HB 330

<TARGET><BILL>HB 330</BILL><SUBJECT>HB 330</SUBJECT><COMM>HEDC27</COMM></TARGET>

27-LS1100\E
Mischel
3/20/12

CS FOR HOUSE BILL NO. 330( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SEVENTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVE DICK

A BILL

FOR AN ACT ENTITLED

"An Act establishing a Joint Legislative Task Force on Sustainable Education; establishing state education standards; amending the authority of the Department of Education and Early Development to adopt education standards; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

EDUCATION FUNDING AND STANDARDS; LEGISLATIVE FINDINGS. The legislature finds that

(1) state education funding support for public education in grades kindergarten through 12 is increasing at a significant rate and real dollar value;

(2) education standards are developed for a small percentage of students who earn a four-year college degree that may be inappropriate for instructing and preparing a student for vocational or other career goals;

(3) state revenue, including revenue paid for education, is almost entirely dependent on revenue generated by oil production on state-owned land;

(4) production of oil on state-owned land is forecast to continue to decline at an average rate of six percent a year;

(5) the implementation of education standards has significant downstream effects on school districts, teachers, and students;

(6) implementation of new education standards influences capital and operational costs for public education funding;

(7) local school districts achieve varying levels of success, as indicated by drop-out and graduation rates;

(8) the high school graduation qualifying examination may discourage students from reaching their highest potential in the third and fourth years of high school;

(9) the public school funding formula under AS 14.17 may mask the effect of energy, health care, pupil transportation, and other inflationary factors that erode the amount of instructional dollars available to classrooms;

(10) continued increases in public school funding under AS 14.17 restrict the flexibility of both the legislature and local school districts to respond to changing funding needs for public schools in the state.

* **Sec. 2.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ESTABLISHMENT OF JOINT LEGISLATIVE TASK FORCE ON SUSTAINABLE EDUCATION; COMPOSITION; DUTIES. (a) A Joint Legislative Task Force on Sustainable Education is established in the legislative branch of state government for the purpose of examining the efficiency and effectiveness of public education delivery in the state, with a focus on

(1) matters pertaining to education standards for students in grades kindergarten through 12 in the state;

(2) all aspects of public education funding in the state; and

(3) the ability to prepare students in the state for various rewarding careers;

(b) The duties of the task force established under this section include

(1) creation of a process for vetting proposed education standards before the

standards are adopted by the state Board of Education and Early Development;

(2) proposal of separate education tracks for postsecondary vocational and college readiness;

(3) evaluation of school district challenges that result from implementation of federal education laws;

(4) evaluation of the efficacy, cost-effectiveness, and redundancies of various education assessments, including the high school graduation qualifying examination, and the submission of recommendations to the legislature, the governor, and the state Board of Education and Early Development for improvement of assessments;

(5) performance of an analysis of public education funding that includes

(A) a determination of the adequacy of public school funding provided under AS 14.17.410 for coverage of appropriate education expenses;

(B) a determination of the appropriate uses of the base student allocation;

(C) alternative methods of addressing fluctuating energy, health, insurance, personnel, and pupil transportation costs;

(D) a calculation of the total amounts of state, local, and federal funding available to each district and for each category of special needs service area;

(E) a comparison of the allocation of administrative and instructional personnel among districts;

(F) a determination as to whether the allocation of administrative and instructional personnel affects the ability of each district to provide effective instructional services;

(G) a calculation of the effect of pension and health care expenses on total education costs;

(6) evaluation of the availability of courses that meet core academic curriculum requirements under AS 14.43.820(a)(3) in each district; and

(7) submission of a report of its findings and proposed legislation to the governor, the Department of Education and Early Development, and the legislature by September 30, 2013, and of additional reports the task force considers advisable.

(c) The task force established under this section consists of

(1) three members of the senate, one of whom shall be the chair of the senate committee having jurisdiction over education, appointed by the president of the senate;

(2) three members of the house of representatives, one of whom shall be the chair of the house committee having jurisdiction over education, appointed by the speaker of the house of representatives; and

(3) eight members appointed jointly by the president of the senate and the speaker of the house of representatives, as follows:

(A) a representative of the Department of Education and Early Development;

(B) a small business owner in the state;

(C) a local school board member in the state;

(D) a superintendent of a public school district in the state;

(E) a public member; and

(F) three representatives of major career destinations of high school graduates in the state, jointly nominated by the commissioner of labor and workforce development and the commissioner of commerce, community, and economic development.

(d) A majority of the members of the task force constitutes a quorum. A vacancy on the task force shall be filled in the same manner as the original selection or appointment.

(e) Members of the task force serve without compensation but are entitled to per diem and travel expenses authorized for boards and commissions under AS 39.20.180. The staff of the legislative members of the task force shall serve as staff for the task force.

(f) The task force shall meet at the call of the chair. The president of the senate and the speaker of the house of representatives shall jointly appoint the chair and vice-chair of the task force.

*** Sec. 3.** The uncodified law of the State of Alaska is amended by adding a new section to read:

BOARD OF EDUCATION AND EARLY DEVELOPMENT; EDUCATION STANDARDS. (a) Notwithstanding the authority in AS 14.07.020(b), the state Board of Education and Early Development shall adopt content and performance education standards, including grade level expectations, only after the standards have been vetted under a process

created by the Joint Legislative Task Force on Sustainable Education under sec. 1 of this Act.

(b) Until education standards are adopted by the state Board of Education and Early Development as provided under (a) of this section, the education standards for the state public schools serving students in grades kindergarten through 12 are as follows:

(1) the content standards for the subjects listed in this subsection, as set out in the department's publication entitled Alaska Standards: Content and Performance Standards for Alaska Students, as revised on March 2006, are adopted by reference; the subjects are

(A) English/language arts;

(B) mathematics;

(C) science;

(D) geography;

(E) government and citizenship;

(F) history;

(G) skills for a healthy life;

(H) arts;

(I) world languages;

(J) technology; and

(K) employability;

(2) the content standards for physical education, as set out in the department's publication entitled Alaska Physical Education Standards, as revised on March 9, 2010, are adopted by reference;

(3) the performance standards for reading, writing, mathematics, science, and Alaska history for grades three through 10, as set out in the department's publication entitled Alaska Standards: Content and Performance Standards for Alaska Students, as revised on March 2006, are adopted by reference;

(4) the performance standards for reading, writing, and mathematics for grades kindergarten through two, as set out in the department's publication entitled Alaska Performance Standards (Grade Level Expectations) Kindergarten - Grade 2, as revised on September 28, 2006, are adopted by reference.

* **Sec. 4.** This Act is repealed July 1, 2014.

* **Sec. 5.** This Act takes effect immediately under AS 01.10.070(c).

FISCAL NOTE

STATE OF ALASKA
2012 LEGISLATIVE SESSION

Bill Version **HB 330**
Fiscal Note Number
() Publish Date

Identifier (file name) HB330-LEG-COU-3-2-12
Title "Establishing the Joint Legislative Task Force on Education Standards; requiring DOL to provide information & ..."
Sponsor Representative Dick
Requester Education

Dept. Affected Alaska Legislature
Appropriation Legislative Council
Allocation Council & Subcommittees
OMB Component Number 783

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	FY13 Appropriation Requested	Included in Governor's FY13 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY13**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Personal Services							
Travel	40.1						
Services							
Commodities							
Capital Outlay							
Grants, Benefits							
Miscellaneous							
TOTAL OPERATING	**40.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE		(Thousands of Dollars)						
1002	Federal Receipts							
1003	GF Match							
1004	GF	40.1						
1005	GF/Prgm (DGF)							
1037	GF/MH (UGF)							
1178	temp code (UGF)							
TOTAL		**40.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

POSITIONS							
Full-time							
Part-time							
Temporary							

CHANGE IN REVENUES							

Estimated SUPPLEMENTAL (FY12) operating costs _____ *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY13) costs _____ *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Why this fiscal note differs from previous version (if initial version, please note as such)

Initial Version

Prepared by Jessica Geary, Finance Manager — Phone 465-6626
Division Legislative Affairs Agency — Date/Time 3/2/12 4:21 PM
Approved by Pamela Varni, Executive Director — Date 3/2/2012
Legislative Affairs Agency

(Revised 1/17/2012 OMB)

FISCAL NOTE

STATE OF ALASKA **BILL NO.** HB 330
2012 LEGISLATIVE SESSION

Analysis

HB330 establishes the Joint Legislative Task Force on Education Standards within the Legislative Branch. The Task Force consists of ten members, comprised of two Legislators, one member from the Department of Labor and Workforce Development, one member from the Department of Education and Early Development, and six public members. It is anticipated that the Task Force will hold four meetings, to be held in Anchorage, Barrow and Fairbanks. Travel funding for non-Executive Branch members is included in this fiscal note. Meetings will be held in existing LIO sites, with no additional cost to the Task Force. The Task Force will be staffed by the Department of Labor and Workforce Development and existing legislative staff. The Task Force shall create a process for vetting proposed education standards before the standards are adopted by the Board of Education and Early Devlopment. Costs to teleconference meetings and print subject matter will be absorbed in the existing Legislative Affairs Agency Budget.

Alaska State Legislature

Juneau
State Capitol Bldg., Rm. 104
Juneau, AK 99801-1182
Phone (907) 465-4527
Fax (907) 465-2197

Representative.alan.dick@legis.state.ak.us

Interim
1292 Sadler Way, Ste 328
Fairbanks, AK 99701
Phone (907) 452-3434
Fax (907) 452-3430

Toll-Free (800) 491-4527

Representative Alan Dick

House District 6

Sponsor Statement
CS HB 330 ( ) Version E: State Standards

State education funding support for public K-12 education is increasing at a significant rate and yet, many districts are struggling to maintain instructional programs to meet student needs. Additionally, proposed State education standards are on the brink of adoption, without significant private sector input. The stakes and costs for rushing to adoption are high. The standards must be rigorous, but meaningful.

CS HB 330 creates a Joint Legislative Sustainable Education Task Force to:

- examine the efficiency and effectiveness of education delivery in Alaska, with a specific focus on:
  - education funding and educational standards, and
  - the ability to prepare students for significant careers.
- The Task Force will submit a report of its findings and proposed legislative changes to the governor, the legislature and the Board of Education and Early Development by September 30, 2013 and make any additional reports it considers advisable.

Members of the Task Force will represent:

- The Legislature
- The Department of Education & Early Development
- Small business
- Local school officials
- Major Alaska career destinations of high school graduates

The Task Forces' specific duties include:

1. Creating a process for vetting proposed education standards before the standards are adopted by the state board of Education and Early Development
2. Discussing separate education tracks for college bound and vocation bound;
3. Evaluating school district challenges that result from implementation of federal education laws;
4. Evaluating the efficacy, cost-effectiveness, and redundancies of various education assessment, including the high school graduation qualifying examination;
5. Conducting an analysis of public education funding that including:
   A. The adequacy of public school funding for coverage of appropriate education expenses;

B. A determination of the appropriate uses of the base student allocation;

C. Alternative methods of addressing fluctuating energy, health, insurance, personnel, and pupil transportation costs;

D. The total amounts of state, local, and federal funding available to each district and for each category of special needs service area;

E. A comparison of the allocation of administrative and instructional personnel among districts;

F. Whether the allocation of administrative and instructional personnel has an effect on the ability to provide effective instructional services in each district; and

G. The effect of pension and health care expenses on total state education costs

6. Evaluate the availability of courses meeting core academic curriculum requirements under the Alaska Merit Scholarship in each district.

The State educational content and performance standards are the foundation of our educational system. Upon them are built a massive superstructure:

- The writing of the Grade Level Expectations (GLE's);
- The choice of expensive curricula in 53 different districts;
- Thousands of teacher hours aligning new curricula to the new standards;
- Hundreds of thousands of dollars of professional development;
- $7.0 million of new assessment tools;
- Over $1.2B annual funding supporting the system driven by the new standards; and
- The quality of instruction for over 130,000 students.

The cost-to-date of producing the standards the Department of Education & Early Development is proposing for adoption has been $270,886. The standards were created in eight separate meetings attended by a sliver of stakeholders. The superstructure built upon them as well as annual maintenance will cost multiple billions of dollars and directly impact every facet of instruction statewide.

Educational funding and student performance are under continual intense scrutiny. These subjects are the source of great consternation for parents, educators and policy makers. It only makes sense that the foundation of our educational system for the next six-year cycle should be of the highest quality and directed at fulfilling our mission statements.

Alaska State Legislature

Juneau
State Capitol Bldg., Rm. 104
Juneau, AK 99801-1182
Phone (907) 465-4527
Fax (907) 465-2197

Interim
1292 Sadler Way, Ste 328
Fairbanks, AK 99701
Phone (907) 452-3434
Fax (907) 452-3430
(800) 491-4527

Representative.alan.dick@legis.state.ak.us

Representative Alan Dick

House District 6

Sectional Analysis
CS HB 330 ( ) Version E
State Education Standards

Section 1:

Sets out the findings substantiating the creation of the Jt. Legislative Task Force on Sustainable Education.

Section 2:

The purpose of the Task Force is to:

- examine the efficiency and effectiveness of education delivery in Alaska, with a specific focus on
  - education funding and educational standards, and
  - the ability to prepare students for significant careers.
- The Task Force will submit a report of its findings and proposed legislative changes to the governor, the legislature and the Board of Education and Early Development by September 30, 2013 and make any additional reports it considers advisable.

The duties of the task force begin at Page 2, Line 30:

1. Create a process for vetting proposed education standards before the standards are adopted by the state board of Education and Early Development
2. Propose separate education tracks for postsecondary vocational and college readiness;
3. Evaluate school district challenges that result from implementation of federal education laws;
4. Evaluate the efficacy, cost-effectiveness, and redundancies of various education assessment, including the high school graduation qualifying examination, and make recommendations to the legislature, the governor and the state Board of Education and Early Development for improvement or restructuring of assessments;

Prepared By: A. Kreitzer, Staff to
Representative Alan Dick, Sponsor
CS HB 330 Version E March 20, 2012

5. Conduct an analysis of public education that funding that includes:

A. A determination of the adequacy of public school funding for coverage of appropriate education expenses;

B. A determination of the appropriate uses of the base student allocation;

C. Alternative methods of addressing fluctuating energy, health, insurance, personnel, and pupil transportation costs;

D. The total amounts of state, local, and federal funding available to each district and for each category of special needs service area;

E. A comparison of the allocation of administrative and instructional personnel among districts;

F. Whether the allocation of administrative and instructional personnel has an effect on the ability to provide effective instructional services in each district; and

G. The effect of pension and health care expenses on total state education costs

6. Evaluate the availability of courses meeting core academic curriculum requirements under AS 14.43.820(a)(3) in each district.

The membership of the Task Force begins on Page 3, Line 31:

The Task Force members are appointed by the Senate President and House Speaker and represent:

a. Six members of the Legislature including chairmen of the Education Committees

b. Eight members as follows:

i. a representative of the Department of Education and Early Development

ii. a small business owner

iii. a superintendent

iv. a school board member

v. a public member

vi. three representatives of major career destinations of high school graduates in the state, jointly nominated by the commissioner of labor and workforce development and the commissioner of commerce, community, and economic development.

The task force meets at the call of the chair. The Senate President and House Speaker shall jointly appoint the chair and vice chair of the task force.

Section 3:

The existing content and performance standards will remain in effect until the new process is developed and the newly vetted standards are adopted.

Section 4:

The task force is repealed on July 1, 2014. The temporary law in Section 3 is also repealed July 1, 2014.

Section 5:

The bill has an immediate effective date.

HB 330: State Education Standards

HB 330 asks for a meaningful conversation regarding the purpose of education with all stakeholders before adopting and implementing the proposed State standards.

Standards should not be adopted because:

- Their adoption is a six-year irreversible path with an indeterminate fiscal note for all communities throughout Alaska.
- If we do not act, DEED and the BOE, by regulation and default, will adopt the proposed State standards. The Legislature will be obligated to fund the transition and BSA increases. Textbooks, curriculum development and alignment, annual assessment development, and professional development could exceed $100 million.
- There are several questions needing answering:
  1) Who are the standards for? Should we consider dual tracks? College/Vocational Education?
  2) Do we want aspirational or essential standards? How will they be assessed?
- The *Brown Center for Education at the Brookings Institute* says the Common Core standards will **not** produce meaningful improvement. There is no data to refute the Brookings' assertion. Adoption will necessitate a huge cost to school districts with no measurable results.

THE MYTH AND THE LEMMINGS
Common Core ≠ Common Sense

By Ray Mayer

For a brief moment, the Alaska State Legislature is in a position to prevent a massive blunder that is empowered by myth and emotion. If we do not review the proposed State Educational Standards, which are the foundation of education in Alaska, we will enter into another cycle of frustration and failure.

There is a solution.

The fundamental problem is that our educational system is not aligned with the reality students will face after graduation.

The solution is simple. Professionals in the major career paths must have a solid seat at the table, and not be token representatives.

Our current State Educational Standards fall far short. However, they were created by the exact same flawed process by which the proposed State of Alaska Standards (ASA) and the Common Core (CC) standards were created. A flawed process will *always* create a flawed product. Careful comparison shows that only superficial differences exist between the Common Core standards and the proposed State of Alaska Standards.

Rushing to judgment in adopting the Common Core (CC) and proposed State of Alaska Standards (SAS) is unwise for several reasons:

1) **Irreversible.** Adoption of the education standards is an irreversible 6-year process. Standards are the foundation of the educational system. If they are flawed, six years of education will be flawed.

2) **Conclusive data.** The Brown Center of Education under the prestigious Brookings Institute clearly says p.14 *"Don't let the ferocity of the oncoming debate fool you... the Common Core will have little effect on American students' achievement. The nation will have to look elsewhere for ways to improve its schools."* Despite this irrefutable conclusion, with no contrary evidence, Anchorage has chosen to adopt the Common Core Standards. ASB spent less than two hours in discussion before lunging to judgment. What is the cost? Where is the research? Worse yet, where is the evidence that the standards serve anyone other than the elite 7% who will eventually complete a 4-year degree program? In the blind rush, the career/tech students have been sacrificed on the altar.

3) **Rigor Myth.** The myth that more rigorous standards will cause students to perform better is driving the lemmings. The *Brown Center/Brookings Report* clearly refutes this myth. High teacher expectations cause students to perform better. More rigorous standards are *NOT* the same as high teacher expectations!

   Read the Brookings report p.4. Raising standards will NOT improve performance. Standards are not a vacuum hose that sucks students upward.

4) **Lid myth.** We are told that our current standards are holding students back. The misconception borders on deception. Our current standards only determine what our state assessment tests. Schools can raise the bar as high as they want now. Schools are already

teaching algebra II, trig and pre-calc. Our current Alaskan Standards are *NOT* a lid holding students down. The cause for low student performance lies in other variables hidden by denial.

5) **No fiscal note.** There has been *NO* cost analysis for adopting the standards for the State. Will the legislature commit to something for which there is no accurate fiscal note? This alone should stop the CC and SAS movement in its tracks. A reputable Alaskan source has stated the cost of adopting the CC or SAS is "incalculable."

While schools debate whether to adequately heat their buildings or lay off teachers, will the State make a commitment that could easily cost >$100M for new textbooks and curriculum, new assessment tools, teacher time aligning the new curriculum to standards, and professional development? The cost will be staggering, and the improvement to education will be zero!

Texas estimates that it would cost $3B to convert to Common Core Standards.

Educational designers are desperate for a way to improve the struggling system. Expensive fads like the Common Core Standards arise to meet the demand. The Legislature trusts the designers. Four years later, District representatives come to Juneau asking for more money and wonder why the Legislature is "rude."

Only real change will evoke real change.

6) **Stakeholders.** The proposed SAS were modified from the CC by 224 educators and 4 non-educators. Representatives of the career destinations of our students *were not and must be major* stakeholders. The vast majority of CC and SAS high school math standards have *NO* real life applications. If schools are to prepare students for real life, then ALL standards should have a real life application! This, and this alone will repair our broken system.

On-the-ground-educators are doing their best to make the system work, but until the standards are aligned with reality and not the exclusive interests of the intellectual elite, the system will struggle.

7) **Dumbing down.** Those who challenge CC and SAS are accused of dumbing down the standards. The accusers lack real life application skills to envision the obvious. We must redirect rigor from academic abstraction to real life applications.

8) **Elemental or aspirational standards.** The next concept is difficult, but imperative to understand. Standards are either a) elemental, that is, what all students should know, or b) aspirational, that is, what we wish most students would know.

The CC and proposed SAS are aspirational. Since all students will NOT be taking the courses necessary to study the aspirational standards, and our assessments will measure those aspirational standards, we will NEVER know whether students are performing poorly on something they have studied, or whether they have just not taken the courses necessary to learn the aspirational standards.

All we will know is that a majority of students are performing poorly. Districts will get a big "ding" and educational designers will be looking for another fad.

9) **Esoteric language.** The language of the CC and SAS is esoteric and their form inconsistent. What good is public comment if the public cannot read the standards? Additionally, the language and math standards are inconsistent with each other. The language standards are written with a broad brush, the math standards with an ultra-fine Sharpie. Standards are supposed to represent concepts, not curriculum. Some math standards are so specific they better resemble a spare problem on the bottom of a page.

10) **No field testing.** The standards have not been field tested in Alaska. Do Alaskan teachers understand the standards well enough to design comparable lessons? Should we make a $multi-million move to CC or SAS with no field testing? Will we follow the Lower 48 lemmings over another destined-to-fail cliff?

11) **Abandonment.** For those who are able to read the standards, it is obvious: the standards are written for those students going to a 4-year degree program.

The tragic fact is that 93% of our current 9th graders will *NOT* finish a 4-year degree program.

1/3 of our 9th graders will not graduate from high school.

1/3 of our 9th graders will graduate from high school and go on to "life."

1/3 of our 9th graders will go on to a 2-year, a 4-year or a certificated program.

The proposed CC and SAS cater to the upper1/3 and abandon the needs of the lower 2/3.

12) **Definition of insanity.** The state has been through the standards creation and adoption process many times, and seems to have little institutional memory. The identical process of standards development brought us the flawed system we now have. Will repeating the same process on a more stringent level produce a different result? Only when stakeholders from career destinations are major players and when standards are aligned with real life will the system be meaningfully reformed. The simplicity of the solution is overwhelming.

NORTH SLOPE BOROUGH SCHOOL DISTRICT

Nunamiut Amaggut
Nunamiut School
P.O. Box 21029
Anaktuvuk Pass,
Alaska 99721
(907) 661-3226
FAX (907) 661-6215

Atqasuk Eagles Tinmiagpat
Meade River School
P.O. Box 91030
Atqasuk, Alaska 99791
(907) 633-6315
FAX (907) 633-6215

Barrow Whalers
Barrow High School
P.O. Box 960
Barrow, Alaska 99723
(907) 852-8950
FAX (907) 852-8969

HMS Wolves
Eben Hopson, Sr.,
Memorial Middle School
P.O. Box 509
Barrow, Alaska 99723
(907) 852-3880
FAX (907) 852-7794

Arctic Foxes
Fred Ipalook
Elementary School
P.O. Box 450
Barrow, Alaska 99723
(907) 852-4711
FAX (907) 852-4713

Kiita Ugpiich
Kiita Learning Community
P.O. Box 169
Barrow, Alaska 99723
(907) 852-9677
FAX (907) 852-4334

Kaveolook Rams
Harold Kaveolook School
P.O. Box 20
Kaktovik, Alaska 99747
(907) 640-6626
FAX (907) 640-6718

Nuiqsut Trappers
Trapper School
P.O. Box 89167
Nuiqsut, Alaska 99789
(907) 480-6712
FAX (907) 480-6621

Tikigaq Harpooners
Tikigaq School
P.O. Box 148
Point Hope, Alaska 99766
(907) 368-2262/2263
FAX (907) 368-2770

Kali Qavviich
Kali School
P.O. Box 59077
Point Lay, Alaska 99759
(907) 833-2311
FAX (907) 833-2315

Alak Huskies
Alak School
P.O. Box 10
Wainwright, Alaska 99782
(907) 763-2541
FAX (907) 763-2565

HB 330: State Standards

Testimony to Committee

2/24/2012

Peggy Cowan

I'm Peggy Cowan, superintendent of schools for the North Slope Borough School District.

Good morning Chairman Dick, members of the committee, thank you for inviting me to speak today and for your consideration of HB 330 and other education issues. I am grateful for your dedication to the education of the children of our state. I know you have a busy agenda and I will try to be brief.

I reviewed HB 330: State Standards, Representative Dick's sponsor statement and the material distributed to school districts by the Department of Education and Early Development inviting comment on the current draft of the standards. I agree with Representative Dick's emphasis on the importance of the investment in state standards and their effects on and use by the districts. Our district is in a five year process of comprehensive curriculum development, alignment, integration and mapping and the state standards and grade level expectations are at the heart of rigorous academic content for this curriculum. We are relying on a locally developed Inupiaq Learning Framework for the relevance and integration of local language, history and culture into our curriculum. We turn to the state standards and grade level expectations for guidance on academics.

I also agree with Representative Dick's sponsor statement's emphasis on a thorough vetting process for state standards. The Department of Education and Early Development was right in extending the time between introduction to the State Board of Education and adoption rather than the typical cycle of the next meeting. This is a step in the right direction to allow thorough vetting. As Representative Dick explained industry representatives and employers are important in the review of the standards. Industry and employers are not likely to review the state standards without the state being intentional. As a point of reference, let me summarize the process in the North Slope Borough School

District. The district's Director of Curriculum, Instruction, and Assessment is reviewing them herself and getting teams within the district to review them and provide recommendations for our district's feedback to the Department of Education and Early Development. These teams are made up primarily of members of our district's own curriculum committees who are guiding the work on our curriculum and are for the most part teachers. We do include what we call 'steering committees' which are made up of parents, businesses and community members in the review of our own curriculum, but we are not including these people in the district's review of the state's standards. I do not know, but expect that the review by others districts is similar, so the district's review of the standards will not elicit industry review. To get that review, the state will need to invite and solicit it intentionally.

Thank you again for your service on this committee and to the students in our state. I'd be happy to answer any questions.

Box 169 Barrow, Alaska 99723 (907) 852-5311 Fax (907) 852-9503

Thank you Mr. Chairman and Committee for allowing me to testify,

For the record, my name is Grant Funk. I have lived in Western Alaska for nearly 20 years and in the village of Hooper Bay for the past 13 years. I have raised 5 of our 6 children in this region. Several of our children are currently raising their families in Western Alaska. My kids have had the best of both the public school system as well as a homeschool education. I am an Emergency Medical Instructor as well as an Aviation Instructor. I have volunteered in the local school teaching these skills for 10 years as well as teaching aviation to the middle school and high school students full time for two years. I currently teach an after school aviation class as well as direct a local teen center. Overall, I have been involved in education on various levels for 26 years. I am an Advisory School Board member. I am also the 2012 Alaska Air Carriers Association Community Service Award winner for my work in aviation education in our community.

I am requesting today that the State take the necessary time to provide educational standards that lay the foundation for the future success of all students. We have entered a technological age that has presented new opportunities and challenges for this generation. Their foundational years in elementary, middle school and high school need to be the trailhead for a successful future.

We have much cultural and geographical diversity. That diversity should be reflected in the state educational standards. This diversity is reflected in my own children. Three of our six kids completed a course of study in college. Two completed technical training. One is still in high school but planning on college. As an educator and as a parent, I want to provide the best avenues of success for my students as individuals. They need a set of standards to act as a guiding boundary into the future they desire to pursue.

With that in mind I would like to request that the new standards take a step in a direction that would eliminate the "one size fits all" approach. We have students that are hoping to go to college following graduation and a greater majority of students that will go into the skilled labor force. There needs to be at least two sets of standards to better prepare these students for productive careers in their areas of interest.

A career technical education track (CTE) would give students the opportunity to learn applicable skills for jobs that are more readily available in rural Alaska. Aviation, health care, commercial fishing and construction have opportunities that do not require a college degree. There is also a need in this category for small business training as well as classes in small government. College students often leave the rural areas and enter the job markets appropriate to their degree. That leaves others to start the small businesses and sit on the various local councils and boards. The middle and high school education system could go a long way toward preparing students as lifelong learners and leaders in their local communities through a CTE track standard.

One Western Alaska CTE teacher I met with gave me the example of six of his former students. They were hired in various capacities right after high school and are averaging $40,000 each annual income. These students will not be a part of the welfare system. They will have the opportunity to fund further

training or have their employer provide advancement training. They are becoming productive local citizens without a college education.

If there are CTE standards, the system is freed up for a college track set of standards that will challenge and prepare the college bound high school students with advanced math and science classes. The upper level students are often the neglected group in the education process in rural schools. They need guidelines that will provide realistic challenges better preparing them for college studies.

Bringing in a vocational track as well as a college track would not only benefit the student, but the state in the years to come. When a person has a job, they are less likely to wind up on the welfare system or in the court system. At a recent seminar on international business the speaker said, "Worldwide, one of the best things you can do for a person is to give them meaningful work."

That brings me to my final thoughts on plotting the course for the future direction of education in the state. One of our embarrassing statistics as a state is the high suicide rate. Students graduating ill prepared for the job force or even for a subsistence lifestyle are left to wander the streets of our cities or the rural communities looking for something to do. Hopelessness takes over and lives, that could have made a difference in this world, are lost.

One school teacher, who has also been in Hooper Bay 13 years, told me that she has lost 40 students or former students to suicide or tragic death. Even as I write, our community is again dealing with a suicide of a young man. It takes its toll on families and friends, as well as teachers and staff. The education system suffers as students and teachers are emotionally functioning at less than optimum performance.

The education system is not responsible for the high suicide rate. I do feel, however, that it can go a long way toward prevention by providing standards that allow a student to learn the relevance of an education. Vocational math, applied "hands on" science, and technical reading all connect them to a future with hope of becoming productive. These type of classes give the non-college bound student a reason to succeed in math and science because they understand how it relates to the world they live in.

As an aviation instructor I have had the joy of watching kids connect math to life skills as they calculate take off performance of an aircraft on a flight simulator. Students disinterested in science became consumed by science fair projects that utilized aviation issues. Their eyes were opened to applications of vocational math that encouraged them to learn because it had immediate applications in their world.

In conclusion, I ask the legislature to pass HB 330 allowing time to gain insights from the education industry. In doing so we will prepare a generation with a measure of hope for future jobs that will provide income for their families as well as boost self -confidence and self- reliance. Anything done to improve the family has the potential of decreasing the suicide rates.

Thank you for this opportunity to address this critical issue.

May God bless our state!

Grant Funk

Testimony of Chip McMillan
Ass't Professor of Education, UAS
2-24-12 House Education Committee

AK State Standards for K-12 are not STEM Compliant

I prepare K-8 teachers to teach math and science in Alaska.

What I am about to say will appear critical of our State Standards. It is important that you know that I participated in the writing of the science content standards, the performance standards and the science SBA items. I am as responsible as anyone for any deficiencies in these documents.

I also believe any deficiencies in these documents are not the result of negligence or malfeasance on anyone's part. As we say, hindsight is 20/20.

US students not keeping up with other nations in math and science.
AK cannot afford to lag behind the rest of the country or the rest of the world in math/science.

We are currently falling behind in an even more important area: STEM Education.
Science Technology Engineering Math

"We're doing students, parents and America's competitiveness a disservice by not demanding higher standards for STEM learning," Craig Barrett, former CEO of Intel and current chair of Change the Equation, a group of 110 business executives from Exxon, Lockheed Martin, Google, Dow Chemical, etc,.

"It turns out the most common educational background for the Fortune 500 CEOs in the US is not business or law but engineering."

42 out of the 50 highest paying jobs in Alaska are in STEM fields.
The problem is ⅓ of all engineering jobs in Alaska are done by people who live down south.

Every state I have looked at has some kind of statewide STEM initiative.

We have no engineering standards today. The word "engineering" does not appear anywhere in any of our content standards.

The Science and Technology GLEs have an implied focus on engineering but never call for actually touching or manipulating anything.

I have been unable to find any science SBA items referencing engineering.

The irony is
we used to have engineering and technology standards for K-12 in AK.
we used to have an engineering and technology curriculum for K-12 in AK.

It was mandatory for all children in Alaska!

The technologies include
Alutiiq kayak
Athabascan snowshoe
Tlingit fish trap
Aleut basketry

Even today these are marvels of technology and they resulted from true engineering.

Problem solving, innovation, designing, then testing, refining, optimizing those designs; demonstrating grit, working cooperatively. These are engineering attributes.

These are what our resource and communication industries are looking for in the workforce.

We should infuse these engineering skills and dispositions into the current math, science, technology standards.

We should seek input from business and industry, e.g., ARCO, Greens Creek Mine, GCI, NOAA.

Teachers in AK will not teach to STEM without leadership.

We need STEM in our standards, our curriculum, our SBAs, our teacher evaluations.

It seems to me that passage of this bill will assist in the appearance of STEM in our state standards, GLEs, SBAs, district math and science curricula, and thus our K-12 classrooms.

To: Chair, House Education Committee

Ref: HB330

Thank you for the opportunity to offer testimony today in support of HB 330 creating a Task Force on Education Standards. I am Joe Banghart, interim Superintendent, Denali Borough School District, Healy. Over the past fourteen years I have had the opportunity of serving on various standards committees. These committees have always been composed of educators that have volunteered to help design standards. Our state is fortunate to have these professionals give of valuable time for the process. Our state standards are vital for the continued educational progress of children in Alaska. HB330 would offer the involvement of the Department of Labor and Workforce, Department of Education and Early Development, small business owners, subsistence lifestyle, parents, and three representatives of major career destinations. This type of partnership could be the very foundation that would provide a consistent state network of business, education, parents, and other partners for career technical training, continued high academic standards, and the Department of Labor and Workforce guidance. Our state stands in vital need of this type of Task Force for the vetting of all future educational standards. This Task Force could provide information for resources available across our state. This link will build a firm foundation for future grant potential, partnerships, and the combination of state educational standards in English/language art, mathematics, science, geography, government, history, healthy life styles, arts, world languages, technology, and employability. All the consistent and professional work that has been given towards the development of state standards would benefit from this Task Force.

How can we not afford to stop and evaluate our current educational standards and properly align them with clear pathways to successful careers in Alaska. Accountability is best found in the involvement of multiple partners that design not only assessments for each Performance Standard but consider the application of these skills into actual practice. Accountability measures in this process would include academic growth and employment skills and successful job placement. True accountability is being tested by all our legislatures in consideration of this Task Force. This approach would help lower unemployment, provide future employees across the state, and encourage accountability at every level. If we ignore this vetting of our standards we are turning our backs on the future of Alaska and our children.

Joe Banghart, Supt Tr-Valley (Denali) School District

Annette Kreitzer

From: Herman, Marcy J (EED) <marcy.herman@alaska.gov>
Sent: Tuesday, March 20, 2012 12:15 PM
To: Annette Kreitzer
Cc: Morse, Les (EED); Hanley, Michael S (EED)
Subject: HEDC 3.15.12 Follow up
Attachments: HEDC ESEA Waiver Summary-Edited 3.19.12 follow up.pdf; HEDC NCLB Report 3.19.12 Follow up.pdf; HEDC Ed Standards Response 3.19.12 Follow up..pdf; HEDC Standards Comparison_old_Proposed 3.19.12 follow up.pdf; HEDC Math Standards Organization with Domain Progression 3.19.12 follow up.pdf; HEDC ELA Standards Organization chart 3.15.12 follow up.pdf

Annette,

Attached are several responses to questions from the HEDC hearing on Monday, March 19, 2012. Please let us know if members have any related questions or would like additional information. Commissioner Hanley will be referring to these handouts/responses in Wednesday's hearing on HB330.

Committee Questions:

1) Rep. Wilson asked about additional ESEA Waiver deadlines after September 2012. The U.S. Department of Education has not disclosed further dates, however they have indicated that there will be more rolling deadlines. Included as an attachment is a one-page briefing on the ESEA Waiver – first attachment
2) Rep. Cissna asked about research on the successes and failures of NCLB. Included is a report that EED found on the Center for Education Policy (CEP) website that should suffice. Additionally, within the body of this email, we are including the CEP webpage. Center for Education Policy (CEP) studies – CEP is a reputable group - http://www.cep-dc.org/index.cfm?DocumentSubSubTopicID=9 – second attachment
3) Rep. Seaton asked for an explanation of the comparison to proposed Alaska Standards and the Common Core – third attachment
4) Rep. Seaton asked for a side-by-side comparison – fourth attachment
5) Additionally, we are provided two documents that layout the structure of the Mathematics and ELA standards which the Commissioner will use for explanation purposes on Wednesday – fifth and sixth attachments

Thanks Annette, please let me know if you have any questions.

Marcy

Marcy Herman
Special Assistant to the Commissioner
Alaska Department of Education & Early Devlopment
P.O. Box 110500
Juneau, AK 99811-0500
907-465-2803 (voice)
907-465-4156 (fax)

Alaska Department of Education & Early Development

ESEA Waiver Flexibility Summary to Date

March 14, 2012

The US Department of Education is offering states the flexibility to waive certain provisions of the current Elementary and Secondary Education Act (ESEA), formerly known as No Child Left Behind, in exchange for following another set of requirements. The major provisions that would be waived would be the current proficiency targets for Adequate Yearly Progress (AYP) and the labeling and consequences for Title I schools in improvement, corrective action, or restructuring.

Requirements and Flexibility

The waiver would last through the 2013-2014 school year and could be extended if ESEA is not reauthorized by then.

In exchange, Alaska would have to implement an accountability system of its own design that addresses the U.S. Department of Education's principles for improving student achievement and increasing the quality of instruction. Those principles are:

1. Adopt college-ready and career-ready standards and assessments, including for English language learners.

2. Develop a system of differentiated recognition, accountability and support for schools.
    - Each school could have its own annual proficiency targets that are ambitious but achievable.
    - Each year, Alaska would have to identify the lowest-performing 5% of Title I schools and apply specific consequences as required by the U.S. Department of Education.

3. Use student achievement, as shown in state assessments or on other measures, as a significant factor in evaluating teachers and principals.
    - Alaska would set the guidelines for evaluations, and districts would implement the systems.

Current Status

In November, 11 states applied for waivers, and all have now received them. Another 26 states just recently applied for waivers to take effect in the 2012-2013 school year. The next deadline to apply is Sept. 6, 2012; those states would begin to implement the waiver's requirements in the 2013-2014 school year. We anticipate that there will be additional deadlines following the one in September.

NationalJournal

EDUCATION

Report Card

With help from education experts, NJ grades the landmark No Child Left Behind Act 10 years after its enactment.

by Fawn Johnson

Updated: January 8, 2012 | 7:26 a.m.
December 8, 2011 | 2:00 p.m.

AP PHOTO/SETH PERLMAN

Mixed results: No Child Left Behind has not dramatically boosted student performance

Jan. 8, 2012, will mark the 10-year anniversary of President George W. Bush's signature on his top domestic priority, the No Child Left Behind Act. The standards-setting education law was unquestionably groundbreaking, even though a decade of experience has revealed deep flaws in its measurement systems. Undaunted, its defenders stand by its original premise—that public schools should take responsibility for the academic achievement of all their students.

The law was a product of political circumstances that would be impossible to replicate today. Unapologetic liberals teamed with conservatives in Congress and the White House to craft a monitoring system for schools that for the first time provided comparable data about students' abilities in math and reading. The law required all students to take standardized tests once a year, and it mandated that schools show they were improving their performance from year to year.

The measure passed the House and Senate with sweeping bipartisan majorities, a feat that reflected a year of in-depth and difficult negotiations between the administration and Congress. At certain points, the legislation stayed alive only because the authors stubbornly refused to give up. The Democratic sponsors fended off teachers unions, and the Republicans deflected conservatives railing against bigger government. The sponsors forged

compromises across the aisle and then cajoled their constituencies into backing their efforts.

It worked. In the House, the vote on the final conference report was 381-41. The Senate vote was 87-10.

"The fundamental principle of this bill is that every child can learn, we expect every child to learn, and you must show us whether or not every child is learning," Bush told a cheering crowd at a high school in Hamilton, Ohio, on the day he signed the bill. "Every school has a job to do, and that's to teach the basics and teach them well. If we want to make sure no child is left behind, every child must learn to read. And every child must learn to add and subtract."

As a country, we have not come close to achieving that goal, but No Child Left Behind has greatly informed our understanding of how far we have to go. School districts and states are now accustomed to giving their students standardized tests and reporting the results. Just as importantly, achievement among minorities and disadvantaged kids is disaggregated, or examined separately, highlighting potential problem areas in schools and communities. Forty-five states, two territories, and the District of Columbia have adopted new state-determined Common Core standards for education.

The results from all of that testing are not very encouraging. In global comparisons, 15-year-olds in the United States rank 14th in reading and 25th in math. Scores have increased slowly and steadily over the past 20 years, but No Child Left Behind did not cause a noticeable uptick.

The law had problems from the beginning. Administrators spent much of their time trying to get their schools in compliance on paper rather than implementing the kind of radical changes the sponsors envisioned. The paperwork burdens were tremendous. The teacher-certification requirements were pretty much a waste of time. Loopholes in the funding provisions had the practical effect of ensuring that financially poor schools still got less money than those in well-off areas. Some states lowered their academic standards to "improve" their performance.

The failure at all levels of government to deliver promised resources to ailing schools made it impossible to give disadvantaged students all the benefits to which they were entitled. It's a matter of debate where the blame lies for the lack of funding, but it's fair to say that the education statute is not the sole cause.

Now, No Child Left Behind's chapter in history is about to close. Lawmakers are proposing to dismantle the law, citing complaints about its one-size-fits-all approach and its effect of encouraging schools to "teach to the test." Because thousands of schools could lose funding for falling short of the law's achievement levels, the Education Department is offering to waive some requirements for states that meet certain criteria.

Against this backdrop, *National Journal* asked 21 education experts—the law's authors, other lawmakers, school officials, academics, and advocates with a variety of perspectives—to evaluate No Child Left Behind's effectiveness based on its original goals.

"Very few [school districts] stepped up and said, 'Whoa, we've really got to do things differently here.'" —Rep. George Miller, an author of No Child Left Behind

It is no simple task to judge a law, particularly one that was enacted after a year of intense bipartisan negotiations in which everyone involved gave up something they cared about. The deal they reached, letting the states set many of the benchmarks, was imperfect from the get-go.

About half of the participants in *NJ*'s survey declined to give letter grades to the individual components of No Child Left Behind, saying that state implementation was so varied that nationwide judgments were impossible. The experts' struggle to assess the law mirrors the statute's own contradictions which labels schools as "blue ribbon" or "failing" even though its report cards miss broad components of learning and despite the fact that states have learned to game the system.

Nevertheless, participants were in striking agreement on what worked and what didn't. Based on their assessments, *NJ* rendered its own judgment of the law's individual components—positive, mixed, and negative.

THE RESULTS IN BRIEF

Of the seven objectives that *NJ* identified, the experts considered the law's spotlight on student achievement its only success.

Collectively, they found no net positive effect from any of No Child Left Behind's primary goals:

• The law did not achieve its defining goal—accountability—but it spurred states and school boards to rethink how they assess and run their education systems. Some called this an achievement in itself.

• The law failed to close the achievement gap between well-off white children and minority or low-income students. But that goal was always more of an aspiration than a realistic objective.

• No Child Left Behind was an outright failure at ensuring teacher effectiveness. Its certification requirements were ineffective; but, at minimum, it focused educators on evaluating teachers.

• On perhaps its most basic goal, improving overall student performance, the law did not dramatically boost students' scores, but neither did it inhibit their progress.

NJ identified three secondary goals of No Child Left Behind. The experts considered these less important, but many saw them as key elements in achieving one or more of the primary goals.

• The spotlight on student achievement is the law's one undisputed success. The intense focus on students' reading and math

proficiency within different subgroups is the game-changer that will endure into the next chapter of education policy.

• Observers hotly debate the law's effect on research and data. Some experts told *NJ* that the more frequent use of data has made a big difference in helping schools understand student progress. Others said that the data don't add up to a coherent picture of student achievement.

• No Child Left Behind failed to improve school choice. Children stuck in failing schools still have little, if any, chance of transferring to better ones.

Full disclosure: *NJ*'s own measuring tool misses some of the education law's key achievements. It does not fully capture the jump in public awareness about student achievement and teacher credentials, and it doesn't reflect the impact of the state-led effort to craft Common Core achievement standards, a direct reaction to No Child Left Behind.

(Mixed results) ACCOUNTABILITY
Assessments Consistent, But States Game the System

The goal behind the accountability provisions in the No Child Left Behind Act was simple: Show parents and teachers whether schools are teaching children to read and write, and hold the schools accountable if they aren't. The law grades schools based on how well they are progressing toward those goals. Test data are broken out by race, gender, and other socioeconomic factors.

No Child Left Behind got about halfway there in getting schools to account for the achievement, or failure, of their students. We know a lot more than we did 10 years ago about students' math and reading abilities. As states have implemented annual standardized tests in reading and math for children in grades three through eight, assessments have become more consistent. Because schools report scores by subgroups, administrators can no longer hide behind their top students to mask the failing ones.

The mandated assessments have prompted a flurry of kindergarten-12 activity at the state level. All states now have academic standards and sophisticated devices for measuring student progress. Before No Child Left Behind, only a smattering of states had such programs in place.

But the law fumbled its measurement and enforcement mechanisms. It allowed states to create their own assessment tools, thus fragmenting the system and making it impossible to tell from state to state how students were performing. School administrators supplanted the initial goal of boosting student achievement with a more benign one—simple regulatory compliance. Achieving compliance became a paper game to jerry-rig the benchmarks so that more schools could meet them.

Because low achievement led to sanctions, some school districts did everything they could to avoid letting the true story of their failures come out. "Very few stepped up and said, 'Whoa, we've really got to do things differently here.' They were managing it.

That's why they were pushing the kids so hard, teaching to the test," said Rep. George Miller, D-Calif., one of the law's authors.

To ensure that some federal teeth survived in the state-determined assessment system, the law's authors inserted a 2014 deadline by which *all* public-school students should be at grade level. Schools that don't achieve that goal face punitive consequences. Under that measure, more than 80 percent of the nation's schools could be labeled as failing next year.

That looming measurement of overwhelming failure offers the best example of where the accountability feature of No Child Left Behind crumbled. "Failure" was only supposed to occur in isolated instances and was supposed to signal to states and the federal government where they needed to intervene with more management—and, importantly, more money.

The federal money didn't materialize, and states skirted their interim proficiency targets by tinkering with their standards. "Expectations, in the form of state-set standards and assessments, were too varied and, for the most part, too low," said Kati Haycock president of the Education Trust, an education-reform group.

The law inserted, a new device—the prospect of penalties—into five decades of K-12 policy; the result was curricula that closely focused on easily measurable outcomes. "Tests become high stakes when we attach sanctions," said Kevin Welner, director of the National Education Policy Center at the University of Colorado (Boulder). "We see the now-familiar signs of goal displacement—narrowed curriculum, teaching to the test, cheating, etc."

The harshest critics of No Child Left Behind say that the proficiency requirements are both meaningless and restrictive. "No Child Left Behind established unrealistic targets, failed to provide schools with resources to meet those targets, and labeled and punished schools based on flawed indicators," said Dennis Van Roekel, president of the National Education Association, the nation's largest teachers union.

The law's defenders acknowledge these shortcomings, but they stand by its central premise that schools should face consequences when their students aren't functioning at grade level.

Report Card: **No Child Left Behind**

The law has succeeded in exposing problems in public schools but has done little to solve them.

Primary Goals of No Child Left Behind

⊗ Symbol meaning failure ✓ Symbol meaning success ⊖ Symbol meaning mixed results

	Did it work?	Goal	Outcome
Accountability for Student Achievement	⊖	Measure and report by disaggregated groups whether students are at grade level on reading and math.	Assessments are more consistent, but states game the system and lower standards to avoid embarrassment.
Closing Achievement Gaps	⊖	Provide school choice and supplemental services for children who are not performing at grade level.	Attention is now focused on disadvantaged groups. Gap still remains, but all scores are up.
Overall Student Improvement	⊖	Improve academic achievement of all students.	Reading and math scores have risen modestly, but there is little evidence that the law had any effect on those outcomes.
Teacher Effectiveness	⊗	Put highly qualified teachers in every public school.	Created certification that was little more than a paper shuffle.

Secondary Goals of No Child Left Behind*

	Did it work?	Goal	Outcome
Spotlight on Student Achievement	✓	Empower citizens with information about students' achievement and progress, disaggregated by subgroup.	This is the real game-changer. The law succeeded in shining a light on achievement gaps and disparities among subgroups.
Use of Research and Data	⊖	Focus learning where it is needed with research-proven methods.	Far more data are available now than before NCLB, but there is little sense of what to do with this info.
Flexibility and Choice	⊗	Create meaningful options for children trapped in failing schools.	Parents face insurmountable hurdles to school transfers even when the opportunities exist.

*NJ ident fied these goals as secondary because they are intended to facilitate one or more of the primary goals.

"Yes, we can get a new speedometer. I'm not opposed to that. But will it close the achievement gap in and of itself? Hell, no. It just moves the goalposts," said Margaret Spellings, who as Bush's Education secretary helped to implement No Child Left Behind. "If it's just information for information's sake, that's a nothing burger. It just is."

(Mixed results) ACHIEVEMENT GAP
Gap Remains, but Educators Now See It

The law's name alone spotlights its fundamental goal of bringing all children up to grade level, regardless of race, disability, or poverty. Those who fall behind are supposed to get supplemental services to help them catch up. If their school can't provide those services, students should have access to one that can.

When No Child Left Behind was being written, black and Hispanic students lagged far behind white students in reading and math. They still do, although the achievement gap has narrowed slightly in some areas, according to the Education Department's National Assessment of Educational Progress. Hispanic eighth-graders this year nudged 2 points closer than they were in 2009 to white students' scores in reading.

The disparity is still big. Hispanics' scores of 252 in reading are now 22 points lower than their white peers' scores of 274. If the 2-point gain doesn't seem like much, consider this: It equals the improvement that Hispanics made from 1992 to 2009.

Leaving aside the comparison with whites, minority students have made dramatic improvements over the past two decades. Math scores among African-American fourth-graders and Hispanic fourth-graders are up three full grade levels since 1990. In reading, both groups have advanced about one grade level higher since 1992. Among eighth-graders, Hispanics and blacks advanced more than two grade levels in math and one grade level in reading. It isn't clear, however, that No Child Left behind had much to do with those improvements.

The education law can claim a major, if somewhat disquieting, success in letting people know just how far behind some students lag. "No Child Left Behind was enormously successful in spotlighting the significant, persistent achievement gaps at the school, district, state, and national level," said Patrick Riccards, who heads ConnCAN, an education-reform group in Connecticut that has inspired sister chapters in several other states.

No Child Left Behind came along at the midpoint of the achievement trend for students, and it didn't alter that momentum in any significant way. Most experts agree, however, that the law didn't hurt either. "White students are not standing in place while minority students gain ground," said Dan Domenech, executive director of the American Association of School Administrators.

Eliminating the achievement gap will require more than just highlighting the disparities, Domenech said. Fully addressing the problem requires the kind of commitment to improving poor performers that many schools can't or won't undertake. It would mean longer school days, a longer school year, and more support services.

"What would happen if every kid who was eligible actually got tutoring? What would that look like?" former Secretary Spellings asked. Implicit in her question is an acknowledgement that even though No Child Left Behind starkly outlined the magnitude of the challenge, it couldn't by itself bring poor and minority children up to grade level.

"If a major component of No Child Left Behind was closing the achievement gaps between subgroups of students, it is hard to claim that it was successful," said Sen. Michael Enzi, R-Wyo., the ranking member on the Senate Health, Education, Labor, and Pensions Committee.

(Mixed results) STUDENT IMPROVEMENT
Scores Have Risen Modestly

The authors of No Child Left Behind envisioned a system in which all students would be given the chance to improve. If provided that opportunity, the reasoning went, all children would improve.

And they have, slowly.

Student reading and math scores have trended upward since 1990. Public schools' academic performance is at its highest point ever. Math scores, in particular, have shown a small but distinct increase in recent years. That is no small accomplishment, given the budget shortfalls in school districts around the country.

Achievement levels still aren't anything to crow about, however. The National Assessment for Educational Progress puts math proficiency for fourth-graders at 40 percent. For eighth-graders, it is 35 percent. Reading proficiency is at 34 percent in both grades. Unless you're grading on a pretty sharp curve, that's an F. No evidence shows that No Child Left Behind affected student scores in either direction. In reading and math, the law probably didn't do any harm and quite possibly propelled acceleration where it otherwise might have slowed.

One undisputed bright spot shines. No Child Left Behind requires a Nation's Report Card every two years from the National Assessment of Educational Progress, which is widely considered to have the most reliable data on student achievement. (Before the 2002 law, the national assessments were done on an ad hoc basis as time and money permitted.)

The Nation's Report Card makes for uncomfortable reading because it doesn't lie. It is a reality check on the halfhearted testing schemes that some states and school districts have used to artificially elevate their students' scores.

"Yes, we can get a new speedometer. I'm not opposed to that. But will it close the achievement gap in and of itself? Hell, no." — Former Education Secretary Margaret Spellings

Critics say that the real damage from No Child Left Behind comes from curricula too focused on reading and math, coupled with standardized tests that don't measure comprehension. Under the law, testing became its own game, which further narrowed the focus within math and reading instruction. Not surprisingly, this trend occurred most frequently in the poorest schools that were most in danger of sanctions under the law. Allowing the states to implement No Child Left Behind, a major concession by its congressional authors, has been detrimental to student achievement in some places, because states have lowered their standards so that fewer schools will be labeled as failing.

"When schools with multiple goals are held accountable only for basic skills in math and reading, they rationally shift emphasis away from history, the sciences, the arts, civic participation, character development, physical fitness, and health," said Richard Rothstein, an education researcher at the Economic Policy Institute. "The more inexpensive the tests, the more they focus on recall rather than reasoning." Tests that can be electronically graded, for example, don't measure reasoning ability as well as, say, essay tests.

State implementation also hurt some students because they suddenly had to do less to be considered proficient. The law "inadvertently and perversely created incentives for states to lower

standards while giving school systems opportunities to take only token steps to fix failing schools," said Thomas Toch, an education journalist who cofounded the research group Education Sector.

That outcome is most definitely not what educators or the law's drafters intended, which makes it difficult to say that No Child Left Behind succeeded in improving students' performance. "The reason we're doing all of this is to 'dramatically' improve student outcomes. That adverb is so important. It means we can't be satisfied with a little bit of progress," said Gene Wilhoit, executive director of the Council of Chief State School Officers.

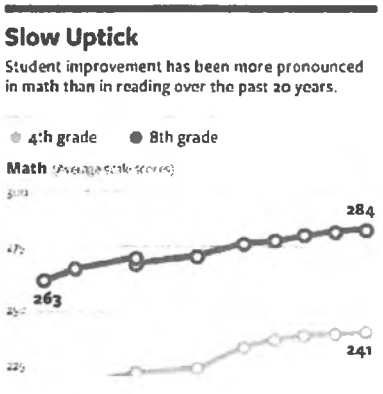
(Failure) EFFECTIVE TEACHERS
Certification Is a Paper Shuffle

No Child Left Behind was intended to ensure high-quality teachers in every school, regardless of poverty level or neighborhood. It aimed to prevent school districts from concentrating low-performing teachers in poor areas where parents were less likely to complain.

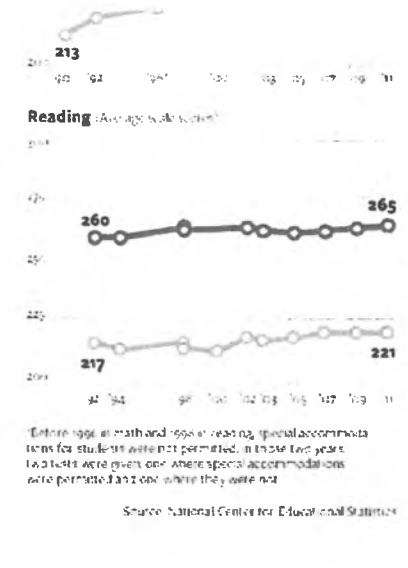
The law didn't even get out of the starting gate in rectifying that situation. Faced with a torrent of protests from teachers unions and schools, the authors stopped short of mandating an ultimate "effectiveness" goal and settled for requiring teacher certifications. To be considered "highly qualified" under the law, teachers need two things—a bachelor's degree in the subject they teach and a teaching credential.

Teachers and school administrators describe the law's certification requirements as ludicrous and time-consuming, causing bureaucratic headaches while doing nothing to indicate a teacher's abilities. Teacher evaluations and professional-development efforts continue on an ad hoc basis depending on the state and the district, but they have little to do with the check-the-box credentialing.

In poor areas, boosting teacher quality is largely a problem of resources. The law requires states to distribute money evenly, but they often find a way out. "The law contains several loopholes that are big enough to drive a truck through," said Haycock, the Education Trust president, who is a staunch defender of many of its provisions. "District budgeting practices end up favoring schools serving the fewest poor children, in some cases by as much as $1 million a year."



Among the experts *NJ* polled, the term "failure" popped up most frequently when referring to this part of the statute. "The highly qualified teacher provision, in particular, has meant merely one more paper shuffle. Indeed, it has proven a distraction," said Frederick Hess, director of education-



policy studies at the American Enterprise Institute.

The law's teacher-effectiveness provisions exist largely because of Rep. George Miller of California, the ranking Democrat on the House Education and the Workforce Committee. Before Miller began negotiating No Child Left Behind in 2001, he had already spent 10 years fighting for teacher-certification mandates. He was mostly on his own. In 1994, he lost a House floor vote, 424-1, on his proposal to require states to certify all teachers and set aside funds to pay exceptional teachers higher salaries.

Miller hoped to eradicate a practice in California in which teachers with temporary certificates were spending six or seven years on the job in bad schools.

"As the lead negotiator for the House Democrats, I can tell you that these [teacher] provisions were hard fought," said Charles Barone, federal-policy director at Democrats for Education Reform. Barone, who worked for Miller when No Child Left Behind was being drafted, said that Democrats wound up giving worried naysayers "the benefit of the doubt" by allowing states to come up with their own teacher-evaluation systems. That concession effectively torpedoed the provision's goals.

"We now know that just because teachers are certified in their core subject matter, it doesn't mean they are actually 'effective,' " said House Speaker John Boehner, who chaired the House Education panel in 2001 and wrote No Child Left Behind with Miller.

Then and now, the unions are the harshest critics of the law's teacher-effectiveness provisions. "The approach relied on arbitrary and narrow measures," said American Federation of Teachers President Randi Weingarten. At the same time, she added, the law did little to provide teachers with what they needed to improve, such as in-service training and job-embedded professional development.

(Success) SPOTLIGHT ON ACHIEVEMENT
School Data Is a Public Commodity

The law's drafters wanted to take a snapshot of schools and broadcast students' skills (or lack thereof) to the world. On that objective, No Child Left Behind succeeded.

In the history of the laws governing K-12 public education, the focus on student achievement has never been as intense as it has been since 2002. The law's simple requirement that schools make public their reading and math test results and show disparities

among different groups of students has changed the way educators and parents view their school systems.

The civil-rights community cheers the requirement that schools must report test data for girls, boys, Caucasians, Latinos, African-Americans, special-needs students, low-income children, and English-language learners. The No Child Left Behind Act is the current reauthorization of the Elementary and Secondary Education Act, first enacted in 1965 and reauthorized every five years. The disaggregation mandate by itself underscores the original law's core purpose as a civil-rights law. "The law has also brought to light rampant education disparities for students of color, students living in poverty, English-language learners, and students with disabilities," a coalition of civil-rights groups declared in an April letter to members of the Senate Health, Education, Labor, and Pensions Committee.

"We've never had this attention to student achievement during the whole history of the Elementary and Secondary Education Act," said Sandy Kress, the senior education adviser in the Bush administration who helped write the law and is now a lawyer at Akin Gump Strauss Hauer & Feld.

(Mixed results) RESEARCH AND DATA
Data Use Is Up; Results Are Unclear

The law's authors wanted schools and states to base their curricula and teaching policies on scientifically proven methods. After all, the ultimate aim of school assessments is to replicate the techniques that work and junk the ones that don't.

Schools' use of data is varied, but all of them know more now than they did 10 years ago about how to administer standardized tests and analyze that data in their schools. The Education Department's Institute of Education Sciences, created after No Child Left Behind, supports and disseminates research on education practices and publicizes statistics on the condition of education in the United States. The institute has significantly boosted the availability of data on student outcomes.

So we know more about what's happening in schools, but we don't necessarily know how to fix the lingering problems. Or, if we do know how, we aren't willing. "This is not something that can be mandated by law," said Barone, of the Democrats for Education Reform. "Regrettably, what we have now are too many state and local policymakers who are either disinclined or unable ... to let research and data drive the continuous improvements that are needed to transform our education systems."

(Failure) SCHOOL CHOICE
Options Are Limited or Nonexistent

For the conservatives who helped write No Child Left Behind, the prospect of enhanced school choice was an essential element. Bona fide choices for families would ensure that the government-run school system would be forced to answer to community and neighborhood concerns, they believed. Families would keep the government in check. "There must be a moment in which parents

can say, 'I've had enough of this school,' " Bush said when he signed the bill.

That moment has yet to come. The logistical difficulties of offering students at failing schools a chance to move to a better place have ensured that the "choice" mandated by law exists on paper only.

The number of charter schools has ticked up, and some systems try to provide parents more flexibility. But demand invariably exceeds availability, and school districts that engage in other turnaround activities can get waivers from the flexible-enrollment mandates to sidestep school-choice requirements. "Choice and supplemental services should *never* have been left in the hands of districts," said Kress, the White House education specialist under Bush.

"WE'VE COME LIGHT-YEARS"

To appreciate the philosophical shift that No Child Left Behind achieved, it is useful to step back and look at where the education debate was before. In the 1980s and '90s, policymakers were fully aware that American students were falling behind in the global marketplace. But the policy negotiations were stubbornly mired in how states should distribute school resources. Then, as now, states sought waivers from requirements about where their federal dollars should go. Testing was all over the place. Curriculum was haphazard.

After No Child Left Behind mandated that school systems test 95 percent of public-school students and publicize the results, the harsh, new light revealed the breadth and depth of the nation's education problems.

"No Child Left Behind established unrealistic targets [and] failed to provide schools with resources to meet those targets." —Dennis Van Roekel, president, National Education Association

"People were stunned at the test scores," Miller said. "We took a snapshot of schools all across the country and said, 'This is what it looks like. Six percent of these kids are reading at grade level; 50 percent of kids are being taught by a qualified teacher under this stupid little definition we have.' They went, 'What the hell is going on in this school?' That's now a discussion over ongoing professional development of teachers and ongoing evaluation of teachers and administrators. We've come light-years, and that's a given. It's resisted. But it's a given."

Ten years ago, policymakers wanted to put schools on the hook for results, any results. "You do what you do based on what you know at the time," Spellings said. "And when you know more, you change it."

We definitely know more. The education conversation currently revolves around defining K-12 academic benchmarks, agreeing on how to measure them, and deciding who the judges should be. That discussion may be the best testament to the impact of No Child Left Behind.

"My law has accomplished all that it can accomplish. I'm very proud of it. It's done," Miller said. "Hello, America—it's time for the next iteration. But don't lose your focus."

Congress is ignoring Miller's plea. The Senate's current reauthorization proposal, which is four years overdue, does not spell out what will happen to schools that don't measure up. (Probably nothing, some education-reform advocates grumble.) No one questioned, though, that the Senate rewrite would maintain the law's once-controversial requirement that annual reports be broken down by race, gender, poverty level, and disability.

Senate Health, Education, Labor, and Pensions Committee Chairman Tom Harkin, D-Iowa, is sponsoring the No Child Left Behind reauthorization bill. "We must be willing to shift to new approaches when the old ones aren't working," he said in a floor speech defending the measure.

In response to *NJ*'s request, Harkin said this of No Child Left Behind: "One-size-fits-all sanctions and the 2014 deadline for 100 percent proficiency, though well-intentioned, have proven to be ineffective."

Like most education policymakers, he wants to rectify the unfair benchmarks that measure schools. His bill simply gets rid of them, raising the hackles of No Child Left Behind supporters. But Harkin has no choice if he wants the measure to go anywhere. To win support from Enzi, the Education Committee's chief Republican, Harkin was forced to abandon any achievement targets. As currently written, the bill would subject schools to benchmarks with no teeth.

Harkin's bill stands to get even weaker in the current political climate. Only three committee Republicans grudgingly supported it, and a Senate floor vote has been delayed indefinitely. Even though the bill greatly weakens the massive federal oversight of states, Republicans think it is still too invasive.

House Republicans, for their part, aren't willing to put together a large rewrite of No Child Left Behind, preferring to nick away at it with smaller, incremental measures. Rep. John Kline, R-Minn., the chairman of the House Education and the Workforce Committee, is keen on local control for schools. He has pushed a charter-school bill and a federal funding flexibility measure to accomplish that. "We need to place more emphasis on the progress being made at the state and local levels," Kline said.

Supporters of Harkin's efforts say that times have changed since No Child Left Behind was passed and that his approach just recognizes a new era for education. Concrete benchmarks, if they worked at all, are no longer needed, these experts say. States have made significant progress in how they assess schools, and they all are moving toward the Common Core state standards.

Those standards have the benefit of being generated outside of Washington as a consensus document from multiple stakeholders. They suffer from being more complex and far-reaching than the

simple grade-level reading and math requirements of No Child Left Behind. They are akin to a five-star restaurant being offered as a replacement for a fast-food burger joint.

Still, the Common Core effort reinserts the "state laboratory" element to public education that some fault No Child Left Behind for squelching. "It gives us a formula for a different kind of accountability," said Wilhoit, the executive director of the Council of Chief State School Officers who helped to craft the Common Core standards.

Wilhoit characterizes No Child Left Behind as a necessary wake-up call to the states to raise their game on education. And now, he says, the law "has run its course."

The Judges

***NJ* consulted the following experts in assessing No Child Left Behind:**

THE AUTHORS

- Rep. George Miller, D-Calif., a lead cosponsor
- House Speaker John Boehner, a lead cosponsor
- Sandy Kress, lead White House negotiator
- Margaret Spellings, former Education secretary

THE REAUTHORIZERS

- Rep. John Kline, R-Minn., chairman, House Education and the Workforce Committee
- Sen. Tom Harkin, D-Iowa, chairman, Senate Health, Education, Labor, and Pensions Committee
- Sen. Michael Enzi, R-Wyo., ranking member, HELP Committee

THE PRACTITIONERS

- Dan Domenech, executive director, American Association of School Administrators
- Gene Wilhoit, executive director,Council of Chief State School Officers
- National School Boards Association

THE ADVOCATES

- American Civil Liberties Union
- Patrick Riccards, CEO of ConnCan
- Kati Haycock, president, Education Trust
- Charles Barone, federal policy director, Democrats for Education Reform
- Dennis Van Roekel, president, National Education Association
- Randi Weingarten, president, American Federation of Teachers

THE ACADEMICS

- Frederick Hess, director of education policy studies, American Enterprise Institute
- Richard Rothstein, education research associate, Economic Policy Institute

• Thomas Toch, education journalist and cofounder of the Education Sector
• Kevin Welner, director of the National Education Policy Center at the University of Colorado (Boulder)
• Sherman Dorn, education professor, University of South Florida

SEAN PARNELL, GOVERNOR

Goldbelt Place
801 West 10th Street, Suite 200
P. O. Box 110500
Juneau, Alaska 99811-0500
(907) 465-2800
(907) 465-4156 Fax

Department of Education & Early Development

Office of the Commissioner

March 20, 2012

House Education Committee,

In response to your request to compare Alaska's proposed standards to the Common Core, I have gathered research done by an outside reviewer. As background, the Common Core was heavily referenced in the development of our own standards as I felt that it was important that the rigor of Alaska's education system at least match that of the rest of the country. I believe it is critical that our students can compete with their peers, both in and out of state, for the job opportunities that they will have. Once our standards went to the State Board of Education, I asked the Council of Chief State School Officers, who helped develop the Common Core, to review and compare both sets of standards. Below are comments from their comparison.

Overall, the proposed Alaska English Language Arts (ELA) and Math standards track closely with the Common Core, employing a similar structure and language used in the Common Core. The most significant difference between the proposed Alaska ELA standards and the Common Core is that Alaska chose not to include literacy standards for history/social studies, science, and technical subjects. Below is an overview of some of the differences we noted in reviewing the standards.

Proposed Alaska Math Standards

- There are occasions in the K-8 section where Alaska emphasizes certain concepts over multiple years whereas the CCSS addresses such concepts in one year (for example, telling time and achieving money sense and when the concept of circles in introduced).
- Alaska includes patterns in grades 1- 2, which is not included in the CCSS.
- For the high school standards, there were no substantive deviations from the CCSS except for:
    - under the Algebra Standards – Creating Equations, #4 in the CCSS states: "Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*". Conversely, Alaska's # 4 reads: "Solve literal equations or formulas for a variable involving multi-steps. *For example, solve for h when* $A = 1/2h(b_1 + b_2)$."; and
    - under the function standards, a list of key features for understanding the relationship between two quantities in the CCSS includes periodicity, and Alaska left that off the list in that same part of the standards.
- Alaska has added some content that was not in CCSS:

- 2.MD.6 of Common Core;
- 3.OA.6 of CCSS – the concept seems to be less explicitly covered in Alaska's 3.OA.7; and
- 5.OA.2 of CCSS

Proposed Alaska ELA Standards

In addition to the omission of the literacy standards for contents area, below are additional observations about the proposed standards:

- Alaska includes a few additional references to scaffolding and prompting and support for students in the early grades than what the CCSS calls for;
- There is no specific reference for how text complexity is measured, as is done in the CCSS;
- In the Grade 6 writing standards # 6, the CCSS specifies that a student should be able to type a minimum of three pages in one sitting, whereas Alaska simply says sufficient command of keyboarding skills to create a piece of writing;
- Alaska at times omits examples provided by the CCSS, but the text of the standard is usually identical to the CCSS;
- In Grades 6 and 7 reading standards for literature, the CCSS includes language about determining central ideas distinct from personal opinions and judgments in order to create an objective summary, and Alaska simply states that the student should summarize; and
- In Grade 3 listening skills, Alaska includes language about using techniques that engage the listener such as inflection or different voices, and this is not specified in as much detail as the CCSS.

I believe this summarizes the significant differences between the two sets of standards. I can also point out specific language if it is helpful.

Sincerely,

Mike Hanley

Mike Hanley
Commissioner of Education
And Early Development

Comparison of Structure of Current & Proposed Content Standards

LANGUAGE ARTS

Current Standards	Proposed Standards
Content standards – broad statements of what students should know and be able to do. Performance Standards – define what all students should be able to do at the end of a grade span (Grade 3, 6, 8 and 10). Grade Level Expectations – core content to be mastered at the end of a given grade level, K-10.	Content standards address each grade level, but are organized into two grade spans, with content presented by grade level within the spans: • Grades K-5 • Grades 6-12 There are Anchor Standards for in each content area that run across all grade levels, K-12, to create coherence.
Standards address reading and writing.	Content standards address the additional content areas of speaking & listening.

MATHEMATICS

Current Standards	Proposed Standards
Content standards – broad statements of what students show know and be able to do. Performance standards – define what all students should be able to do at the end of a grade span (Grade 3, 6, 8 and 10). Grade Level Expectations – core content to be mastered at the end of a given grade level, K-10.	Content standards address each grade level from K-8 than separately for high school (grades 9-12). The high school standards outline the content all students should know and the content required for higher level mathematics.
The standards address: 1. Mathematics content. 2. Mathematics content process skills: problem-solving, communication, reasoning, and connections.	The standards include two areas: 1. Standards for mathematical content Organized into domains, such as "number & quantity." The domains for K-8 look different than those for 9-12. 2. Standards for mathematical practice Describes how mathematics is used, such as "attend to precision."

Proposed Alaska Mathematics Standards Organization with Domain Progression

This chart shows the organization of mathematics standards and the domain progression from Kindergarten through High School.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

Kindergarten	1	2	3	4	5	6	7	8	High School

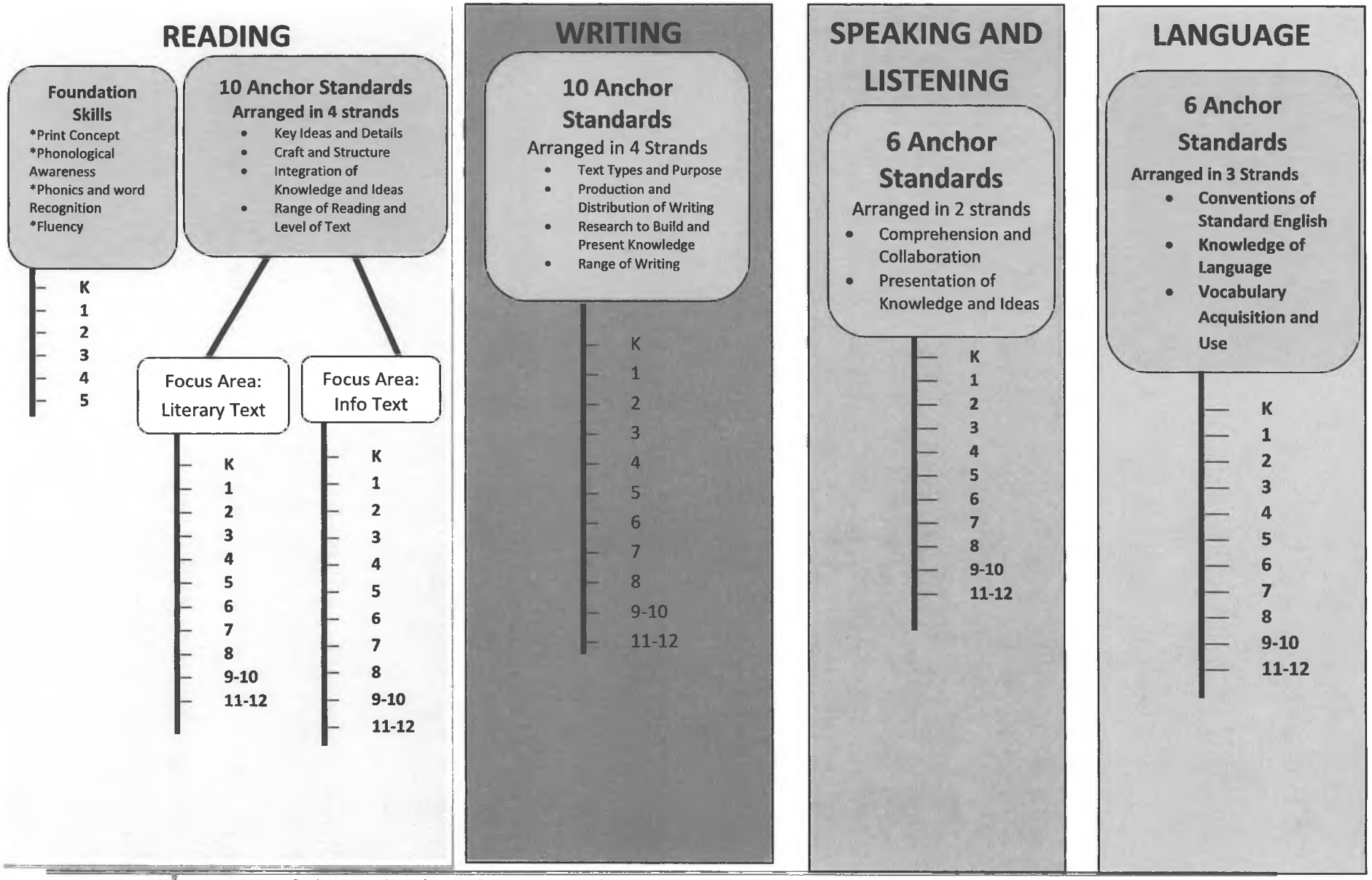
Standards for Mathematical Content

Domains

Counting, Cardinality and Ordinality									Number & Quantity	Modeling
Number and Operations in Base Ten						Ratios and Proportional Relationships				
	Number and Operations - Fractions					Number System				
Operations and Algebraic Thinking						Expressions and Equations			Algebra	
							Functions		Functions	
Geometry									Geometry	
Measurement and Data						Statistics and Probability			Statistics and Probability	

Instruction around the **Standards for Mathematical Practices** is delivered across all grades K-12. **Domains** are large groups of related standards. Each color shows how domains at the earlier grades progress and lead to domains in the middle and high school levels. On the right side are the high school domains including the modeling domain which is incorporated throughout standards in the other five domains. To the left of each high school domain, one can find the domains from elementary and middle school levels from which this concept builds.

Proposed Alaska English Language Arts Standards Organization



Alaska State Legislature

Juneau
State Capitol Bldg., Rm. 104
Juneau, AK 99801-1182
Phone (907) 465-4527
Fax (907) 465-2197

Representative.alan.dick@legis.state.ak.us

Interim
1292 Sadler Way, Ste 328
Fairbanks, AK 99701
Phone (907) 452-3434
Fax (907) 452-3430
Toll-Free (800) 491-4527

Representative Alan Dick

House District 6

Sponsor Statement
HB 330: State Standards

The State educational content and performance standards are the foundation of our educational system. Upon them are built a massive superstructure:

- The writing of the Grade Level Expectations (GLE's);
- The choice of expensive curricula in 53 different districts;
- Thousands of teacher hours aligning new curricula to the new standards;
- Hundreds of thousands of dollars of professional development;
- Millions of dollars of new assessment tools;
- Millions of dollars using those tools annually ($7.5M/yr over a six-year period);
- Over $1.2B annual funding supporting the system driven by the new standards; and
- The quality of instruction for over 130,000 students.

The cost-to-date of producing the standards the Department of Education & Early Development is proposing for adoption has been $270,886. The standards were created in eight separate meetings attended by a sliver of stakeholders. The superstructure built upon them as well as annual maintenance will cost multiple billions of dollars and directly impact every facet of instruction statewide.

My research has clearly shown that the proposed standards have not been properly vetted by industry and those involved in the career destinations of our students. All curriculum presented to students should have a clear pathway to potential careers.

Educational funding and student performance are under continual intense scrutiny. These subjects are the source of great consternation for parents, educators and policy makers. It only makes sense that the foundation of our educational system for the next six-year cycle should be of the highest quality and directed at fulfilling our mission statements.

The purpose of this bill is to gather a representative working group that will develop a process by which the standards are vetted. Once the vetting process is developed, it will be available for all future cycles of standards creation and modification.

With well-vetted standards, we can be confident that the billions of dollars spent over the next six-year cycle will bring the best result possible. We can also be confident that we are creating a clear pathway for intelligent, productive and engaged young people to become successful at whatever endeavor they choose. To do less would be irresponsible.

Alaska State Legislature

Juneau
State Capitol Bldg., Rm. 104
Juneau, AK 99801-1182
Phone (907) 465-4527
Fax (907) 465-2197

Interim
1292 Sadler Way, Ste 328
Fairbanks, AK 99701
Phone (907) 452-3434
Fax (907) 452-3430
(800) 491-4527

Representative Alan Dick

House District 6

Sectional Analysis
HB 330
State Education Standards

Section 1:

- A joint legislative task force is formed to create a process by which state educational standards are vetted.
- Describes the members of the task force and how they are appointed.
- Describes guidelines by which the task force functions and creates a process by which state standards are vetted.
- This task force will be in effect from July1, 2012 to July 1, 2013.

Section 2:

Specifies that the Department of Labor and Workforce Development will:

- Provide staffing and data requested by the task force.
- Identify major careers in the state as provided under sec. 1 of this Act.

Section 3:

The existing content and performance standards will remain in effect until the new process is developed and the newly vetted standards are adopted.

Section 4:

The task force and Department of Labor and Work Force Development support for the task force are repealed on July 1, 2013.

Section 5:

This repeals the temporary law for the existing standards.

Section 6:

This has an immediate effective date.

Background Information
HB 330: State Education Standards

Cost of bringing stakeholders together for review and revising of the state content standards has cost:

- FY10: $ 47,770 1 meeting
- FY11: $142,686 5 meetings
- FY12: $ 80,430 2 meetings
- FY13: $ 15,000 Publishing

TOTAL COST: $285,886

Information provided by Department of Education & Early Development
February 17, 2012 via email to Representative Dick's office

FISCAL NOTE

STATE OF ALASKA
2012 LEGISLATIVE SESSION

Bill Version: **HB330**
Fiscal Note Number:
() Publish Date:

Identifier (file name): HB330-DOLWD-MS-2-17-12
Title: State Education Standards
Sponsor: Representative Dick
Requester: House Education

Dept. Affected: Labor and Workforce Development
Appropriation: Commissioner and Administrative Services
Allocation: Management Services
OMB Component Number: 335

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	FY13 Appropriation Requested	Included in Governor's FY13 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY13**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants, Benefits							
Miscellaneous							
TOTAL OPERATING	***	***	***	***	***	***	***

FUND SOURCE (Thousands of Dollars)								
1002	Federal Receipts							
1003	GF Match							
1004	GF							
1005	GF/Prgm (DGF)							
1037	GF/MH (UGF)							
1178	temp code (UGF)							
TOTAL		***	***	***	***	***	***	***

POSITIONS							
Full-time							
Part-time							
Temporary							

CHANGE IN REVENUES							

Estimated SUPPLEMENTAL (FY12) operating costs _____ *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY13) costs _____ *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Why this fiscal note differs from previous version (if initial version, please note as such)

Not applicable, initial version.

Prepared by: Brynn Keith, Director — Phone 465-5980
Division: Administrative Services — Date/Time 2/17/12 3:00 PM
Approved by: Click Bishop, Commissioner — Date 2/17/2012
Department of Labor and Workforce Development

(Revised 1/17/2012 OMB)

FISCAL NOTE

STATE OF ALASKA
2012 LEGISLATIVE SESSION

BILL NO. HB330

Analysis

The proposed legislation would establish a task force on education standards, of which the Department of Labor and Workforce Development would be a member. The task force would vet proposed educational standards and advise the Department of Education and Early Development on matters pertaining to education standards for students in grades kindergarten through 12 in the state.

The Department of Labor and Workforce Development's role under this proposed legislation will be to provide staffing and data requested by the task force. The legislation does not clearly identify the scope of data the department must produce for the task force, and currently, the department lacks the expertise to vet education standards. The fiscal impact of this legislation cannot be accurately determined at this time.

FISCAL NOTE

STATE OF ALASKA cost ≠ codes
2012 LEGISLATIVE SESSION

Bill Version: **HB330**
Fiscal Note Number:
Publish Date:

Identifier (file name): HB330-EED-TLS-02-21-12
Title: An Act establishing a Joint Legislative Task Force on Education Standards
Sponsor: Representative Dick
Requester: House Education

Dept. Affected: Education & Early Development
Appropriation: Teaching and Learning Support
Allocation: Student & School Achievement
OMB Component Number: 2796

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	FY13 Appropriation Requested	Included in Governor's FY13 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY13**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants, Benefits							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE		(Thousands of Dollars)						
1002	Federal Receipts							
1003	GF Match							
1004	GF							
1005	GF/Prgm (DGF)							
1037	GF/MH (UGF)							
1178	temp code (UGF)							
TOTAL		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

POSITIONS							
Full-time							
Part-time							
Temporary							

CHANGE IN REVENUES							

Estimated SUPPLEMENTAL (FY12) operating costs _____ *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY13) costs _____ *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Why this fiscal note differs from previous version (if initial version, please note as such)

Initial version.

Prepared by: Cynthia Curran, Director — Phone: 465-2857
Division: Teaching and Learning Support — Date/Time: 2/21/2012 8:55am
Approved by: Mike Hanley — Date: 2/21/2012
Commissioner

(Revised 8/17/2011 OMB)

FISCAL NOTE

STATE OF ALASKA
2012 LEGISLATIVE SESSION

BILL NO. HB330

Analysis

The proposed legislation would require the Department of Labor to establish a task force for vetting educational standards and advising the Department of Education & Early Development on matters education standards for students in grades kindergarten through 12 in the state.

The Department of Labor and Workforce Development under this proposed legislation would provide staffing and data requested by the task force. The legislation does not clearly identify the scope of data the Department of Labor and Workforce Development must produce for this task force.

While EED would have one member on the task force , travel costs and per diem would be paid by EED.

Testimony of Chip McMillan
Ass't Professor of Education, UAS
2-24-12 House Education Committee

AK State Standards for K-12 are not STEM Compliant

I prepare K-8 teachers to teach math and science in Alaska.

What I am about to say will appear critical of our State Standards. It is important that you know that I participated in the writing of the science content standards, the performance standards and the science SBA items. I am as responsible as anyone for any deficiencies in these documents.

I also believe any deficiencies in these documents are not the result of negligence or malfeasance on anyone's part. As we say, hindsight is 20/20.

US students not keeping up with other nations in math and science.
AK cannot afford to lag behind the rest of the country or the rest of the world in math/science.

We are currently falling behind in an even more important area: STEM Education.
Science Technology Engineering Math

"We're doing students, parents and America's competitiveness a disservice by not demanding higher standards for STEM learning," Craig Barrett, former CEO of Intel and current chair of Change the Equation, a group of 110 business executives from Exxon, Lockheed Martin, Google, Dow Chemical, etc,.

"It turns out the most common educational background for the Fortune 500 CEOs in the US is not business or law but engineering."

42 out of the 50 highest paying jobs in Alaska are in STEM fields.
The problem is ⅓ of all engineering jobs in Alaska are done by people who live down south.

Every state I have looked at has some kind of statewide STEM initiative.

We have no engineering standards today. The word "engineering" does not appear anywhere in any of our content standards.

The Science and Technology GLEs have an implied focus on engineering but never call for actually touching or manipulating anything.

I have been unable to find any science SBA items referencing engineering.

The irony is
we used to have engineering and technology standards for K-12 in AK.
we used to have an engineering and technology curriculum for K-12 in AK.

It was mandatory for all children in Alaska!

The technologies include
Alutiiq kayak
Athabascan snowshoe
Tlingit fish trap
Aleut basketry

Even today these are marvels of technology and they resulted from true engineering.

Problem solving, innovation, designing, then testing, refining, optimizing those designs; demonstrating grit, working cooperatively. These are engineering attributes.

These are what our resource and communication industries are looking for in the workforce.

We should infuse these engineering skills and dispositions into the current math, science, technology standards.

We should seek input from business and industry, e.g., ARCO, Greens Creek Mine, GCI, NOAA.

Teachers in AK will not teach to STEM without leadership.

We need STEM in our standards, our curriculum, our SBAs, our teacher evaluations.

It seems to me that passage of this bill will assist in the appearance of STEM in our state standards, GLEs, SBAs, district math and science curricula, and thus our K-12 classrooms.

Thank you Mr. Chairman and Committee for allowing me to testify,

For the record, my name is Grant Funk. I have lived in Western Alaska for nearly 20 years and in the village of Hooper Bay for the past 13 years. I have raised 5 of our 6 children in this region. Several of our children are currently raising their families in Western Alaska. My kids have had the best of both the public school system as well as a homeschool education. I am an Emergency Medical Instructor as well as an Aviation Instructor. I have volunteered in the local school teaching these skills for 10 years as well as teaching aviation to the middle school and high school students full time for two years. I currently teach an after school aviation class as well as direct a local teen center. Overall, I have been involved in education on various levels for 26 years. I am an Advisory School Board member. I am also the 2012 Alaska Air Carriers Association Community Service Award winner for my work in aviation education in our community.

I am requesting today that the State take the necessary time to provide educational standards that lay the foundation for the future success of all students. We have entered a technological age that has presented new opportunities and challenges for this generation. Their foundational years in elementary, middle school and high school need to be the trailhead for a successful future.

We have much cultural and geographical diversity. That diversity should be reflected in the state educational standards. This diversity is reflected in my own children. Three of our six kids completed a course of study in college. Two completed technical training. One is still in high school but planning on college. As an educator and as a parent, I want to provide the best avenues of success for my students as individuals. They need a set of standards to act as a guiding boundary into the future they desire to pursue.

With that in mind I would like to request that the new standards take a step in a direction that would eliminate the "one size fits all" approach. We have students that are hoping to go to college following graduation and a greater majority of students that will go into the skilled labor force. There needs to be at least two sets of standards to better prepare these students for productive careers in their areas of interest.

A career technical education track (CTE) would give students the opportunity to learn applicable skills for jobs that are more readily available in rural Alaska. Aviation, health care, commercial fishing and construction have opportunities that do not require a college degree. There is also a need in this category for small business training as well as classes in small government. College students often leave the rural areas and enter the job markets appropriate to their degree. That leaves others to start the small businesses and sit on the various local councils and boards. The middle and high school education system could go a long way toward preparing students as lifelong learners and leaders in their local communities through a CTE track standard.

One Western Alaska CTE teacher I met with gave me the example of six of his former students. They were hired in various capacities right after high school and are averaging $40,000 each annual income. These students will not be a part of the welfare system. They will have the opportunity to fund further

training or have their employer provide advancement training. They are becoming productive local citizens without a college education.

If there are CTE standards, the system is freed up for a college track set of standards that will challenge and prepare the college bound high school students with advanced math and science classes. The upper level students are often the neglected group in the education process in rural schools. They need guidelines that will provide realistic challenges better preparing them for college studies.

Bringing in a vocational track as well as a college track would not only benefit the student, but the state in the years to come. When a person has a job, they are less likely to wind up on the welfare system or in the court system. At a recent seminar on international business the speaker said, "Worldwide, one of the best things you can do for a person is to give them meaningful work."

That brings me to my final thoughts on plotting the course for the future direction of education in the state. One of our embarrassing statistics as a state is the high suicide rate. Students graduating ill prepared for the job force or even for a subsistence lifestyle are left to wander the streets of our cities or the rural communities looking for something to do. Hopelessness takes over and lives, that could have made a difference in this world, are lost.

One school teacher, who has also been in Hooper Bay 13 years, told me that she has lost 40 students or former students to suicide or tragic death. Even as I write, our community is again dealing with a suicide of a young man. It takes its toll on families and friends, as well as teachers and staff. The education system suffers as students and teachers are emotionally functioning at less than optimum performance.

The education system is not responsible for the high suicide rate. I do feel, however, that it can go a long way toward prevention by providing standards that allow a student to learn the relevance of an education. Vocational math, applied "hands on" science, and technical reading all connect them to a future with hope of becoming productive. These type of classes give the non-college bound student a reason to succeed in math and science because they understand how it relates to the world they live in.

As an aviation instructor I have had the joy of watching kids connect math to life skills as they calculate take off performance of an aircraft on a flight simulator. Students disinterested in science became consumed by science fair projects that utilized aviation issues. Their eyes were opened to applications of vocational math that encouraged them to learn because it had immediate applications in their world.

In conclusion, I ask the legislature to pass HB 330 allowing time to gain insights from the education industry. In doing so we will prepare a generation with a measure of hope for future jobs that will provide income for their families as well as boost self -confidence and self- reliance. Anything done to improve the family has the potential of decreasing the suicide rates.

Thank you for this opportunity to address this critical issue.

May God bless our state!

Grant Funk

To: Chair, House Education Committee

Ref: HB330

Thank you for the opportunity to offer testimony today in support of HB 330 creating a Task Force on Education Standards. I am Joe Banghart, interim Superintendent, Denali Borough School District, Healy. Over the past fourteen years I have had the opportunity of serving on various standards committees. These committees have always been composed of educators that have volunteered to help design standards. Our state is fortunate to have these professionals give of valuable time for the process. Our state standards are vital for the continued educational progress of children in Alaska. HB330 would offer the involvement of the Department of Labor and Workforce, Department of Education and Early Development, small business owners, subsistence lifestyle, parents, and three representatives of major career destinations. This type of partnership could be the very foundation that would provide a consistent state network of business, education, parents, and other partners for career technical training, continued high academic standards, and the Department of Labor and Workforce guidance. Our state stands in vital need of this type of Task Force for the vetting of all future educational standards. This Task Force could provide information for resources available across our state. This link will build a firm foundation for future grant potential, partnerships, and the combination of state educational standards in English/language art, mathematics, science, geography, government, history, healthy life styles, arts, world languages, technology, and employability. All the consistent and professional work that has been given towards the development of state standards would benefit from this Task Force.

How can we not afford to stop and evaluate our current educational standards and properly align them with clear pathways to successful careers in Alaska. Accountability is best found in the involvement of multiple partners that design not only assessments for each Performance Standard but consider the application of these skills into actual practice. Accountability measures in this process would include academic growth and employment skills and successful job placement. True accountability is being tested by all our legislatures in consideration of this Task Force. This approach would help lower unemployment, provide future employees across the state, and encourage accountability at every level. If we ignore this vetting of our standards we are turning our backs on the future of Alaska and our children.

Joe Banghart, Sup't Tri-Valley (Denali) School District

Alaska High School Mathematics Standards

The high school standards specify the mathematics that all students should study in order to be career ready. Additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics is indicated by the symbol +.

Similarity, Right Triangles, and Trigonometry	**G-SRT**

Understand similarity in terms of similarity transformations

1. Verify experimentally the properties of dilations given by a center and a scale factor:

   a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.

   b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.

2. Given two figures, use the definition of similarity in terms of transformations to explain whether or not they are similar.

3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

Prove theorems involving similarity

4. Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely.*

X+2
X+2
2x+4
x^2+2x
$x^2+4/x+4$

Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.

   a. Factor a quadratic expression to reveal the zeros of the function it defines. *For example, $x^2 + 4x + 3 = (x+3)(x+1)$.*

   b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. For example, $x^2 + 4x + 3 = (x+2)^2 - 1$.

   c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*

P. 2

The Complex Number System — N -CN

Perform arithmetic operations with complex numbers.

1. Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.

2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.

3. (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.

Represent complex numbers and their operations on the complex plane.

4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.

5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *For example,* $(1 - \sqrt{3}i)^3 = 8$ *because* $(1 - \sqrt{3}i)$ *has modulus* 2 *and argument* 120°.

6. (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

Use complex numbers in polynomial identities and equations.

7. Solve quadratic equations with real coefficients that have complex solutions.

8. (+) Extend polynomial identities to the complex numbers. *For example, rewrite* $x^2 + 4$ *as* $(x + 2i)(x - 2i)$.

9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

Vector and Matrix Quantities — N –VM

Represent and model with vector quantities.

1. (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\boldsymbol{v}$, $|\boldsymbol{v}|$, $||\boldsymbol{v}||$, $\boldsymbol{v}$).

P. 3

Use polynomial identities to solve problems

4. Prove polynomial identities and use them to describe numerical relationships. *For example, the polynomial identity* $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ *can be used to generate Pythagorean triples.*

5. (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.

Model periodic phenomena with trigonometric functions

5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.*

6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.

7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.*

Trigonometric Functions — F-TF

Extend the domain of trigonometric functions using the unit circle

1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.

2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.

3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosines, and tangent for $\pi - x$, $\pi + x$, and $2\pi - x$ in terms of their values for x, where x is any real number.

Congruence	G-CO

Experiment with transformations in the plane

1. Demonstrates understanding of key geometrical definitions, including angle, circle, perpendicular line, parallel line, line segment, and transformations in Euclidian geometry. Understand undefined notions of point, line, distance along a line, and distance around a circular arc.
2. Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

Understand congruence in terms of rigid motions

6. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
8. Explain how the criteria for triangle congruence (ASA, SAS, SSS, AAS, and HL) follow from the definition of congruence in terms of rigid motions.

Prove geometric theorems

9. Using methods of proof including direct, indirect, and counter examples to prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*

Grade 8

Expressions and Equations 8.EE

Work with radicals and integer exponents.

8.EE.1. Apply the properties (product, quotient, power, zero, negative exponents, and rational exponents) of integer exponents to generate equivalent numerical expressions. *For example,* $3^3 \times 3^{-5} = 3^{-2} = 1/3^2 = 1/27$.

8.EE.2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.

8.EE.3. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as* 3×10^8 *and the population of the world as* 7×10^9*, and determine that the world population is more than 20 times larger.*

8.EE.4. Perform operations with numbers expressed in scientific notation, including problems where both standard notation and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology.

Grade 8

Analyze and solve linear equations and pairs of simultaneous linear equations.

8.EE.7. Solve linear equations in one variable.

a. Give examples of linear equations in one variable with one solution infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

b. Solve linear equations with rational coefficients, including equations whose solutions require expanding expressions using the distributive property and combining like terms.

8.EE.8. Analyze and solve systems of linear equations.

a. Show that the solution to a system of two linear equations in two variables is the intersection of the graphs of those equations because points of intersection satisfy both equations simultaneously.

b. Solve systems of two linear equations in two variables and estimate solutions by graphing the equations. Simple cases may be done by inspection. *For example,* $3x + 2y = 5$ *and* $3x + 2y = 6$ *have no solution because* $3x + 2y$ *cannot simultaneously be 5 and 6.*

c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Grade 8

Geometry 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.

8.G.1. Through experimentation, verify the properties of rotations, reflections, and translations (transformations) to figures on a coordinate plane).

a. Lines are taken to lines, and line segments to line segments of the same length.

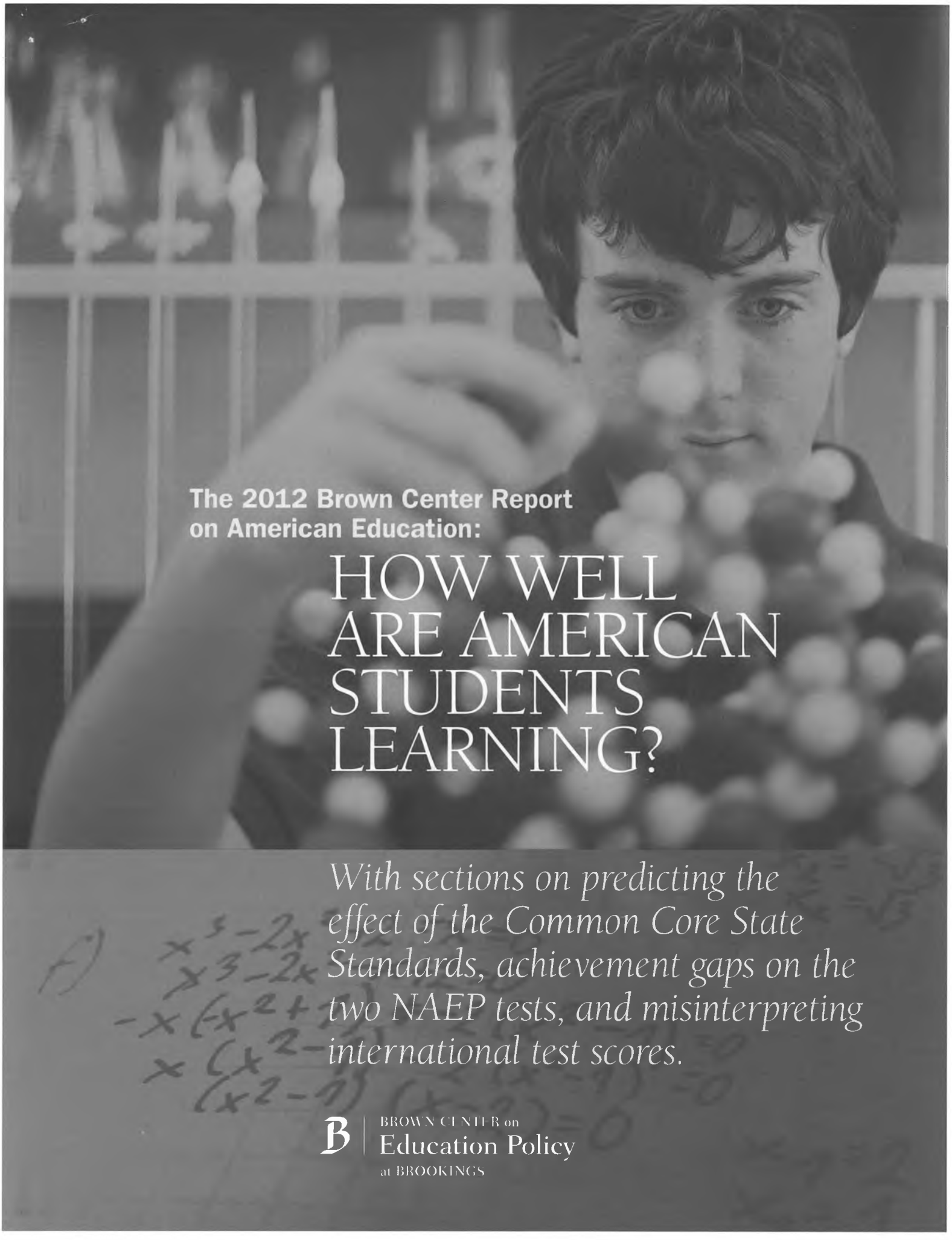
b. Angles are taken to angles of the same measure.

c. Parallel lines are taken to parallel lines.

8.G.2. Demonstrate understanding of congruence by applying a sequence of translations, reflections, and rotations on two-dimensional figures. Given two congruent figures, describe a sequence that exhibits the congruence between them.

8.G.3 .Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

P5



The 2012 Brown Center Report on American Education:

HOW WELL ARE AMERICAN STUDENTS LEARNING?

With sections on predicting the effect of the Common Core State Standards, achievement gaps on the two NAEP tests, and misinterpreting international test scores.

BROWN CENTER on Education Policy at BROOKINGS

THE 2012 BROWN CENTER REPORT ON AMERICAN EDUCATION

This edition of the Brown Center Report on American Education marks the first issue of volume three—and eleventh issue over all. The first installment was published in 2000, just as the Presidential campaigns of George W. Bush and Al Gore were winding down. Education was an important issue in that campaign. It has not been thus far in the current campaign for the Republican nomination (as of February 2012). And it is unlikely to be a prominent issue in the fall general election. Despite that, the three studies in this Brown Center Report investigate questions that the victor in the 2012 campaign, and the team assembled to lead the U.S. Department of Education, will face in the years ahead.

The first section is on the Common Core State Standards, a project that President Obama has backed enthusiastically. Forty-six states and the District of Columbia have signed on to the Common Core; detailed standards have been written in English language arts and mathematics; and assessments are being developed to be ready by the 2014–2015 school year. The first section attempts to predict the effect of the Common Core on student achievement.

Despite all the money and effort devoted to developing the Common Core State Standards—not to mention the simmering controversy over their adoption in several states—the study foresees little to no impact on student learning. That conclusion is based on analyzing states' past experience with standards and examining several years of scores on the National Assessment of Educational Progress (NAEP).

States have had curricular standards for schools within their own borders for many years. Data on the effects of those standards are analyzed to produce three findings. 1) The quality of state standards, as indicated by the well-known ratings from the Fordham Foundation, is not related to state achievement. 2) The rigor of state standards, as measured by how high states place the cut point for students to be deemed proficient, is also unrelated to achievement. Raising or lowering the cut point is related to achievement in fourth grade, but the effect is small, and the direction of causality (whether a change in cut point produces a change in test score or vice versa) is difficult to determine. 3) The ability of standards to reduce variation in achievement, in other words to reduce differences in achievement, is also weak.

Common standards will only affect variation between and among states (analysts use the grammatically suspect "between-state" as shorthand for this kind of variation). Achievement variation existing within states is already influenced, to the extent that standards can exert influence, by the states standards under which schools currently operate. Within state variation is four to five times larger than the variation between states. Put another way, anyone who follows NAEP scores knows that the difference between Massachusetts and Mississippi is quite large. What is often overlooked is that every state has a mini-Massachusetts and Mississippi contrast within its own borders. Common state standards only target the differences between states, not within them, sharply limiting common state standards' potential impact on achievement differences.

The second section of the Report investigates achievement gaps on NAEP. The NAEP has two different tests: the Long-Term Trend NAEP, which began in 1969, and the Main NAEP, which began in 1990. The two tests differ in several respects, but they both carry the NAEP label and both are integral components of "The Nation's Report Card."

FORTY-SIX STATES AND THE DISTRICT OF COLUMBIA HAVE signed on to the Common Core State Standards Initiative, a project sponsored by the Council of Chief State School Officers (CCSSO) and the National Governors Association (NGA). The Common Core spells out what students should learn in mathematics and English-language arts from kindergarten to the end of high school. The standards were written by teams of curriculum specialists and vetted by panels of academics, teachers, and other experts.[1] In 2010, the federal government funded two consortia to develop assessments aligned with the Common Core. The new tests are to be ready in 2014.

The push for common education standards argues that all American students should study a common curriculum, take comparable tests to measure their learning, and have the results interpreted on a common scale, with the scale divided into performance levels to indicate whether students are excelling, learning an adequate amount, or falling short. Past experience with standards suggests that each part of this apparatus—a common curriculum, comparable tests, and standardized performance levels—is necessary. No one or two of them can stand alone for the project to succeed.

Proponents point to the intuitive appeal of a common curriculum. "It's ludicrous," Bill Gates told the *Wall Street Journal*, "to think that multiplication in Alabama and multiplication in New York are really different."[2] In a report called *The Proficiency Illusion*, The Fordham Institute made a similar point regarding state efforts to evaluate schools using fifty different assessments and fifty different definitions of what constitutes acceptable performance.[3] How can a school in one state be labeled a failure while a school in another state and with almost exactly the same test scores can be considered a success?

The authority to operate school systems is constitutionally vested in states. But states have undermined their own credibility when it comes to measuring student learning. Accounts of dumbed-down and

poorly-written state tests, manipulation of cut scores to artificially boost the number of students in higher performance levels, and assessments on which students can get fewer than 50% of items correct and yet score "proficient", fuel the belief that states individually cannot be trusted to give the public an accurate estimate of how American education is doing.[4]

Three Theorized Effects

The Common Core State Standards are theorized to improve education in three ways. First, proponents argue that the Common Core is superior to most current state standards. In a recent study, The Fordham Institute concluded that Common Core standards are better than 37 states' standards in English-language arts and 39 states in mathematics.[5] It follows, proponents believe, that the Common Core will raise the quality of education nationally by defining a higher-quality curriculum in English-language arts and mathematics than is currently taught. Let's call this the "quality theory." Achievement will increase because students will study a better curriculum.

The second idea is that the Common Core sets higher expectations than current state standards, the assumption being that cut points on the new assessments will be set at a higher level than states currently set on their own tests. Comparisons with the National Assessment of Educational Progress (NAEP) lead many analysts to conclude that states set proficiency standards far too low. States routinely report more students attaining proficiency than NAEP indicates, often 30–40 percentage points more.[6] The *No Child Left Behind Act* left it up to the states to design their own tests and to set performance levels wherever they want, but the pattern of states reporting significantly higher percentages of proficient students preceded NCLB.[7] A new Common Core test will presumably end such discrepancies by evaluating proficiency using the same standards for every state, and these standards are to be more rigorous than those currently used. Schools and students will respond by reaching for these loftier goals. Let's call this the "rigorous performance standards" theory.

The third hypothesis is that standardization yields its own efficiencies. In the same *Wall Street Journal* interview cited above, Bill Gates referred to this idea by complaining about the time and money wasted on the many different versions of textbooks that are published to conform to individual states' curricular tastes.[8] In a reverse spin on the same argument, others argue that textbooks are bloated with redundant content as publishers attempt to incorporate numerous idiosyncratic state curricular mandates into one book.[9] The assumption of both arguments is that one, high-quality textbook—or perhaps a few that are aligned with the same content standards—used by all American students attending the same grade would be an improvement over the status quo. Other proponents point to the potential gaps in learning that occur as students move from state to state. Especially when students move mid-year, important concepts might be missed while other concepts are studied unnecessarily a second time. Teachers who move from state to state experience similar difficulties in terms of lesson planning. Let's call this the "standardization" theory.

Opposing Arguments

Some analysts question the theories behind the Common Core. Writing in *Education Week* in the summer of 2011, Andrew Porter compared the Common Core to existing state standards and international standards from other countries and concluded that

The Common Core State Standards are theorized to improve education in three ways.

... data exist that can help predict the magnitude of effects from the Common Core.

the Common Core does not represent much improvement.[10] Opponents of the Common Core, including Sandra Stotsky, James Milgram, Ze'ev Wurman, and Williamson Evers, criticize the quality of the proposed standards for English-language arts and mathematics. They conclude that the math standards, in particular, are inferior to existing standards in Massachusetts and California.[11]

Critics of the Common Core issued a "counter-manifesto" arguing that the proposed common standards would undermine the decentralized, federalist principles on which education has been governed since America's founding. Declaring that a "one-size-fits-all, centrally controlled curriculum" does not make sense, the counter-manifesto states that only weak evidence supports the push for national standards. International test data are not helpful since most countries have national standards and the few that do not, including Canada and Germany, have both impressive and non-impressive scores. Concern for interstate student mobility is overblown, the counter-manifesto claims, because very few students move between states. Most mobility is within state, which is already addressed by the *No Child Left Behind Act*'s requirement that every state establish standards. Since 2003, every state has state curriculum standards that delineate the curriculum for public schools within its borders.[12]

Can empirical evidence shed light on the main points of contention in this debate? Not entirely. Much of the argument is philosophical. Those who believe that the Common Core enumerates what schools should be teaching and students should be learning support the proposed standards. And those who believe a greater degree of standardization would produce more common educational outcomes—and that common outcomes are desirable—also support the proposed standards. Those holding to the opposite beliefs, and believing that local school governance is preferable to governance by larger entities, are critics of the standards.

Despite the philosophical disagreements, there are empirical questions on which evidence exists. The nation has had several years of experience with education standards—since the 1980s in many states and since 2003 in all states—and data exist that can help predict the magnitude of effects from the Common Core. How much does raising the quality of standards matter in boosting student achievement? Will raising the bar for attaining proficiency—in other words, increasing the rigor of performance standards—also raise achievement? And how much variance will be reduced—or how much "sameness" in achievement will be attained—by having students across the country studying a common curriculum?

Quality and Achievement

Let's start with the theory that high-quality standards promote achievement gains. In October 2009, a colleague at Brookings, Grover "Russ" Whitehurst, investigated whether quality ratings for state standards, as judged by the two most cited ratings (from the American Federation of Teachers and Fordham Foundation), are correlated with state NAEP scores. Whitehurst found that they are not. States with weak content standards score about the same on NAEP as those with strong standards. The finding of no relationship held up whether NAEP scores from 2000, 2003, 2005, 2007, or the gains from 2000–2007 were used in the analysis. And it held up for the scores of both white and black students.[13]

The current study extends that inquiry by looking at NAEP data from 2003–2009. Gain scores on NAEP reading and math tests from 2003 and 2009 are combined to form a composite gain score. The scores

are adjusted to control for demographic characteristics of each state—the percent of students qualifying for free or reduced lunch, special education, or English language learner status. More precisely, scores are adjusted to control for changes that occurred in those demographic characteristics from 2003–2009. That prevents swings in states' demographic characteristics from skewing the results. Ratings of state curricular standards conducted by the Fordham Foundation in 2000 and 2006 are used to model the quality of state standards. It is particularly apt to model the quality of state standards with the Fordham ratings considering Fordham's high opinion of the Common Core.

The results are shown in Table 1-1. Three questions are answered by the data. The first row addresses the question: Do the Fordham ratings in 2000 successfully predict the NAEP gains that states made in reading and math from 2003–2009? One could imagine, since there is undoubtedly some lag time before standards are implemented in classrooms and realized in student learning, that the curriculum standards of 2000 would influence achievement gains made three, six, or even nine years down the road. The correlation coefficient of –0.06 indicates that they do not.

The second row examines whether the ratings of 2006 are statistically related to 2003–2009 NAEP gains. In other words, was the quality of standards in the middle of the gain period related to test score gains? Again, the answer is no, with a correlation coefficient of 0.01. The final row looks at the change in ratings from 2000 and 2006. According to Fordham, some states improved their standards in 2006 while others adopted weaker standards in 2006 than they had back in 2000. Are changes in the quality of standards related to changes in achievement? Again, the answer is that they are not (correlation coefficient of 0.08).

Relationship of Fordham's Ratings of State Content Standards with State NAEP Gains (2003–2009)

Table 1-1

Standards Rating	Correlation Coefficient
Fordham 2000	–0.06
Fordham 2006	0.01
Change in Fordham 2000–2006	0.08

Relationship of State Proficiency Level with NAEP Achievement (Correlation Coefficients)

Table 1-2

	2005 NAEP	2009 NAEP	Change 2005-2009
4th Grade Reading	–0.22	–0.08	0.35*
4th Grade Math	–0.12	0.01	0.34*
8th Grade Reading	–0.11	–0.09	0.06
8th Grade Math	0.00	0.01	0.02

* $p < .05$

Rigorous Performance Standards and Achievement

The second theory of improvement is based on performance standards. A 2006 NCES report found that the difficulty of state performance standards is uncorrelated with achievement.[14] Performance levels (or "cut points") for student proficiency were mapped onto the 2005 NAEP scale. States with higher, more rigorous cut points did not have stronger NAEP scores than states with less rigorous cut points. A new NCES report was released in 2011 with updated measures using 2009 NAEP data.[15]

Table 1-2 summarizes the correlations between the rigor of state performance levels and achievement. In a replication of the earlier NCES study, we also find that the states'

A 2006 NCES report found that the difficulty of performance standards is uncorrelated with achievement.

the absolute level of performance standards does not seem to matter but raising or lowering levels does exhibit a relationship with fourth grade changes in achievement ...

2005 NAEP scores are unrelated to where the states drew the line for proficiency in 2005. Fourth-grade reading and math have slightly negative correlations (–0.22 and –0.12, respectively), as does eighth-grade reading (–0.11). The correlation coefficient for eighth-grade math is 0.00. State achievement is unrelated to the level at which states define proficiency. The same is true for 2009 NAEP scores and the level at which proficiency was placed that year (see the second column of the table).

The final column of Table 1-2 investigates whether changes in state NAEP scores from 2005–2009 are related to changes in proficiency level. Did states that raised the bar also perform better? And did states that lowered the bar perform worse? Correlation coefficients for 8th grade are near zero. Positive and statistically significant correlations were found for fourth-grade reading (0.35) and fourth-grade math (0.34). It is interesting that the absolute level of performance standards does not seem to matter but raising or lowering levels does exhibit a relationship with fourth grade changes in achievement, explaining about 12% of the variation in the change in state NAEP scores.

Whether one phenomenon is causing the other is difficult to tell. Changes in proficiency cut points are probably endogenous to trends in test scores. In other words, states with rising scores may feel emboldened to raise their proficiency cut points and those with declining scores may feel compelled to lower theirs. That is quite a different story than the raising or lowering of cut points producing changes in test scores. Unfortunately, simple correlations cannot determine the direction of causality, or if causality exists at all, only whether these two variables are statistically related. In the current analysis, change in level is related to change in fourth-grade scores.

How Common Will Achievement Become?

The third theory concerns standardization. For the Common Core movement, attaining greater standardization of educational outcomes is an important goal. If standards do not reduce variation, then even if they boost performance, simply raising average scores will still leave many states—and the districts, schools, and students within states—far behind and far below acceptable levels of performance. The two previous analyses indicate that it is unlikely that common standards will boost performance; however, it is possible for the national average on NAEP to remain stable while variation is reduced—for instance, if top states decline a little while states at the bottom rise by the same amount. Another way would be for high flying schools within states to decline a little while poorly performing schools increase their performance by a commensurate amount.

In terms of state NAEP scores, variation comes in two forms: variation between states and variation within states. We would expect common standards to reduce variation between states, so that the NAEP score difference between states at the top and bottom of the rankings would be reduced. States that currently offer vastly different curricula, assessments, and performance standards will harmonize those elements of their educational systems. One would expect test score differences to shrink. That is the essence of common standards. Within-state variation, on the other hand, remains unaffected by common standards. Every state already has standards placing all districts and schools within its borders under a common regime. And despite that, every state has tremendous within-state variation in achievement. Schools that score at the top of the world on

international assessments are within a short car trip, sometimes even within a short subway ride, from schools that score at the level of the world's lowest achieving nations.

Let's compare these two forms of variation. Table 1-3 displays data on NAEP standard deviations between and within states. Standard deviation is a measure of variation, the amount of spread in a group of data. On any particular test, about two-thirds of observations are within one standard deviation (above and below) of the average score. "Between-State SD" is the standard deviation of NAEP scores for the fifty states and the District of Columbia—how much they differ from each other. "Within-State SD" is the average of the standard deviations for the fifty states and the District of Columbia—how much the students within each state, on average, differ from each other.

The findings are clear. Most variation on NAEP occurs within states not between them. The variation within states is four to five times larger than the variation between states. Much of the similarity of state scores comes from aggregating individual student scores, which differ greatly, to the state level. The variation in student performance within states washes out to produce means that are alike across states. Consider this: fourth-grade NAEP scores in math range from Massachusetts at the top with 252 down to the District of Columbia with 219. That 33 point difference is not too much larger than the average standard deviation within states (27.8). What does that mean? Consider Massachusetts and Mississippi, a state with low scores but not at the very bottom. Their NAEP means differ by 25 points. Every state, including Massachusetts and Mississippi, has a mini-Massachusetts and Mississippi contrast within its own borders. That variation will go untouched by common state standards.

Relationship of State Proficiency Level with NAEP Achievement (Correlation Coefficients)

Table **1-3**

	Average State NAEP Score	Between-State SD	Within-State SD	Multiple (Within/Between)
4th Grade Reading	220.1	6.6	34.7	5.3
4th Grade Math	239.5	6.3	27.8	4.4
8th Grade Reading	263.3	6.5	32.9	5.1
8th Grade Math	282.4	8.5	34.8	4.1

Discussion

What effect will the Common Core have on national achievement? The analysis presented here suggests very little impact. The quality of the Common Core standards is currently being hotly debated, but the quality of past curriculum standards has been unrelated to achievement. The rigor of performance standards—how high the bar is set for proficiency—has also been unrelated to achievement. Only a change in performance levels has been related to an increase in achievement, and that could just as easily be due to test score changes driving changes in policy, not the other way around. The Common Core may reduce variation in achievement between states, but as a source of achievement disparities, that is not where the action is. Within-state variation is four to five times greater.

The sources of variation in educational outcomes are not only of statistical importance but also bear on the question of how much state policy can be expected to change schools. Whatever reduction in variation between, say, Naperville and Chicago that can be ameliorated by common standards has already been accomplished by Illinois's state efforts. State standards have already had a crack at it. Other states provide even more deeply rooted historical examples. California has had state curriculum frame-

The Common Core may reduce variation in achievement between states, but as a source of achievement disparities, that is not where the action is.

Standards in education are best understood as aspirational.

works since at least 1962, statewide testing with scores for every school published publically since 1971 (except for a brief timeout in the early 1990s), state textbook adoption for K–8 since the nineteenth century, and a court-ordered equalized spending system since the late 1970s. Any effect that these laws have on reducing achievement variation within the state has already occurred. The Common Core must go beyond these efforts to reduce variation in California's achievement. That is highly unlikely.

Two lessons can be drawn from the analysis above. First, do not expect much from the Common Core. Education leaders often talk about standards as if they are a system of weights and measures—the word "benchmarks" is used promiscuously as a synonym for standards. But the term is misleading by inferring that there is a real, known standard of measurement. Standards in education are best understood as aspirational, and like a strict diet or prudent plan to save money for the future, they represent good intentions that are not often realized.

Why don't aspirational standards make much of a difference? Researchers from the International Association for the Evaluation of Educational Achievement (IEA) first sketched the concept of opportunity to learn using international test score data in the 1970s.[16] Distinctions were drawn among the intended, implemented, and achieved curriculums. The intended curriculum is embodied by standards; it is what governments want students to learn. The differences articulated by state governments in this regard are frequently trivial. Bill Gates is right that multiplication is the same in Alabama and New York, but he would have a difficult time showing how those two states—or any other two states—treat multiplication of whole numbers in significantly different ways in their standards documents.

What is crucial is the distance between the intended curriculum and the two curriculums below. The implemented curriculum is what teachers teach. Whether that differs from state to state is largely unknown; what is more telling is that it may differ dramatically from classroom to classroom in the same school.[17] Two fourth-grade teachers in classrooms next door to each other may teach multiplication in vastly different ways and with different degrees of effectiveness. State policies rarely touch such differences. The attained curriculum is what students learn. Two students in the same classroom and instructed by the same teacher may acquire completely different skills and knowledge. One student understands and moves on; another struggles and is stuck. And that even happens in classrooms with outstanding teachers.

The whole system is teeming with variation. Policies at national, state, district, and school levels sit on top of these internal differences, but they rarely succeed in ameliorating them. The Common Core will sit on top of the implemented and attained curriculums, and notwithstanding future efforts to beef up the standards' power to penetrate to the core of schooling, they will probably fail to dramatically affect what goes on in the thousands of districts and tens of thousands of schools that they seek to influence.

A final word on what to expect in the next few years as the development of assessments tied to the Common Core unfolds. The debate is sure to grow in intensity. It is about big ideas—curriculum and federalism. Heated controversies about the best approaches to teaching reading and math have sprung up repeatedly over the past century.[18] The proper role of the federal government, states, local districts, and schools in deciding key educational questions, especially in deciding what should be taught,

remains a longstanding point of dispute. In addition, as NCLB illustrates, standards with real consequences are most popular when they are first proposed. Their popularity steadily declines from there, reaching a nadir when tests are given and consequences kick in. Just as the glow of consensus surrounding NCLB faded after a few years, cracks are now appearing in the wall of support for the Common Core.

Don't let the ferocity of the oncoming debate fool you. The empirical evidence suggests that the Common Core will have little effect on American students' achievement. The nation will have to look elsewhere for ways to improve its schools.

The empirical evidence suggests that the Common Core will have little effect on American students' achievement.

NOTES

1 See the Common Core State Standards Initiative website on About the Standards, http://www.corestandards.org/about-the-standards

2 Jason L. Riley, "Was the $5 Billion Worth It?" *Wall Street Journal*, July 23, 2011.

3 John Cronin, Michael Dahlin, Deborah Adkins, and G. Gage Kingsbury, *The Proficiency Illusion* (Washington, DC: The Thomas B. Fordham Institute, 2007).

4 See Jennifer Medina, "Standards Raised, More Students Fail Tests," *New York Times*, July 29, 2010, p A1. Paul E. Peterson and Frederick Hess, "Keeping an Eye on State Standards," *Education Next*, Vol 6, No. 3, Summer 2006. Michigan Department of Education, "State Board Gives Nod to Improve Standards for State Assessment Scores," September 13, 2011, http://www.michigan.gov/mde/0,4615,7-140--262249--,00.html.

5 Sheila Byrd Carmichael, Gabrielle Martino, Kathleen Porter-Magee, and W. Stephen Wilson, *The State of State Standards and the Common Core—in 2010* (Washington, DC: The Thomas B. Fordham Institute, 2010).

6 Paul E. Peterson and Frederick Hess, "Keeping an Eye on State Standards," *Education Next*, Vol 6, No. 3, Summer 2006.

7 Tom Loveless, "Are States Honestly Reporting Test Scores?" *The 2006 Brown Center Report on American Education: How Well Are American Students Learning?* (Washington, DC: The Brookings Institution, 2006), pp. 21–29.

8 Jason L. Riley, "Was the $5 Billion Worth It?" *Wall Street Journal*, July 23, 2011.

9 U.S. Department of Education, *Chapter 8: Instructional Materials, The Final Report of the National Mathematics Advisory Panel 2008* (Washington, DC: United States Department of Education, 2008).

10 Andrew Porter, "In Common Core, Little to Cheer About," *Education Week*, August 10, 2011, pp. 24–25.

11 R. James Milgram and Sandra Stotsky, *Fair to Middling: A National Standards Progress Report* (Boston, MA: Pioneer Institute, 2010); Sandra Stotsky, and Ze'ev Wurman, *Common Core's Standards Still Don't Make the Grade: Why Massachusetts and California Must Regain Control Over Their Academic Destinies* (Boston, MA: Pioneer Institute, 2010); Ze'ev Wurman and Bill Evers, "National Standards Would Harm Math Curriculum," *San Francisco Chronicle*, July 30, 2010, p. A14.

12 Closing the Door on Innovation, http://www.k12innovation.com/Manifesto/_V2_Home.html

13 Russ Whitehurst, "Don't Forget the Curriculum," *Brown Center Letters on Education #3* (Washington, DC: Brookings Institution, October 2009), http://www.brookings.edu/papers/2009/1014_curriculum_whitehurst.aspx

14 National Center for Education Statistics, *Mapping 2005 State Proficiency Standards Onto the NAEP Scales* (NCES 2007–482) (Washington, DC: U.S. Department of Education, 2007).

15 V. Bandeira de Mello, *Mapping State Proficiency Standards Onto the NAEP Scales: Variation and Change in State Standards for Reading and Mathematics, 2005–2009* (NCES 2011–458) (Washington, DC: U.S. Department of Education, 2011).

16 Curtis C. McKnight, "Model for the Second International Mathematics Study," *SIMS Bulletin*, 4 (1979), pp. 6–39.

17 A recent study of math topics taught by 7,000 teachers in 27 states shows a huge redundancy in topics. More than 70% of the math topics taught in K–8 are repeated from the previous grade. State standards are just as repetitive, but in support of the current study's findings, there is no correlation between the redundancy of state standards and the redundancy of instruction (Morgan Polikoff, in press, "The Redundancy of Mathematics Instruction in U.S. Elementary and Middle Schools," *Elementary School Journal*)

18 See *The Great Curriculum Debate: How Should We Teach Reading and Math?* edited by Tom Loveless (Washington, DC: The Brookings Institution, 2001).

19 James S. Coleman, et al., *Equality of Educational Opportunity* (Washington, DC: U.S. Dept. of Health, Education, and Welfare, Office of Education, 1966); Christopher Jencks, et al., *Inequality: A Reassessment of the Effect of Family and Schooling in America* (New York: Basic Books, Inc., 1972).

20 For contrasting positions on the inheritability of intelligence, see Richard J. Hernstein and Charles Murray, *Bell Curve: Intelligence and Class Structure in America* (New York: Free Press, 1994) and *Intelligence, Genes, and Success: Scientists Respond to The Bell Curve*, edited by Bernie Devil, Stephen E. Fienberg, Daniel P. Resnick, and Kathryn Roeder (New York: Springer-Verlag, 1997).

21 495 F. Supp. 926 (N.D.Cal, 1979).

22 Christopher Jencks, "Racial Bias in Testing" in *The Black–White Test Score Gap*, edited by Christopher Jencks and Meredith Phillips (Washington, DC: The Brookings Institution, 1998), pp. 55–85.

23 Walt Gardner, "The SAT-ACT Duel," *Education Week*, June 25, 2010.

24 Neil J. Dorans, C. F. Lyu, M. Pommerich, and W. M. Houston, "Concordance Between ACT Assessment and Recentered SAT I Sum Scores," *College and University*, 73 (1997), pp. 24–34.

25 Roy Freedle, "Correcting the SAT's Ethnic and Social-Class Bias: A Method for Reestimating SAT Scores," *Harvard Educational Review*, 73 (2003), pp. 1–43.

26 Jay Mathews, "The Bias Questions," *The Atlantic* 292 (2003), pp. 130–140; Maria Veronica Santelices and Mark Wilson, "Unfair Treatment? The Case of Freedle, the SAT, and the Standardization Approach to Differential Item Functioning," *Harvard Educational Review*, 80 (2010), pp. 106–134.

27 Michael Kirst and Henry Rowan, "Why We Should Replace Aptitude Tests with Achievement Tests," *Education Week*, September 8, 1993, citing, John Bishop, "Incentives for Learning: Why American High School Students Compare So Poorly to their Counterparts Overseas" *Research in Labor Economics, Vol. 11* (1990), pp. 17–52.

28 http://nces.ed.gov/nationsreportcard/about/ltt_main_diff.asp

29 Pamela M. Jakwerth, Frances B. Stancavage, and Ellen D. Reed, *NAEP Validity Studies: An Investigation of Why Students Do Not Respond to Questions* (Washington, DC: American Institutes for Research, 1999).

30 For example, see *The Black–White Test Score Gap*, edited by Christopher Jencks and Meredith Phillips (Washington, DC: The Brookings Institution, 1998); *Bridging the Achievement Gap*, edited by John E. Chubb and Tom Loveless (Washington, DC: The Brookings Institution, 2002); Abigail Thenstrom and Stephan Thenstrom, *No Excuses: Closing the Racial Gap in Learning* (New York, NY: Simon & Schuster, 2003); and *Unfinished Business: Closing the Racial Achievement Gap in Our Schools*, edited by Pedro A. Noquera and Jean Yonemura Wing (San Francisco, CA: Jossey–Bass, 2006).

31 Alan Vanneman, Linda Hamilton, Janet Baldwin Anderson, and Taslima Rahman, *Achievement Gaps: How Black and White Students Perform in Mathematics and Reading on the National Assessment of Educational Progress* (Washington, DC: NCES, 2009).

32 See Jaekyung Lee "Racial and Ethnic Achievement Gap Trends: Reversing the Progress Toward Equity?" *Educational Researcher* 31, pp. 3–12; Larry V. Hedges and Amy Nowell "Test Score Convergence Since 1965," *The Black–White Test Score Gap*, edited by Christopher Jencks and Meredith Phillips (Washington, DC: The Brookings Institution, 1998), pp. 149–181.

33 See Anna Habash Rowan, Dana Hall, and Kati Haycock, *Gauging the Gaps: A Deeper Look at Student Achievement* (Washington, DC: The Education Trust, 2010) and state profiles prepared by the Center on Education Policy (www.cep-dc.org).

34 The LTT does have five performance levels, anchored at 50 point intervals on the LTT scale, but they are rarely referred to by analysts. The Main NAEP achievement levels are set at points describing what students know and are able to do, differ by each grade and subject, and employ categories (e.g., proficient) that are also used by state tests.

35 David T. Burkam and Valerie E. Lee, *Inequality at the Starting Gate* (Washington, DC: Economic Policy Institute, 2002).

36 http://nces.ed.gov/ecls/kinderassessments.asp

37 David Baker and Gerald K. LeTendre, *National Differences, Global Similarities: World Culture and the Future of Schooling* (Stanford, CA: Stanford University Press, 2005).

38 Application, analysis, synthesis, and evaluation are the four highest levels of Bloom's Taxonomy of Educational Objectives. Recall and comprehension are the two lowest levels and usually considered to be apt descriptors of basic skills. Benjamin S. Bloom, *Taxonomy of Educational Objectives* (Boston, MA: Allyn and Bacon, 1956).

39 This section is based on an address given to the 52nd IEA General Assembly in Dublin, Ireland (October 10–13, 2010). Appreciation is extended to Jan-Eric Gustafsson, co-presenter and helpful collaborator on the project. For a history of international testing by IEA, See Ina V.S. Mullis and Michael O. Martin "TIMSS in Perspective," *Lessons Learned*, edited by Tom Loveless (Washington, DC: The Brookings Institution, 2007), pp. 9–36.

40 Tom Loveless, *The Tracking Wars* (Washington, DC: The Brookings Institution, 1999).

41 Executive Summary, *PISA 2006: Science Competencies for Tomorrow's World* (OECD, 2007), p. 39.

42 Executive Summary, *PISA 2006: Science Competencies for Tomorrow's World* (OECD, 2007), p. 39.

43 The World Bank, "Successful Education Reform: Lessons from Poland," 2010, *Europe and Central Asia Knowledge Brief*, 34 (2010), p. 3.

44 Eric A. Hanushek and Ludger Woessmann, "Does Educational Tracking Affect Performance and Inequality? Differences-in-Differences Evidence Across Countries," *Economic Journal, Royal Economic Society*, 116 (2005), pp. C63–76, 03. The study's coding the U.S. as a late tracking nation (after age 15) does not make sense for two reasons. Based on the European-style tracking that the study uses to define tracking (separating students by ability into separate schools) the U.S. basically *never* tracks, except for a few elite exam schools in a small number of big cities. Moreover, coding the U.S. as a non-tracking nation before age 15 obscures the huge amount of tracking that goes on in middle school mathematics courses and the common practice of within-class ability grouping beginning with first grade reading instruction. Bottom line: the U.S. tracks and ability groups students a lot before age 15 but almost never uses the between-school model of separation and differentiation.

45 OECD, "Improving Performance: Leading from the Bottom," *PISA In Focus*, 2 (2011), p. 1.

46 Miroslaw Sielatycki, Under-Secretary of State, Ministry of National Education, "Poland: Successes and Challenges Educational Reform," 14th OECD Japan Seminar, Tokyo, Japan, June 28–29, 2011.

47 Miroslaw Sielatycki, Under-Secretary of State, Ministry of National Education, "Poland: Successes and Challenges Educational Reform," 14th OECD Japan Seminar, Tokyo, Japan, June 28–29, 2011.

48 Christine Armario, "'Wake-Up Call': U.S. Students Trail Global Leaders," *Associated Press Wire*, December 7, 2010.

49 "The U.S. Falls In World Education Rankings, Rated 'Average,'" *The Huffington Post*, December 7, 2010.

50 Means reported from tests given to census populations—in other words, to all students—do not have sampling error. They are simply the average of all test scores. State tests given to all students in a particular grade or for high school graduation are examples of census populations. This does not automatically make them better tests because tests may possess other types of error. The proper term for the "wiggle room" of an estimate is "confidence interval."

51 Samuel E. Abrams, "The Children Must Play: What the United States Could Learn from Finland About Education Reform," *The New Republic*, January 28, 2011.

52 Hechinger Report, "What Can We Learn from Finland?" *Hechinger Report*, December 9, 2010, available at hechingerreport.org.

53 *PISA 2006 Science Competencies for Tomorrow's World* (OECD, 2006), pp. 240–244, 276–277. *PISA 209 Results: What Students Know and Can Do* (OECD, 2009), pp. 46–47.