North Dakota
Interim Education Committee

Ready for College and Career:
What it Will Take For The United States To Compete With The Top-Performing Countries

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What We Will Do Today

- Be honest with ourselves about the why the United States does so poorly in international comparisons of student performance and the implications for the American economy
- Look at the strategies the top performers have used
- Talk about what it would take to match their performance

PART I

THE TROUBLE WE ARE IN

AND HOW WE GOT HERE

NCEE Community College Research

- 2 ½ years of research on what it takes to succeed in 1st year of typical Community College
- Involved some of the leading researchers in the US
- Looked at 8 of the most popular CC programs, covering 80% of the programs of study
- Analyzed reading level of most popular textbooks
- Gathered samples of assigned student work and grades
- Analyzed topics in math covered in 1st year
- Talked with instructors

NCEE Community College Research

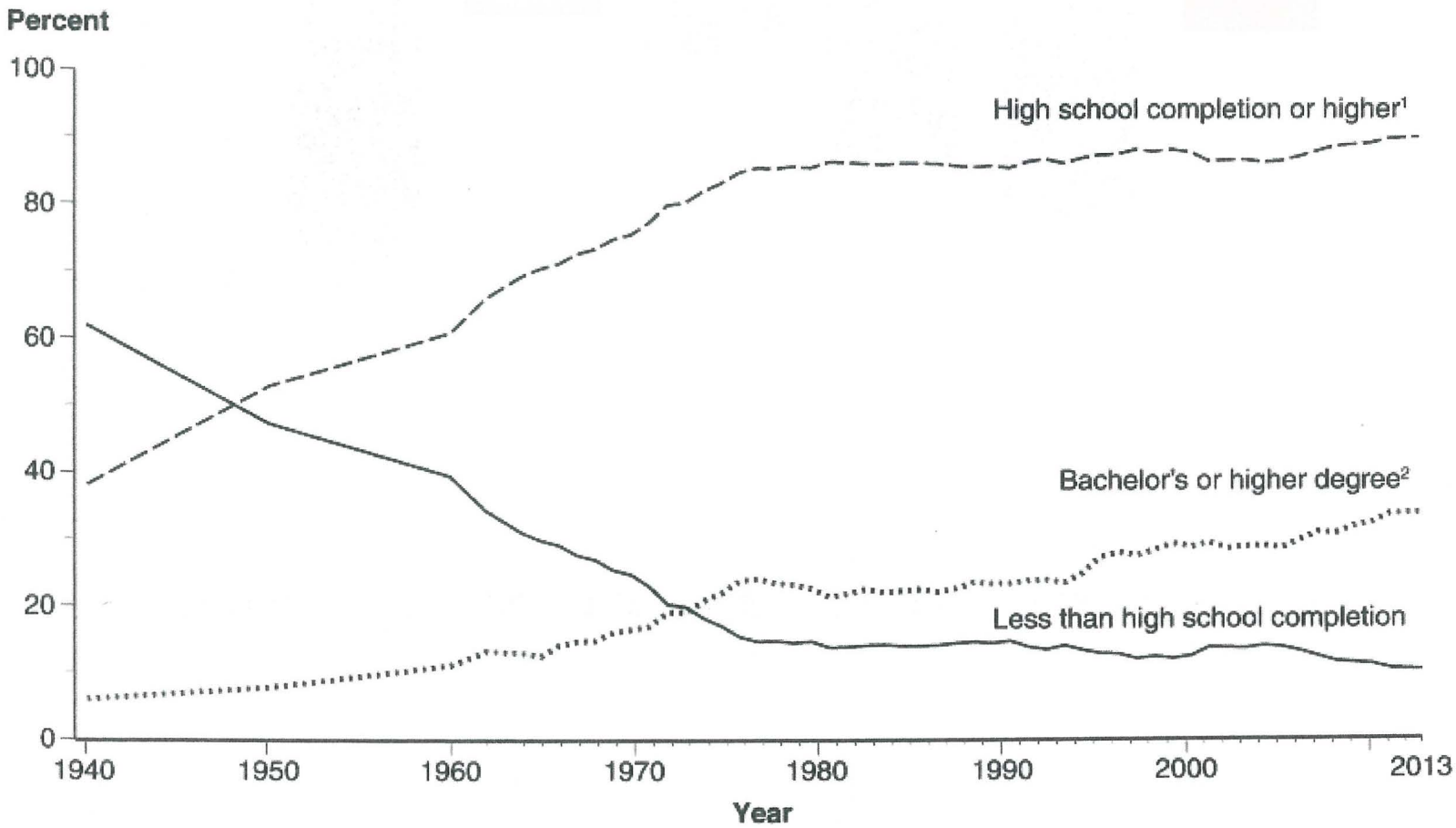
- Reading level of texts at 12th grade level
- Instructors must make Power Point summaries
- Typical high school text now at 7th-8th grade level
- "College Math" is Algebra I, and many cannot do it
- No high school math required in community college
- High school grads command of middle school math very shaky
- Community College instructors rarely ask students to write anything because they can't
- 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?

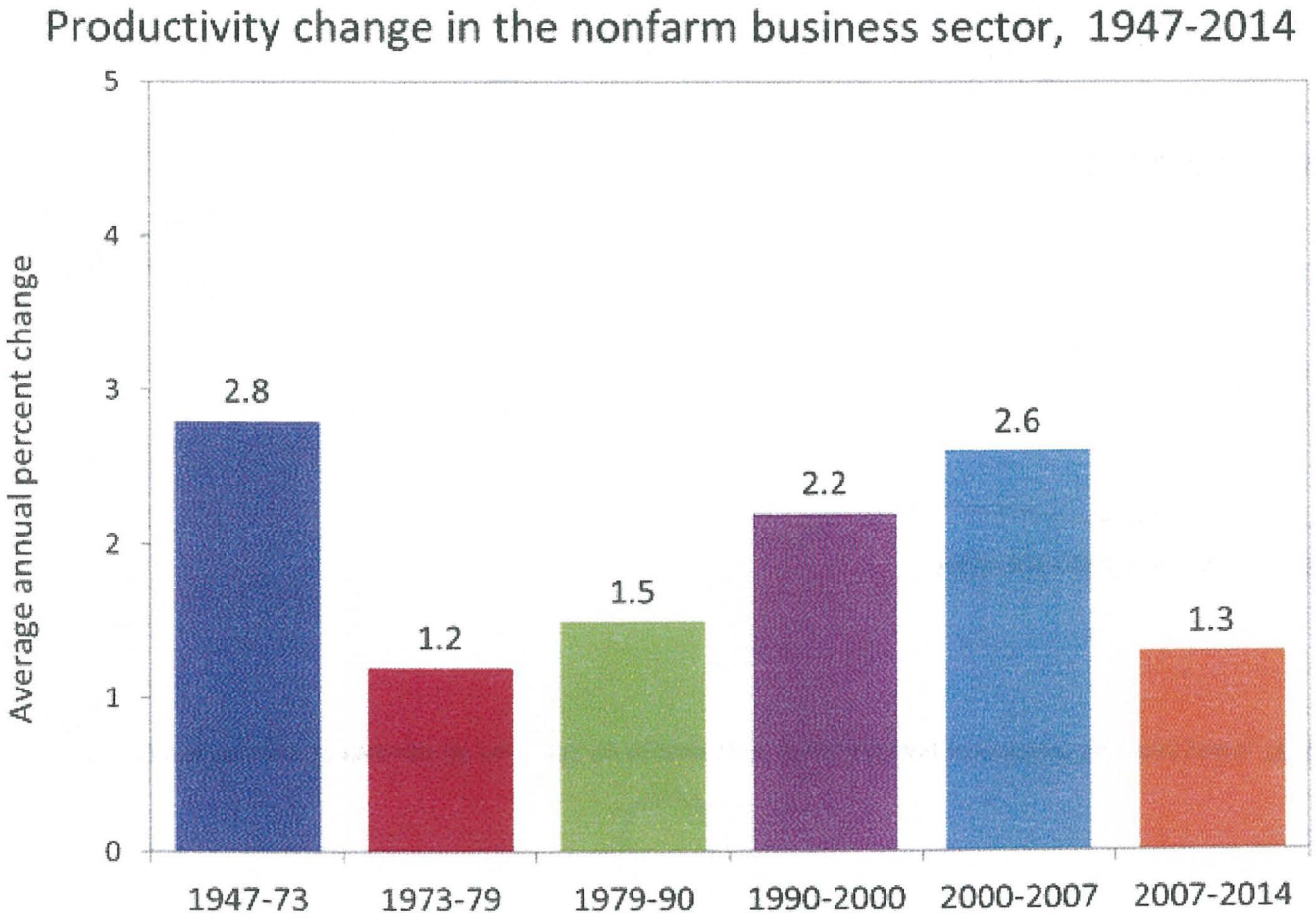
Attainment: The Last 70 Years

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

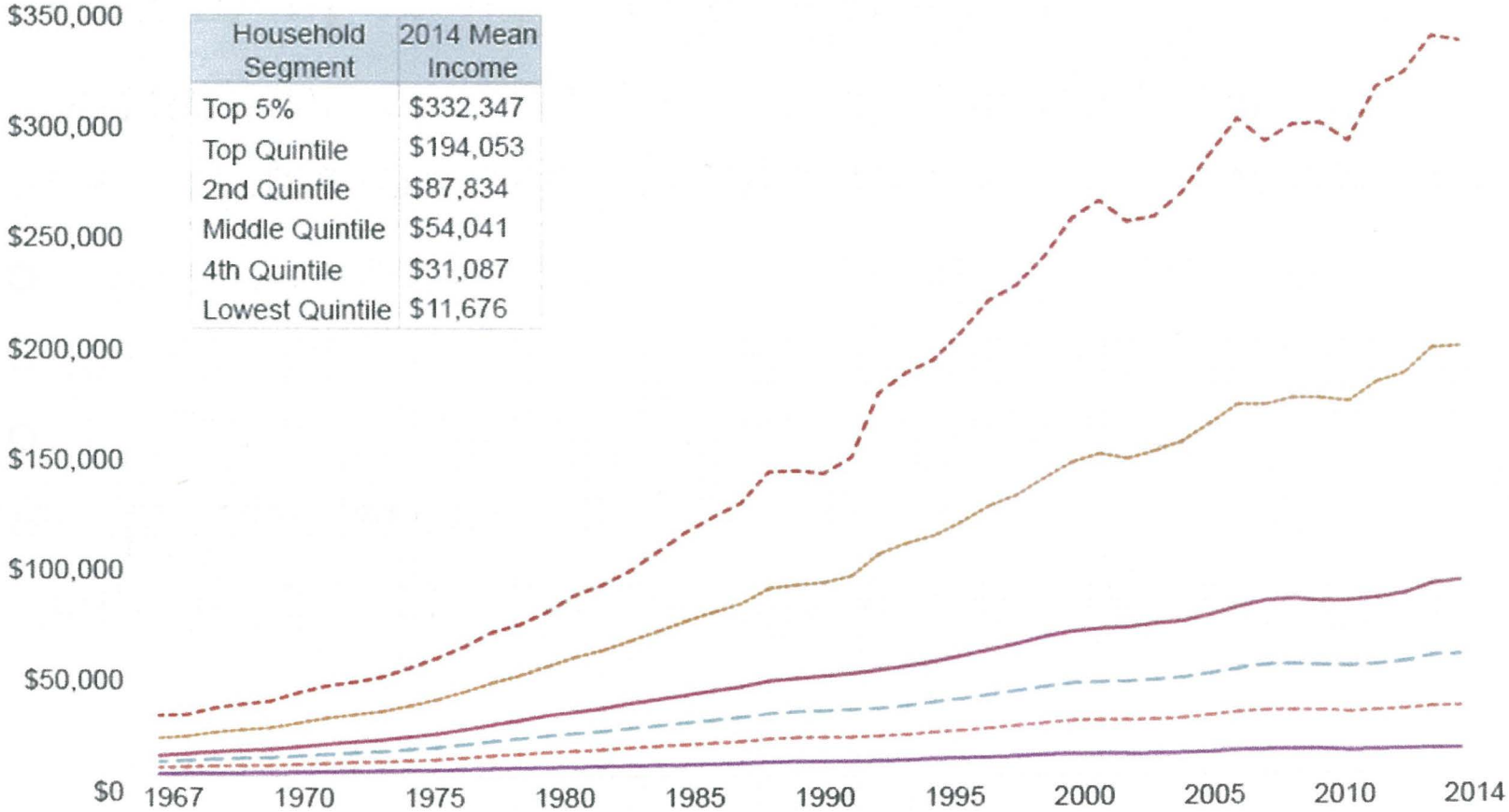


Source: U.S. Bureau of Labor Statistics

Income Distribution: The Last Half Century

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

Household Segment	2014 Mean Income
Top 5%	$332,347
Top Quintile	$194,053
2nd Quintile	$87,834
Middle Quintile	$54,041
4th Quintile	$31,087
Lowest Quintile	$11,676



Source: Census Bureau

Race Between Education and Technology
Goldin and Katz

- From Mid-19th Century, US paces the rest of the world in attainment
  - 19th Century: universal primary school education
  - Early 20th Century: universal secondary school education
  - Mid-20th Century: access to postsecondary education
- Sustained growth of American economy; *most even* distribution of income in industrialized world
- Attainment growth *stops* in the 1970s
- Productivity growth *slows*, family income *flattens*, distribution of income becomes *least* equal

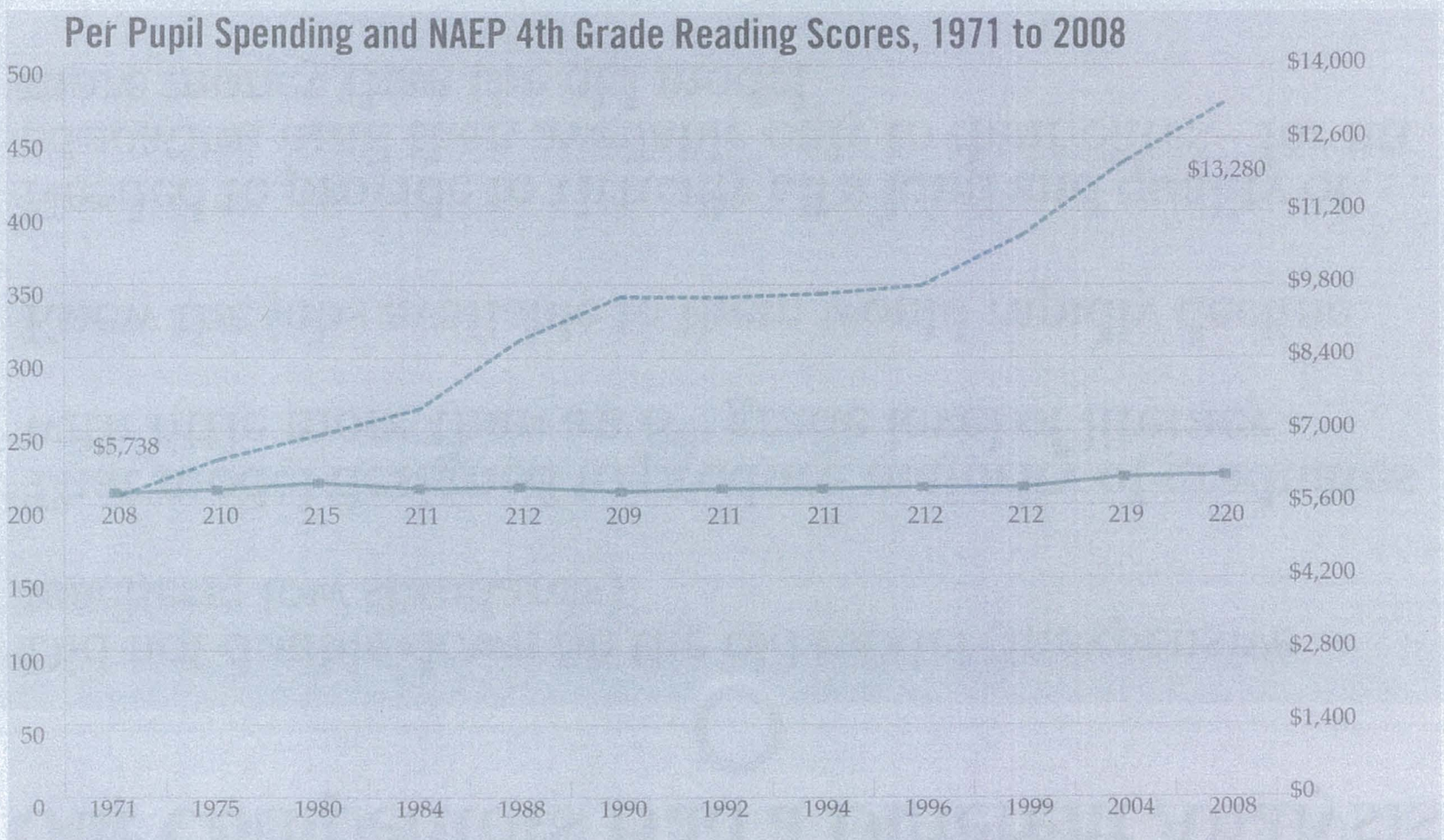
80's, 90's and 00's: Global Economic Change

- Low wage competition
  - Low skill
  - High skill
  - All skill levels
- Automation of jobs involving routine work
- Vast extinction of low-skill, routine work jobs in high-wage countries

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



Spending shown in constant 2013-2014 dollars

Sources: The Nation's Report Card "NAEP 2012 Trends in Academic Progress"
NCES Digest of Education Statistics 2014

Our Competitors Had a Different Analysis

- Did not double down on the old model (inexpensive teachers; low standards)
- That model designed to produce majority of graduates with little more than an 8th grade level of literacy
- Knew the jobs available to them would rapidly decline
- Needed 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 model

Their Model vs. Our Model: The Results

US Rankings on PISA

	Reading	Mathematics	Science
2000 (32)	15	19	14
2003 (41)	18	28	22
2006 (57)	NR	34	28
2009 (65)	17	30	22
2012 (65)	24	36	28

Source: OECD

US Results on PIAAC (ETS Analysis)

- OECD survey of math, reading & problem solving
- ETS analysis of 16 to 34-year-olds in survey
  - Reading: Only Spain and Italy lower
  - Numeracy: Last, with Italy and Spain
  - Problem solving: Last again
- U.S. scores *declined* since last PIAAC* survey

*Program for the International Assessment of Adult Competencies, OECD

PART 2:

HOW THE TOP PERFORMERS GOT TO THE TOP:

THE 9 BUILDING BLOCKS FOR A WORLD-CLASS STATE EDUCATION SYSTEM

Education Reform Agenda of the Top-Performing Countries

1. Strong supports for children and their families
2. More resources for those who are harder to educate
3. World-class, highly coherent instructional systems
4. Qualification systems with multiple no-dead-end pathways for students to achieve those qualifications
5. Abundant supply of highly qualified teachers

Education Reform Agenda of the Top-Performing Countries

6. Schools organized and managed to attract high quality candidates into teaching and to enable them to do their very best work once in the teacher work force
7. An effective system of career and technical education and training
8. Leadership development system that develops leaders who can manage such systems effectively

Education Reform Agenda of the Top-Performing Countries

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

Note:

More important than the components is the integrity of the system itself

THE HEART OF THE MATTER

1. What is taught
2. How well it is taught
3. The incentives that operate on the teachers and the students to do their very best

LET'S LOOK INSIDE…

THE INSTRUCTIONAL SYSTEM

1. Standards
   - High—internationally benchmarked
   - Designed to capture the kinds of complex skills that global employers are looking for
   - Not just statements about what students should know and can do
   - Includes examples of student work that meets the standards, with commentary
   - Not just literacy: Whole core curriculum

THE INSTRUCTIONAL SYSTEM

2. Curriculum Frameworks
   - K— end of high school
   - Topics allocated to grades or grade spans
   - Logical order
   - Developmental sequence

THE INSTRUCTIONAL SYSTEM

3. Courses And Course Syllabi

- At least secondary school
- What student is supposed to learn
- Allocation of time to topics
- Suggested or required reading
- Extended work to be done
- Basis of grading

THE INSTRUCTIONAL SYSTEM

4. Examinations and grading

- Exams designed to find out whether the student has mastered what is in the syllabus
- Little if an multiple choice testing
- Mainly essay-based, to capture the complex skills desired
- Many include grades on extended student work
- Grades based on accomplishment
- Published results include examples of top work with commentary

THE INSTRUCTIONAL SYSTEM

5. Whole Instructional System Tightly Aligned

- Curriculum framework based on standards
- Curriculum/syllabi based on framework
- Exams based on curriculum/syllabi
- Teachers explicitly trained to teach these courses

RESULT: High expectations for all

QUALIFICATIONS SYSTEM

1. No high school diploma
2. Must have taken the right courses and gotten the right grades to move on toward objective
3. Never too late
4. Many pathways

RESULT: Very high motivation to take tough courses and work hard in school/top performance across the board

QUALITY OF TEACHERS AND TEACHING

1. High quality teachers

- Recruit from top ½ of college-going high school grads
- Stringent admissions process
- Mastery of content at high level (including elementary)
- Mastery of craft (at least one year)
- Research skills and emphasis on diagnosis and prescription
- Teacher education done in a few research universities
- High licensing standards/No emergency certificates

QUALITY OF TEACHERS AND TEACHING

2. Professional school organization and management

- Aggressive career ladders (teaching, management)
- Comp based on advancement up ladder, not seniority or credits
- Much more time for teachers to work together in groups to:
  - Develop engaging lessons, research their effectiveness
  - Develop proving questions for students
  - Critique each others' practice
  - Mentor one another—hold each other accountable
- Principals trained to create environment for disciplined impr't

RESEARCH CONCLUSIONS

- Top performers bet on:
  - Professional model of teaching, school organization, management
  - Fewer, better teachers who they trust
  - High expectations tied to high standards, aligned curriculum and exams
  - First rate school leaders trained to implement the new model
- No shortcuts, no silver bullets
- To get elite results for all students at no increase in cost, we need a new system
- We need to learn from the best, and copy no one

IMPORTANCE OF INCENTIVES

- To get top performance, we need new system
- New system must provide very different incentives
- Incentives can be positive, negative or perverse
- In education, many incentives are perverse

IMPORTANCE OF INCENTIVES

- We want our teachers colleges to recruit their students from the top half of our high school graduates but we incentivize them to go after quantity not quality

- We want our high school students to take tough courses and work hard in school but we tell them that their chances of getting into a community college are the same whether they get As or Ds in school.

IMPORTANCE OF INCENTIVES

- We want our teachers to work hard in their teaching and to get better and better at their work, but we provide no career in teaching and no incentives for getting better and better at their work
- We want to attract to teaching young people who could be professionals in high status fields but we pay them like blue collar workers and provide them with a blue collar work environment
- We know that teachers teach what is measured, but we use tests that measure very few of the skills we want them to teach

PART IV

THE EXCUSES

The Excuses

- We are "exceptional."
- "It can't be done here."

"We are Exceptional"

- Those nations only educate an elite; we educate everyone.
- They are homogeneous; we are uniquely diverse
- Their cultures are different; nothing they do can be transferred
- The US would be competitive with the top performers if our lowest income students were not counted

"It Can't Be Done Here"

- Gross inequities in finance can't be fixed because Americans will never give up local control
- We can't build strong state instructional systems for the same reason
- We can't get rid of even the worst schools of educ. because they all have elected reps in the legislature
- We don't have enough money to buy everybody off

Let's Be Honest

- One nation after another is outperforming us on student performance, equity and cost
- Nothing we've done has worked
- No strategy we have bet on—except student performance standards—is used by the top performers
- We've run out of excuses
- Economic tensions are almost certain to drive this country apart unless we find a way to radically improve the performance of our education system
- A blue collar model of the teaching profession based on cheap teachers who stay in teaching only a few years will not work.

A Question

Isn't it time for us to adopt a bit of humility, drop reforms for which there is no evidence, and replace our out-of-date system with a modern one, based on what is working the top-performing countries?

Our Offer

NCEE has been researching the top performing education systems worldwide for 26 years. We are looking for two to three states interested in building one of the most successful education systems in the world. Would North Dakota like to be one of them?