What It Will Take For Maryland
To Compete With
The Best Education Systems in the World

Marc Tucker
National Center on Education and the Economy

November 2016
PART 1

WHY IT IS VERY IMPORTANT TO SEE WHERE WE STAND IN RELATION TO THE REST OF THE WORLD
NCEE Community College Research

- 2 ½ years of research on what it takes to succeed in 1st year of typical Community College
- Looked at the eight most popular CC programs, covering 80% of the programs of study
- Analyzed reading level of most popular textbooks and topics covered in 1st year math
- Talked with instructors
• Reading level of texts at 12th grade level
• Typical high school text now at 7th-8th grade level
• “College Math” is Algebra I, and many cannot do it
• High school grads command of middle school math very shaky and instructors report their writing is weak
• ACT told us that predictions for college success pretty much the same for 4-year colleges as for 2-year colleges
The Truth About College Readiness

- Most college-bound high school grads are not going to college—they are enrolling in very expensive high schools.
- A large fraction are not ready for that high school program.
- Either way, they are not ready either for college or work.

**HOW DID WE GET HERE?**

**HOW DOES THAT PICTURE COMPARE TO OTHER COUNTRIES’ SYSTEMS?**
Attainment: The Last 70 Years

Figure 4. Percentage of persons 25 through 29 years old, by highest level of educational attainment: Selected years, 1940 through 2013

Source: US Department of Education, NCES, 2014
Labor Productivity: The Last 65 Years

Productivity change in the nonfarm business sector, 1947-2014

Average annual percent change

<table>
<thead>
<tr>
<th>Period</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947-73</td>
<td>2.8</td>
</tr>
<tr>
<td>1973-79</td>
<td>1.2</td>
</tr>
<tr>
<td>1979-90</td>
<td>1.5</td>
</tr>
<tr>
<td>1990-2000</td>
<td>2.2</td>
</tr>
<tr>
<td>2000-2007</td>
<td>2.6</td>
</tr>
<tr>
<td>2007-2014</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Labor Statistics
Income Distribution: The Last Half Century

Mean (Average) Household Income by Quintile and Top 5%

<table>
<thead>
<tr>
<th>Household Segment</th>
<th>2014 Mean Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 5%</td>
<td>$332,347</td>
</tr>
<tr>
<td>Top Quintile</td>
<td>$194,053</td>
</tr>
<tr>
<td>2nd Quintile</td>
<td>$87,834</td>
</tr>
<tr>
<td>Middle Quintile</td>
<td>$54,041</td>
</tr>
<tr>
<td>4th Quintile</td>
<td>$31,087</td>
</tr>
<tr>
<td>Lowest Quintile</td>
<td>$11,676</td>
</tr>
</tbody>
</table>

Source: Census Bureau
The 1970s: Crucial Turning Point

- From mid-19th century to 1970s:
  - US paces the rest of the world in attainment
  - Steady growth in productivity
  - Sustained growth
  - Most even distribution of income in industrialized world

- But, starting in the 1970s:
  - Attainment growth stops
  - Productivity growth slows
  - Family income flattens
  - Distribution of income becomes least equal
From the 1970s: Global Labor Markets, Advancing Automation

- Low wage competition
  - Low skill
  - High skill
  - All skill levels
- Automation of jobs involving routine work
- VAST EXTINCTION OF LOW-SKILL, LOW-WAGE ROUTINE WORK IN HIGH WAGE COUNTRIES
Employment in Routine Occupations, 1967-2013

How the US Responded — Reform Agenda Since 1970’s

- More money (more than 250% growth in last 20 years)
- Lower class size
- School competition (charters and vouchers)
- Technology
- Tough test-based teacher-accountability systems
What We Spent; What We Got For It

Per Pupil Spending and NAEP 12 Grade Reading Scores, 1971 to 2012

*Revised assessment format

Sources: The Nation’s Report Card “NAEP 2012 Long-Term Trends in Academic Progress”
NCES Digest of Education Statistics 2014
Their Model vs. Our Model: The Results

US Rankings on PISA

<table>
<thead>
<tr>
<th>Year</th>
<th>Reading</th>
<th>Mathematics</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 (32)</td>
<td>15</td>
<td>19</td>
<td>14</td>
</tr>
<tr>
<td>2003 (41)</td>
<td>18</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>2006 (57)</td>
<td>NR</td>
<td>34</td>
<td>28</td>
</tr>
<tr>
<td>2009 (65)</td>
<td>17</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>2012 (65)</td>
<td>24</td>
<td>36</td>
<td>28</td>
</tr>
</tbody>
</table>

Source: OECD
U.S. Workforce Skills (PIAAC*)

- OECD survey of the skills of all U.S. workers
  - Reading: Average
  - Numeracy: Near the bottom with Ireland, Spain & Italy
  - Digital Problem Solving: Dead Last

- ETS analysis of 16 to 34-year-olds in survey
  - At or near the bottom in reading, numeracy & problem solving

- U.S. scores *declined* since last PIAAC survey

*Program for the International Assessment of Adult Competencies, OECD*
Maryland’s Choice: High Skills or Low Wages

- All states and countries can be competitive in this new environment by either:
  - Lowering wages or
  - Raising skills

- U.S. has not decided which goal to embrace

- Countries with highest performing education systems have chosen high-value-added, high skill, high wage option

- If you choose that option, you will need a world-class workforce, educated to global standards
Our Competitors Had a Different Analysis

- Did not double down on the old model (inexpensive teachers; low standards), designed to produce majority of graduates with little more than an 8th grade level of literacy

- Knew the jobs available to the grads of that system would be increasingly unemployable

- Decided that they had to provide to virtually all a kind and quality of education until then available only to their elites—for no more money than the old model

- That required a WHOLE NEW DESIGN
HOW THE TOP PERFORMERS GOT TO THE TOP

THE 9 BUILDING BLOCKS FOR A WORLD-CLASS STATE EDUCATION SYSTEM
Education Reform Agenda of Top Performers

1. Strong supports for children and their families

- Comprehensive supports for families with young children, from family allowances to prenatal care to nutritional assistance and more
- Full affordable day care, preschools, early childhood education
- Additional services for low-income, vulnerable families
- Well established in Europe, advancing in Asia
Education Reform Agenda of the Top-Performers

2. *More resources for students who are harder to educate*

- US only advanced country in which children of the wealthy get more financial support than children of the poor
- More teachers per student and, in some cases, the best teachers, in schools serving disadvantaged students
- Comprehensive additional services for disadvantaged students, in and out of school
Education Reform Agenda of the Top-Performers

3. **World-class, highly coherent instructional systems**

- Internationally benchmarked student performance standards
- Matching curriculum frameworks
- State course syllabi based on frameworks
- High quality, essay-and-open-ended-type exams based on syllabi
4. **Qualification systems with multiple no-dead-end pathways for students to achieve those qualifications**

- No high school diploma
- Requirements at end of each stage match the requirements for beginning next stage
- No dead ends, many opportunities to change direction, combine qualifications
5. **Abundant supply of highly qualified teachers**

- Recruit most teachers from upper segment of high school graduates (top half to top 5%)
- Moving teacher ed into research universities
- Entrance requirements those of selective research universities
- Elementary teachers specialize
- Tough content, pedagogy, research req’ts
Education Reform Agenda of the Top-Performers

6. **Schools organized and managed to attract high quality candidates into teaching and to enable them to do their very best work**

- Y-shaped career ladder for teachers and school leaders—strong incentives for teachers to get better and better at the work

- More time working together in teams to improve school performance, less teaching

- Strong continuous improvement system
7. An effective system of career and technical education and training

- Built on very high level of student academic performance
- Strong apprentice component; training wage
- Strong employer involvement
- Highly qualified instructors, modern equipment
- No dead ends
8. **Leadership development system that develops leaders who can manage such systems effectively**

- This is a recent development, most systems are catching up on this.

- Only those who have been fine teachers, team leaders, and mentors can go on to leadership positions.

- Pool groomed, opportunities for growth and mentoring provided; must have experience in low-income and minority schools to go up.
Education Reform Agenda of the Top-Performers

9. **Coherent governance system capable of implementing effective systems at scale**

- Roles at each level clear and complementary
- Clear where the buck stops
- Built on professional model
- System sets the rules, provide resources, professionals have professional discretion
- Accountability runs up and down
Why We Get So Little for the Money We Spend

- Low quality model is immensely costly
  - Hiring cheap, poorly educated teachers: high attrition rates, less expertise developed, demand for lower class sizes, low morale, more supervision, greater student waste
  - Giving up on students early: endless remediation
- Little of the budget gets to the school
- Half of our spending on the handicapped is wasted
- Far too much is spent on physical facilities
- Funding is post holed, accountability compromised
Most important:

All the parts and pieces support one another do not work at cross purposes, as in the U.S.

Policy-making focuses on the system, not bullets.
The Bottom Line

- Get first rate teachers in front of every student
- Set very high expectations for all students, teachers
- Create a first rate curriculum
- Make sure you are measuring the right stuff
- Treat your teachers like professionals
- Give them good leadership and plenty of support
- Get the incentives right
- Spend your money for maximum return
- Never, never, never give up on the students
Thinking About Maryland

- One of the most affluent states in U.S.
- Very high per pupil expenditure, average on equalization
- Above average on attainment, but average on SAT, NAEP
- Wide gaps between advantaged and disadvantaged
- Behind world’s top performers
- Like nation, high cost, relatively modest performance
Thinking About Maryland

Strengths to build on:

- High spending level
- P-20 Leadership Council
- Relatively streamlined governance and lines of authority
- Strong citizen support for education
- Foundation laid for strong for early childhood education
Thinking About Maryland

• Strengths to build on:
  o Adoption of the Common Core curriculum
  o Adoption of PARCC
  o Adoption of high school graduation tests
  o Fewer teachers colleges for state this size than many others
  o Initial steps on career ladders, incentives for highly qualified
  o Recent interest in career and technical education
What You Will Need

- Broad consensus on goals
  - Broadly shared prosperity
  - Competing on quality of products and services, not wages
  - Need to provide elite level of education for everyone
  - Need for a genuinely world-class education system
What You Will Need

- Understand strategies used by top performers
  - Go there-seeing is believing
  - Copy no one...build on all

- Understand the gaps between MD and global best

- Build a broadly supported long-range plan

- Build a bipartisan, coalition for long term

- Get started where the prospects for success are best
In Closing…

**THANKS!**

For more information:

Center for International Education Benchmarking

National Center on Education and the Economy

www.ncee.org/cieb