The Nation’s Report Card and 12th Grade Academic Preparedness

October 24, 2011    Boston, Massachusetts
• An independent, non-partisan board
• Sets policy for and oversees NAEP

• The only continuing, nationally representative, state-comparable measure of student achievement

• Created to increase awareness about academic preparedness, as measured by NAEP
What is NAEP?
NAEP: Gold Standard in Assessing Achievement

Assesses what students know and can do:

<table>
<thead>
<tr>
<th>SUBJECTS</th>
<th>GRADES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading, Mathematics, Writing, Science, U.S. History, Civics, Geography, Economics, the Arts, Technology and Engineering Literacy, Foreign Language</td>
<td>4, 8, and 12</td>
</tr>
</tbody>
</table>

RESULTS

Student Achievement Data for the
- Nation
- States
- 21 Urban Districts (Boston)
NAEP Provides Massachusetts with Data in Comparison to the Nation and Other States

Massachusetts: Grade 4 Mathematics Scores

**Scale Score**

- Massachusetts
- National
- D.C.

* Significantly different (p<.05) from 2009

**Accommodations were not permitted.**

Source: National Center for Education Statistics, 2009
NAEP Allows Comparison Between Urban Districts Within Massachusetts and Across the Nation

Massachusetts: Grade 4 Mathematics TUDA Scores

* Significantly different (p<.05) from 2009

Source: National Center for Education Statistics, 2009
NAEP Reports on Student Achievement Gaps

Massachusetts: Grade 4 Mathematics Scores by Race/Ethnicity

** Accommodations were not permitted.

Source: National Center for Education Statistics, 2009

* Significantly different (p<.05) from 2009

** Accommodations were not permitted.
NAEP Provides Unique Benefits to States

- Progress over time
- Rich information, no cost to the state
- Minimal burden on schools
- No test preparation
NAEP Provides Unique Benefits to States

★ NAEP will put Massachusetts’ state results in international context.

★ NAEP provides state-comparable achievement data for all states.

★ NAEP is the only source of national and state-comparable student achievement data at the 12th grade.

- 11 state pilot at 12th grade in 2009 – reading and math
- Administered every two years beginning in 2013
NAEP: Only Source of 12th Grade Comparisons

Grade 12 Mathematics Scale Scores and Achievement Levels

<table>
<thead>
<tr>
<th>State</th>
<th>Average Score</th>
<th>Below Basic</th>
<th>Basic</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nation (public)</td>
<td>152</td>
<td>37</td>
<td>38</td>
<td>22</td>
<td>3</td>
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<tr>
<td>Arkansas</td>
<td>146</td>
<td>41</td>
<td>43</td>
<td>15 #</td>
<td>3</td>
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<tr>
<td>Connecticut</td>
<td>156</td>
<td>31</td>
<td>40</td>
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<td>1</td>
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<tr>
<td>Florida</td>
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<td>41</td>
<td>40</td>
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<td>1</td>
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<tr>
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<td>34</td>
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<td>1</td>
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<tr>
<td>Illinois</td>
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<td>156</td>
<td>29</td>
<td>46</td>
<td>24</td>
<td>1</td>
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<tr>
<td>Massachusetts</td>
<td>163</td>
<td>25</td>
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<td>31</td>
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<tr>
<td>New Hampshire</td>
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<td>26</td>
<td>42</td>
<td>29</td>
<td>3</td>
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<tr>
<td>New Jersey</td>
<td>156</td>
<td>33</td>
<td>37</td>
<td>27</td>
<td>4</td>
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<tr>
<td>South Dakota</td>
<td>160</td>
<td>23</td>
<td>48</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td>West Virginia</td>
<td>141</td>
<td>48</td>
<td>39</td>
<td>12</td>
<td>1</td>
</tr>
</tbody>
</table>

# Rounds to zero.
NOTE: Eleven states participated in the assessment and met the reporting criteria. Detail may not sum to totals because of rounding.

Source: National Center for Education Statistics, 2009
NAEP and 12th Grade Academic Preparedness
National Blue-Ribbon Panel: Recommended NAEP Report on 12th Grade Preparedness

The panel’s rationale:

★ Grade 12: transition to postsecondary education and training.

★ The nation needs an indicator of 12th grade student preparedness.

★ NAEP—trusted for quality and integrity.

★ NAEP—uniquely positioned to serve as preparedness indicator.
Many High School Graduates Are Not Prepared for Entry-Level College Courses

Percentage of Freshman College Students Taking Any Remedial Course (reading, writing, mathematics)

- Massachusetts Community Colleges*
- Massachusetts Public Postsecondary*
- All U.S. Institutions**
- All Public U.S. 2-Year Institutions**
- All Public U.S. 4-Year Institutions**

Source: *Massachusetts DOE, 2008; **NCES, 2004
• The costs of remediation are high and far-reaching

• A high school diploma and academic preparedness are not necessarily the same
Changes in demography & labor market

= 

Need for high levels of academic preparedness
What We Know, What We Don’t Know
What We Know

On a daily basis we know:

★ The changes on the stock market
★ The number of bushels of wheat produced
★ The price of gold
What We Don’t Know:

Are the nation’s 12th graders well-prepared academically for college and job training?

The U.S. has no common definition or measure of 12th grade preparedness

Governing Board program of research:

Transform 12th grade NAEP into indicator of preparedness for postsecondary education and training
The Governing Board’s Preparedness Research
The Governing Board’s Work on Preparedness: Underway for Nearly a Decade

2002-04
12th Grade Blue-Ribbon Panel Report

2006
Contract with Achieve to review NAEP in terms of preparedness

2006-08
Report of Technical Panel on Validity Research

2009
Board Approval of Validity Research Program

2010-11
Research Studies and Development of Final Preparedness Report

The Governing Board’s approach: rigorous, comprehensive, and methodical in making NAEP a preparedness indicator.
Working Definition of Preparedness

★ The knowledge and skills needed to **qualify for placement** into entry-level college-credit courses or job training, **without the need for remediation** in math or reading

★ Assumption: 12\textsuperscript{th} graders need training beyond high school to qualify for a career

★ **“Preparedness”** versus **“Readiness”** – NAEP measures **academic** proficiency

★ Academic skills for college and for job training not necessarily the same
A Comprehensive Plan:
More than 30 Studies in Five Research Areas

- Content Comparison
- Statistical Linking
- Standard Setting
- Benchmarking
- Higher Education Survey
Early Research Results Are Promising

★ Content Comparison

Significant overlap between NAEP and ACT, SAT, and other tests

★ Statistical Linking

★ NAEP and SAT math = about .90 correlation
★ Proficient on NAEP = 500 on SAT Reading and Math = College Board Readiness Benchmark
★ Florida study: 12th grade state NAEP and
  - ACT, ACCUPLACER, COMPASS, SAT, and WorkKeys
  - Employment and salary data
  - Course grades in college and job training programs
★ Florida results are confirming of NAEP/SAT results
Standard Setting: 12 studies in five job training programs and college placement

★ Job training
  ★ Automotive Master Mechanic
  ★ Computer Support Specialist
  ★ HVAC Technician
  ★ Licensed Practical Nurse
  ★ Pharmacy Technician

★ Criteria
  ★ Significant numbers, stable or growing positions
  ★ Range of occupations
  ★ Training beyond high school, not bachelor’s degree
  ★ Range of reading/math skills
  ★ Compensation with growth potential
  ★ Familiar to public
Other Research Study Types

★ **Job Training Course Content Analysis**
  Review of course syllabi and textbooks for reading and math demands

★ **Benchmarking**
  Seeking partners for collaboration—job training, military, higher ed., etc.

★ **Higher Education Survey**
  Tests and cut-scores used to place freshmen
Scenario 1: Results Converge

NAEP Score

- College Preparedness Standards: A
  - 500
  - 391
  - 367
  - 346

- College Preparedness Standards: B
  - 336
  - 327
  - 313
  - 302
  - 297
  - 286
  - 277
  - 265
  - 256
  - 243
  - 0

- College Preparedness Standards: C
  - Advanced
  - Exemplar Job 1
  - Exemplar Job 2
  - Exemplar Job 3
  - Exemplar Job 4
  - Exemplar Job 5
  - Proficient
  - Basic
  - Below Basic
Scenario 2: Results Converge but in Different Ranges on Scale

- College Preparedness Standards: A
  - 500
  - 391
  - 367
  - 346
- College Preparedness Standards: B
  - 336
  - 327
  - 313
  - 302
- College Preparedness Standards: C
  - 297
  - 286
  - 277
  - 265
  - 256
  - 243
  - 0

NAEP Score

- NAEP Achievement Level
  - Advanced
  - Proficient
  - Basic
  - Below Basic
Scenario 3: Results Are Dispersed Across Scale

NAEP Score

- College Preparedness Standards: A
  - Exemplar Job 1
  - Exemplar Job 2
  - Advanced

- College Preparedness Standards: B
  - Exemplar Job 3
  - Proficient

- College Preparedness Standards: C
  - Exemplar Job 4
  - Exemplar Job 5
  - Basic
  - Below Basic
Implications

- Potential relevance and use of this research in Massachusetts?
- Additional research to consider?
- Potential partners for additional research?
- Research to consider were Massachusetts to volunteer for 12th grade NAEP at the state level in 2013?
For More Information...

★ National Assessment Governing Board: www.nagb.org

★ NAEP 12th Grade Preparedness Commission: www.nagb.org/commission

★ Preparedness Research and Resources: www.nagb.org/commission/researchandresources
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