THE JOBS REVOLUTION

Questions From A Changing World:

#1 Quality Workforce In The World?

WICHE Legislative Advisory Conference

Roberts T. Jones
Education and Workforce Policy
October 10, 2007
America’s Success in the 20th Century...

American Dominance...No Competition

Unskilled Jobs...High Pay/Benefits

Universal Access to Public Education

Early Investments in Higher Education

Significant R&D Investments

Flexible Economy and Workforce

OECD: Ed at Glance
The World Has Caught On..

- Global Population is Larger..
  - Increasingly Urban
  - Younger
- Global Investments
  - Education
  - R&D
- Greater Stability
  - Political and Economic
- Rapidly Growing Economies
- New Trade and Technical Partnerships
CHALLENGE TO AMERICA

Increasing Global Competition
Developing Nations

- 1970  2 Times
- 2005  5 Times
- 2025  9 Times

World Bank
## Education Gains

<table>
<thead>
<tr>
<th>Country</th>
<th>Level</th>
<th>1990</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>Adult Lit</td>
<td>55.4</td>
<td>69.1</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Primary</td>
<td>31.8</td>
<td>93.4</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Secondary</td>
<td>32.0</td>
<td>75.8</td>
</tr>
<tr>
<td>Chile</td>
<td>Tertiary</td>
<td>21.3</td>
<td>43.0</td>
</tr>
<tr>
<td>Kuwait</td>
<td>Primary</td>
<td>60.2</td>
<td>97.9</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>42.9</td>
<td>94.9</td>
</tr>
<tr>
<td></td>
<td>Tertiary</td>
<td>13.2</td>
<td>23.2</td>
</tr>
</tbody>
</table>

World Bank (Ed Stats)
DEVELOPING NATIONS CONSTITUTE...

40% of the Worlds 50 Largest Economies

70% of the 20 Fastest Growing in Industrial Output

5.5% Annual Growth in HE Grads vs 1% in Developed

20% of the 50 Largest R&D Investors

China #2 by 2006

Meanwhile....

US College Attendance

Was 1st now down to 14th in World

US Share of 25-34 With BA Degree

From #1 to #9 to #18

OECD 2006 / Economist 2006
“The United States Can Still Prosper In a World Where Its Labor Costs Are Higher Than The Competition’s,

But It cannot Do That If The Cheaper Workers Abroad Are Also Better Educated”

NY Times, Sept 6
CHALLENGE TO AMERICA

Economic Impact of Changing Demographics
Future US Labor Markets

Demographics

- Slow Population Growth
  - 1% per yr.
  - .03% by 2030

- Slow Labor Force Growth
  - Less than 1% yr

- Increased Percentage of Older Population

- Fewer Younger People Entering Workforce

- Core Workforce Age Group is Declining

Workforce Increasingly Made up of Less Educated Minorities and Immigrant Population

Source: Bureau of Labor Statistics
Smaller Percentage Workforce in America.

<table>
<thead>
<tr>
<th>Age</th>
<th>2000</th>
<th>2020</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19</td>
<td>28.5%</td>
<td>26.4%</td>
<td>25.9%</td>
</tr>
<tr>
<td>20-64</td>
<td>59.0%</td>
<td>57.2%</td>
<td>53.6%</td>
</tr>
<tr>
<td>65+</td>
<td>12.4%</td>
<td>16.3%</td>
<td>20.4%</td>
</tr>
</tbody>
</table>
...And Western States

<table>
<thead>
<tr>
<th>Age</th>
<th>2000</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-18</td>
<td>26.9%</td>
<td>24.1%</td>
</tr>
<tr>
<td>18-24</td>
<td>10.0%</td>
<td>9.3%</td>
</tr>
<tr>
<td>25-44</td>
<td>30.9%</td>
<td>26.3%</td>
</tr>
<tr>
<td>45-64</td>
<td>21.2%</td>
<td>21.8%</td>
</tr>
<tr>
<td>65+</td>
<td>11.0%</td>
<td>18.6%</td>
</tr>
</tbody>
</table>

US Census
## US Labor Force More Diverse

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>2020</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>82%</td>
<td>63%</td>
<td>53%</td>
</tr>
<tr>
<td>Minority</td>
<td>18%</td>
<td>37%</td>
<td>47%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>6%</td>
<td>17%</td>
<td>24%</td>
</tr>
</tbody>
</table>

BLS
## Future Workforce

### Fewer Bachelor Degrees+

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>36%</td>
<td>46%</td>
</tr>
<tr>
<td>Whites</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>Afro Amer</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8%</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Widening Gap**
Economic Impact

- Decrease in Better Educated Workforce
- Growth in Less Prepared Workforce

- Impact on Personal Income!!
  - 1980 to 2000: +41%
  - 2000 to 2020: -02%

- Significant Loss of:
  - Tax Revenue
  - Consumer Spending, etc
  - Support for Higher Education

- All States Project Budget Shortfalls
The New Job Market

Changes In Occupations, Jobs, Skills, And Tenure
Projected Job Growth

- **1.4% Growth Per Yr**
  Exceeds Labor Force Growth of 1.0%

- **85% of New Jobs Require Some Post Secondary Ed**

- **12% Unskilled & Dropping to 2%**

BLS
CUMULATIVE NEW JOBS BY OCCUPATION: 2006-2031
Occupational Growth by Required Education/Training

- Doctoral or Professional degree: 13.0%
- Master's degree: 13.8%
- Bachelor's degree + work experience: 14.6%
- Bachelor's degree: 17.0%
- Vocational Training or Associate's degree: 15.1%
- Related work experience: 10.2%
- Long-term OJT: 10.8%
- Moderate-term OJT: 6.5%
- Short-term OJT: 9.1%
**Future US Labor Markets (continued)**

- **Shortages**
  - *Demand for Skilled Labor Continues to Grow*
    - Labor Shortage of 7 million by 2010
    - 21 million in 2020

<table>
<thead>
<tr>
<th>Health Care</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineers</td>
<td>Technicians</td>
</tr>
<tr>
<td>Teachers</td>
<td>Services</td>
</tr>
<tr>
<td>Welders</td>
<td>Energy Technicians</td>
</tr>
<tr>
<td>Accountants</td>
<td>Transportation</td>
</tr>
</tbody>
</table>
Meanwhile...Education Premium Growing

- **HS Degree Vs Non-High School**
  - 1980: 19%
  - 2006: 42%
  - 2020: ???

- **Earning Differential HS Vs BA Degree**
  - 1980: 38%
  - 2006: 75%
  - 2020: ???

- **Unemployment GAP Widens..**
  - Less Than HS: 8.3%
  - HS: 5.1%
  - Some College: 4.2%
  - BA Degree: 2.75%

- Welfare, Crime, Health Ins, etc.

Fed Reserve (Bernanke)
BLS/Census
Accelerating Productivity

Changes...
Accelerating Impact of Productivity…

- Half Life of Industries, Companies, Jobs, and Skills Decreasing

- Breadth, Depth, & Application of Academic Prep is Expanding

- Today's Students Will Have 10-14 Jobs By the Time They are 38

- 50% of Workers Have Been With Their Company Less Than 5 Years

DOL-BLS
Resulting In..

- Jobs Eliminated or Redefined.
  - Only 4% Lost Jobs to Outsourcing
- From Low-skill to Knowledge Jobs:
  - Complex Knowledge-based
  - Higher-level Academics
  - Cognitive/ Problem-solving
- Reorganization of Work:
  - Multi-task & Cross-Functional
  - Adaptable skills
  - Increased Responsibility
- Horizontal Vs Vertical Careers

Education and Certification are Criteria for Hiring.
Employer ‘Projections’

- Competitive Advantage by 2020
  - 98% Quality of Management
  - 95% Skills of Workforce
  - 92% Cross-functional Application

- Greatest Workforce Growth
  - 85% Complex Knowledge-Based Role
  - 85% Developed Communication & Judgment

- Major Change in Next 20 years
  - 95% Point to Skills of Workforce

Economist Survey 05
Employer ‘Expectations’

- Integrative Learning
- Knowledge of Human Cultures, Physical, and Natural World
- Intellectual and Practical Skills
- Personal and Social Responsibility

AAC&U
College Learning and the New Global Century
Hart Research Inc.
READY FOR COLLEGE AND READY FOR WORK:  
Same or Different?

- ACT Study Brings Closure to the Argument About College vs Workforce Preparation.
  - College Without Remediation
  - Sustainable Living Wage Job
    - Carpenter, Electrician, Plumbers
- Rigorous Core Curriculum and High Achievement Standards For** ALL Students**

ACT, May 2006
Education is Key to:

- America’s Ability to Compete and Grow
- Our Standard of Living
- State Economic Development
- Individual Economic Security

- ‘All Students’ Needed in the New Economy
- ‘All Students’ Need Access to Post Secondary Ed
- Every Student Needs to Be Academically Prepared for Rapidly Changing Demands of the 21st Century Labor Market
AMERICA’S RESPONSE: EDUCATION
Are We Ready?
Current K-8 System...

• All Students Not Brought to Standard
• Not Taking Rigorous Courses
  - 35% Taking Algebra I
• 8th Grade Achievement
  - 31% Proficient in Math*
  - 29% Proficient in Reading*
  - 42% Proficient in Science
  - 41% Proficient in Writing

* NAEP 2007
Current K-12 System...

- 30% Drop Out...7000 a day
- 40% HS Students Unprepared for Work or College
- Only 56% Take Core Curriculum
- ACT Test Takers Ready for College Level Work
  - 28% Biology
  - 43% Algebra
  - 69% English
  - 53% Soc Sci
  - 22% All Fields
 Dropout Cost…

- 30%...7000 Per Day...1.2 Million PY...

  - $309 Billion in Life Time Earnings
  - $17 Billion In Life Time Health Care
  - $9.5 Billion Annual TANF
  - $5 Billion Annually In Crime
  - $1.5 Billion Annual Remediation

....All State Costs
Escalating Pressures on HE

- Increasing Demand for HE
  - Employers, Students, Government
  - Number of Students
- Increased Diversity of Student Pop
- Pressure on Curriculum Alignment
- Increasing Academic Expectations
- Multiple Learning Options
- Credits from Multiple Institutions
- Increasing Focus on Cost, Completion, and Competencies
Current HE System...

- Increasing Enrollments of Less Prepared Students
- Only 6 of 10 Graduate in 6 Years
- Only 54% of Low Income Obtain Deg
- Only 47% of Minorities Obtain Deg
- 53% Remediation
- 33% Decrease in Sci/Math/Eng
- Lacks Required Focus on 21st Cent Liberal Education
Affordability

- % Family Income Required for the Lowest 20% of Earners to Attend:
  - 58% Comm College
  - 73% 4 Yr Public College

- Low Income Families % Has Increased While High Income % Has Decreased

- Tuition Cost Increase...State Need Based Aid Decreases

Least Affordable for Those Most In Need of Access
Current Workforce System

- WIA, Comm College, & Tech Schools
- Lack of Alignment With Evolving Workplace Requirements (Certification)
- Lack of Public Clarity of Programs, Access, and Financial Support
- Lack of ‘Quality Standards’ and ‘Outcome Measures’
AMERICA’S CHALLENGE:
Education For the 21st Century
K-8 Education
Changing the Culture

- Accountability for ‘All’ Students to Standard by 3rd, 6th, and 9th Grade
- Remedial Investments
- Increased Number of 8th Graders Taking Higher Level Math and Science
- Principals Must Have Management Flexibility for:
  - Teacher Assignment
  - Alternative Learning Systems
K-12 EDUCATION
New American High School

- ‘Core’ Curriculum for All Students
- ‘All’ Students Brought to Standard
  - Focus on Low Income, Minority, and Low Achievers
- Increased Investments in Remediation and Student Support
- Accountability and Flexibility for Principals
- Data Tracking for All Students/Schools
Higher Education
Renewed Commitment

- Liberal Education for the 21st Century
  - Knowledge of Human Cultures, the Physical, and Natural World
    - Science, Math, Social Sci, Humanities, History, Language, and Arts
  - Intellectual and Practical Skills
    - Critical and Creative Thinking
    - Writing and Oral Communication
    - Information and Quantitative Literacy
    - Team Work and Problem Solving
  - Personal and Social Responsibility
    - Civic, Ethical, and Intellectual Knowledge/Action
  - Integrative Learning
    - Cross Functional Applications

AAC&U
College Learning 07
HIGHER EDUCATION

- **Access**
  - Minority/Low Income Participation and Graduation

- **Accountability**
  - Clearly Defined Core Curriculum
    - Harvard
  - Competency Expectations
    - Cal State
  - Assess and Remediate
    - Students, Curriculum, and Professoriate
  - Changing Expectations of Accreditation

- **Alignment of Education Pipeline**
  - K-16 Council
    - Financing, Standards, Curriculum, and Assessments
    - Teachers
    - Curriculum and Assessments

AAC&U
Affordability

- Constraining Escalating College Costs
  - Joint Venture, Partnerships, Teaching Vs Research
- Increased ‘Economic’ Investment in HE
  - State, Federal, and Private
- Increase Needs Based Support
  - Increase Access To Comm College (Low Income & Minority)

Continuous Improvement

- Continual Updating of Curriculum, Standards, Application, and Professors
- Partnerships
  - Business, NGO’s, Non-Profits, Education, etc
- New and Flexible Learning Options
- HE Must Work to Reflect The World In Which Students Will Enter
WORKFORCE MODEL

Employment Assurance..

- Outcome Standards for Workforce Trng
- Industry Recognized:
  - Schools
  - Curriculum
  - Individual Certification
- Public Transparency
  - Public Awareness of Employment Pipelines
  - Certified Schools and Outcomes
- Financial Support
  - Individual Choice
  - Continuous Access
ADULT WORKFORCE

‘Life Long Learning Accts’

- Workforce Security in Ever Changing Workplace
- Individual Ownership of Accts (Like IRA’s)
- Access for Adults To Post Sec Ed and Training
- Academic and Industry Recognized Outcomes

Assured Access To The Ever Changing Labor Market In A Flat World
## Culture Shift In HE

- **Opportunity** to **Right**
- **Curve** to **Competency**
- **Teaching** to **Learning**
- **Inputs** to **Outcomes**
- **Quality** to **Performance**
Education Must Be Recognized AS....

The #1 Economic Issue For America’s Future

No Longer Relegated to
“One of Many Priorities”
“Discretionary Spending”
THANK YOU

- Roberts T. Jones
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  www.educationworkforcepolicy.com

“The JOBS REVOLUTION:
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