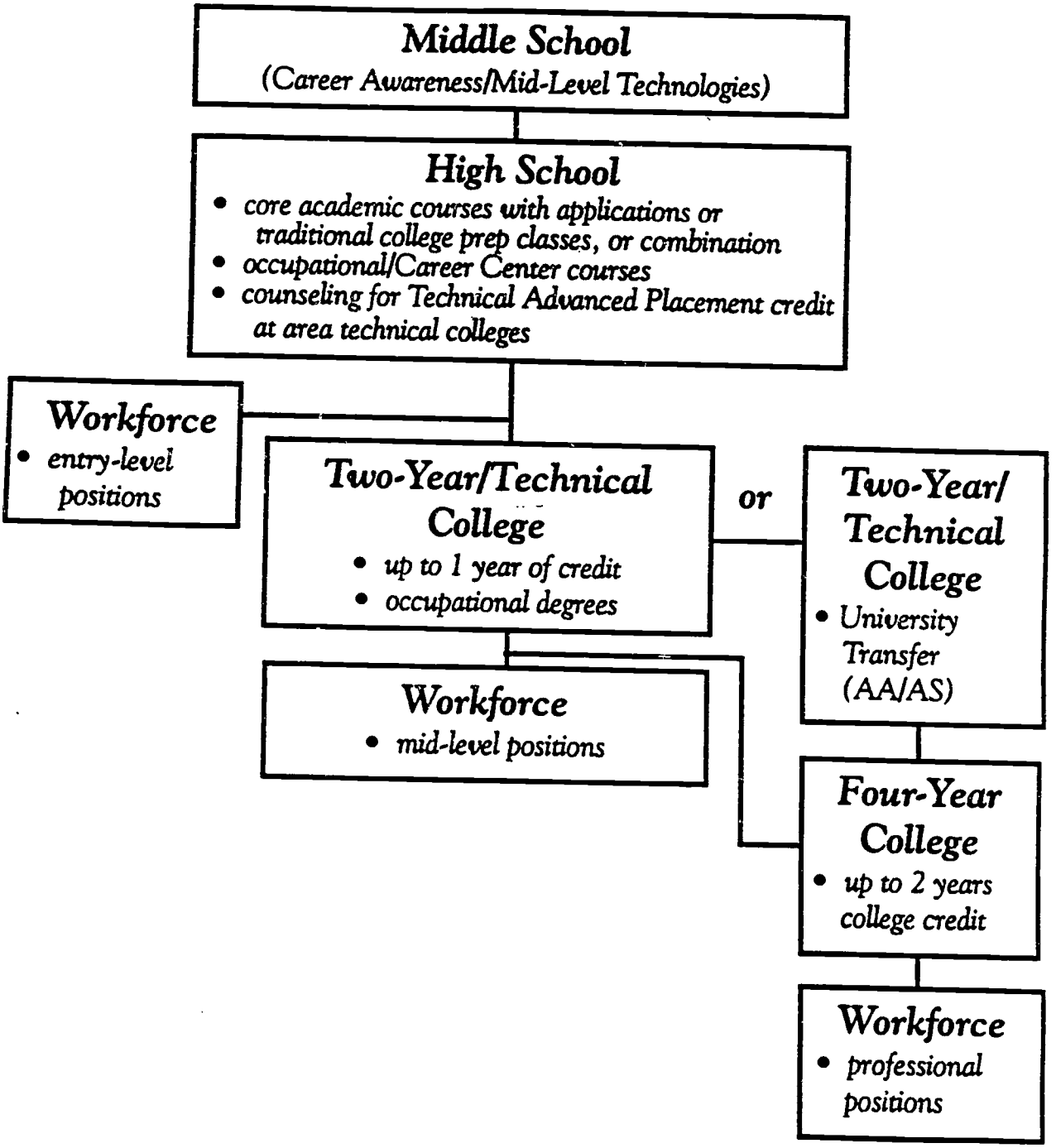
- Provides framework for a variety of approaches to academic and vocational integration—including thematic instruction and career academies, depending on the needs and interests of individual sites.

- Provides incentives for students to achieve academically, to stay in school, and to pursue postsecondary education through:

    - hands-on, applied methodologies in academic courses
    - more motivation to learn academic concepts by providing greater relevancy to "real world" (**and** when students are more motivated to learn, teachers are more motivated to teach)
    - greater involvement in skills-based vocational courses
    - Technical Advanced Placement and/or Technical Advanced Study
    - availability of work-based learning through co-op, industry-sponsored tuition/employment programs, and/or youth apprenticeship
    - opportunities to graduate early from selected college programs, carry lighter course loads in beginning terms, and/or graduate with two postsecondary credentials and advanced skills

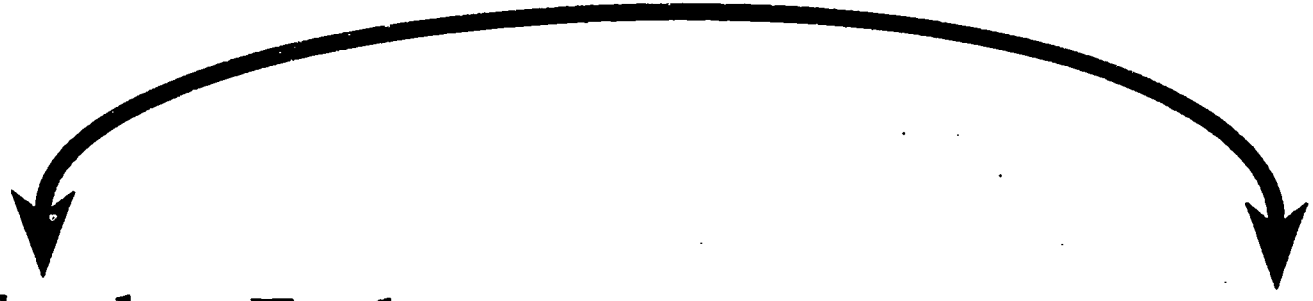
(October 1993: replaces October 1992 version.)

Tech Prep Curriculum Pathway Options



Integration:
A"Blending"of Vocational and Academic Curriculum Components to Increase Relevancy and Reinforce Academic Competencies.

The Integration Spectrum



Teacher Exchange
Collaborative Projects
Applied Academics

Thematic
Instruction
Academies

TECH PREP AND PRINCIPLES OF TECHNOLOGY
A TEACHER'S VIEW

Why teach PT?

1. It's different.
2. It's hands-on.
3. Students learn to share responsibility.
4. Students learn to work together.
5. Students develop self-esteem and confidence.
6. **STUDENTS SUCCEED.**

What are some of the problems encountered with PT?

1. Teachers may be unsure of a new program.
2. Guidance may try to make it a "dumping" ground.
3. Students fail to see the need for PT.
4. Community may have a negative perception of the program.

What are some possible solutions?

1. Attend Tech Prep and PT workshops. Talk to PT teachers. Get acquainted with the subject.
2. Educate the guidance department. Invite counselors to look at the program and discuss program goals with them.
3. Make PT attractive. Emphasize its relevance in today's job market.
4. Let parents know what the program is all about.

What are benefits of the Tech Prep program?

1. A higher academic level is achieved in both the traditional college preparatory track and the Tech Prep/vocational track.
2. Students develop definite goals and interests rather than just drift through a "general" education.
3. The school develops a positive image in showing its willingness to change with the times; and, it becomes a leader in preparing students for post-secondary careers.
4. Teachers can talk to students more realistically about jobs and careers.
5. It encourages students to set goals and think about the future.

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February, 1991

What Does TECH PREP Mean?

Ideas from a vocational perspective...

1. That there are viable alternatives to the college prep curriculum, the merits of which are acknowledged by faculty, as well as students.

2. That all graduates are prepared for something - a job, postsecondary technical education or baccalaureate study.

3. That the core curriculum has been adjusted to reflect the needs of the majority of students who will not pursue a four-year college degree.

4. That secondary vocational and post-secondary technical programs are linked together to increase the efficiency of the entire educational system.

5. That the relationship between academic and vocational departments within the school leans more toward cooperation and less toward competition.

6. That stereotypes typically associated with some vocational programs are replaced by a school-wide recognition of the interdependence of vocational education, basic skills education, academic education and our way of life.

7. That more emphasis is placed on career guidance for all students.

8. That business and industry involvement is expanded from vocational education to the entire school program.

All of the above characteristics of the TECH PREP ideal have a potentially positive impact on vocational programs. There is a new recognition of the importance of vocational and technical education. Along with this new credibility comes the challenge for vocational programs to provide more effective programs. This will require adjustment of competencies presented and increased instructional efficiency in an effort to catch up and keep up with respective technologies. An effective response to this challenge should now be a priority for vocational education.

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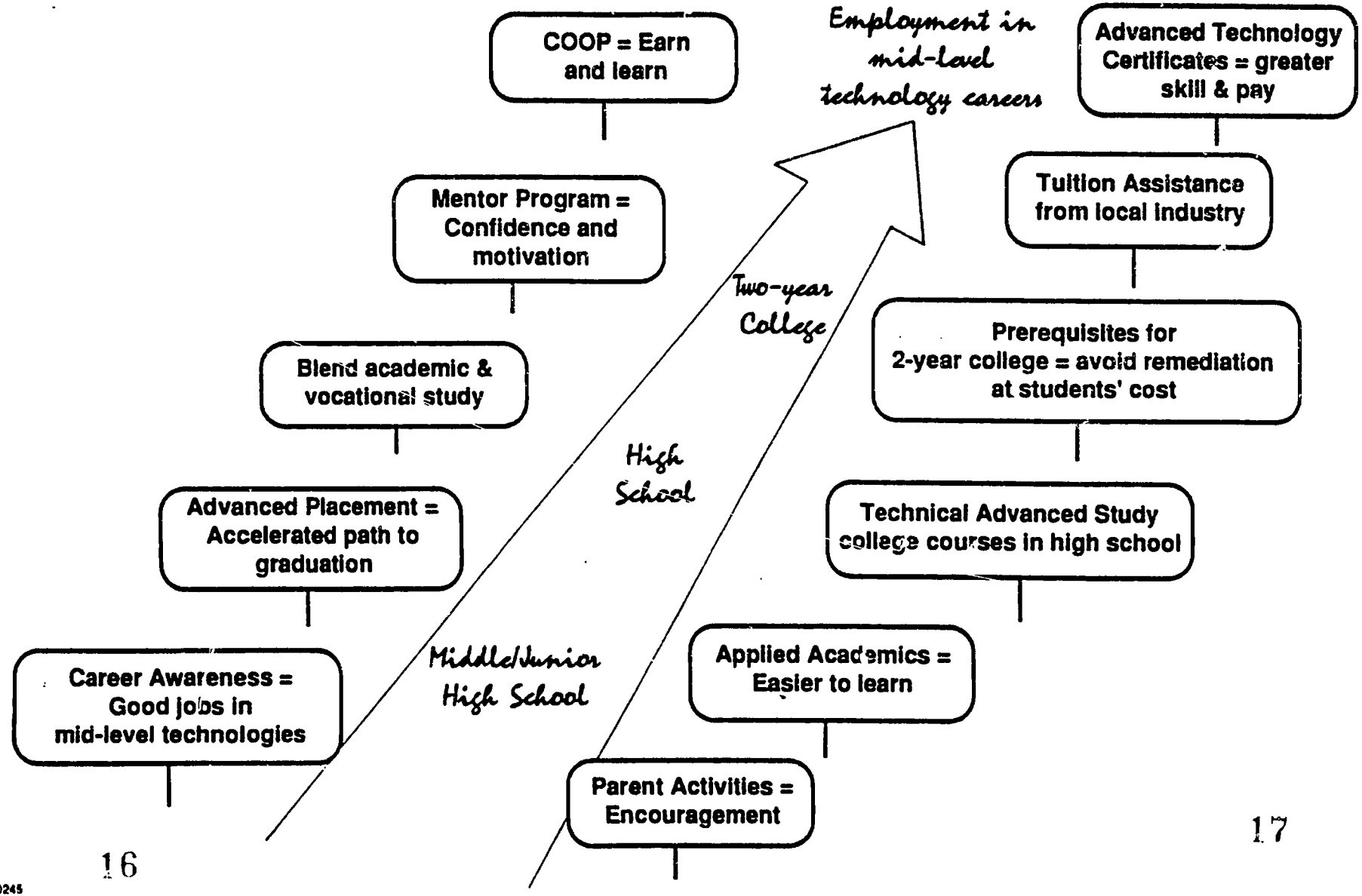
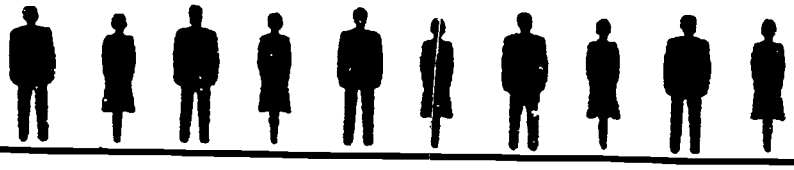
(January 1992)

Tech Prep:
Positioning Students for Post-High School Opportunities



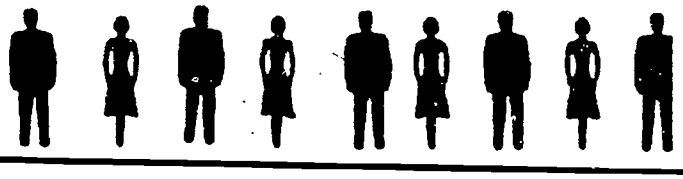
Education: The Decreasing Pyramid

For every 100 students in grade 5:

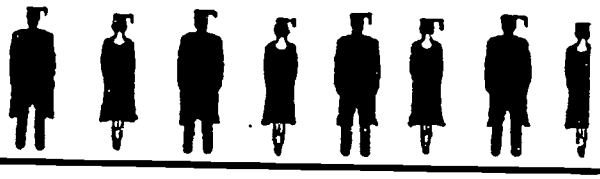


99 will enter grade 9

88 will enter grade 11

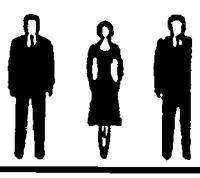


76 will graduate from high school



47 will enter college

and only 24 will earn a bachelor's degree



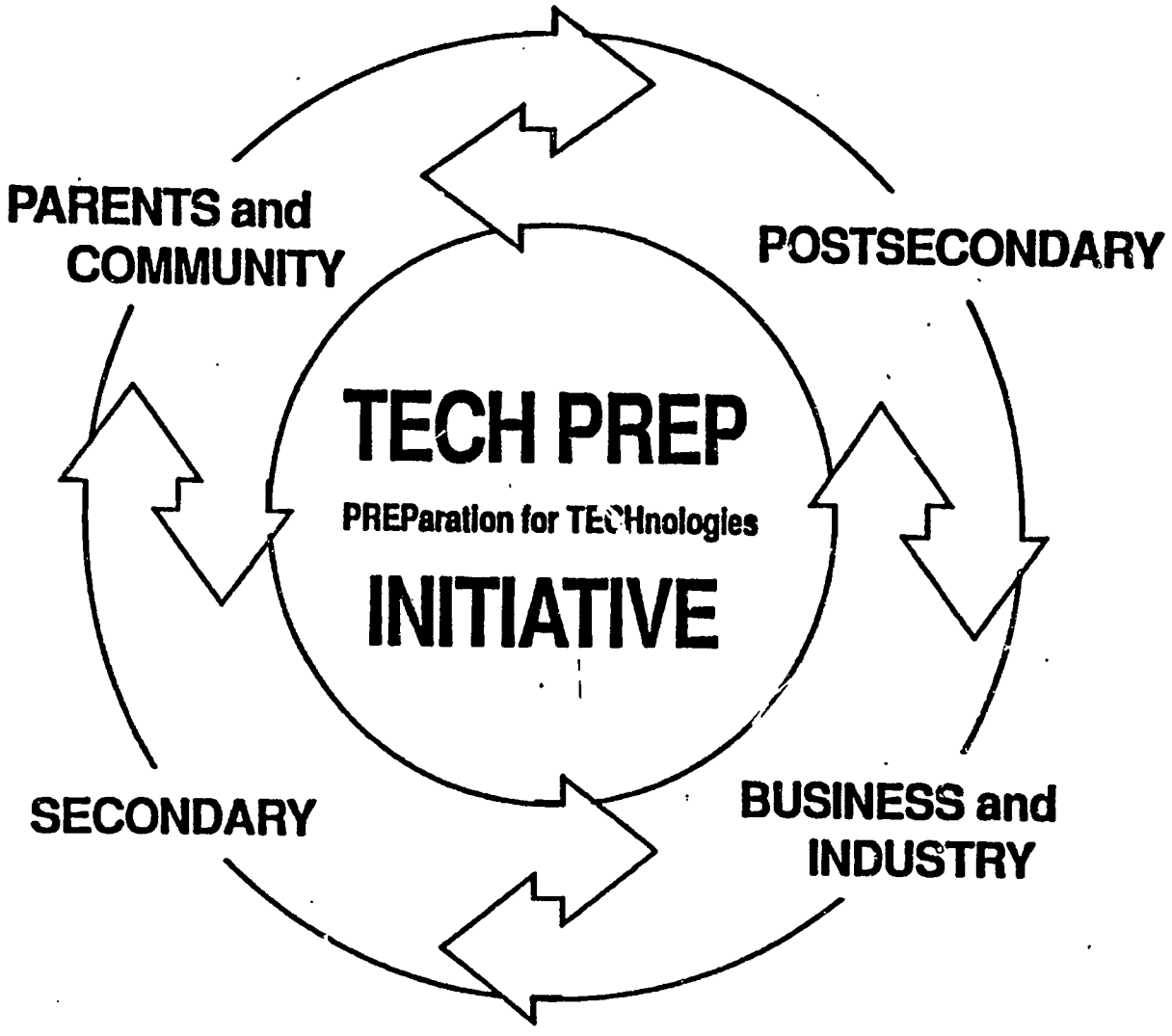
(Source: National Center for Education Statistics, as reported by Career Opportunities News, October 1991.)
Each figure represents 10 persons.

What *Should* We Be Doing?

Effective Education Requires:

- student-centered learning environments
- active, engaged learning in settings structured for educational purposes
- learning which reflects the larger "community of expert practice"
- integration of the head and the hand, of mind and action, of academic and vocational

J. Dewey, 1915--as referenced in Berryman and Bailey, The Double Helix of Education & the Economy. 1992.



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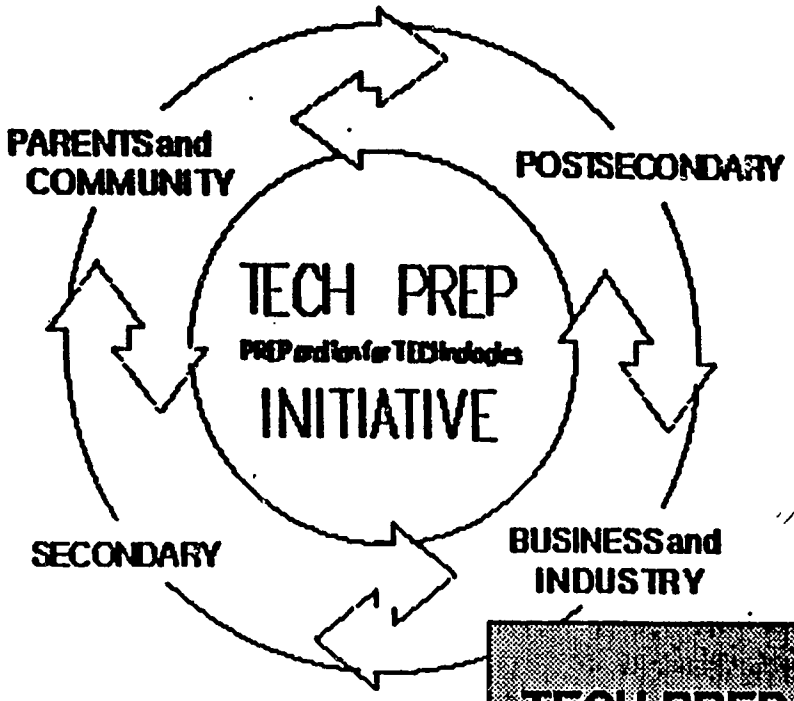
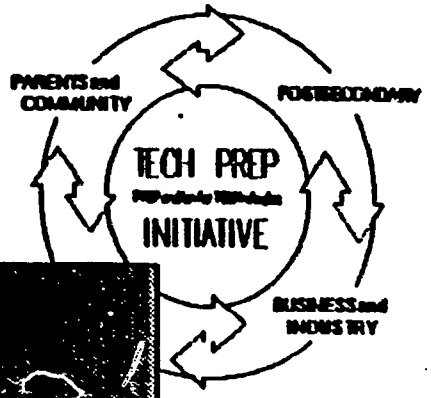


TECH PREP: AN INTEGRATED APPROACH TO REFORM

- Restructuring curricula to meet changing needs
- Improving methods of teaching and counseling
- Increasing students' achievement and career/college options
- Responding to employers' needs for skilled technicians
- Promoting parent/community support for student success

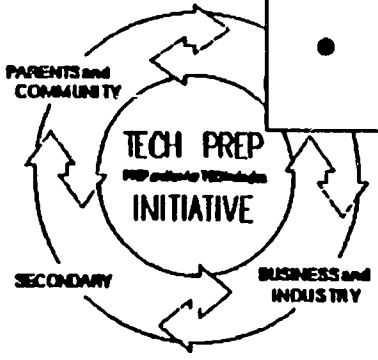


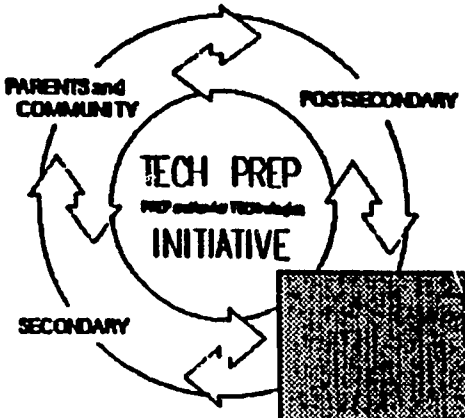
SECONDARY

- Enhancing/developing curricula including links with middle school and community college
- Improving teaching and counseling methodologies and materials
- Integrating academic and vocational studies
- Providing incentives for students to graduate and continue their education

POSTSECONDARY

- Improving teaching methodologies
- Enhancing articulation (secondary to two-year, two-year to four-year)
- Enhancing/developing curricula and interfacing programs with changing technologies
- Improving counseling, job placement, student support and transition activities





INDUSTRY

- Helping to shape secondary/postsecondary curricula
- Contributing ideas, materials for new teaching/counseling activities
- Sharing insight/experience with students, faculty, parent groups
- Helping to shape attitudes and behaviors of a new generation of teachers
- Helping to coordinate new school-to-work transition activities for students

PARENTS AND COMMUNITY

- Serving as advisors and supporters for educational achievement
- Sharing insight/expertise with student and faculty groups
- Supporting and encouraging effective school-to-work transitions and/or advanced standing opportunities