CAREER PATHWAYS

UNIVERSITY of NORTH TEXAS

A New Vision

For students in secondary schools to make decisions regarding careers, each must be aware of alternatives in careers and the job market (Texas Education Agency, 1976). One of the newest and perhaps most exciting reforms to develop in the field of Career and Technical Education (CTE) is the concept of Career Clusters and Pathways. This report examines the Career Clusters and Pathways concepts and gives the reader a basic understanding of its potential impact on student career choices and success.

Based on reports from the U.S. Department of Labor (the SCANS report) and other state and national statistics in the early to mid-1990s, it was clear that there was a growing gap between what is required in the workplace and academic skills taught in schools (Howard & Ill, 2004). Another trend in education has been that a large number of students who attend college cannot find employment in their college major and many are unsuccessful at college. Many of those who complete a four-year degree return to community college for further skills.

"The thing is to get some skills," said Norma Noble, deputy secretary of work force development at the Oklahoma State Commerce Department. "All skills do not come with a degree in the end. We have more people in community colleges that already have a degree than who do not. That's because they are going to get specific skills or credentials." In a survey of Oklahoma employers, 22 percent could not find qualified applicants in everything from construction and health care to engineering and information technology (Monies, 2005).

Career and Technology Education (CTE) serves approximately 11 million people in the United States (National Center for Education Statistics). CTE provides integrated technical and academic skills at various levels including community college. Career and Technology Education today is increasingly shifting its focus from training for jobs, to career preparation and further education (Bailey & Jenkins, 2005). Students who are in integrated programs may experience a more meaningful experience due to academic achievement, postsecondary engagement, and increasing persistence (Eisenmann, 2000).

Historic Development

In 1959, Holland proposed a theory of vocational choice based on the concept of congruence between the individual and the occupational environment. Holland deemed previous theories either too broad to generate testable hypothesis or too narrow in their consideration of the range of factors that influence career choice. Although researchers vary in terms of which components of careers they study in depth, most agree that the three basic building blocks of careers are work skills, career interests, and personal values.

The Perkins Act originally passed in 1917 although it was known as the Smith-Hughes Act. Prior to the Smith-Hughes Act, many were advocating for more practical education than was being implemented in traditional public schools. Through many reauthorizations, the last in 1998, the Carl D. Perkins Vocational and Technical Education Act, has distributed millions to the states, each of which allocates its share according to a plan approved by the Education Department.

Expenditures on Perkins are more than $1-billion a year; about 60 percent of those funds being spent at the high school level, with the rest disbursed to community and technical colleges. Perkins money goes for vocational curriculum materials, occupationally relevant equipment, materials for learning labs, staff development and hiring, career counseling and guidance, remedial classes, and the integration of occupational and academic education.

If career pathways are a logical extension of Tech Prep, it is important that we understand the basics of Tech Prep and its importance. Tech Prep predates the Parnell book, but the book provided a strong basis for Tech Prep initiatives. This includes stronger relationships between business and education, applied academics, high quality Career and Technology education, and increased interest in two-year degree programs (Bragg, 1994).

"We understand that schools do more than simply prepare people to make a living. They prepare people to live full lives…" (SCANS, 1992).

The U. S. Secretary of Labor commissioned a study of what skills young people need to succeed in the work place. This study, which began in 1990, completed it's work in 1992. Commonly called the Secretary's Commission on Achieving Necessary Skills (SCANS), SCANS identified a combination of three components: foundation and competency skills that are required for positive job performance as demonstrated through scenarios (the successful integration of the skills in the work place). The **competency skills** include:

- Knowledge of allocation of resources
- Interpersonal skills
- Ability to acquire and use information
- Understanding of systems
- Technology skills

The **foundation skills** include:

- Basic skills (reading, writing, arithmetic, mathematics, speaking, listening)
- Thinking skills (thinking creatively, problem-solving, other skills)
- Personal qualities (responsibility, self-esteem, social skills, other)

The SCANS report, along with the Tech Prep agenda, had a positive impact on the development of career choice and initiatives. Both impacted the Career Clusters and Pathways agenda.

Tech Prep

Who should be responsible for developing the career pathways? According to Hull (2004), those who have been practicing Tech Prep are the logical choice. Tech Prep originated in the 1960s as an integrated system of combining secondary and community college through articulation agreements. The federal government supported these type

articulation agreements along with better academic integration in the early 1970s. Tech Prep was endorsed as a mean for coordinating secondary and postsecondary education in 1984 by the National Commission on Secondary Vocational Education (Bragg, 1994). There is some indication that Tech Prep has improved the educational system in the last decade, but the results have been inconsistent (Hull, 2000; Puckett & Bragg, 2000).

It is extremely important for the community to be an integral part of the pathways system. This is critical to Tech Prep and local leadership should facilitate the activities for Tech Prep coordinators, principals, college personnel, and potential employers (Grevelle, 1998). Howard & Ill (2004) broke the implementation into three key components that impact each level of student transition (freshman through senior): Counseling, Classroom, and Community.

The Career Pathway

A *career pathway* is often seen as a "logical extension of Tech Prep" (Hull, 2004). Tech Prep, has focused on reforming vocational education based on Dale Parnell's report titled the Neglected Majority (1984). Career pathways engage students, their parents, teachers, potential employers and the community. A growing number of states are supporting "career pathway" programs (Bailey & Jenkins, 2005).

For students, the career pathway means they can be more flexible and learn a cluster of skills before deciding on their terminal path. They learn the academics and a connection between what they learn in the classroom and the "real world". The parents see their student more interested in school, while learning work-based skills. Employers see an investment in the future and teachers discover ways in which they can make the curriculum engaging and relevant.

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In matching employees to jobs, there are various ways in which this can be done, including: aptitude tests, interviews, information about occupations, with a large number of theorists suggesting that the work environment is the function of career interests and the nature of employees (Tinsley, 2000). In 2001, the U. S. Office of Vocational and Adult Education (OVAE) launched a national initiative to identify clusters of careers that represent all possible career options.

The project was headed by the National Association of State Directors for Career and Technical Education Consortium (NASDCTEc). The fiscal agent for the project was the State of Oklahoma. Each career cluster was developed by an advisory committee team with one or two states taking the lead. Each advisory committee included business and industry, secondary and postsecondary representation.

Sixteen Career Clusters were developed nationally (Agriculture, Food & Natural Resources; Architecture & Construction; Arts, A/V Technology & Communications; Business, Management & Administration; Education & Training; Finance; Government & Public Administration; Health Science; Hospitality & Tourism; Human Services; Information Technology; Law, Public Safety, Corrections & Security; Manufacturing; Marketing, Sales, & Service; Science, Technology, Engineering & Mathematics; Transportation, Distribution & Logistics), yet the number that a particular state uses varies. For example: some states have five, some eight, and others have all sixteen.

Career Clusters started with the identification of “clusters” of careers by the U.S. Department of Education. The U.S Department of Education provided seed money to explore and develop those clusters and develop resources for them. The funding for the project “expired” or was withdrawn when the OVAE decided that the project was too broad. Recognizing it as a worthwhile effort, the National Association of State Directors took over the initiative because they felt that it was an important project.

In 2003, in recognition of the importance of the Career Cluster concept, the OVAE asked the Center for Occupational Research and Development (CORD) to develop a National

Clearing house for Career Pathways (NCCP). The goal of this project was to develop successful CTW partnerships and collect data on them for the clearinghouse (Hull, 2005).

Implementation

During the implementation of a Career Pathways system, schools and counselors should continually remind not just students, but teachers and parents that a student does not have to focus on a specific career, but rather a cluster. As the student completes more education, they can eliminate those areas that do not appeal to them and focus on others. Collaboration between the school guidance office, teachers, and community stakeholders is important to successful implementation (Howard & Ill, 2004). A key component of career clusters is the role of the counselor in facilitating system implementation.

The implementation of Career Pathways rests on three components:
Counseling
Classroom
Community

What does a Career Pathways High School look like? For the most part, these schools are learner-centered and self-directed, with teachers being knowledge facilitators, rather than givers (Howard & Ill, 2004). These high schools prepare students for the workplace, career, and college. This is evidenced by the reported increase in the use of the workplace as a learning environment, the collaboration between K-12 and postsecondary delivery systems, integrated work knowledge and skills, and the number of high school graduates attending postsecondary schools (Howard & Ill, 2004).

In one school that implemented a Career Pathways System, there was a demonstrated increase in high academic standards and enriched curricula, those students were better able to define career goals and make career plans, and there was an increase in student performance and academic achievement in CTE students (Howard & Ill, 2004).

Aligning Curriculum and Assessment

One of the key elements of improving student performance is communicating the standards through the alignment of curriculum and assessment. This can be done vertically through alignment with state benchmarks and use of a model that incorporates alignment in each course, setting, class, and grade level, and horizontally by scaffolding or building on the student's prior knowledge. This helps assure the alignment of "what is taught" and "what is tested" (Hull, 2005).

Career Clusters Initiative

The Career Clusters Initiative is a multistate, cooperative attempt to develop frameworks and related instructional materials for those common frameworks. While the concept of career clusters is not new, the implementation process here is new (Losh, 2002).

A Career Cluster is a grouping of occupations and broad industries based on commonalities or common knowledge and skills (Losh, 2002). One of the more important pieces of the Career Cluster Project was to identify the knowledge and skills for broad sets of industries and occupations. Career Clusters help prepare students for not just career, but for postsecondary education as well.

Five clusters had already been developed and twelve states, including the District of Columbia, partnered to develop 11 more career clusters. The ultimate goal was to have curriculum frameworks and supportive materials that would give students career opportunities past high school to education or career. This would give schools a way to organize instruction and student experiences to maximize professional preparation.

CTE lends itself to the Career Cluster Framework for several reasons. First, CTE draws its standards and curriculum from the workplace. Secondly, CTE is a critical and integral part of the total education system. Third, CTE is a critical component to the workforce development system (Green & Stacey, 2004).

The clusters should help students connect and align their academic, employability, and technical skills. Students select Career Pathways within each cluster as they progress through school in discovering what fits them better. What is a Career Pathway? According to Hull (2004) a pathway is defined as a coherent, articulated sequence of rigorous academic and career/technical courses, commencing in the ninth grade and leading to an associate degree, baccalaureate degree and beyond, an industry recognized certificate, and/or licensure."

The State of Texas has seven objectives in the state plan for Career and Technology Education Programs (2005-2007), they are:

- Academic Excellence
- Guidance and Counseling
- Partnerships
- Curriculum
- Professional Development
- Accountability
- Administrative Leadership

One of the criteria on which these objectives are based is the "rigorous academic and technical curricula supporting seamless career pathways" (Texas Education Agency, 2005).

Numerous schools districts in Texas have implemented or begun to implement Career Pathways Programs. One school, Fredericksburg High School has had a positive impact on academics and postsecondary options after implementing a Career Pathways Program (Howard & Ill, 2004). In another school, the differences between students who are career pathways students and traditional students are illustrated by a survey given the students (see Fig. 1).

Fig. 1-One Schools' Experience with Career Pathways Based on Student Interviews

Question	*Traditional Students*	*Career Pathways Students*
What is taught in the classroom is connected to the work of work	16%	74%
My teachers connect what I learn to my Career Pathway **or** my career interest and skills	10%	63%
Things I learn in school will help me when I have a job/career	45%	86%
I have learned about a broad range of careers in school	18%	80%
I have had the opportunity to listen to workers in different career fields	17%	83%
My school provides opportunities to learn about skills used in work/career situations	28%	79%
Adapted from Howard & Ill (2004). Career Pathways: Preparing Students for Life. Tuscola County.		

Fig. 2-The Difference between a Traditional High School and a Career Pathways High School:

Traditional	*Career Pathways*
• Information is learned for the future • Teachers teach and students learn • Schools not held accountable for student failure once they are gone. • The focus is on teachers and teaching • Curriculum is teacher-based • The job of the school system is to graduate students • Grades are competitive • Students must do their own work • School rules and culture are up to school administration • Learning happens only in the classroom	• Information and skills learned are applied immediately • Teachers facilitate student learning • Schools hold themselves accountable for future student success or failure • The focus is on learners and learning • Curriculum is standards-based • Stakeholders in the school systems believe their job is to help students make successful transitions to postsecondary • Grades are performance-based • Students work collaboratively to gain knowledge and skills • School rules and culture are the responsibility of everyone • Learning happens in the whole community and is connected through the classroom

The Tech Prep program follows the last two years of the student's secondary education and the first two of the postsecondary (Scott & Wircenski, 2001). Tech Prep made a

significant impact on educational reform in the 1990s and provided links between secondary and postsecondary institutions.

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