From Pre-K to Careers:
Aligning K-12, Postsecondary, and Workforce Resources Around a P-20 Agenda

Charleston, West Virginia
August 2nd, 2011
Today’s Agenda

Importance of P-20 Alignment
What causes misalignment and what are the consequences of poor alignment?

Role of P-20 and West Virginia Initiatives
What are WV’s P-20 successes and what are some challenges moving forward?

P-20 Best Practices
What are practical examples of states and/or communities implementing successful P-20 initiatives?
Importance of P-20 Alignment

Implications and causes
Nationally: Students Lost in Education Pipeline

Out of Ten 8th-graders:

About 2 in 10 do not graduate from HS

About 3 in 10 graduate from HS but do not enroll in college

About 2 in 10 enroll in college but do not graduate

Resulting in about 3 in 10 graduating from college

Source: C. Adelman, 2006
WV: Postsecondary Aspirations of ACT-Tested Students

64% of graduating Seniors took the ACT

Postsecondary Educational Aspirations of West Virginia's ACT-tested 2010 High School Graduates

- Four Years or More: 85%
- Two Years or Less: 9%
West Virginia Graduation Rates

- West Virginia’s High School graduation rate: 78%
- West Virginia’s Four-Year College graduation rate: 45%
- West Virginia’s Two-Year Institution graduation rate: 29%

Source: Alliance for Excellent Education, “High School State Cards,” October 2010
What causes the leak?
Percent of WV 8th and 10th Graders on Track to Meet College Readiness Benchmarks, 2010

- English: 61% (8th graders), 66% (10th graders)
- Reading: 41% (8th graders), 40% (10th graders)
- Mathematics: 32% (8th graders), 20% (10th graders)
- Science: 11% (8th graders), 14% (10th graders)
- All Four: 10% (8th graders), 9% (10th graders)
Learning Trajectories – 8th Grade

EXPLORE Mathematics Benchmark: 17

ACT Mathematics Benchmark: 22

- Red: Within 2 points of EXPLORE Benchmark
- Black: More than 2 points from EXPLORE Benchmark
- Blue: Met/exceeded EXPLORE Benchmark
- Green: Entire sample
Prediction Results

English - Total Group

- 8th-grade achievement: 54%
- High school Grade Point Average: 9%
- Student testing behaviors: 21%
- Advanced/honors coursework: 8%
- Standard coursework: 1%
- Background characteristics: 7%

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Percent of WV Students Meeting ACT College Readiness Benchmarks, 2010

- English: 71% (West Virginia) vs. 66% (Nation)
- Reading: 54% (West Virginia) vs. 52% (Nation)
- Mathematics: 32% (West Virginia) vs. 43% (Nation)
- Science: 24% (West Virginia) vs. 29% (Nation)
- All Four: 18% (West Virginia) vs. 24% (Nation)
Among first-year students at two-year and four-year institutions in West Virginia...

... approximately 32% require at least one remedial course.

Source: West Virginia Higher Education Policy Commission, Fall 2010
Enrollment of 2009 ACT-Tested WV Students

- Enrolled in WV: 66.5%
- Enrolled Out of State: 8.1%
- Not Enrolled / No Data: 25.4%

Avg. ACT Score: 18.6

n = 11,696
Fall to Fall Retention of 2009 ACT-Tested WV Students

Fall 2009
- Enrolled in WV: 66.5%
- Enrolled Out of State: 8.1%
- Not Enrolled / No Data: 25.4%

Avg. ACT Score: 21.2

Fall 2010
- Enrolled in WV: 58.6%
- Enrolled Out of State: 7.4%
- Not Enrolled / No Data: 34.0%

Avg. ACT Score: 23.2

n = 11,696

Change:
- Enrolled in WV: + 8.6%
- Enrolled Out of State: - 0.7%
- Not Enrolled / No Data: - 7.9%
What else causes the leak?
This baton pass shows the **shared responsibility** between the **giver** and the **receiver** in a handoff. It also shows that the **giver** must be willing to assist the **receiver** with grasping and that the **receiver** must reach back in order to be successful.
Percentage of Educators Reporting that Their State’s Standards Prepare Students Well or Very Well for College

High School Teachers: 71%

College Instructors: 28%
Percentage of Educators Reporting that Their State’s Graduation Requirements Prepare Students Well or Very Well for College

- **High School Teachers**: 71%
- **College Instructors**: 20%
Percentage of Educators Reporting that Their Students Are Prepared for College-Level Work in Their Content Area

- High School Teachers: 91%
- College Instructors: 26%
Workforce Skills Gap

According to the Business Roundtable’s Springboard Project:

• 61% of employers say it is difficult to find qualified workers for vacancies.

• An “inadequately educated workforce” is one of the top ten obstacles to doing business in the United States today.

• 81% of workers are interested in training or coursework to enhance their skills.

• But, 41% are unsure about what their jobs will require in the future or what their training needs are.

Source: Business Roundtable, Getting Ahead — Staying Ahead, December 2009
Future Workforce Needs
West Virginia 2018 Employment Projections

By 2018, 49% of WV jobs will require postsecondary education.
This is the lowest % of all states. (National avg. = 63%)

Source: Georgetown University Center on Education and the Workforce, June 2010
WV top industries…future economy without postsecondary?

- Advanced & Alternative Energy
- Aerospace
- Automotive
- Biometrics
- Biotechnology
- Business Services
- Chemical
- Film
- Metals
- Polymers
- Printing
- Tourism Development
- Wood Products

Source: WV Department of Commerce
Role of a P-20 Agenda
No single entity can effect the change required…

Working differently

• Compromise
• Giving ground
• Common good – outcomes based
• Boundary spanners (an intermediary who literally commutes between schools, universities, and other partners)

Top down institutional knowledge meets bottom up community experience
P-20: Pursuit of an Aligned System

Education & Workforce Systems

Data Systems
Career Transitions
Curriculum
Career Interest
Readiness Standards
Postsecondary Placement
Assessments
Teaching/Training

Education & Workforce Stakeholders
Shaping an Effective P-20 Initiative

Success @ Transitions

Elementary → Secondary → Postsecondary → Career

Outcome Transparency
Key P-20 Stakeholders
West Virginia P-20 Initiatives

• “Transitional courses” in math and English are being implemented for high school seniors that are off-track for college readiness.

• Higher education is examining remedial education by collaborating on common standards and course modules to improve remedial education outcomes.

• Programs and initiatives such as GEAR UP and College Goal Sunday are changing perceptions & behaviors around college access and affordability.

• A statewide longitudinal data system is being implemented to track student progression from early education through career.
West Virginia P-20 Challenges

• Encouraging greater innovation and collaboration among K-12, higher education, and workforce silos.
  – Improving students’ college and career readiness.
  – Addressing family’s barriers to college access.
  – Defining workforce needs as part of P-20 efforts.
Trends in Student Performance in WV

ACT Composite Scores, 2006-2010

- West Virginia
- Nation
Defining workforce needs

Outcome Transparency

Success @ Transitions

Postsecondary

Degree attainment?
Knowledge acquisition?
Skills development?
Next Transition?
Common Core State Standards

- Common Core State Standards (CCSS) was a state-led initiative to align U.S. K-12 education with a uniformly higher standard - college and career readiness.
- 45 states (including West Virginia) and the District of Columbia have adopted the CCSS.
- Two state consortia have formed to develop common assessments aligned to the CCSS. West Virginia is a governing state in the Smarter Balanced Assessment Consortium.
- The road to implementation of the CCSS and Common Assessments provide tremendous collaboration opportunities for K-12 and higher education.
Role of P-20 Council in CCSS

• Act as catalysts, conveners, and an information resource for implementation of the Common Core State Standards.

• Provide opportunities for K-12 and higher education faculty to collaborate within their academic discipline.

• Work with higher education institutions to ensure students who successfully meet CCSS benchmarks transition seamlessly into first-year college courses.

• Integrate workforce development into the conversation around ‘career readiness’.
P-20 Best Practices
New Mexico Career Clusters: Coalescing Around Statewide Economic Development
New Mexico Career Clusters
New Mexico Career Clusters

• Goals of the New Mexico Career Clusters initiative included:
  – Developing a list of strategic industries and jobs that will enhance New Mexico’s economy.
  – Offering students and job seekers valuable career options.
  – Serving as a guide for parents, students, and educators in career planning by offering clear career pathways.
New Mexico Career Clusters

Are You Interested in a Career in Oil and Gas or Alternative Energy?

The following pages explain several career paths in energy and environmental industries:

- Government Relations
- Product Engineering
- Machining, Instrument and Electrical
- Process Engineering
- Health, Safety and Environmental Regulation
- Maintenance Operations
- Environmental Systems

“in the 21st century college education is the single most important determinant of future quality of life.”

Rusty Schmit, Founder and CEO, Advent Solar

New Mexico’s economy has some of the most productive and diverse energy activities of any state. It has abundant energy resources, including coal, oil, gas, wind, solar and biomass, and its universities, as well as Sandia National Laboratories and Los Alamos National Laboratory, are world leaders in advanced energy science and research.

In 2005, businesses pumped 60 million barrels of crude oil and 1.6 million cubic feet of natural gas from the state. These natural resources translate into a significant number of jobs in the state’s economy. The New Mexico Oil and Gas Association estimates that 23,000 New Mexicans are employed in their industry. There are 225 registered producing mines in New Mexico. Minerals mined range from coal to potash and copper. The New Mexico Mining Association estimates their industry employs about 6,000.

The New Mexico Department of Labor projects the mining sector alone will create 1,190 new jobs over the next 6 years.
New Mexico Career Clusters

4 Energy and Environmental Technologies

Cluster Core Business Functions

<table>
<thead>
<tr>
<th>Research and Development</th>
<th>Production Services and Sales</th>
<th>Engineering and Design</th>
<th>Production and Manufacturing</th>
<th>Installation Construction Maintenance</th>
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</thead>
<tbody>
<tr>
<td>Basic Science</td>
<td>Administrative Services and Information Support</td>
<td>Architecture and Drafting</td>
<td>Health, Safety and Environmental Regulation</td>
<td>Trades, Installation and Repair</td>
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<tr>
<td>Entrepreneurship</td>
<td>Marketing</td>
<td>Machining, Instrument and Electrical</td>
<td>Maintenance Operations</td>
<td>Project Management</td>
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<tr>
<td>Laboratory Testing</td>
<td>Foreign Languages</td>
<td>Government Relations</td>
<td>Quality Assurance</td>
<td>Civil Engineering</td>
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<tr>
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<td></td>
<td>Information Technology Systems Administration</td>
<td>Logistics and Inventory Control</td>
<td>Environmental Systems</td>
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</tbody>
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Primary Skills

Transferable Skills
New Mexico Career Clusters

Product Engineering Pathway

- Design, test and build new industry products; re-engineer existing products.
- Create and draft new product design.
- Build computer-generated as well as physical models of product.
- Present design ideas to the client.
- Test product’s safety and reliability.
- Write and modify computer programs as necessary.

<table>
<thead>
<tr>
<th>Minimum Education Required</th>
<th>Associate Degree</th>
<th>Bachelor’s Degree</th>
<th>Beyond Bachelor’s Degree</th>
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<tbody>
<tr>
<td>High School Diploma/Industry Credential</td>
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</tr>
<tr>
<td>National Occupational Competency Testing Institute Computer-Assisted Drafter</td>
<td>Mechanical Eng Technician $40,000-48,400</td>
<td>Aerospace Technician $40,400-54,600</td>
<td>Product Safety Engineer $57,800-70,700</td>
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<tr>
<td>American Design Drafting Association Certified Drafter</td>
<td>Mechanical Drafter $40,000-48,400</td>
<td>Civil Engineer $58,700-71,700</td>
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<tr>
<td>Microsoft Certified Application Developer</td>
<td>Electrical Eng Technician $42,400-51,800</td>
<td>Mechanical Engineer $60,500-74,000</td>
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<tr>
<td></td>
<td>Aerospace Engineer $76,200-90,500</td>
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Sample Occupations and Average National Wages:

Wages listed in the Guidebook are based on national averages and may not be the same as those in all New Mexico communities.

Needed skills include: Master’s of Science or Bachelor’s of Science in electrical, mechanical or chemical engineering; calculus; computer aided design (CAD); computer programming; machine shop; geographic information system (GIS); public speaking.

Machining, Instrument and Electrical Pathway

- Engineer, repair and maintain machines, instruments and electrical components.
- Machine parts.
- Repair and maintain manufacturing process instruments and electrical systems.
- Provide written and oral reports.
- Write and modify computer programs as necessary.

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<tr>
<td>Electrician Helper $21,200-25,800</td>
<td>Grinding Operator $24,800-38,200</td>
<td>Pattern Maker $33,700-41,300</td>
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<tr>
<td>Coil Winder, Taper, Finisher $23,300-28,500</td>
<td>Machinist $30,600-37,400</td>
<td>Model Maker $40,300-49,100</td>
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</tr>
<tr>
<td>Foundry Mold Maker $25,000-31,200</td>
<td>Tool and Die Maker $39,000-47,600</td>
<td>Instrumentation Technician $42,400-51,800</td>
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<tr>
<td>Soldering and Brazing Operat. $27,000-33,000</td>
<td>Electrician $38,000-46,400</td>
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Santa Ana Partnership: Local Partnerships Addressing Local Challenges
Santa Ana Partnership

Santa Ana, California:
- Located just south of Los Angeles.
- Population of 334,000.
- “Majority-minority” city with the greatest percentage of Spanish-speaking residents of all large U.S. cities.
- 65% of all students in Santa Ana school district are ESL.

Multiple Barriers to Achievement:
- Majority English language learners.
- Students fall behind at an early age, making college readiness difficult.
- Limited information on college access and financial aid.
- Limited parental engagement in children’s education.
Santa Ana Partnership

Santa Ana educators, higher education leaders, community advocates, and other partners have created an educational partnership around a student-centered vision:

That all young people in this largely first-generation, English-language-learning community can make it to college and succeed once there.
Santa Ana Partnership

Four primary partners:
Santa Ana Partnership

A sample of programs and services available to SAUSD students:

- **6th Grade:** College & career planning services begin.

- **9th-12th Grade:** College-bound activities for students and parents.

- **SAUSD seniors receive priority registration at SAC.**

- **SAC provides individual assistance in accessing financial aid resources.**

- **CSU-F guarantees admission to students completing transfer requirements at SAC.**

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**Elementary & Middle School**

**High School**

**Two-Year College**

**Four-Year College**
Santa Ana Partnership

Examples of changes initiated by the Partnership:

• More rigorous curriculum standards within the Santa Ana Unified School District.

• K-12 teachers and higher ed faculty collaborate on college placement, curriculum, and professional development.

• One-stop access to higher ed information within the high schools.

• Parent-to-parent mentoring about college preparation.

• Peer learning communities for first-year college students.

• Multiple opportunities for youth to engage with local colleges to gain early exposure to higher education.
Santa Ana Partnership

Santa Ana Student Outcomes:

• Five-times more high school students enrolled in algebra, with a greater percentage obtaining passing grades.

• Santa Ana College now ranks 7th statewide for Latino transfer students to UC system schools - up from 44th previously.

• Applications for state-based financial aid has more than doubled.

• College applications from SAUSD students to partner colleges continues to rise.

• Elementary literacy is steadily improving.

• Passing rates on the 8th grade state math test continue to rise.
Santa Ana Partnership

Keys to Success of the Santa Ana Partnership:

- Shared values and philosophies.
- Mutually beneficial goals and objectives.
- Supportive leadership at the highest levels of partner organizations.
- Focus on the needs of the community.
- Clear roles and responsibilities for each partner.
- Clear channels for communication among partners.
- Data used to establish benchmarks and measure successes.
Domains of Development - ACT’s Approach

Solution Components

K

Achievement/Skills Development

Academic/Workplace Behaviors

Career Planning/Career Fit

Career
This baton pass shows the **shared responsibility** between the **giver** and the **receiver** in a handoff. It also shows that the giver must be willing to assist the receiver with grasping and that the receiver must reach back in order to be successful.
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