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Technical Preparation Position Paper

Doris Smith
Laurence McLemore

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Abstract: The National Consortium on Health Science and Technology Education (NCHSTE) is comprised of representatives from the various segments of education, the health care industry, and several publishing companies. Representatives of these divergent constituencies are deeply concerned with education legislation that influences the preparation of future health care workers. Therefore, the organization supports the continuum of Technical Preparation as moved forward by the Carl Perkins legislation. Results are documented of a survey which attempted to identify existing Tech Prep programs’ level of participation, grade levels involved, measures of success, admission procedures, Health Occupations Students of America (HOSA) involvement, and student acceptance into specific health care programs.
Background

The Technical Preparation (Tech Prep) program is a federally funded program designed to reform education by providing students with the technical and academic skills required for life-long learning in health care and other occupational areas, as well as successful employment. Having made a conscious decision to follow a clearly defined sequence of courses to prepare for employment, a student has declared Tech Prep as a major and has developed an individual career plan indicating a tech prep occupation in an area such as health care service.

Tech Prep helps to provide directions through: (a) course sequencing, (b) career focus, (c) academics integration, (d) critical thinking skills application, (e) articulation, (f) industry partnerships, (g) counseling and guidance support (assessment and career planning), (h) leadership skills, and (i) mentoring/tutoring.

The Tech Prep sequence of courses consists of academic and technical courses taught during the last two years of high school and during a minimum of two years of postsecondary education, leading to an Associate of Applied Science Degree or completion of an adult apprenticeship. The sequence must include integrated skills and instruction delivered both at the work site and in the school/college setting. Some Tech Prep programs may also lead to four-year baccalaureate degrees.

Study

Health careers education has responded positively to Tech Prep models. A study was completed, with the states’ participation, ‘concerning Tech Prep in Health Science/Health Occupations. An effort was made to determine the number of health occupation education
programs, the number of students participating in Tech Prep, and the types of Tech Prep agreements. An attempt was also made to determine the grade level of students entering the Tech Prep program, the success of students in Tech Prep programs, the admission procedures used by Tech Prep programs and the continued involvement of students in the Health Occupation Students of American (HOSA) organization. The final area identified in the survey was specific health care programs into which students were accepted for Tech Prep.

Data were collected through the use of an opinionnaire which was mailed to all state supervisors/consultants. From the fifty states and territories, twenty of the supervisors/consultants returned opinionnaires.

Those surveyed showed North Carolina had all local school HOE programs participating in Tech Prep. Twelve states Listed 10 to 25 programs, Michigan listed 50 to 100 programs, and seven states listed less than ten programs participating in Tech Prep. Puerto Rico responded they were not involved in the health science Tech Prep program, and Colorado was presently setting up a Tech Prep program in health occupations.

All states, except Utah, reported individual school agreements between high school and postsecondary education; Utah was presently working on a statewide agreement. Area vocational schools and community colleges with Tech Prep agreements had the highest percentage. Two states had agreements with area schools. In addition, the highest number of Tech Prep students were admitted by agreements between the high school and community college. The second highest number were admitted on competencies from the high school.
program. The highest percentage of Tech Prep HOE students were accepted from comprehensive high schools.

Four states reported more than 1,000 HOE students participated in Tech Prep agreements. Four other states had 500 to 1,000 students, and four states listed 200 to 500 students. Nebraska reported 10 to 25 students enrolled. New York reported 5 to 50 students enrolled, and Pennsylvania reported 5 to 10 students enrolled in a Tech Prep program.

Fourteen of the states began students in the Tech Prep program at the ninth grade level; eight states began them at the eleventh grade level. Michigan reported that the grade level of students entering Tech Prep programs varied.

North Carolina has documented students who have successfully completed the Tech Prep program and who have received certification and licensure in 1993. All other states indicated it was too early to determine the success of their Tech Prep programs.

Nine states, the highest number reporting, indicated that students who were HOSA members became alumni members in the Tech Prep program. Eight states indicated students continued in postsecondary HOSA. Six states reported students started a new HOSA chapter. Twelve states reported that students who participated in HOSA and continued in Tech Prep programs were better leaders, had accomplished health care skills, had demonstrated professionalism, and were task-oriented.

The following is a list of health care Tech Prep programs that are offered to secondary Health Science/Health Occupations students in the reporting states.
<table>
<thead>
<tr>
<th>Program</th>
<th>Number of States Participating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensed Practical Nurse</td>
<td>11</td>
</tr>
<tr>
<td>Medical Records</td>
<td>9</td>
</tr>
<tr>
<td>Nursing/Associate Degree</td>
<td>9</td>
</tr>
<tr>
<td>Dental Assisting</td>
<td>8</td>
</tr>
<tr>
<td>Emergency Medical Technician</td>
<td>8</td>
</tr>
<tr>
<td>Physical Therapy Assistant</td>
<td>8</td>
</tr>
<tr>
<td>Respiratory Technician</td>
<td>8</td>
</tr>
<tr>
<td>Radiology Assistant</td>
<td>6</td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>5</td>
</tr>
<tr>
<td>Medical Transcription</td>
<td>5</td>
</tr>
<tr>
<td>Surgical Technologist</td>
<td>5</td>
</tr>
<tr>
<td>Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>Respiratory Assistant</td>
<td>4</td>
</tr>
<tr>
<td>Athletic Trainer</td>
<td>2</td>
</tr>
<tr>
<td>Medical Lab Technician</td>
<td>1</td>
</tr>
</tbody>
</table>

**Recommendations**

The National Consortium on Health Science and Technology Education has provided the following input as to what should be included in Tech Prep. The recommendations address the areas of program funding, curriculum development, educational mobility, instructor scheduling, student assessment, data gathering, industry involvement, community partnership, instructional models, and an information clearinghouse.
1. Program funding should continue and meet the needs of industry as well as education. Program funding should:

   a. receive support from the top down,
   
   b. allocate **funds** according to community needs,
   
   c. be a line item in Tech Prep guidelines,
   
   d. provide teacher education programs for **inservice/staff** development of educators,
   
   e. allocate government funds for entry-level training positions on a one-time basis to the same high school or technical training center,
   
   f. evaluate curriculum funding on the basis of need, and
   
   g. set aside some resources for developing implementation models.

2. Curriculum development should be directed to all students through K-career learning. Tech Prep curriculum should:

   a. emphasize critical thinking skills;
   
   b. emphasize competency based education;
   
   c. include integration of curriculum with the HOSA organization;
   
   d. integrate academic and vocational subject **matter**;
   
   e. emphasize instructional rigor through higher expectations;
   
   f. address career guidance personnel participation;
   
   g. avoid duplicating courses in secondary and **postsecondary** education;
   
   h. specify differences between applied and integrated; and
address communication needs among secondary, vocational and postsecondary education.

3. Educational mobility should be encouraged and provide students with a seamless education and guidelines for the future. Educational mobility should reflect:

   a. articulation in a smooth, seamless manner, showing career path to end point;
   b. implementation of Tech Prep in all community colleges;
   c. implementation of Tech Prep programs in health careers and demonstration of how accreditation of health occupation education programs will be handled; and
   d. seamless, concurrent postsecondary credit for secondary subject matter in Tech Prep programs.

4. Instructor scheduling should build planning and preparation time into the Tech Prep system and should allow flexibility for team-teaching.

5. Student assessment should emphasize performance-based outcomes and portfolio assessment. It should emphasize criterion-referenced testing rather than norm reference testing. It is important that Tech Prep incorporate the need for middle grade assessment of interests and aptitudes.

6. Data gathering should include methods for the evaluation of the effectiveness of Tech Prep projects and ensure that evaluation methods are integral parts of the Tech Prep program. Data gathering should:

   a. document the success of every student, and
   b. include research to compare the Tech Prep students’ achievement with those taking integrated studies and those taking traditional studies.
7. Tech Prep programs should involve industry in strong partnerships to provide flexibility and collaboration between stakeholders, seeking their input in the planning and implementation of Tech Prep programs. Employers should be encouraged to serve as mentors to Tech Prep students.

8. Tech Prep programs should involve the community in the design of Tech Prep programs using advisory committees for planning programs at local levels.

9. National models of Tech Prep programs should be identified to foster greater consistency within states and throughout the nation. A clearinghouse for successful Tech Prep models and curricula should also be established.

The survey results indicated that various existent educational programs are preparing potential health care professionals, through upgraded skills that allow for career growth and continuing education. Such programs document the production of leaders with demonstrated skill and professionalism. The recommendations provided by the National Consortium on Health Science and Technology Education offer such programs consistent objectives for a productive future.