

Vermont Blueprint

Closing The Achievement Gap



January 17, 2012

10:30 to 12:30

G. Reid Lyon, Ph.D.

Southern Methodist University

&

University of Texas-Dallas

A sincere THANK YOU to the Collaborators of the Vermont Blueprint to Close the Achievement Gap!

- Stern Center for Language and Learning
- Vermont Business Roundtable
- Vermont Department of Education
- Vermont NEA
- Vermont Principals' Association
- Vermont School Boards Association
- Vermont Superintendents Association
- Vermont Council of Special Education Administrators



Illiteracy
Kills more people than hurricanes alone



Reality

- 5 to 17.5 percent of U.S. children struggle to learn to read as a result of specific reading disabilities and over 40 percent of students from economic disadvantage read below basic levels nationally

(Fletcher, Lyon et al., 2007; Lyon, Shaywitz, & Shaywitz, 2003; NAEP, 2011)



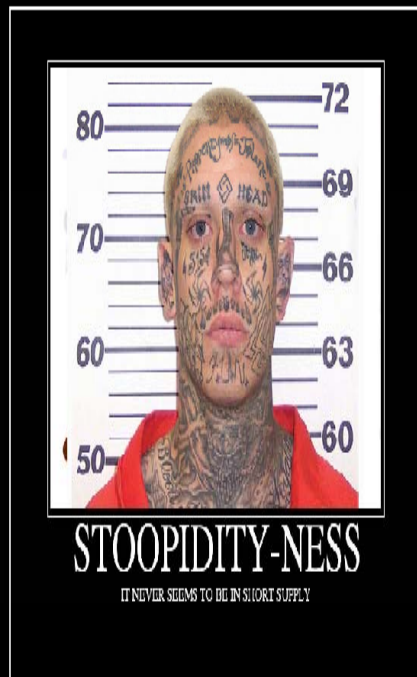
Reality

- 43% of adults at *Level 1* literacy skills live in poverty compared to only 4% of those at *Level 5*
- 3 of 4 food stamp recipients perform in the lowest 2 literacy levels
- 90% of welfare recipients are high school dropouts
- 16 to 19 year old girls at the poverty level and below, with below average skills, are 6 times more likely to have out-of-wedlock children than their reading counterparts
- Low literacy costs \$73 million per year in terms of direct health care costs





(NAAL, 2010)



ILLITERACY

It walks hand in hand with "stoopidity-ness".

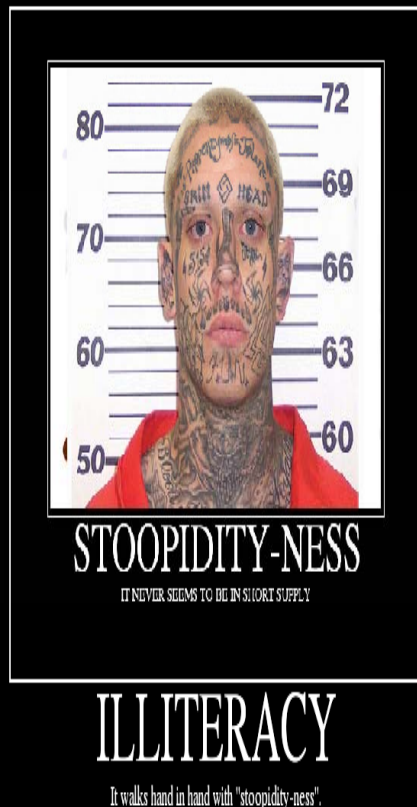
Reality

- 85 percent of all juveniles who interface with the juvenile court system are functionally illiterate.
- More than 60 percent of all prison inmates are functionally illiterate.
- Penal institution records show that inmates have a 16% chance of returning to prison if they receive literacy help, as opposed to 70% who receive no help. This equates to taxpayer costs of \$25,000 per year per inmate and nearly double that amount for juvenile offenders.



Reality

(NAAL, 2010)



- Illiteracy and crime are closely related. The Department of Justice states, "The link between academic failure and delinquency, violence, and crime is *welded to reading failure.*"

Over 70% of inmates in America's prisons cannot read above a fourth grade level.

How Do Reading Difficulties Impact Vermont Reality

What Are We Doing To Our Kids?

What Are We Doing To Our State?

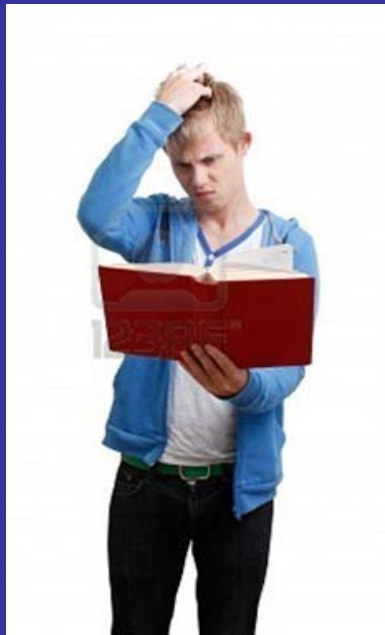


- Over 1,300 students did not graduate from Vermont's high schools in 2010; the lost lifetime earnings in Vermont for that class of dropouts alone total over **\$300 million**. **The clear majority who drop out read below basic levels.**
- Vermont could save as much as **\$19.4 million** in health care costs over the lifetimes of each class of dropouts had they earned their diplomas.

How Do Reading Difficulties Impact Vermont Reality

What Are We Doing To Our Kids?

What Are We Doing To Our State?



- If Vermont's high schools graduated all of their students ready for college, the state could save as much as **\$4.6 million** a year in community college remediation costs and lost earnings.
- Vermont's economy could see a combination of crime-related savings and additional revenue of about **\$9.3 million** each year if the male high school graduation rate increased by just 5 percent.

The ability to read proficiently is a critical skill, and children who fail in that skill are more likely to be retained a grade, drop out of school, and enter the juvenile criminal justice system
—all at substantial cost to society.

HOW ARE WE DOING IN VERMONT?

2011 **4TH** GRADE NAEP SCORES:

4TH IN NATION

(TIED WITH CONNECTICUT AND PENNSYLVANIA)

The ability to read proficiently is a critical skill, and children who fail in that skill are more likely to be retained a grade, drop out of school, and enter the juvenile criminal justice system —all at substantial cost to society.

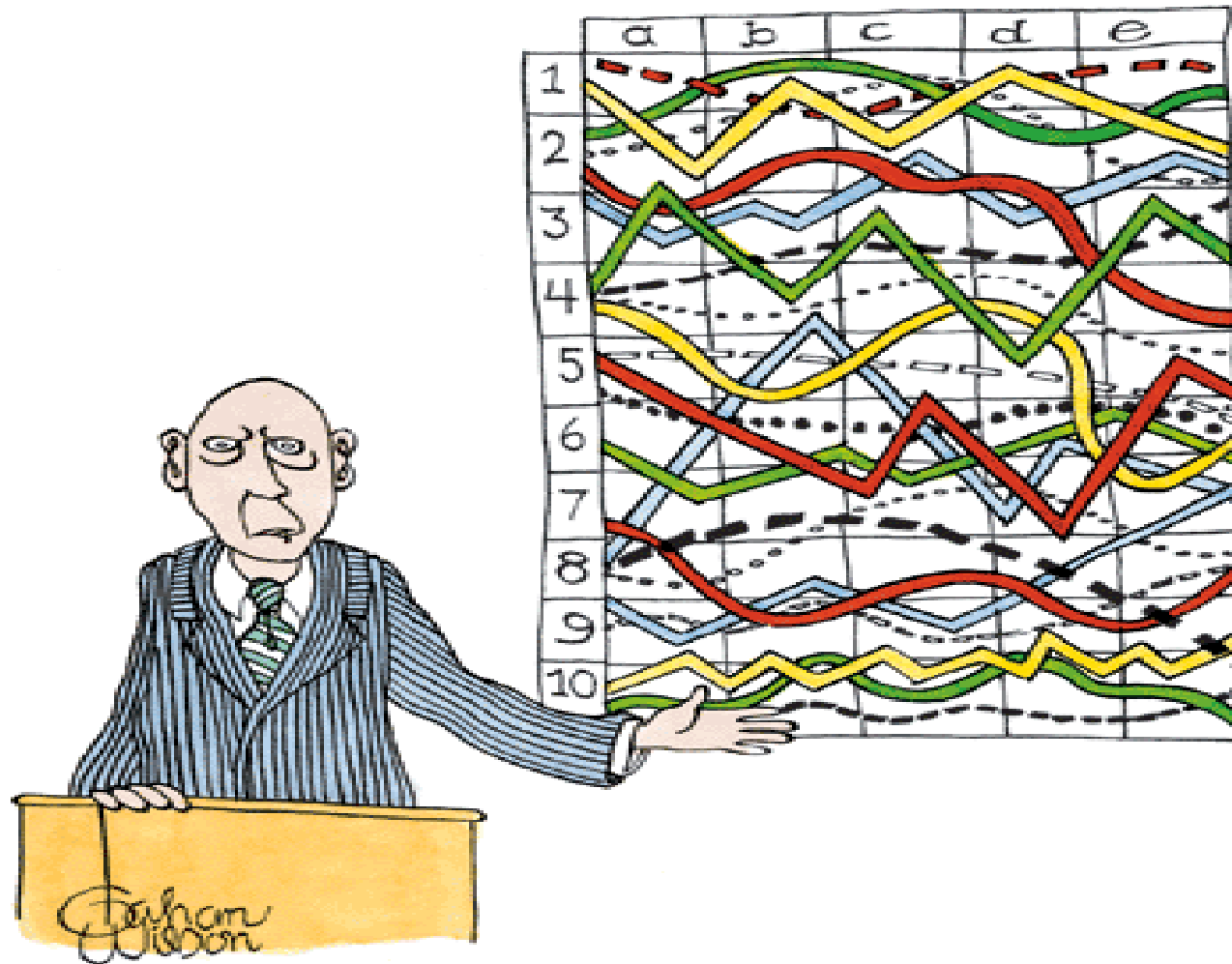
HOW ARE WE DOING IN VERMONT?

2011 **8TH** GRADE NAEP SCORES:

2ND IN NATION

(BEHIND NEW JERSEY)

Numbers and graphs can be confusing –
but I will show some anyway.



"I'll pause for a moment so you can let this information sink in."

2011 NAEP - Vermont 4th Grade Reading

Vermont

Average Score

2002	27	34	30	9	227
2003	27	37*	29	8*	226
2005	28	34	28	10	227
2007	26	34	30	11	228
2009	25	34	30	12	229
2011	27	32	30	11	227

Nation (public)

2011	34	34	25	7	220
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Percent below *Basic*
or at *Basic*

Percent at *Proficient*
or *Advanced*





- In 2011, the average score of fourth-grade students in Vermont was 227. This was **higher than the average** score of 220 for public school students in the nation.
- The average score for students in Vermont in 2011 (227) **was not significantly different** from their average score in 2009 (229) and **was not significantly different** from their average score in 2002 (227).
- In 2011, the score gap between students in Vermont at the 75th percentile and students at the 25th percentile was 46 points. This performance gap **was not significantly different** from that of 2002 (44 points).



- The percentage of students in Vermont who performed at or above the NAEP *Proficient* level was 41 percent in 2011. This percentage **was not significantly different** from that in 2009 (41 percent) and **was not significantly different** from that in 2002 (39 percent).
- The percentage of students in Vermont who performed at or above the NAEP *Basic* level was 73 percent in 2011. This percentage **was not significantly different** from that in 2009 (75 percent) and **was not significantly different** from that in 2002 (73 percent).

Score Gaps for 4th Grade Student Groups

- In 2011, black students in Vermont had an average score that was 23 points lower than white students.
- Data are not reported for Hispanic students in 2011 because reporting standards were not met.
- In 2011, female students in Vermont had an average score that was higher than male students by 6 points.

Score Gaps for 4th Grade Student Groups

- In 2011, Vermont students who were eligible for free/reduced-price school lunch, an indicator of low family income, had an average score that was 23 points lower than students who were not eligible for free/reduced-price school lunch.

- **Score gaps between higher- and lower-income students narrowed from 2003 to 2011 in four states:**

Arizona, New Hampshire, New York, Pennsylvania

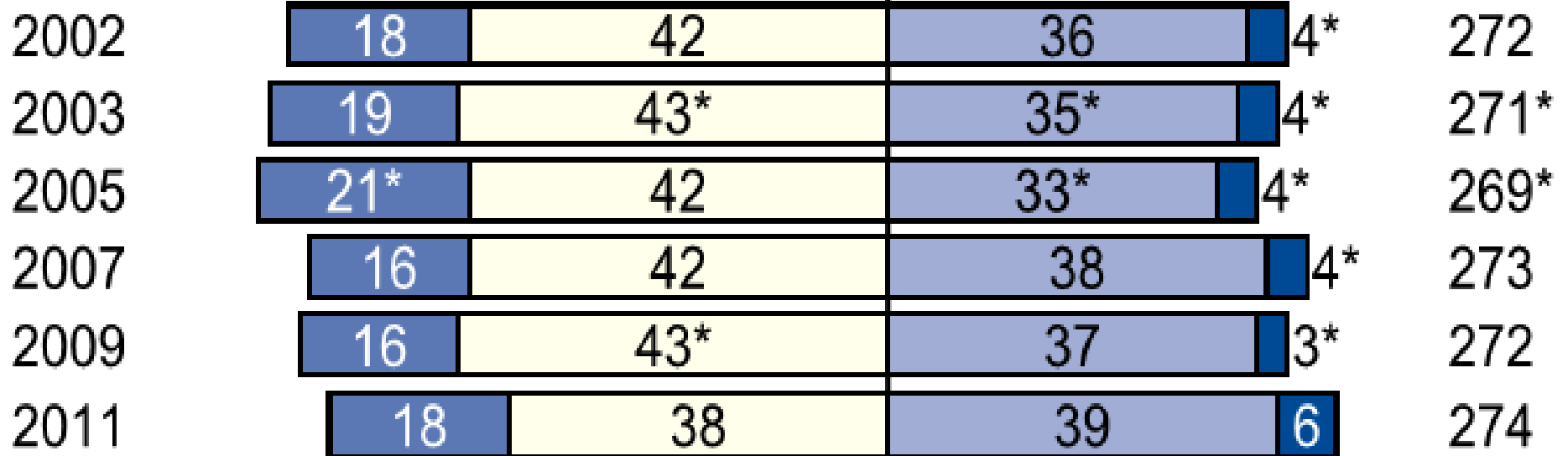
- **Score gaps between higher- and lower-income students widened from 2003 to 2011 in seven states/jurisdictions:**

Colorado District of Columbia, Maine, Oregon,
Vermont, Washington, West Virginia

2011 NAEP - Vermont 8th Grade Reading

Vermont

Average Score



Nation (public)



Percent below *Basic*
or at *Basic*

Percent at *Proficient*
or *Advanced*





In 2011, the average score of eighth-grade students in Vermont was 274.

This was **higher than the average** score of 264 for public school students in the nation.

- The average score for students in Vermont in 2011 (274) **was not significantly different** from their average score in 2009 (272) and **was not significantly different** from their average score in 2002 (272).
- In 2011, the score gap between students in Vermont at the 75th percentile and students at the 25th percentile was 45 points. This performance gap **was not significantly different** from that of 2002 (42 points).



- The percentage of students in Vermont who performed at or above the NAEP *Proficient* level was 44 percent in 2011. This percentage was greater than that in 2009 (41 percent) and was greater than that in 2002 (40 percent).
- The percentage of students in Vermont who performed at or above the NAEP *Basic* level was 82 percent in 2011. This percentage was not significantly different from that in 2009 (84 percent) and was not significantly different from that in 2002 (82 percent).

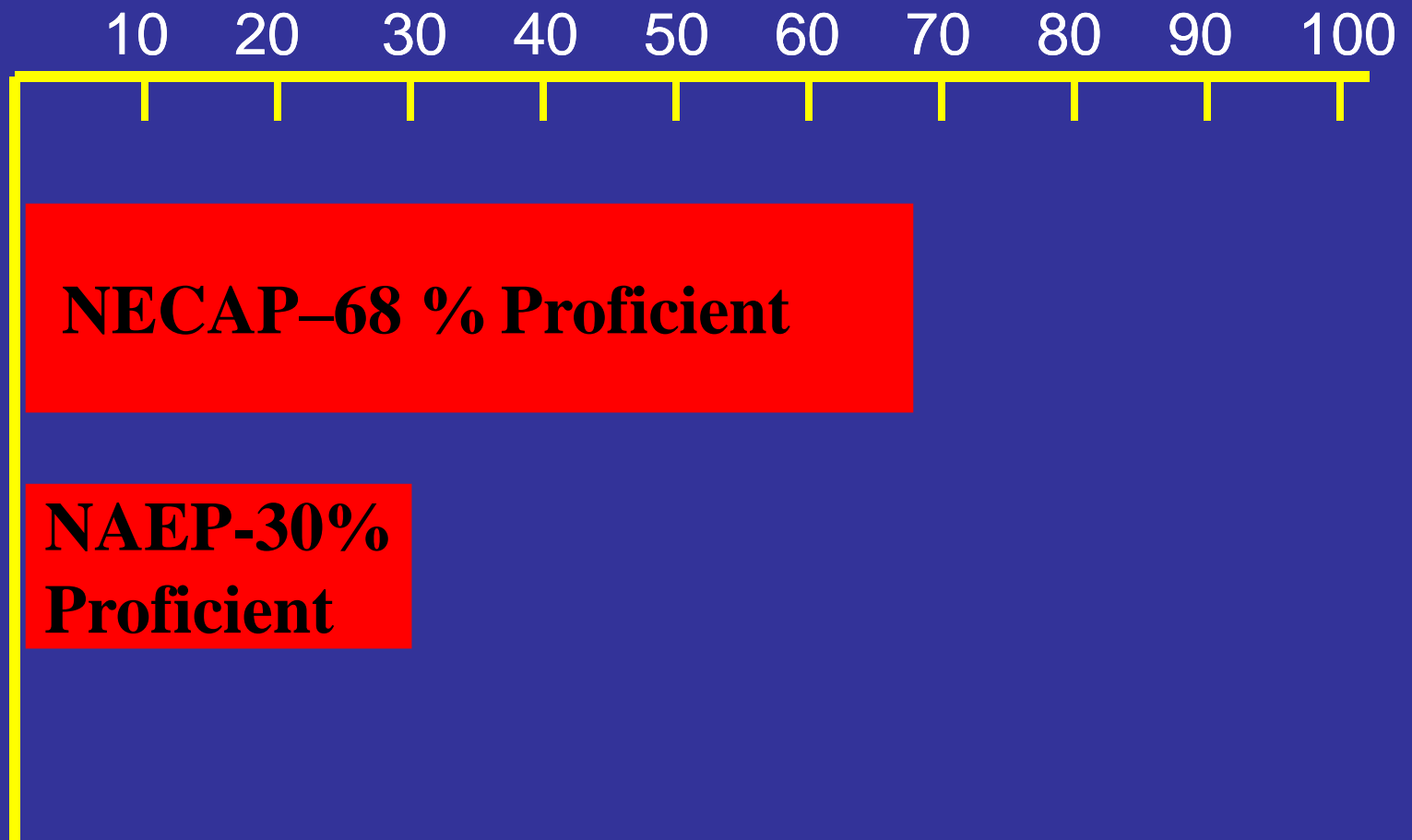
Score Gaps for Vermont 8th Grade Student Groups

- Data are not reported for black students in 2011, because reporting standards were not met.
- Data are not reported for Hispanic students in 2011, because reporting standards were not met.
- In 2011, female students in Vermont had an average score that was higher than male students by 12 points.
- In 2011, students who were eligible for free/reduced-price school lunch, an indicator of low family income, had an average score that was 21 points lower than students who were not eligible for free/reduced-price school lunch. This performance gap was not significantly different from that in 2002 (19 points).

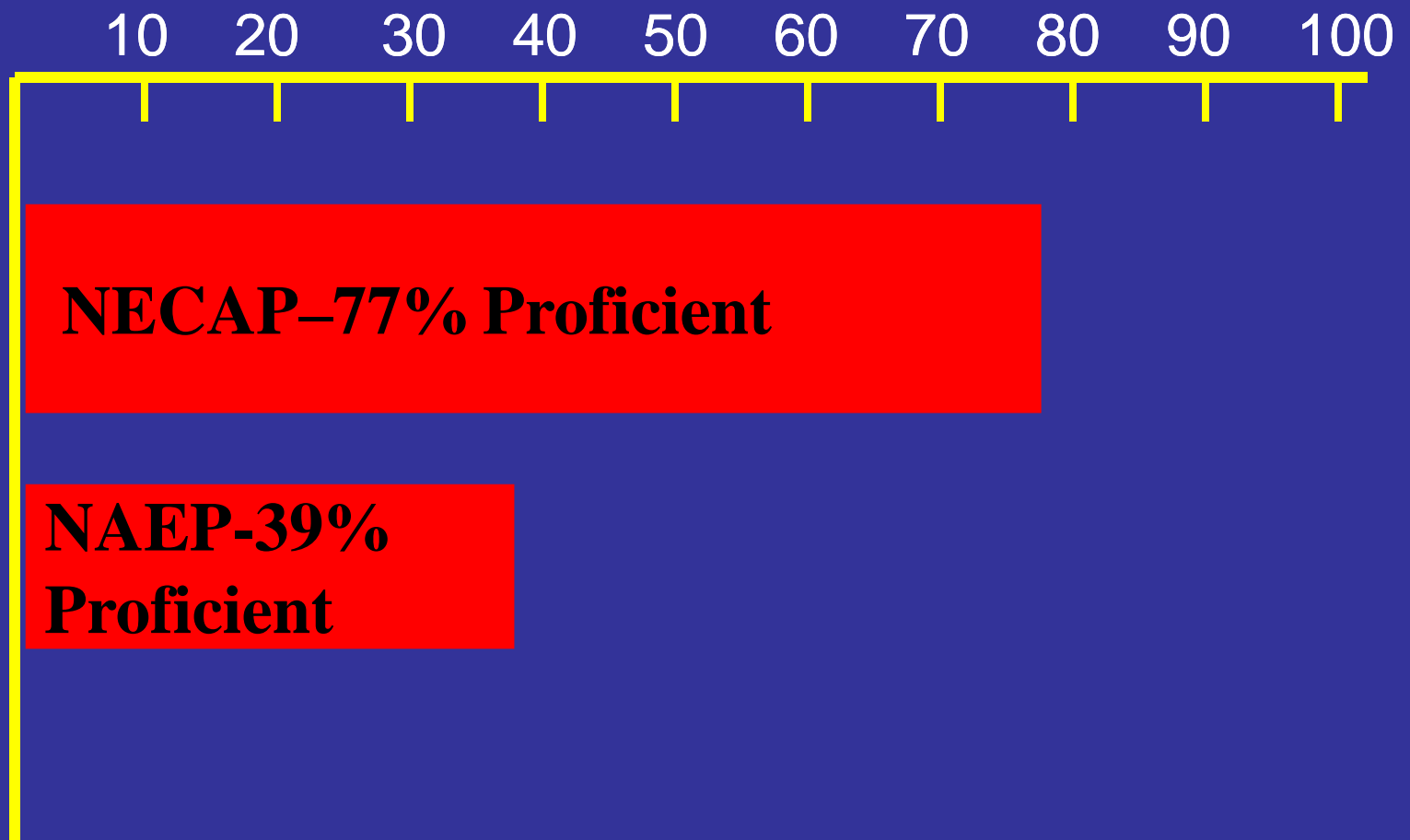
New England Comprehensive Assessment Program (NECAP)

Grade Level	Students Proficient 2010 /2011	Students NOT Proficient 2010 /2011	% of Students Proficient 2010 /2011
3 rd	4,363	1,714	71.80%
4 th	4,314	1,868	69.78%
5 th	4,490	1,703	72.50%
6 th	4,769	1,643	74.38%
7 th	4,513	1,952	69.81%
8 th	5,021	1,528	79.67%
11 th /12 th	4,946	1,936	71.87%

2011 Vermont 4TH Grade Reading Proficiency as Measured by NECAP and NAEP



2011 Vermont 8TH Grade Reading Proficiency as Measured by NECAP and NAEP



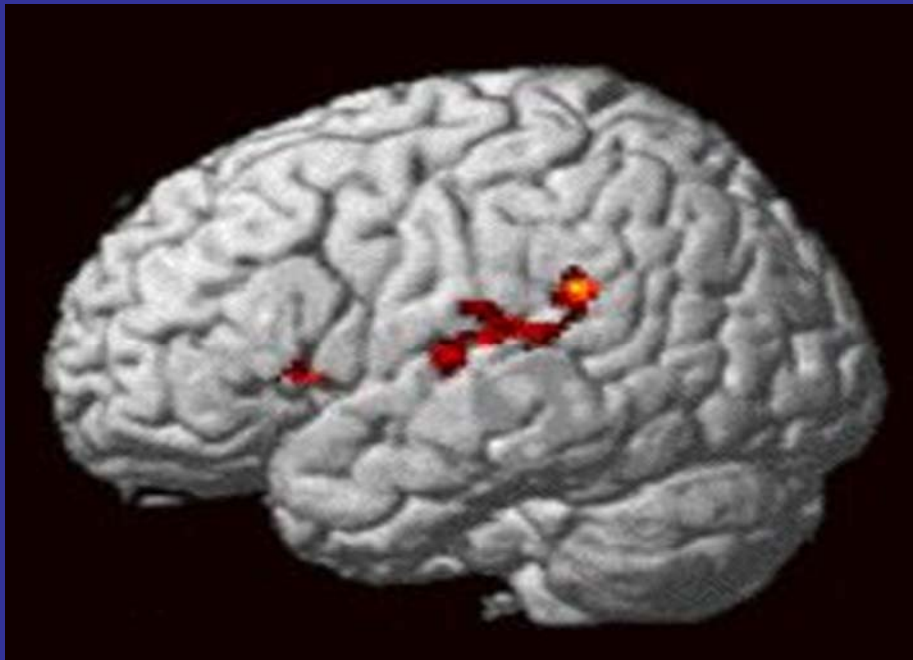
<http://www.youtube.com/watch?v=MzjcEEKLaRc>

'From The Outside Looking In'
Documentary TRAILER

2:28

Begin At Pre-Kindergarten To Ensure That All Children Entering Kindergarten Are Ready To Read

WHY?



Why Focus On Early Identification And Prevention?

- 88% Of Students Reading Poorly at the End of the First Grade Will Read Poorly At the End of The Fourth Grade
- Unless Effective Reading Instruction Is Provided, Students Reading Poorly at the End of the Fourth Grade Will Have Reading Difficulties For the Rest of Their Lives

Why Focus On Early Identification And Prevention?

- Preventing Reading Failure Dramatically Increases a Student's Potential Quality of Life, Occupational Opportunities, Economic Status, and Health Outcomes
- Prevention Programs Demands Shared Responsibility and a Common Language

What are we going to do?

Why are we going to do it?

How are we going to do it?

SES, Language Development, and Vocabulary

- Children enter school with a listening vocabulary ranging between 2500 to 5000.
- First graders from higher SES groups know twice as many words as lower SES children (Graves & Slater, 1987)
- Vocabulary differences at grade 2 may last throughout elementary school (Biemiller & Slonim, in press)
- College entrants need about 11 to 14,000 *root* words (meter in thermometer or centimeter)

The Long-Term Impacts of Teachers-Teacher Value-Added & Student Outcomes In Adulthood

Having an effective 4th Grade teacher makes a student 1.25 % more likely to go to college, the research suggests, and 1.25% less likely to get pregnant as a teenager.

It is estimated that each of the students who had an effective 4th grade teacher, will earn, on average, \$25,000 more over a lifetime- or about \$700,000.

(Chetty, Friedman & Rockoff, 2012)

How Many Words Should Teachers Teach Per Day To Help Close The Gap?

- ▶ In 1st and 2nd grade, children need to learn **800+ words per year, about 2 per day.**
- ▶ Children need to learn **2,000 to 3,000 new words** each year from 3rd grade onward, **about 6–8 per day.**
- ▶ Research has shown that most typically developing children need to encounter a word about **12 times** before they know it well enough to improve their comprehension.

Reading Comprehension Non-Negotiables

- ▶ A student must be able to read correctly approximately **95 percent** of the words accurately in text to comprehend what is read.
- ▶ **MOREOVER**, to comprehend, a student must know the meanings of **90 to 95** percent of the words being read.

Early Intervention is Possible

- Risk characteristics present in Kindergarten and G1
- Letter sound knowledge, phonological awareness, oral language development
- Assess all children and INTERVENE- first in the classroom and then through supplemental instruction

Early Intervention is Effective

Prevention studies
in reading
(and behavior)
commonly show that
70- 90%
of at-risk children
(bottom 20%) in K- 2
can learn to read
in the average range
with effective
instruction



(Fletcher, Lyon, et al., 2007;
Lyon & Weiser, in press)

NICHD Impact Studies of Early Intervention

Percent of children scoring below the 30th percentile

<u>Study</u>	<u>Amt. of instruction</u>	<u>Pre RX</u>	<u>Post RX</u>
Foorman	174 hrs.- classroom	35%	6%
Felton	340 hrs. - groups of 8	32%	5%
Vellutino	35- 65 hrs. 1:1 tutoring	46%	7%
Torgesen	88 hrs. 1:1 tutoring	30%	4%
Torgesen	80 hrs. 1:3 tutoring	11%	2%
Torgesen	91 hrs. 1:3 or 1:5 tutoring	28%	1.6%
Mathes	80 hrs. 1:3 tutoring	31%	.02%

BEGIN AT A PREK LEVEL TO PROMOTE ALL CHILDREN ENTERING KINDERGARTEN READY TO READ HOW?

- Address literacy learning and instruction beginning in preschool and continuing through to success in college or career
- Adopt a literacy learning profile that is completed for each child beginning in preschool and continuing until grade 3. (For children not achieving at expected levels, a literacy learning plan would be developed and progress would be ongoing.)

BEGIN AT A PREK LEVEL TO PROMOTE ALL CHILDREN ENTERING KINDERGARTEN READY TO READ

HOW?

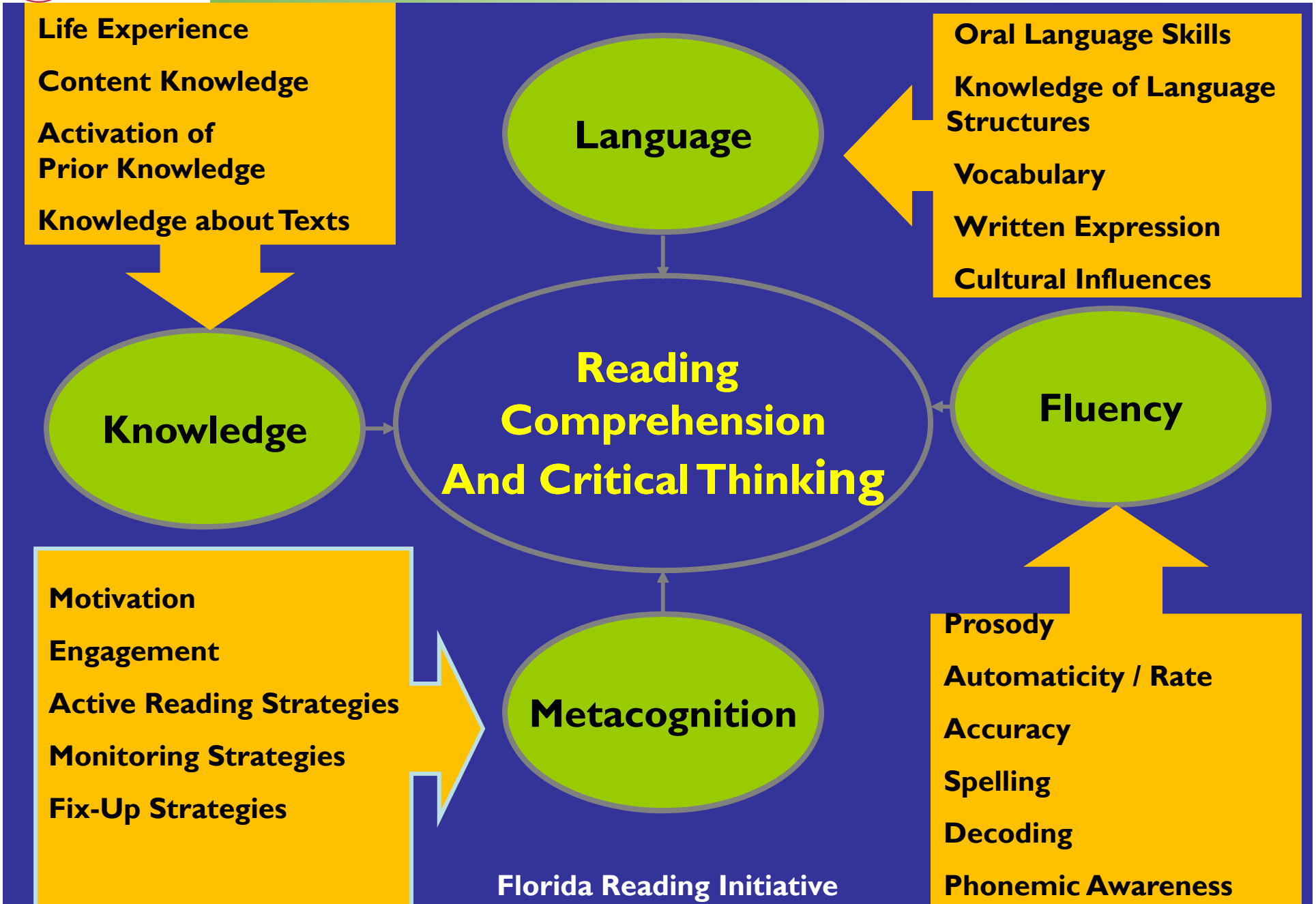
- **Build on existing professional development resources to create a statewide training network in the area of early literacy learning**
- **Develop models for transition to kindergarten with longitudinal impact on reading achievement**
- **Using BUILDING BLOCKS FOR LITERACY® as a model, create additional training modules in literacy instruction aimed at community volunteers, paraprofessionals, librarians, parents, etc.**

**Increase K-12 teacher knowledge
of reading development,
reading assessment,
and reading instruction**

WHY?

- **Teachers account for 33% of a school's total impact on student achievement.**
- **Students with three consecutive years of effective teachers out-perform students with ineffective teachers by 50 percentage points.**
- **Students in classrooms of very effective teachers, following relatively ineffective teachers, make excellent academic gains but not enough to offset previous evidence of less than expected gains.**
- **The importance of the effects of certain classroom contextual variables (class size and classroom heterogeneity) appears to be minor and should not be viewed as inhibitors to the appropriate use of student outcome data in teacher assessment.**

TEACHING READING
IS COMPLEX
AND REQUIRES
HIGHLY PREPARED TEACHERS





HOW?

- Draw from Vermont's Outstanding University Talent
- Develop Explicit Partnerships Between The Governor's Office, The State DOE, Non-Profit Professionals, Universities and Colleges, Communities, and Parent Groups
- Draw from *Knowledge and Practice Standards for Teachers of Reading* for certification
- Showcase successful school-wide reading instruction to show what outstanding initial reading instruction looks like across grade levels and tiers of intervention in a multi-tiered model of instruction, assessment, and intervention
- Create new dual endorsements for educators in elementary education and specific learning disabilities



- Partner With The Governor's Office, the State DOE, and Vermont Institutions Of Higher Education To Create A Model Course Of Study Across Elementary Education And Special Education With A Focus On Specific Learning Disabilities
- Develop Partnerships Among Teachers And Teacher Groups and Parent Groups Committed To Evidence-Based Assessment, Reading Instruction And Intervention Practices
- Ensure The Model Requires Rapid Application of Course Content to Ongoing Mentored Reading Instruction In Schools, Programs, and Centers
- Develop And Implement Formal Programs To Provide Reading Professionals and Education Leaders with Highly Specific Professional Development Opportunities
- Ensure The Development Of A Common Professional Language

Provide Leadership That Is Robust And Informed

WHY?

“Leadership is a scary thing. That's why few people want to stand up to the plate.'... 'There are many people who want to be matadors, only to find themselves in the ring with 2,000 pounds of bull bearing down on them, and then discover that what they really wanted was to wear tight pants and hear the crowd roar”

Terry Pearce

**PRINCIPALS ACCOUNT
FOR 25%
OF A SCHOOL'S
TOTAL IMPACT
ON STUDENT ACHIEVEMENT**

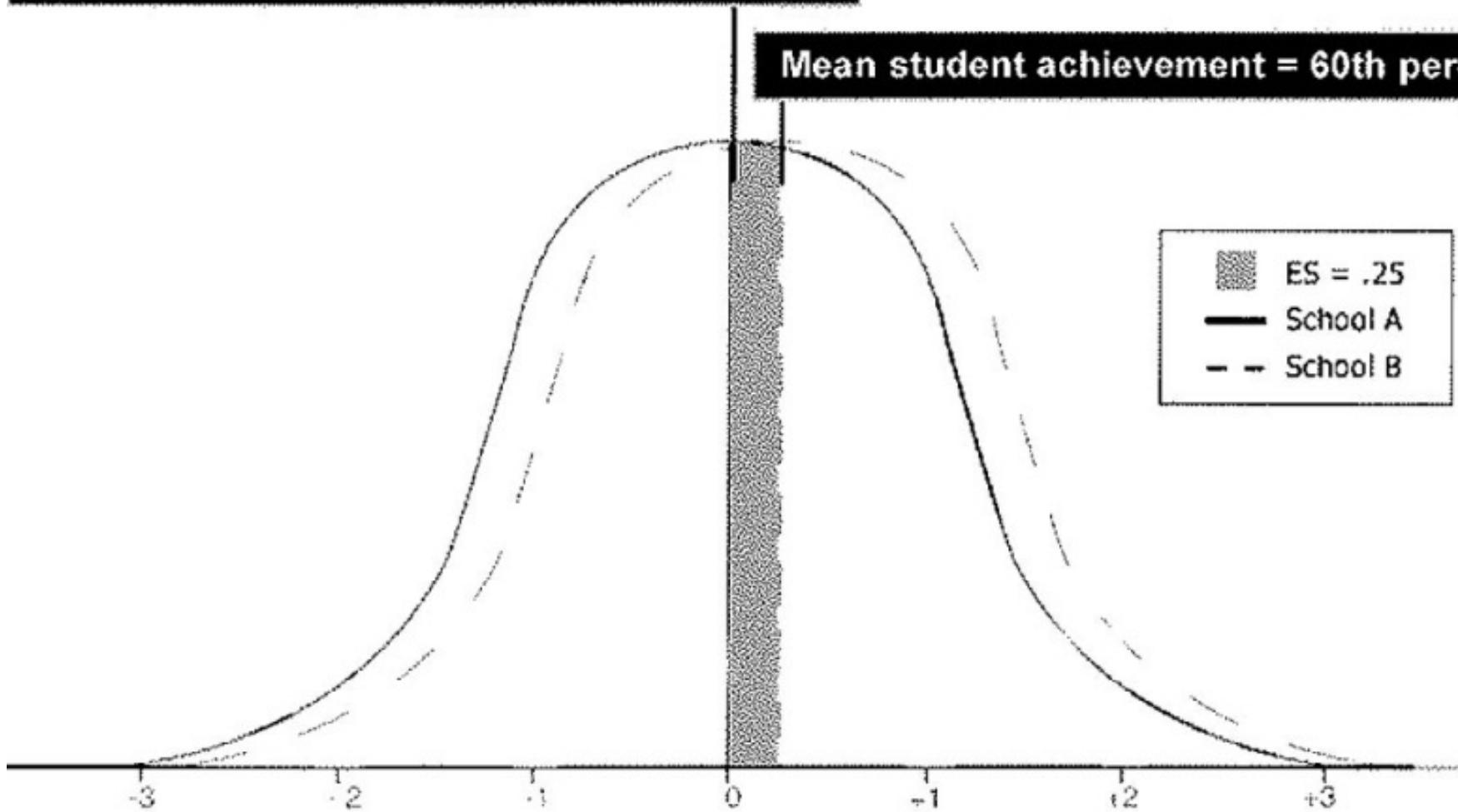
Average Effect Size for leader Impact on student achievement: .25

“ Assume two average principals in two average schools. Their abilities in the 21 key leadership responsibilities are ranked at the 50th percentile. Now assume that the principal of school B improves her demonstrated abilities in all 21 responsibilities by exactly one standard deviation”.

“Our research findings indicate that this increase in leadership ability would translate into mean student achievement at school B that is 10 percentile points higher than school A.” (Waters, T., Marzano, R. J., & McNulty, B. ,2003).

Mean student achievement = 50th percentile

Mean student achievement = 60th percentile



Provide Robust And Informed Leadership HOW?

- **Through Partnerships With Vermont Universities and Colleges, The State Department of Education, and Non – Profit Centers and Resources, Examine The Need For Advanced Graduate Education Programs For Teacher Leaders In Research-Based Best Literacy Practices**
- **Through Combined Contributions from Partnership Members, Develop and Implement Continuous Professional Development Programs To Increase The Knowledge Of Principals, Administrators, And Other School Leaders About The Science Of Instruction To Improve Children’s Literacy Outcomes**

Provide Robust And Informed Leadership

HOW?

- **Establish Partnerships with Business Leaders, Community Leaders, Military Leaders, Legislators, and Education Leaders To Identify Essential Leadership Traits For Success In Complex Organizations**

- **Develop Evaluation and Assessment Systems That Provide Continuous Feedback to Leaders about their Performance in:**
 - **Instructional Leadership**
 - **Collective Leadership**
 - **Organizational Leadership**
 - **Community Partnership Leadership**

Business Leadership

Effective Leadership requires discipline, problem solving, turning complexity into simplicity, respect for "time to market" work processes, managing by fact, dependency on the contributions of others to create the greater whole, and measuring and adapting" (Burns, 2005)

Ursula Burns

Chair and CEO, Xerox

President . Xerox

Global Research Exec

Mechanical Engineer

Product Development Exec

Manufacturing Exec

Leadership Strengths

Integrity

Competence

Courage

Social judgment

Self-awareness

Hardiness

Grit

West Point (2004, 2006) studies



COURTESY: XEROX

MILITARY LEADERSHIP

“Our work in the Ashau will extremely rough. We know how good they are and we know their strengths and weaknesses. We know the same about us. You are paratroopers with tremendous skills. We can adapt to anything they bring to us. My job is to make sure we use those skills effectively even though we are scared shitless. We must be smart. My sergeants will keep me smart. I will do my best to keep us alive so we keep getting smarter” (Capt Stephen, M - 101st Airborne, Ashau Valley , RVN, August, 1968; Picture By Reid Lyon)

Capt. Stephen M.

West Point

Harvard MBA

Airborne School

Ranger School

Second Tour

Leadership Strengths

Competence

Courage

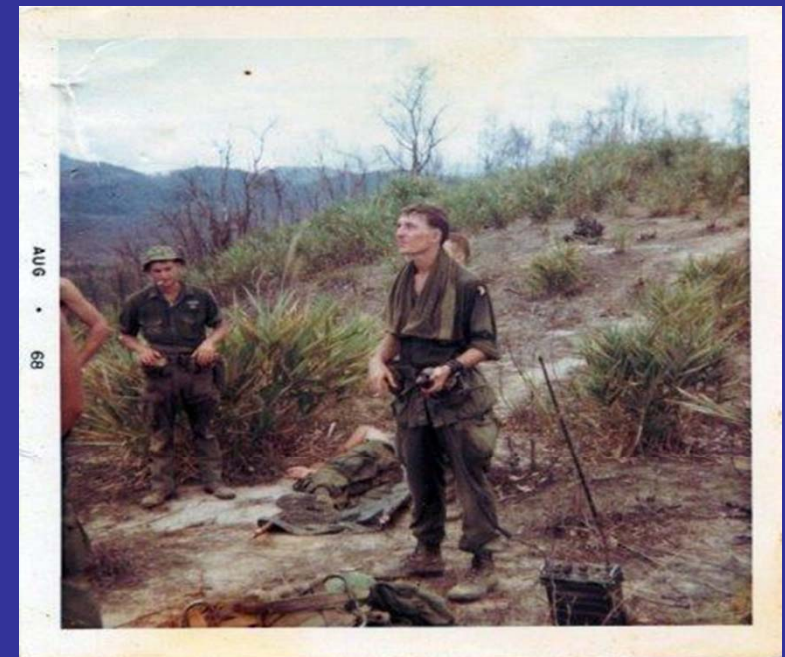
Social judgment

Self-awareness

Hardiness

Grit

West Point (2004, 2006) studies



Develop Implementation Blueprint

WHY?

**“You can have the most effective program and the most experienced teachers, but if you don’t put the program in place the way it was designed, the program will fail”
(Lyon, 2011)**



Know Implementation Non-Negotiables

- **Leaders Must Be Knowledgeable Consumers of The Research Supporting a Particular Policy or Program**
- **Expert Instructional and Organizational Leadership**
- **Teachers Acceptance and Commitment to the Program**
- **Unambiguous “Buy-In” of ALL Staff**
- **District Must Ensure Support and Conditions Essential to Success**
- **Schools and Districts Must Embrace Data and Accountability**

How?

Know and Plan For Predictable Barriers to Implementation Of The Blueprint

- Failure to develop a common instructional and implementation language
- Taking on too many grade levels and schools the first year
- Confusing awareness training with implementation training
- Failure to view the implementation as a systems wide change

Know Other Factors That Screw Up Implementation Fidelity

It is rare that policy researchers and policy makers identify the specific conditions under which proposed initiatives and policies will improve student learning and achievement making effective implementation extraordinarily difficult

Class size is irrelevant unless we know whether principals and teachers ensure that effective practices are being employed

Charter schools do not teach kids. Leaders provide the conditions under which expert teachers can provide effective instruction

Head Start does not improve a child's readiness for school. Well prepared Head Start teachers and program leaders do that

Title I does not improve student learning and achievement (really). Effective leaders and teachers receiving Title I funds do.

And Other Factors That Screw Up Implementation

Fail to base the selection of initiatives, programs, instructional methods, and strategies on trustworthy evidence

Leading to

A pervasive mind set among educators and politicians that a commercially touted program, curriculum, model or new innovation is the “Silver Bullet” to improve student outcomes

– e.g., Whole Language; Learning Styles; Brain-Based Learning;

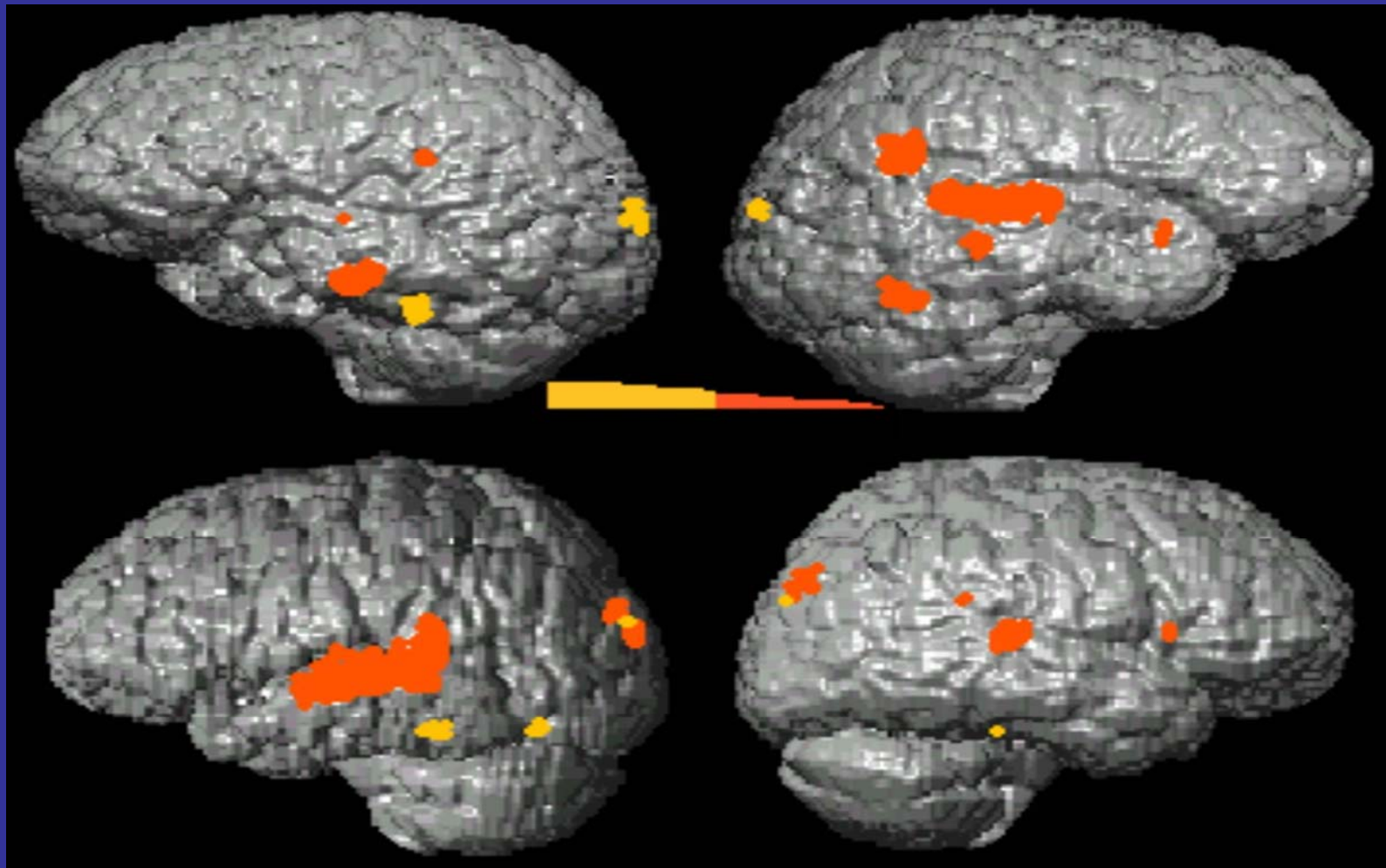
Develop Blueprint For Implementation HOW?

- **Create a LD and Reading Leadership Council Comprised of University and College Literacy Leaders, School Principals, Teacher Leaders, Reading Specialists, Data Coaches, Special Educators, Parents, And Others To Accomplish The Most Important First Task**
- **Develop An Implementation Plan To Ensure Fidelity of Application, Successful Scaling of Effective Programs and Initiatives, and Sustaining of Effective Programs.**

“Many people who call *themselves* leaders are only posing. They’re wearing the label or accepting the title without putting their skin in the game. I invite you to approach the act of leadership as you’d approach an extreme sport: learn to love the fear and exhilaration that comes with the territory. And that takes a personal commitment.”

Steve Forbes

One Other Reason For Effective Literacy Instruction



And, Another Reason For Effective Literacy Instruction





<http://www.youtube.com/watch?v=Pk7yqITMvp8>

Cowboys Herding Cats

1:09



UT Brain Health Studies; how to maximize cognitive brain function and the understanding of memory, strategic thinking, creativity and much more www.centerforbrainhealth.org



The Annette Caldwell Simmons School of Education and Human Development promotes excellence by engaging in and disseminating scientifically-based research, preparing exemplary professionals in education and human development, collaborating with other schools and institutions in the development of model programs and furthering positive learning experiences in all stages of life.

Thank you sincerely,



G. Reid Lyon

Distinguished Professor Of Education Policy and Leadership, Southern Methodist University
Distinguished Scientist in Cognition and Neuroscience, Center for Brain Health, University of Texas, Dallas

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