



Tech Prep Leadership: Presidential Perspectives

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From Tech Prep to Career Pathways

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Fort Pierce, Florida*

Issues to Consider

- ✓ National studies that indicate education is not getting the job done
- ✓ Connecting learning to real world application
- ✓ Seamless K-20 articulation
- ✓ Reduce high school drop-out rate
- ✓ Reduce need for college remediation
- ✓ Business involvement / support



Issues to Consider

- ✓ Higher expectations in all sectors
- ✓ Need to produce students prepared to enter the workforce and continue post-secondary education
- ✓ Improve instructional delivery (technology / contextual learning)
- ✓ Emphasis on math, science and technology
- ✓ Involvement of all students



Dynamics Driving the Labor Market

- Proliferation of new occupations with a technical and scientific core
- Declining employment among the ranks of the semiskilled and unskilled
- Infusion of analytical and technical content into jobs that have not traditionally been considered technical
- 4 million more jobs – soon to be 10 million – without qualified, trained people to fill them



The Challenge

- Isolationism vs. Collaboration
 - Educational sectors isolated
 - No ownership of problems
 - No formal means of communication
 - Lack of understanding / lack of trust



IRCC's Tech Prep Consortium

- Treasure Coast Educator's Coalition
 - Established in 1991
 - Provides a vehicle for coordination and cooperation between all systems
 - Cooperative efforts to advocate for informal funding – state / lottery / federal grants
 - Provides a mechanism to develop and present a joint legislative strategy
 - Provides a mechanism for improved public relations
 - Provides a forum for open discussion between boards



Tech Prep Organizational Chart

Treasure Coast Education Coalition
Community College President & Board of Trustees
District School Boards & Superintendents

Tech Prep Coordinating Council

Community College Tech Prep Coordinator
School District Tech Prep Coordinator
School District Technical Directors
School-based Leadership Teams

Quad-County Tech Prep Steering Committee

Community College Tech Prep Coordinator
School District Tech Prep Coordinators



Overall Improvement

- Extended communication among faculty and administration
- Increased collaboration on integrated projects
- Increased number of instructors participating in workshops on applied strategies
- Positive student outcomes
 - Reduce drop-out rates
 - Increased articulation to post-secondary
 - Entering college with advanced standing



Tech Prep to Career Pathways

Steering Committee

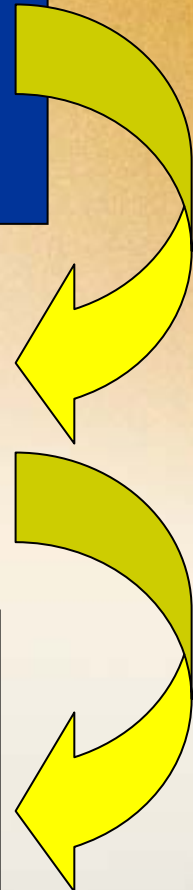
Community College President & Board of Trustees
District School Boards & Superintendents
CEO of Workforce Board
University Representatives
Business Representatives

Advisory Committee

District Technical/Career Directors
Tech Prep Coordinator
Community College Provosts/VPs/Deans
Secondary Principals/Dean of Curriculum
University Deans/Department Chairs

Implementation Committee

Tech Prep Coordinator
School District Technical Directors
Secondary School CTE & ESE Coordinators
K-12 Personnel & Correlating Advisory Boards



Career Pathways Evaluation Instrument

- **Career Pathways are guided by one or more 4+2(+2) curriculum frameworks**
- **Career Pathways include comprehensive student career guidance and counseling**

Secondary Component

- **Meets academic standards and grade level requirements**
- Meets high school standardized testing and exit requirements
- Meets post-secondary (both 2-year and 4-year college) entry and placement requirements
- **Provides academic and technical foundation knowledge and skills in a chosen Career Pathway**

Post-secondary Component

- Provides opportunities for students to earn college credit through dual/concurrent enrollment or articulation agreements
- Provides alignment and/or articulation with baccalaureate programs
- **Provides industry-recognized knowledge and skills**
- Provides employment opportunities for high-wage, high-demand careers in the chosen Pathway and provides multiple exit points







Tech Prep to Career Pathways

Business

- Ensures that students are learning current, in-demand skills
- **Provides students work-based learning experiences after the 11th grade**
- Supports student recruitment and provides ongoing support for the Career Pathways program

Partnership with a culture focused on improvement

- 
- **Collecting qualitative and quantitative data on academic and career successes, retention rates, drop-outs, graduation, transitions, and remediation**
 - Using data for planning and decision making
 - **Providing targeted professional development for faculty, administrators, and counselors to improve teaching/learning and integration of technical and academic instruction**
 - Maintaining ongoing dialogue among secondary, post-secondary and business partners
- 



Tech Prep Leadership: Presidential Perspectives



**Bristol Community College
Massachusetts
John J. Sbrega, Ph.D.
President**



It's All About Partnerships

- Strategic
- Seamless Transitions
- Stimulates...Career Pathways
- Synergy





“Colleagues in Learning”

Structure of BCC's Tech Prep Consortium

- Not just in but integral part of Bristol County
- Partners across all sectors
- Some Secondary Components:
 - High stakes testing for high school students
 - MCAS (Massachusetts Comprehensive Assessment System)
 - Prerequisite to enter postsecondary education
 - Tech Prep students must register in a Career Pathway
 - Free courses at Bristol Community College
 - Including distance learning

Structure of BCC's Tech Prep Consortium

- Some Post-Secondary Components
 - Accuplacer Placement Test
 - 2 + 2 and 2 + 2 + 2 transfer options
 - 45 articulation agreements with consortia high schools
 - Transfer agreements with baccalaureate-granting institutions
 - 2 + 2 + 2 pathways are aligned with baccalaureate programs
 - Tutorial Center
 - Industrial Advisory Boards (IAB)
 - Individual work-based learning plan
 - SCANS (Secretary's Commission on Achieving Necessary Skills)

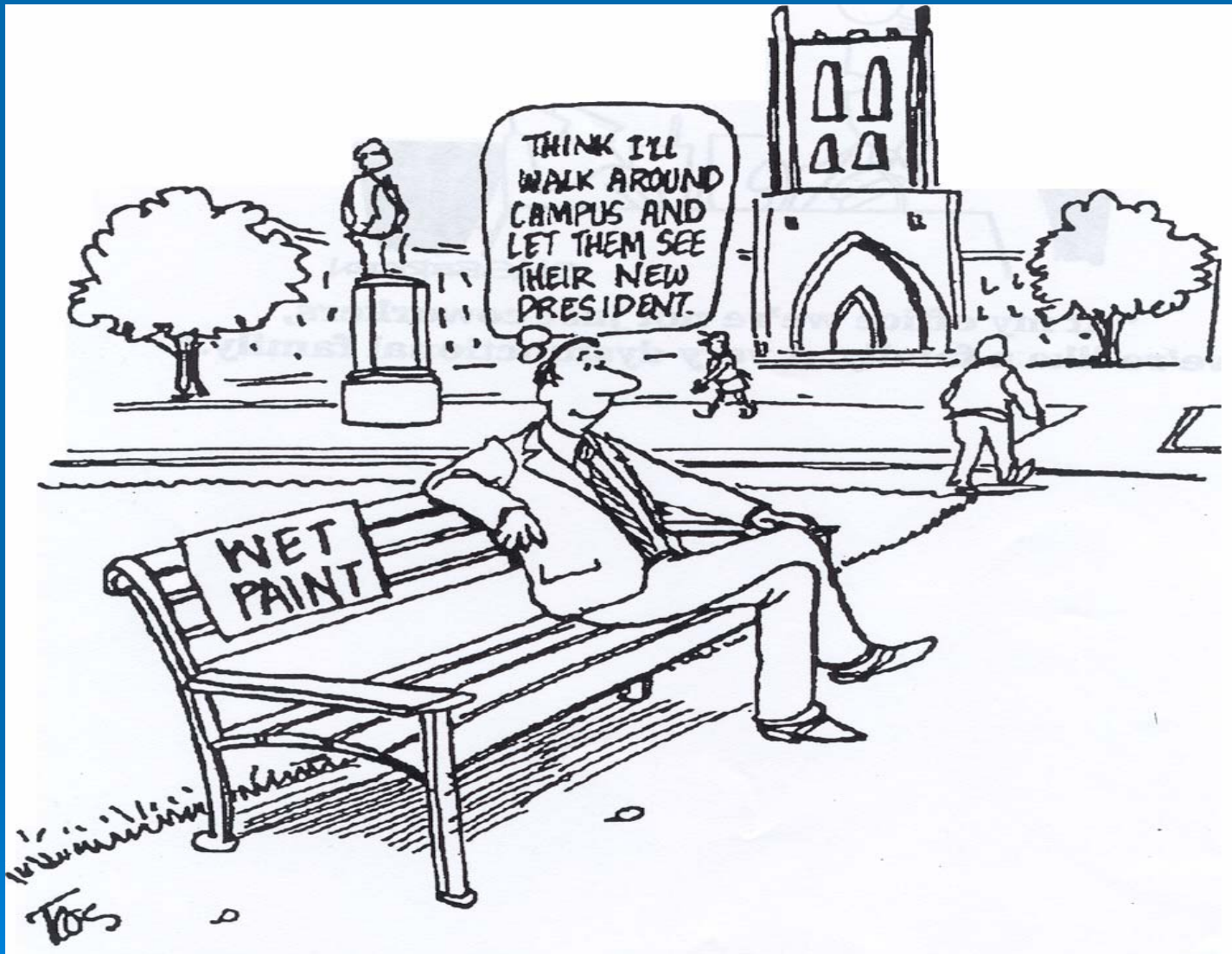
Awards

- 1999 – Second place – Caterpillar Award
NTPN
- 2002 – Bellwether Award – Workforce
Development
- 2004 – Women in Engineering - Programs and
Advocates Network (WEPAN)
- 2004 – 2005 - Region I Most Innovative
Program Sponsored by the American Career
and Technical Education Program (ACTS)



The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership
2. Concentrate on Career Pathways
3. Empower Tech Prep Staff at the Institution
4. Use Tech Prep to Leverage Funding
5. Ensure Assessment Components
6. Lead Efforts to Arrange Industry-Specific Certification
 - National?
 - State?
7. Continue to Emphasize the Importance of Career Clusters




The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership ←

It's All About Partnerships



Southcoast Compact

- Pre K – 12
 - Public higher education
 - Business and Industry
 - Community-Based Organizations
 - Public Officials (state and local)
- 

Partnerships

- Southcoast Education Partnerships
- CEO Group
- No-Name Group
- Economic Development Groups
- 2 Workforce Investment Boards
- Fall River Education Advisory Commission to the Mayor

CONNECT


- A public higher education consortium in Southeastern Massachusetts
- 5 member institutions:
 - Bridgewater State College
 - Bristol Community College
 - Cape Cod Community College
 - Massasoit Community College
 - University of Massachusetts—Dartmouth

CONNECT


- Some key issues:
 - Articulation Agreements
 - Student Transfer
 - Writing (faculty)
 - Math (faculty)
 - Regional Collaboration



The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership 
 - Enhance the “Career” and “Pathways” components of Career Pathways


The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership
2. Concentrate on Career Pathways 
 - Seize every occasion to focus attention on the concept
 - BCC Tech Prep Registration Form
 - Identifies 6 fields of study

- Career and Transfer Pathways:
 - Business Administration
 - Computer Information Systems
 - Early Childhood Education
 - Engineering
 - Graphic Design
 - Health Sciences
 - Clinical Laboratory Science
 - Medical Assisting
 - Occupational Therapy Assistant



The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership
2. Concentrate on Career Pathways 
 - Seize every occasion to focus attention on the concept
 - BCC Tech Prep Registration Form
 - Identifies 6 fields of study
 - Incorporates 24 career pathways



**MASSACHUSETTS TECH PREP
BRISTOL TECH PREP CONSORTIUM
STUDENT REGISTRATION FORM**



FOR SCHOOL USE ONLY		Students ID Number (BASIS preferred)	HIGH SCHOOL
First Name	Middle Name		Locally-Assigned Student ID #
Last Name			Social Security Number
Street Address			State ID Number (any/none)
City			Date of Birth
State	Zip Code	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female	
Home Phone ()			H.S. Year of Graduation
E-mail Address			

TECH PREP CAREER/TECHNICAL EDUCATION CHOICE

<p align="center">Field of Study:</p> <p align="center"><small>(OPTIONAL. Students write in your school. All choice students choose a program from the list below.)</small></p>		
<input type="checkbox"/> Arts & Media <small>1000 Communications Technology 8000 Visual & Performing Arts</small>	<input type="checkbox"/> Education/Human Services/Government <small>1900 Early Childhood 4500 Criminal Justice and Corrections 1300 Education 4600 Public Administration and Social Services</small>	<input type="checkbox"/> Environmental/Natural Resources/Agriculture <small>2100 Agriculture 6000 Natural Resources Conservation</small>
<input type="checkbox"/> Business/Finance/Entrepreneurship <small>1800 Marketing 2600 Wholesale/Retail Sales & Services 5200 Hospitality Administration/Management 5206 Finance 5300 Business & Office Occupations 2000 Vocational Home Economics 1204 Cosmetology 1300 Culinary Arts</small>	<input type="checkbox"/> Engineering/Manufacturing/Construction <small>2100 Technology Education 4900 Construction Occupations 4903 Precision Production 4900 Transportation (Air, Ground, Marine) 1100 Computer Technology 1500 Engineering Technology 4700 Mechanics & Repair Technology</small>	<input type="checkbox"/> Health <small>3100 Health Services</small>

INTENDED COLLEGE PROGRAM/PATHWAY COURSE	
------------------------------------------------	--

I understand that the Tech Prep program is a sequential program of studies that culminates with a Certificate, an Associate Degree, or further post-secondary study. I give permission for my son/daughter to enter the Tech Prep program. I also give my permission to:

- The high school to forward a copy of this registration form and other relevant information to the appropriate college/consortium Tech Prep office(s) for student record-keeping and reporting purposes as required by the terms of the grant that funds the program.
- The college(s) to forward relevant records to the high school and/or the consortium office for feedback purposes.
- The consortium office, the high school, and the college(s) to provide information about my son/daughter's participation in this program to the Massachusetts Department of Education as needed to fulfill federal reporting requirements.

_____ Student's Signature	_____ Date
_____ Parent/Guardian's Signature	_____ Parent/Guardian's Name (please print) _____ Date
_____ Guidance Counselor/Site Coordinator's Signature	_____ Guidance Counselor/Site Coordinator's Name (please print) _____ Date

I give permission to the Tech Prep program to use photographs, digital images, or video footage of my son/daughter participating in activities in publications or other media, including electronic media, for the purposes of illustrating and promoting the benefits of the Tech Prep program.

Parent/Guardian's Signature


Date

Request for Affirmative Action Data (Completion of the following is strictly voluntary.)

White/Caucasian
 Black/African American
 Hispanic
 Other (specify): _____
 Asian or Pacific Islander
 American Indian or Alaska Native
 Language spoken at home, if not English: _____

The Massachusetts Tech Prep program does not discriminate on the basis of age, color, creed, disability, national origin, race, religion, gender, or sexual orientation.
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The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership
2. Concentrate on Career Pathways 
 - Seize every occasion to focus attention on the concept
 - BCC Tech Prep Registration Form
 - Identifies 6 fields of study
 - Incorporates 24 career pathways
 - Career Days with hands-on experience for each student
 - Marketing information for each pathway
 - Career Pathways grid chart

Seamless Transitioning from Secondary to Postsecondary

Example course grids for high school students to follow:

**Engineering Career
Mechanical Technology
Associate in Science in Mechanical Engineering Technology**


Southeastern RVTHS

HS Grade 9	HS Grade 10	HS Grade 11	HS Grade 12	Freshman 1A	Freshman 1B	Sophomore 2a	Sophomore 2B
English English	English English	English English	English English	English College Writing ENG 11		English Writing About Literature ENG 12	
World History	U.S. History	Humanities U.S. History	Humanities Current History		Humanities	Humanities Am. Civ I & II or (Early) Modern World/Middle Ages or US Hist.	Humanities AMC 11/12 or HST 20 or 21 & HST 22 or 23 or HST 13 & 14
Math Algebra 1	Math Geometry	Math Algebra 2	Math Algebra 2, Part 2	Math Technical Math I MTH 17	Math Technical Math II MTH 18		Social Science Human Relations SOC 52 or Behavioral Sci. Elective
Science Biology	Science Biology	Science Physical Science	Science Chemistry	Science Technical Physics I PHY 01	Science Technical Physics II PHY 02	Science	Science
Technical				Technical			
Exploratory	Vocational Program			Electrical Machinery ETK 62 or Hydraulics- Pneumatics ETK 64	Engineering Material Science ETK 79	Electrical Machinery ETK 62 or Hydraulics- Pneumatics ETK 64	Technical Electives (2)
				Computer Aided Drafting CAD 15	Computer Aided Drafting CAD 18	Mechanics and Strength of Materials ETK 59	Hydraulics & Pneumatics ETK 64 or Mechanics & Strength of Materials
						Technical Elective (1)	


The Role of the Community College President in Career Pathways

- Lead by example to demonstrate priority of Career Pathways to the institution
 - Free BCC courses for juniors and seniors
 - Allocation of resources for professional development
 - Draw distinction between “education” and “training”


The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership
2. Concentrate on Career Pathways
3. Empower Tech Prep Staff at the Institution 
 - Strengthen outreach efforts to secondary schools
 - Conduct professional development activities for teachers
 - Portfolio development
 - Simulated Math training with UMASS-Dartmouth
 - Grade 6 through Ph.D. program in Biotechnology Engineering (in progress)
 - Build discipline-specific faculty alliances
 - Design recovery programs to redirect aimless students back on course
 - Expand Dual Enrollment
 - Create custom-built service-learning components
 - Encourage, recognize, and support—innovation

The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership
2. Concentrate on Career Pathways
3. Empower Tech Prep Staff at the Institution
4. Use Tech Prep to Leverage Funding Opportunities 
 - Successful Tech Prep
 - Successful Career Pathways activities
 - BCC Women in Technology successes led to \$2 million in NSF / ATE grants
 - BCC Computer-Integrated Manufacturing
 - “Spiral of Success”

The Role of the Community College President in Career Pathways

1. Build and Lead the Tech Prep Partnership
2. Concentrate on Career Pathways
3. Empower Tech Prep Staff at the Institution
4. Use Tech Prep to Leverage Funding Opportunities
5. Ensure Assessment Components 
 - Measure the effectiveness of each Career Pathway
 1. Do we know each Career Pathway is effective?
 2. How do we know we know?
 - Valuable Tool: “Excellence in Career Pathways: A Self-Evaluation Tool”
 - Product of collaborative effort:

Excellence in Career Pathways: A Self-Evaluation Tool

► Please note only the benchmarks are listed. The entire self-evaluation tool is available online at www.ntpn.info.

1. Guided by a 4+2 (+2) curriculum framework.
2. Includes comprehensive student guidance and career planning.

Secondary component:

3. Meets academic standards and grade level requirements.
4. Meets high school testing and exit requirements.
5. Meets postsecondary (college) entry and placement requirements.
6. Provides academic and technical foundation knowledge and skills in a chosen cluster.
7. Provides opportunities for students to earn college credit through dual/concurrent enrollment (4) or articulation agreements (2).

Postsecondary component provides:

8. Opportunities for students to earn college credit through dual/concurrent enrollment (4) or articulation agreements (2).
9. Alignment and/or articulation with baccalaureate programs.
10. Industry-recognized knowledge and skills.
11. Employment opportunities in chosen cluster with multiple exit points.

Business:

12. Ensures that students are learning current, in-demand skills.
13. Provides student work-based learning experiences after 11th grade.
14. Supports student recruitment and ongoing support.

Partnership ensures a culture focused improvement by:

15. Regularly collecting qualitative and quantitative data on academic and career success, dropouts, graduation, transitions, and remediation.
16. Using data for planning and decision making.
17. Providing targeted professional development for teachers/faculty/administrators, and counselors to improve teaching/learning and integration of technical and academic instruction.
18. Maintaining ongoing dialogue among secondary, postsecondary, and business partners.

CONNECTIONS

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Visit NTPN on the web at
www.ntpn.info

Connections is published by the National Tech Prep Network, a membership organization of educators and employers dedicated to the advancement of Tech Prep. NTPN assists its members in planning, implementing, evaluating, and improving workforce education programs. NTPN was founded by CORD, a nonprofit organization that has been leading change in education for over twenty years through curriculum development, teacher training, and Tech Prep leadership.

National Tech Prep Network




Questions about Connections?
Contact: Kristin Zastoupil, NTPN,
P.O. Box 21689, Waco, TX 76702-1689;
254-772-5095 ext. 253; or
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The Role of the Community College President in Career Pathways


- U.S. Department of Education Office of Vocational and Adult Education (OVAE)
- Center for Occupational Research and Development (CORD)
- The National Tech Prep Network (NTPN)
- National Clearinghouse for Career Pathways (NCCP)
- College and Career Transitions Initiative (CCTI)
- Essential Benchmarks across 18 Assessment Items
 - Identify strategies for improvement
 - Assess effectiveness
 - Strengthen each Career Pathway (and Partnership)
 - Provide reassurances about quality of Career Pathways
 - Accountability

Dan Hull: “[There is a] logical progression from Tech Prep to Career Pathways”

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3. Empower Tech Prep Staff at the Institution
4. Use Tech Prep to Leverage Funding Opportunities
5. Ensure Assessment Components
6. Lead Efforts to Arrange Industry-Specific Certification 
 - National?
 - State?
 - Complements the assessment role
 - External accreditation bodies (public and private)
 - Enrich Career Pathways
 - Strengthen student credentials
 - Enhance the quality of each Career Pathway

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2. Concentrate on Career Pathways
3. Empower Tech Prep Staff at the Institution
4. Use Tech Prep to Leverage Funding
5. Ensure Assessment Components
6. Lead Efforts to Arrange Industry-Specific Certification
 - National?
 - State?
7. Continue to Emphasize the Importance of Career Clusters 
 - Continue to provide natural points of entry for transition to Career Pathways
 - Create new opportunities for non-technical careers?
 - Expand beyond current Tech Prep populations?
 - (e.g., ABE, G.E.D., ESOL students)

THAT'S LIFE by Mike Twohy

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"But, I'm getting off-message."

The Role of the Community College President in Career Pathways

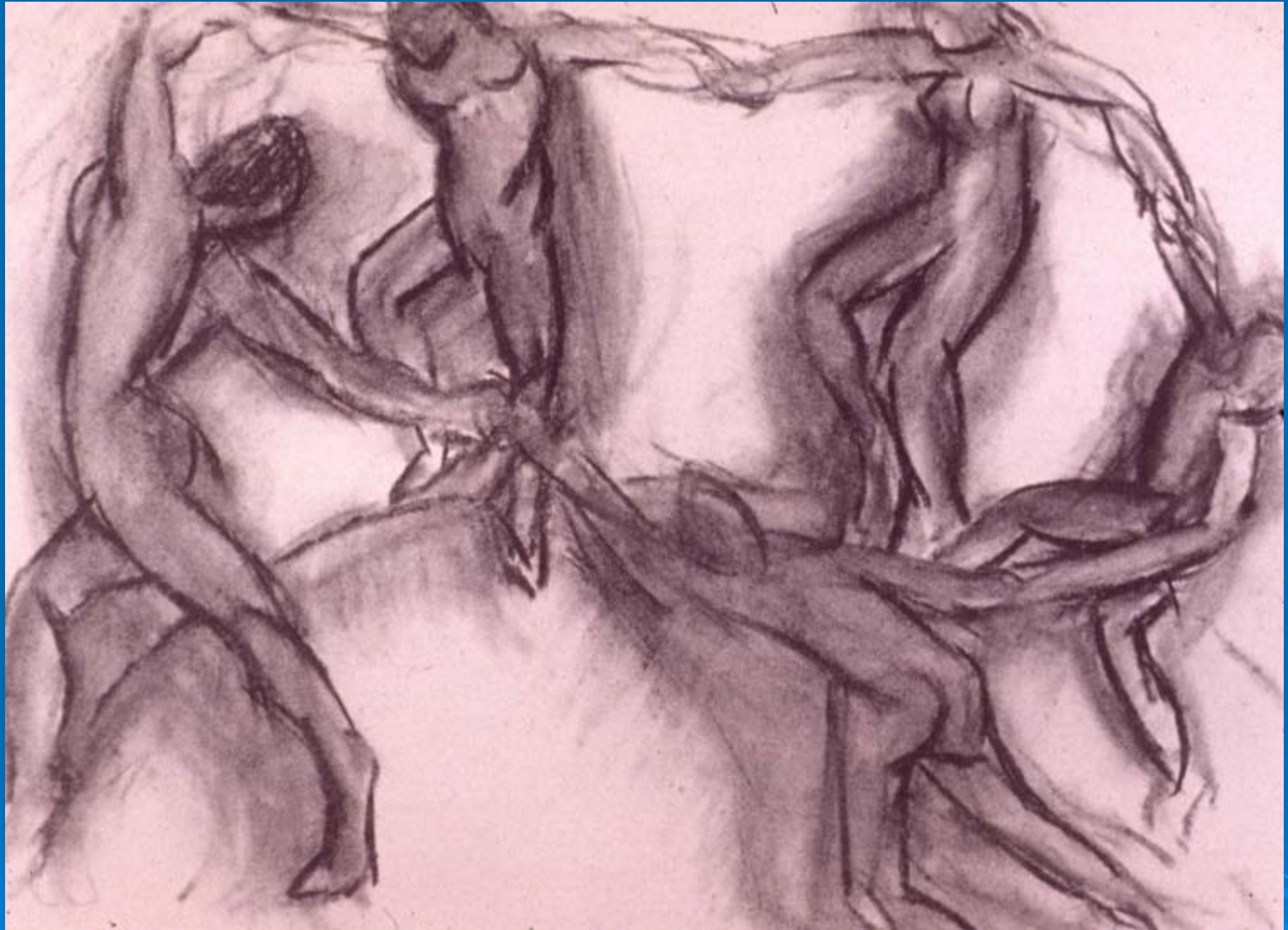
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 - National?
 - State?
7. Continue to Emphasize the Importance of Career Clusters

2004-2005 Student Data

- Community Provided through *SCT Banner* (database at Bristol Community College):
 - 461 Tech prep students are currently enrolled at Bristol Community College.
 - 328 of those students are enrolled in Career and Technical Education (CTE) programs.
 - 125 high school students registered for college courses at BCC on a space-available basis at no cost to the student
 - Approximately 600 college credits were earned
 - Approximately \$70,000 saved

Continuing Challenges

- Goal of Career Pathways
- Curriculum
 - Globalization
 - BioTech, Medical Devices, Environmental Studies
- Transferability
- Workforce Development
- Economic Development
- Partnerships...and Preservation
 - Uniqueness of the institution



Henri Matisse “The Dance” (1909) - Dance with Change



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