



# **CTE at a Crossroads**

**July 18, 2011**

**Dr. Willard R. Daggett**

**“These are the Best of Times -  
These are the Worst of Times”**

**These are the Best of Times**

# These are the Worst of Times

# The Challenges

- Common Core State Standards (CCSS)

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- Next Generation Assessments (NGA)

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- Common Core State Standards (CCSS)
- Next Generation Assessments (NGA)
- Teacher effectiveness based on student performance
- Prepare students for the world beyond school

# Crossroads

- Job Specific vs. Applied Academic
- Specialization vs. Collaboration

# The Challenge

CCSS/NGA/Teacher Evaluation into CTE  
OR  
CTE into CCSS/NGA/Teacher Evaluation

# The Challenge

- Between Academic and CTE
- Within CTE

# WHY – WHAT - HOW

# WHY

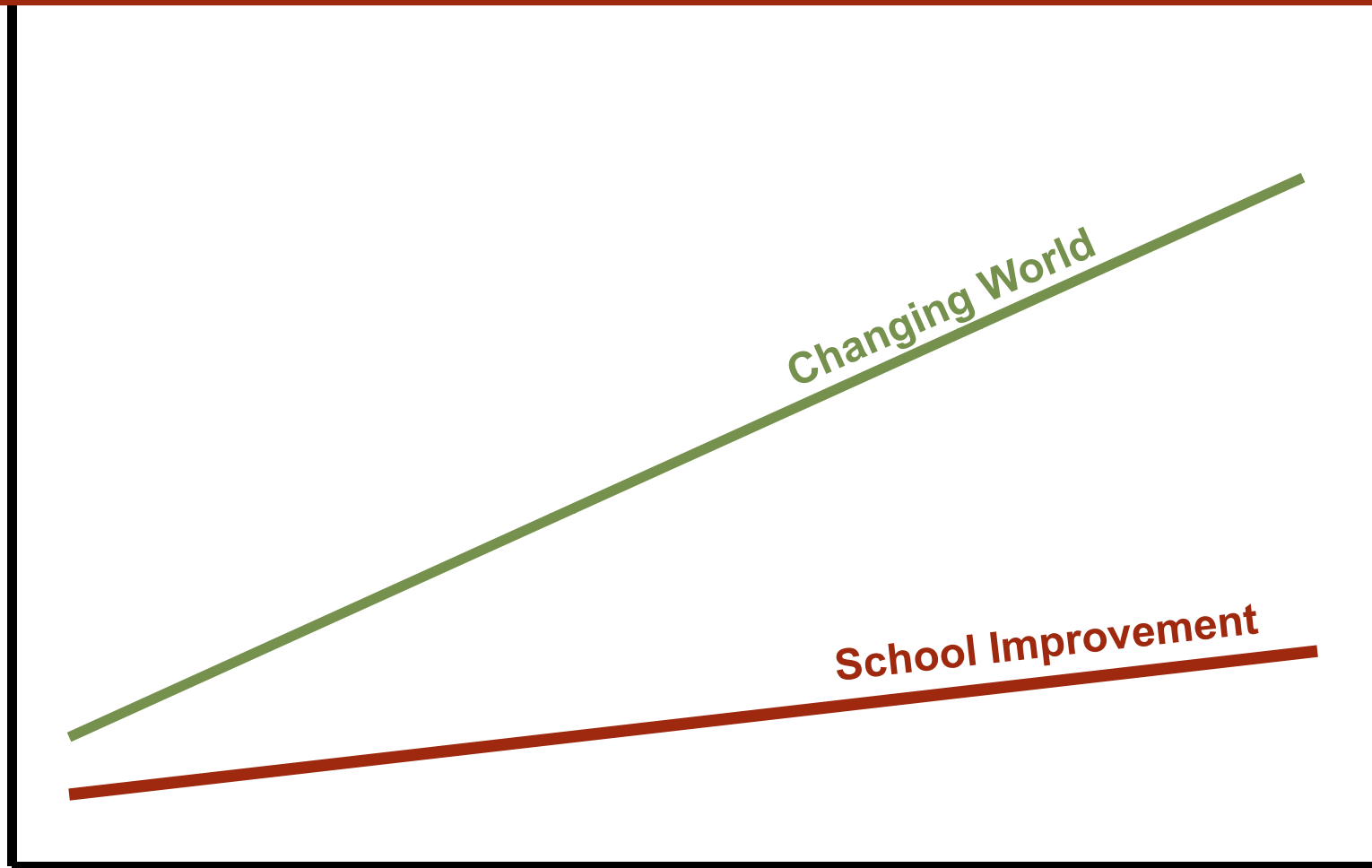
# Schools are Improving



A line graph with a white background and black axes. A single dark red line starts at a low point on the left and rises steadily to a higher point on the right. The text 'School Improvement' is written in dark red, slanted font above the line.

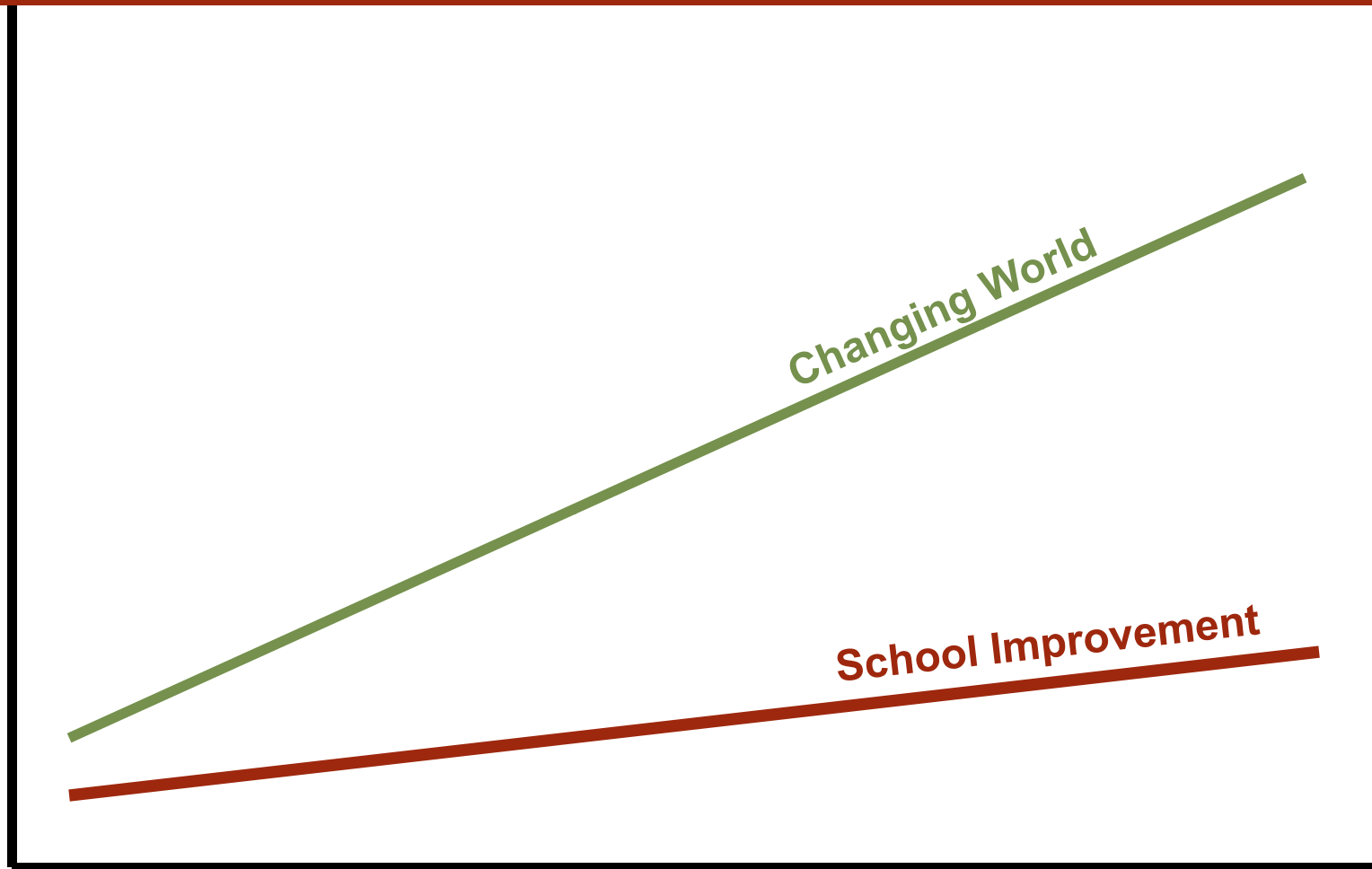
**School Improvement**

# Schools are Improving

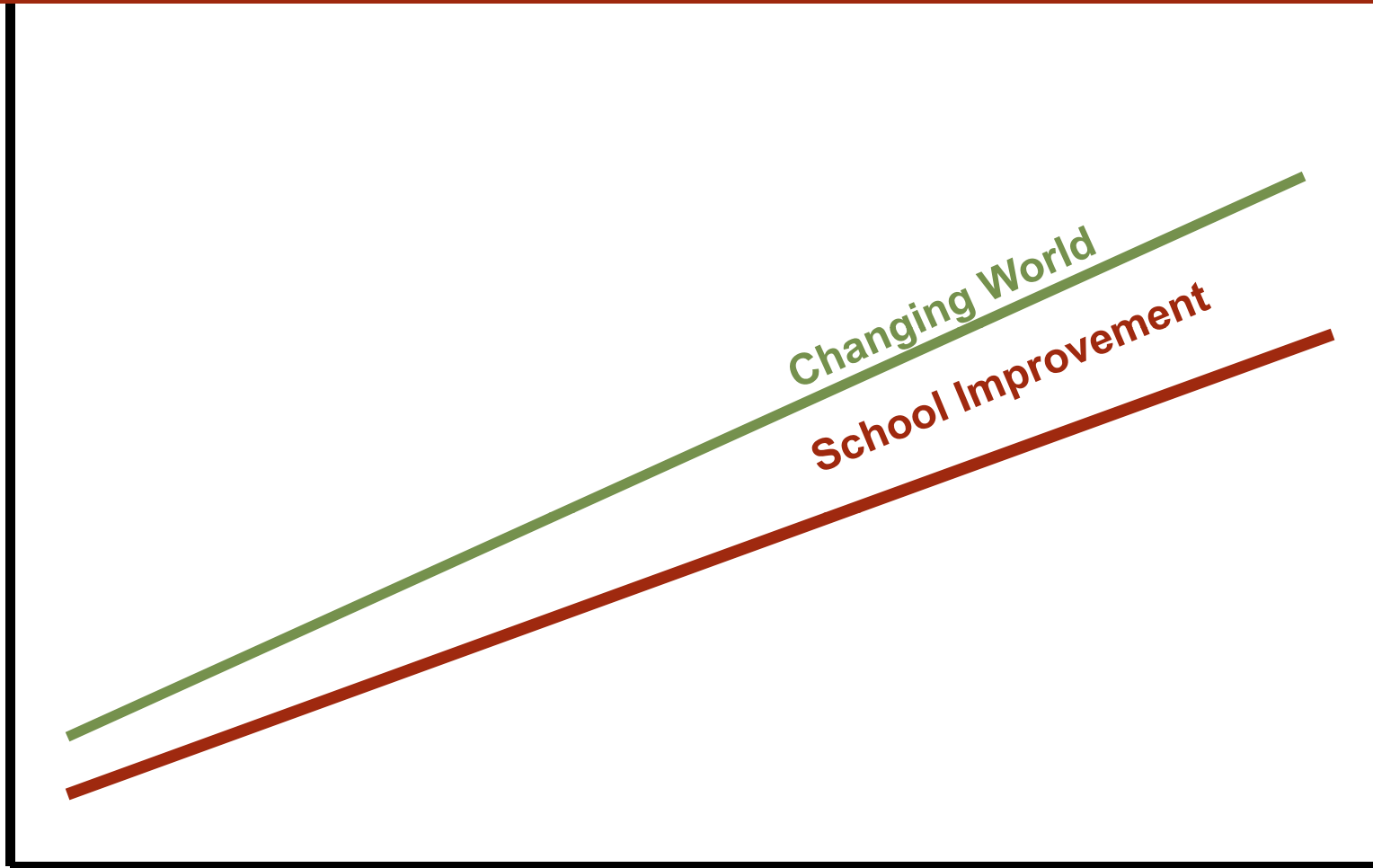


# Skills Gap

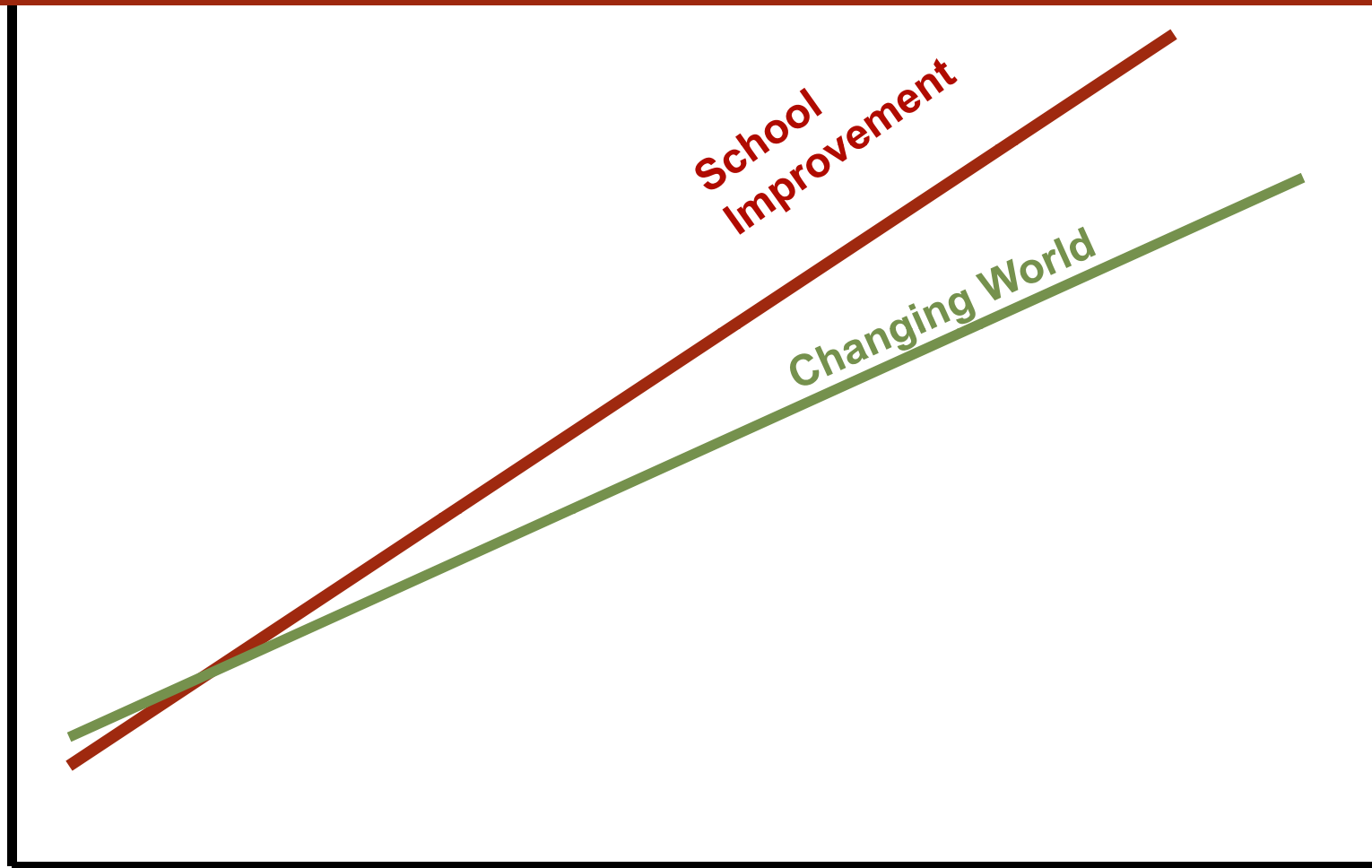
# Schools are Improving



# Schools are Improving



# Schools are Improving



# Semantic Web

- Analyze Documents
  - Key words and headers (Google)
- Meaning / Concepts
  - Wolfram Alpha
- Complete Task

# Implications

- Homework
- Term Paper

# -Wolfram Alpha-

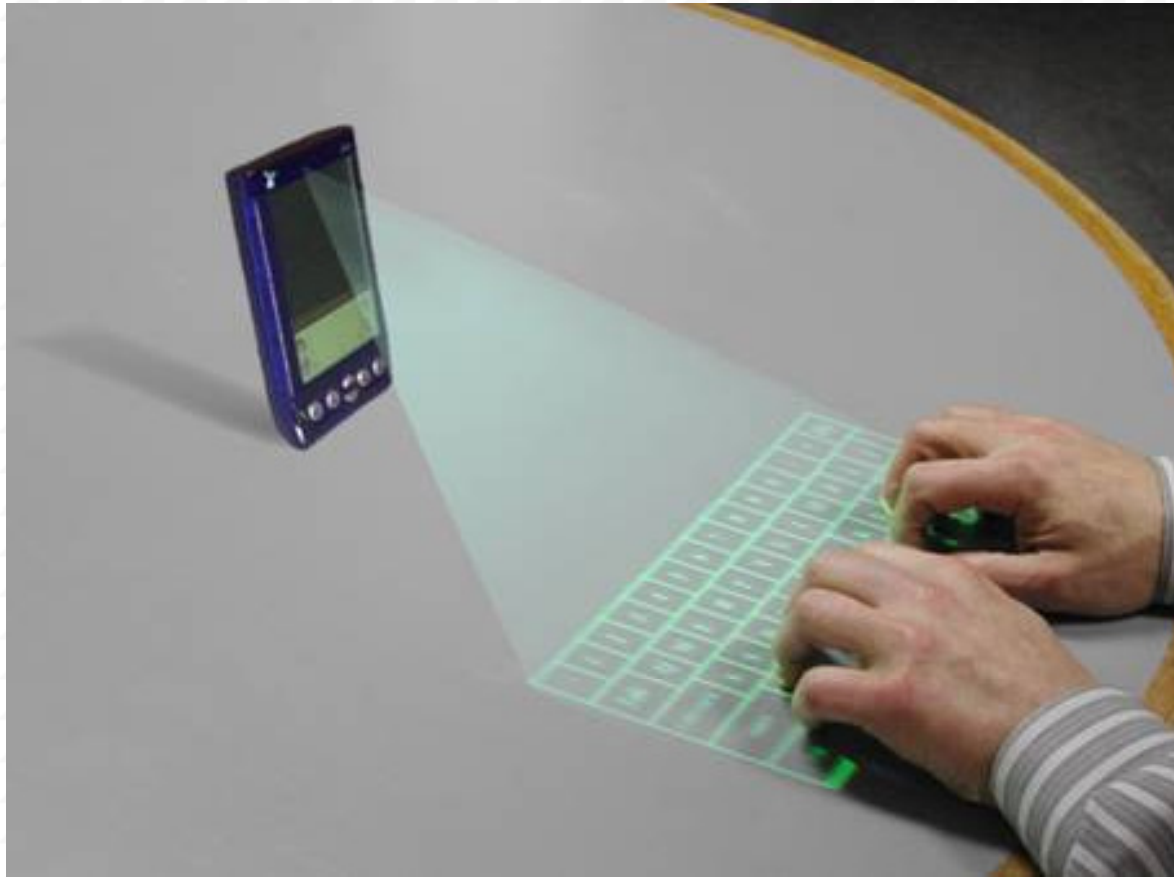
- will search all language and give you response in your language
- will respond in writing or verbally (in your language)



# SPOT

- Integrated Projection
- Projection Keyboard

# Projection Keyboard



# Projection Keyboard and Projector



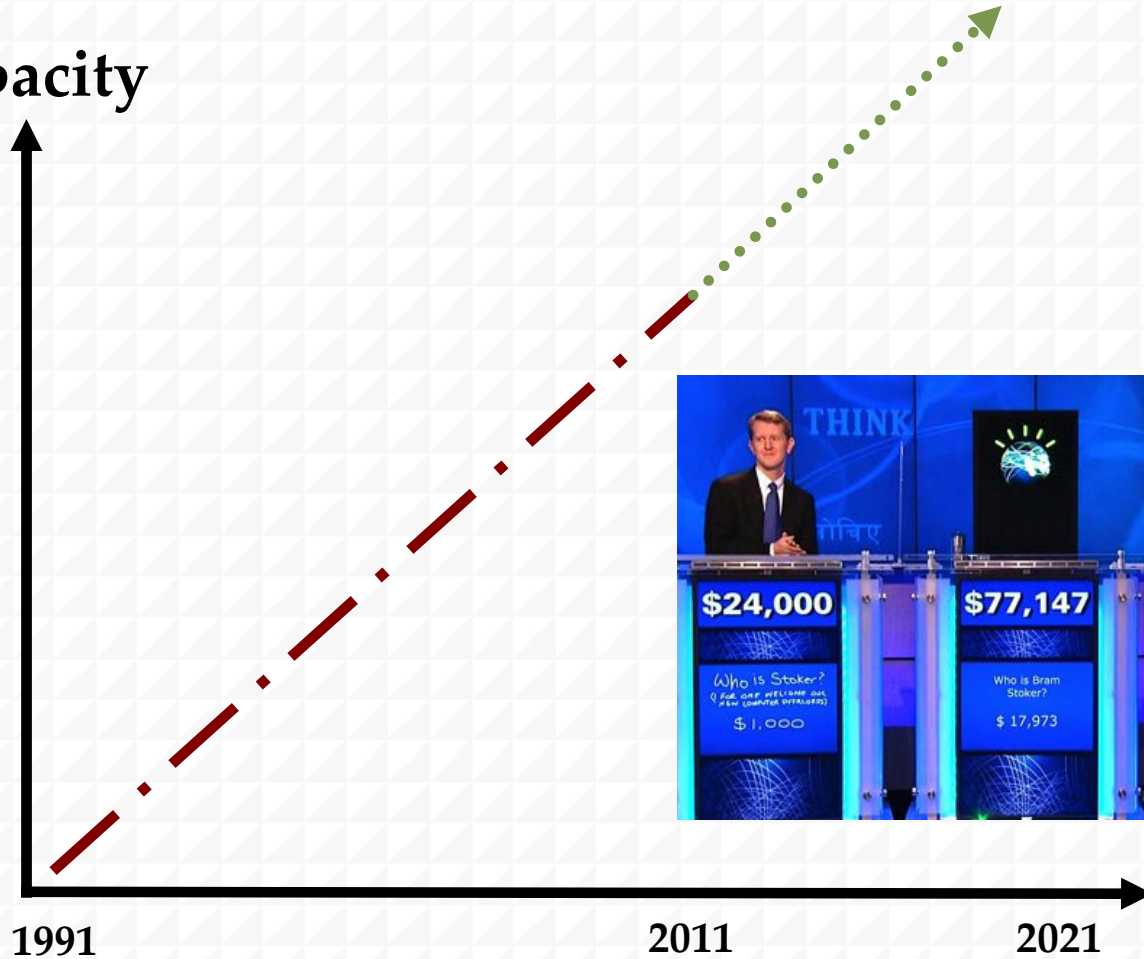
# Information Technology

- Availability of Information

# Moore's Law – Doubles Every 2 Years

Computing

Capacity

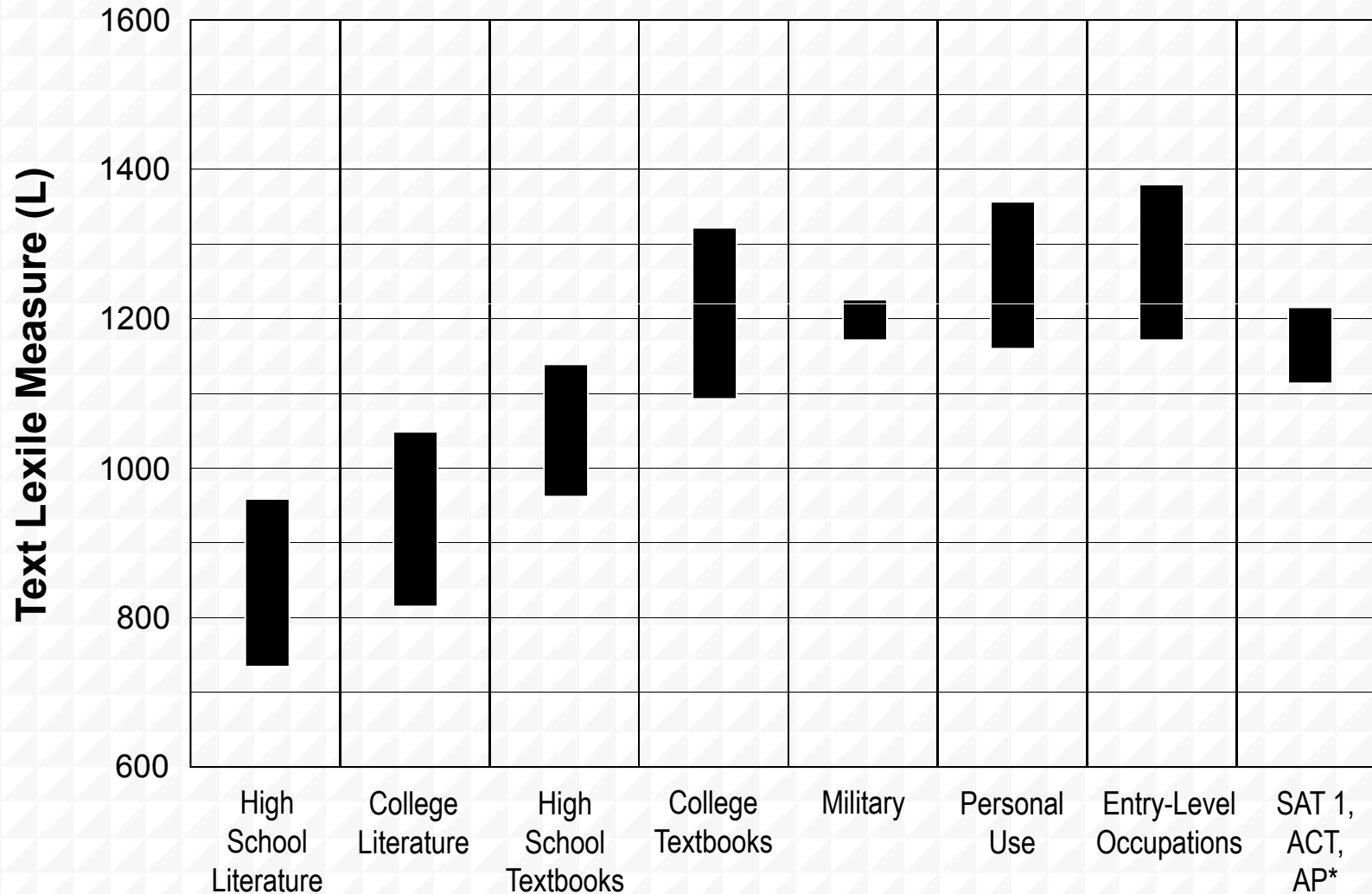


# What they need

# Lexile Framework<sup>®</sup> for Reading Study

## Summary of Text Lexile Measures

Interquartile Ranges Shown (25% - 75%)



# Financial

# 2011 U.S. Federal Budget

- Borrowing 41% of every dollar it is spending

# Federal Obligations

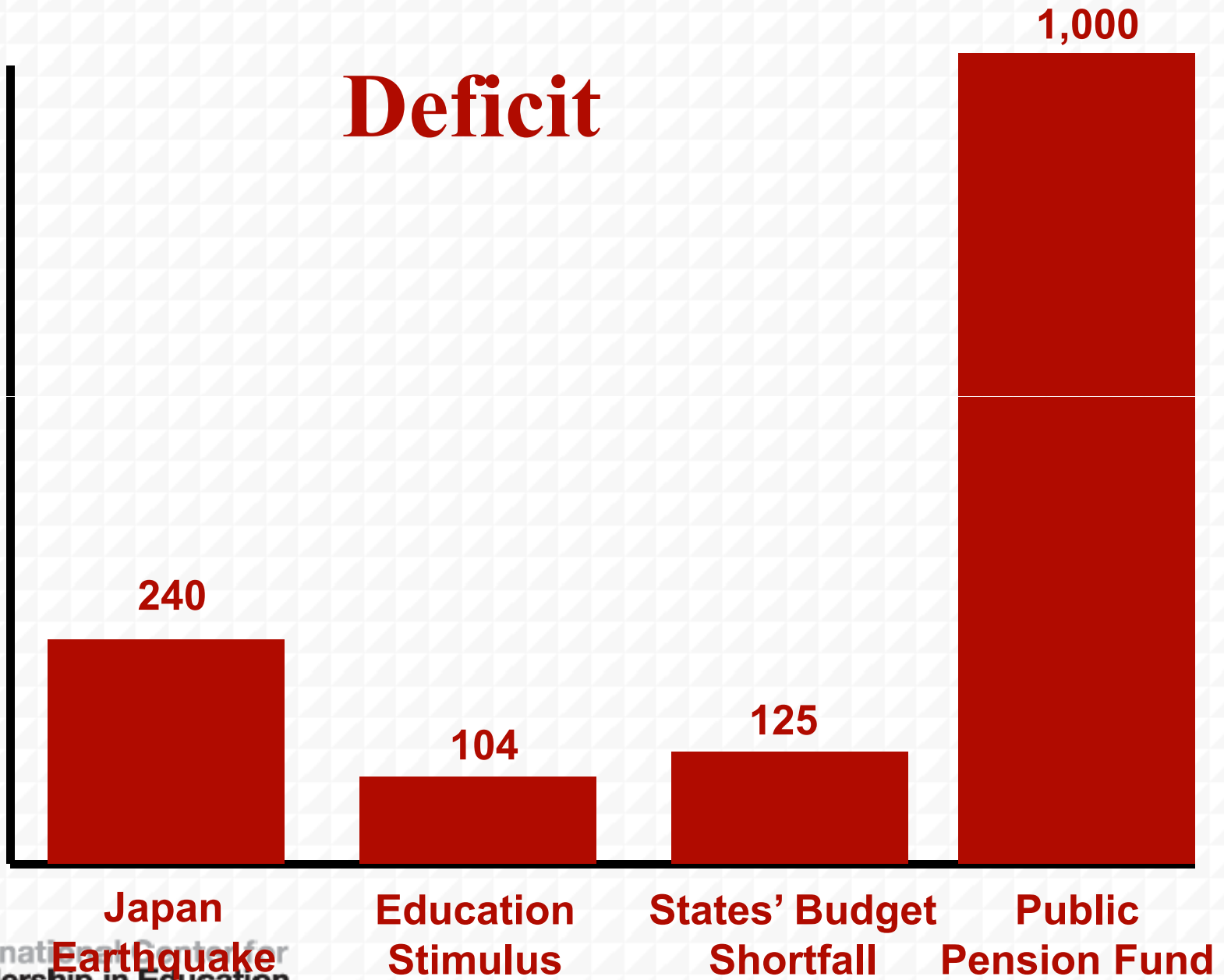
• Medicare	24.8T
• Social Security	21.4T
• Debt	9.4T
• Retirements	5.6T
• Other	0.4T
<b>TOTAL</b>	<b>61.6T</b>

# Federal Obligations

- \$534,000 per household
- More than 5 times
  - Mortgages
  - Car Loans
  - College Loans
  - Credit Cards

# Deficit

US Dollars (in Billions)



**why – WHAT - how**

# What Works

RESEARCH

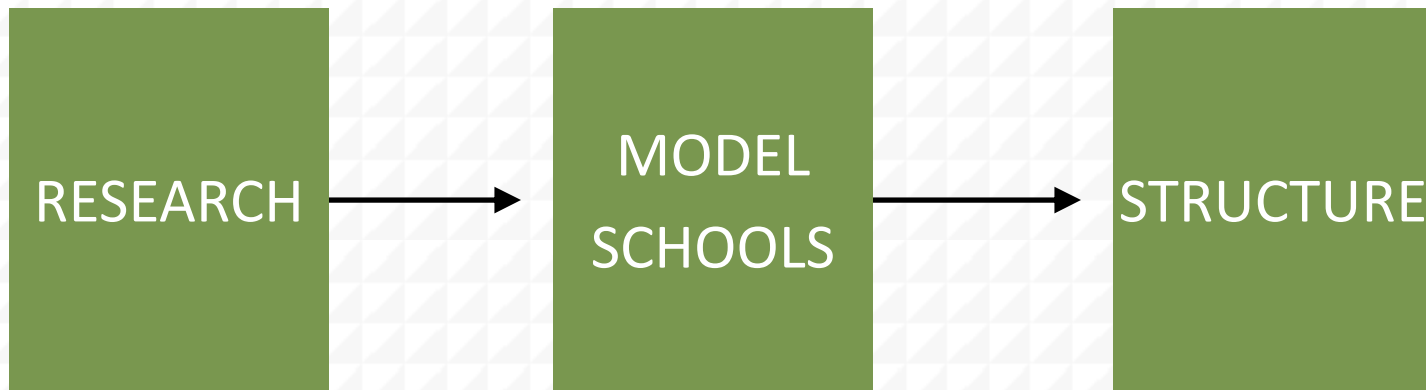
# What Works

RESEARCH

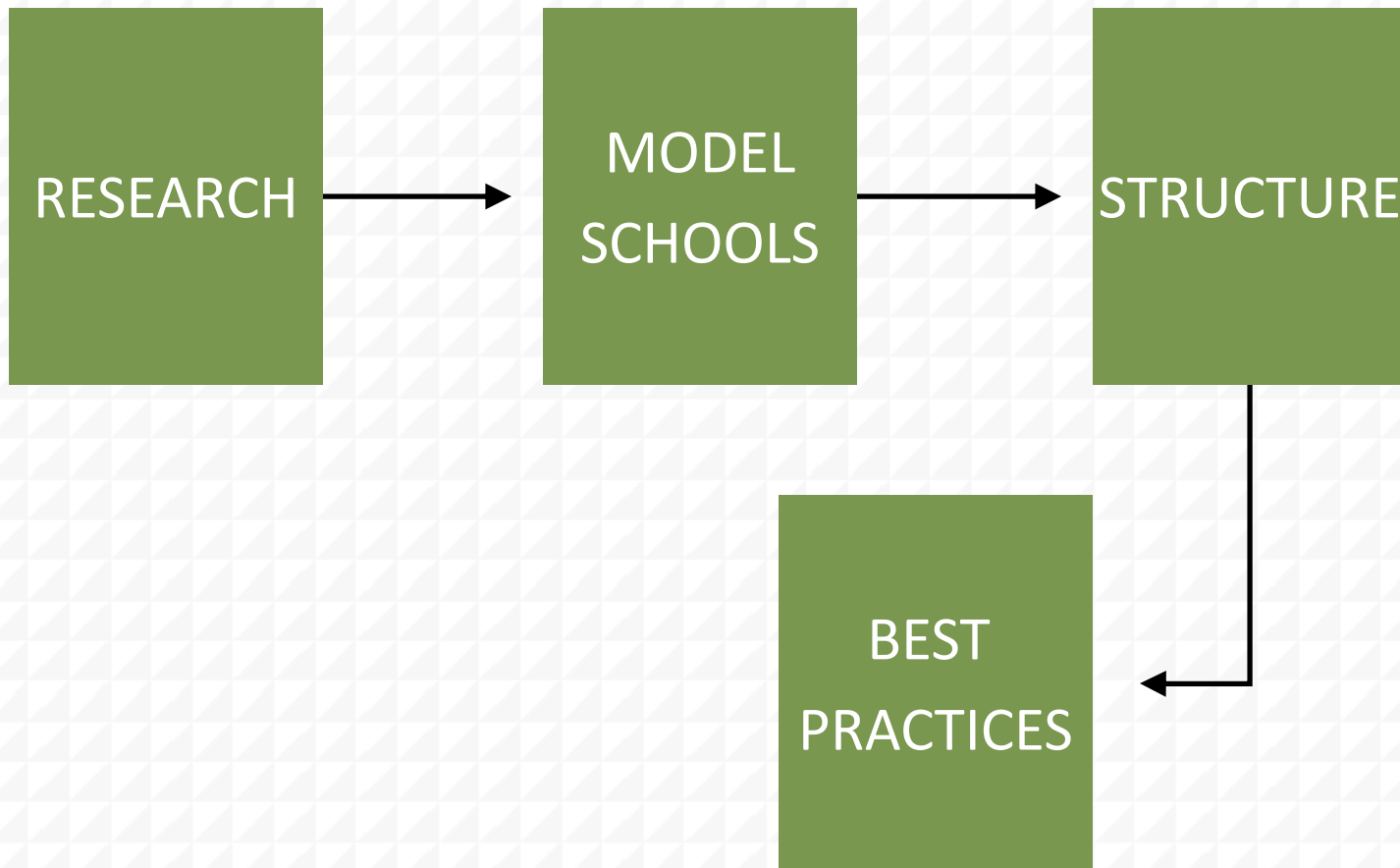


MODEL  
SCHOOLS

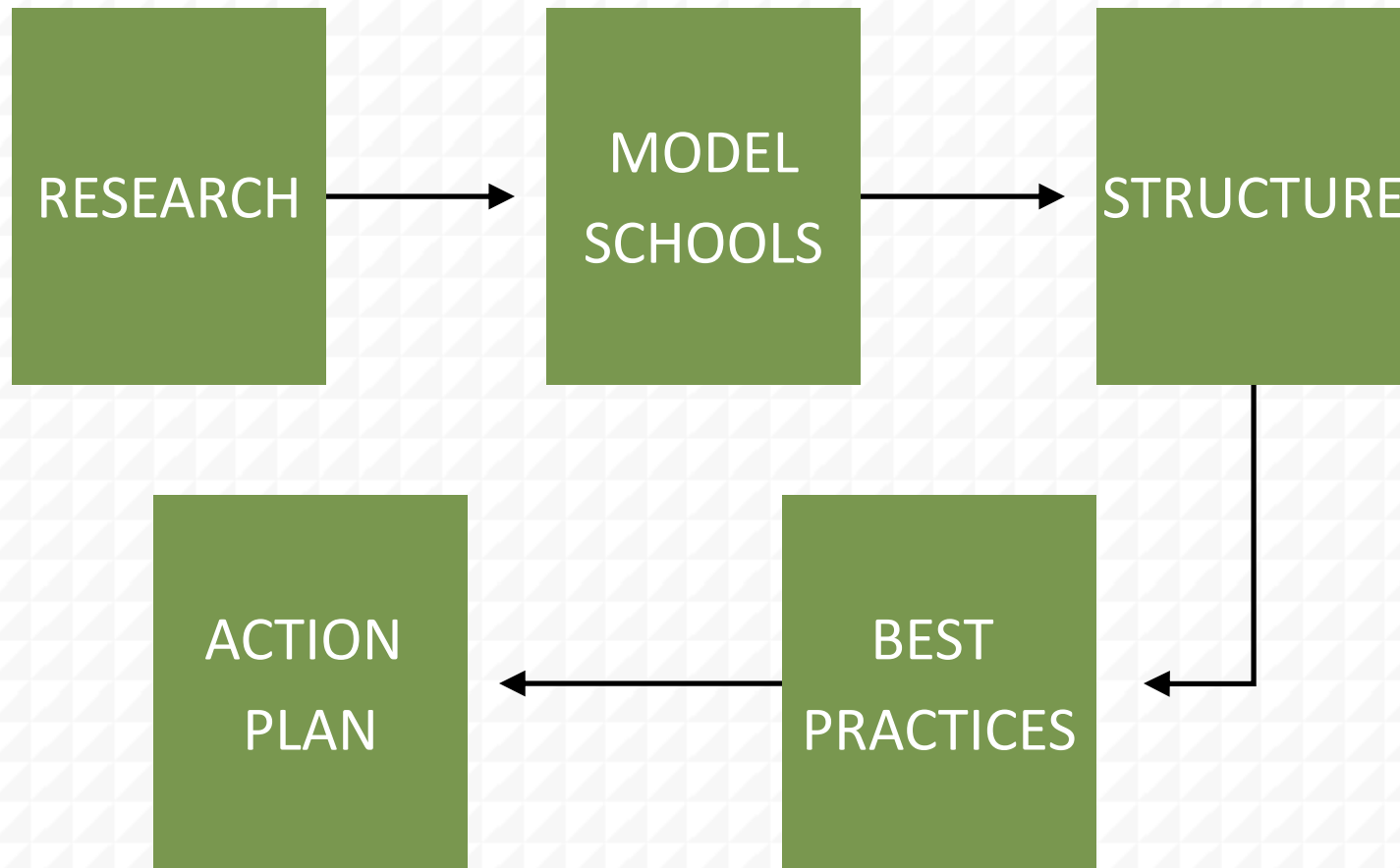
# What Works



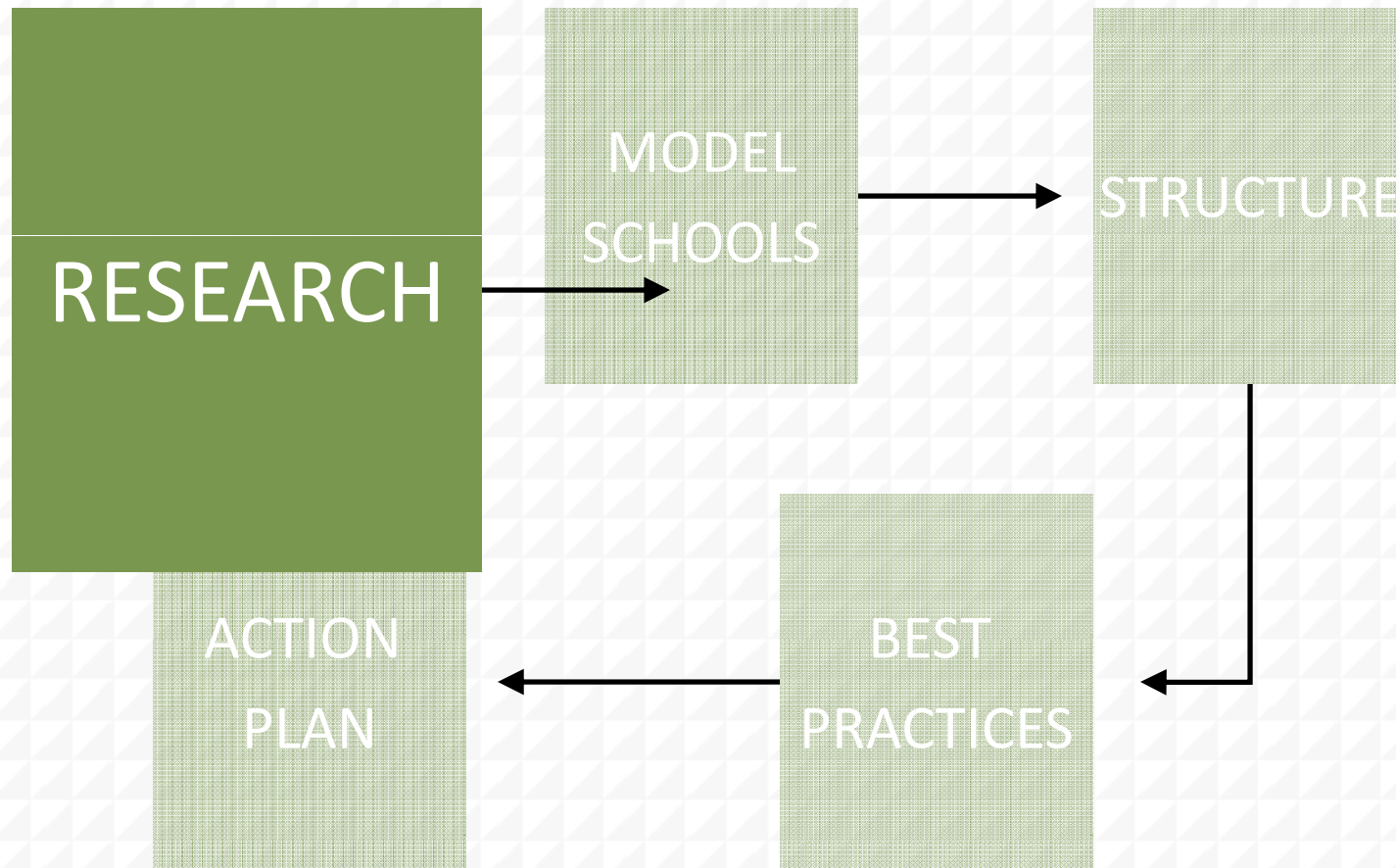
# What Works



# What Works



# What Works



# 1 Standard Deviation

- Students do better than 84% of students not in that initiative

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- Students do better than 84% of students not in that initiative
- Typically represent 2 years growth in one year

# Focus

- What is effective?

# Application of Knowledge

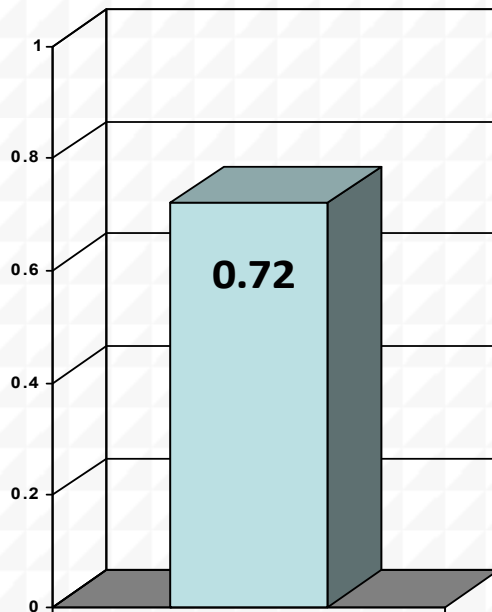
## Effective



.65 SD = 1.30 Years  
Growth per Year

# Student Teacher Relationship

**Effective**



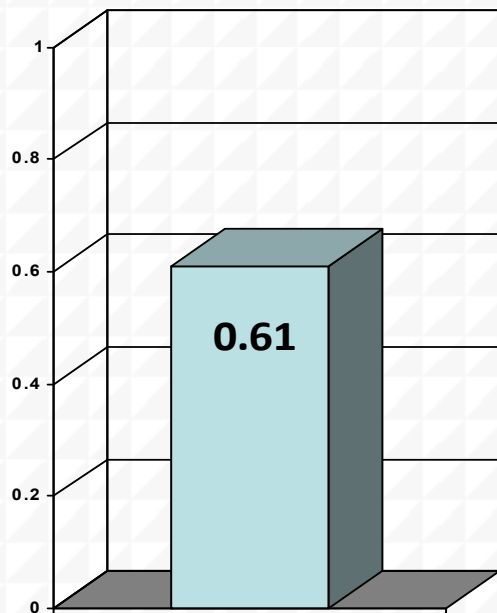
.72 SD = 1.44 Years  
Growth per Year

# Literacy Strategies

**Effective**

.61 SD = 1.22 Years

Growth per Year

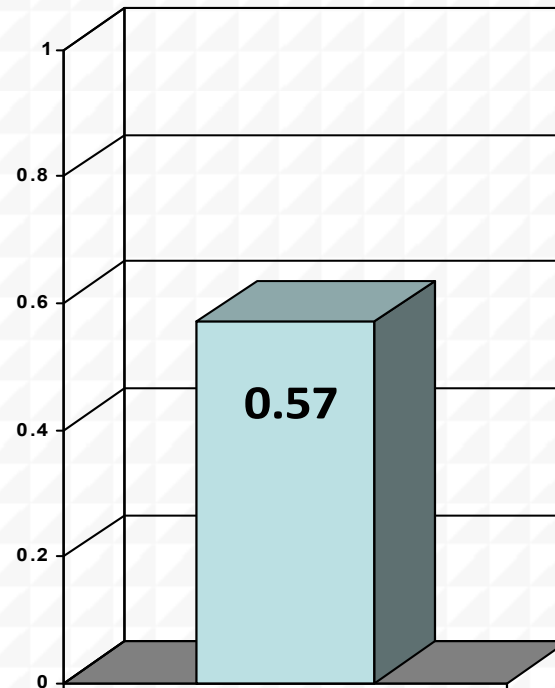


# Focus

- What is effective?
- What you can impact?

# Socioeconomic Status

**Effective**



**You Cannot Change Where  
YOUR STUDENTS CAME FROM**

**However**

**You Can Change Where YOUR  
STUDENTS ARE GOING**

# Focus

- What is effective?
- What you can impact?
- What is most efficient?

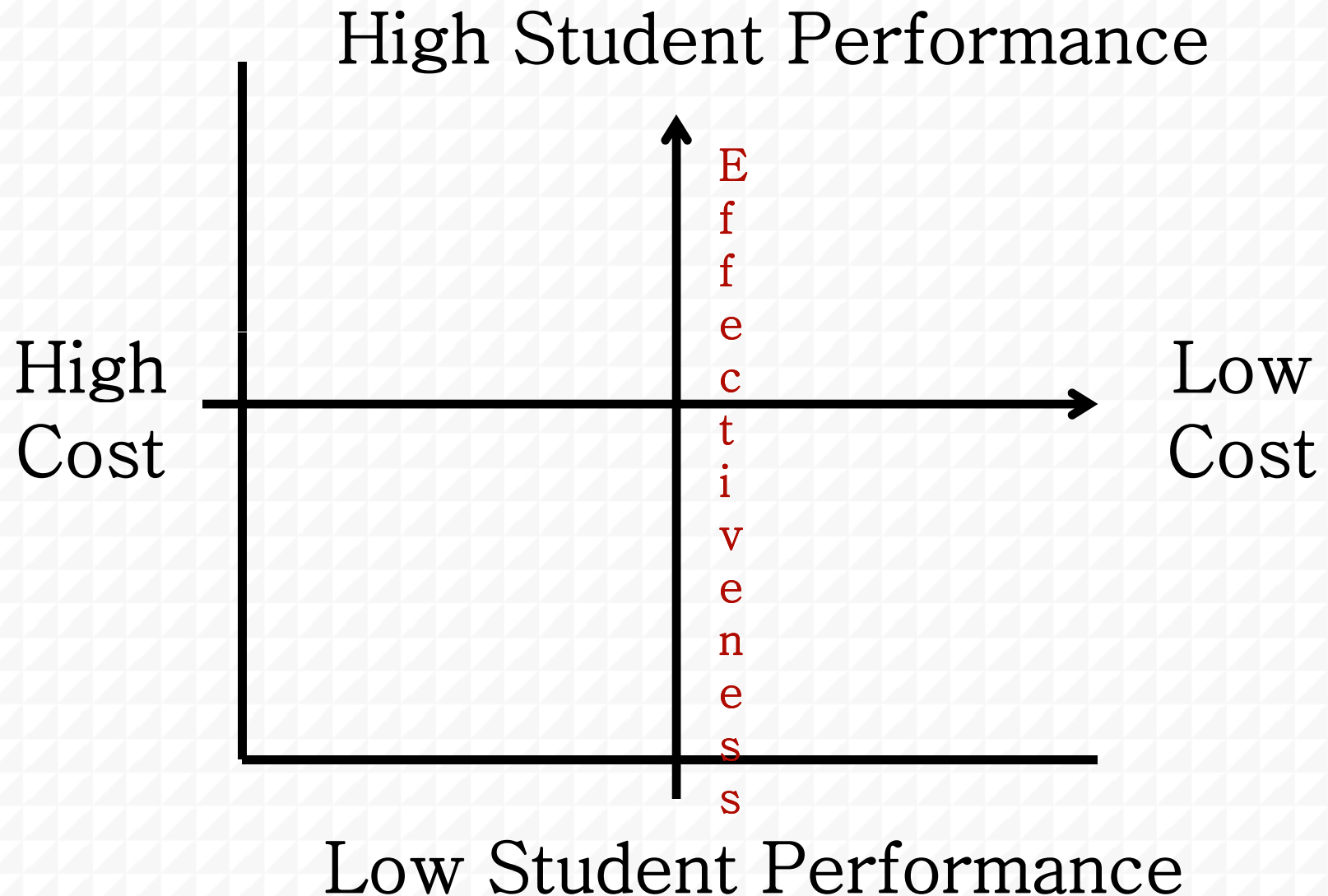
# Effectiveness and Efficiency Framework



High  
Cost

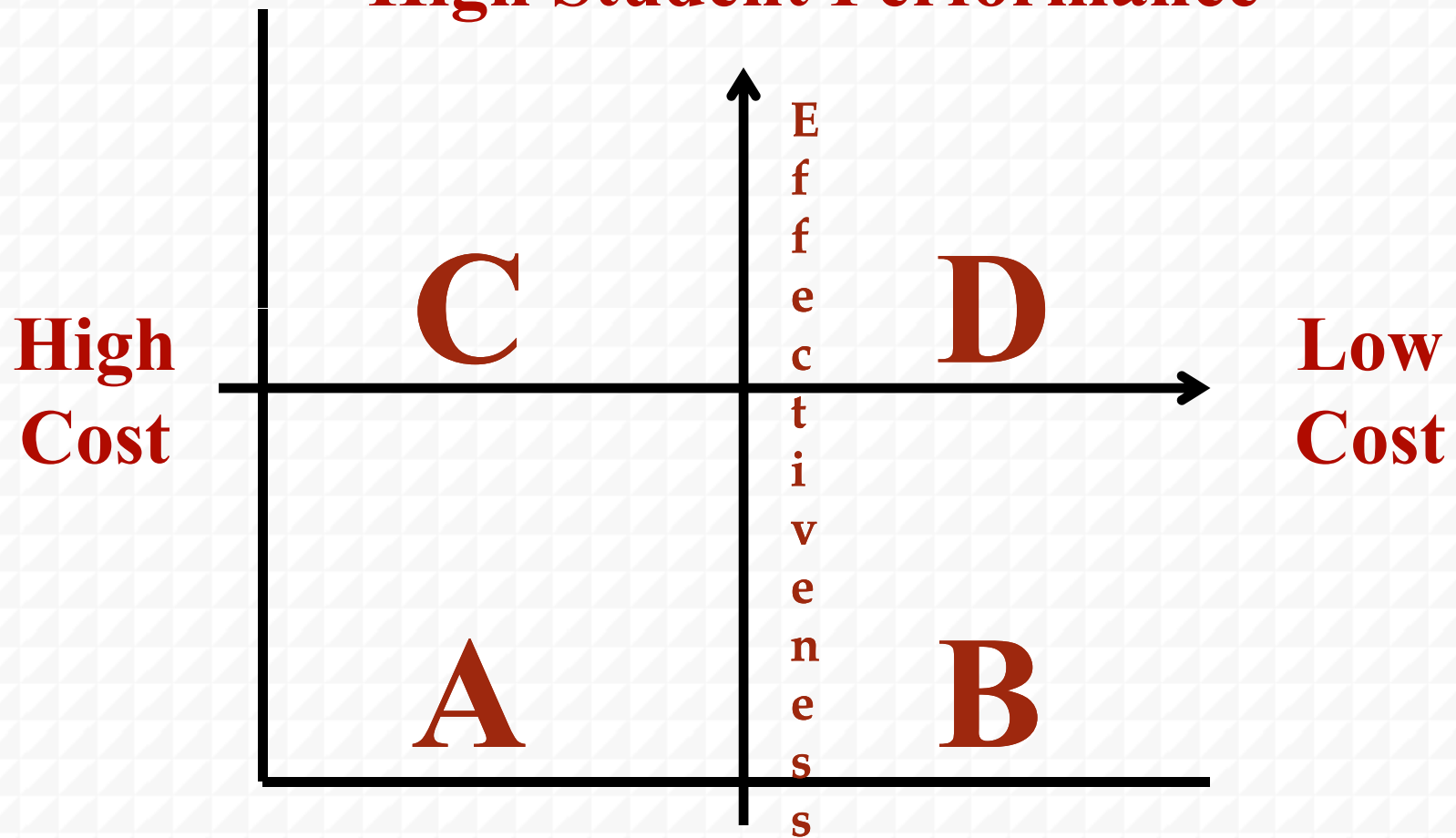
Low  
Cost

# Effectiveness and Efficiency Framework



# Effectiveness and Efficiency Framework

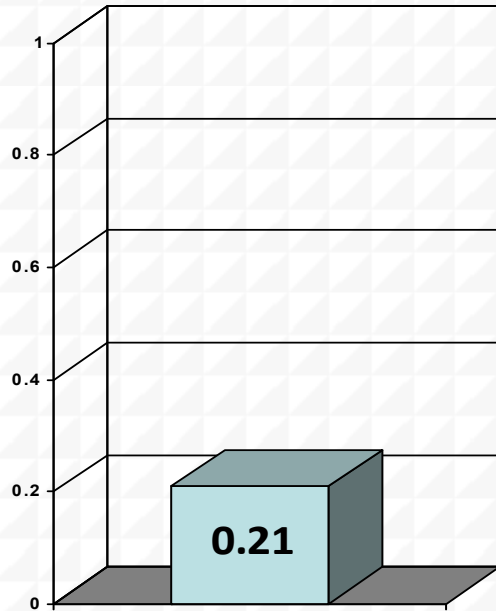
High Student Performance



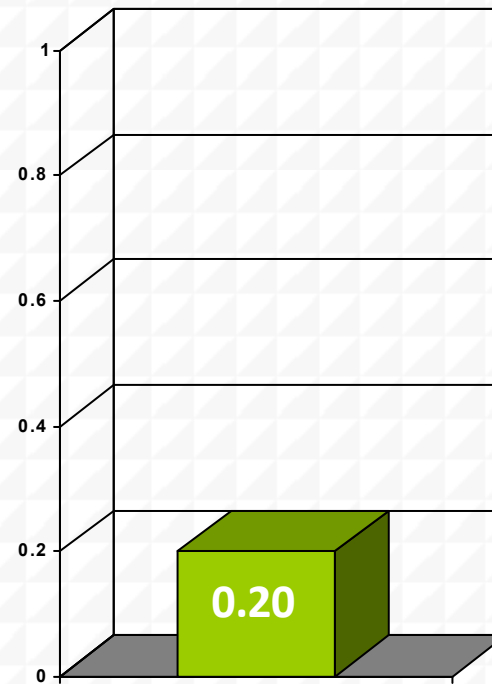
Low Student Performance

# Class Size

**Effective**

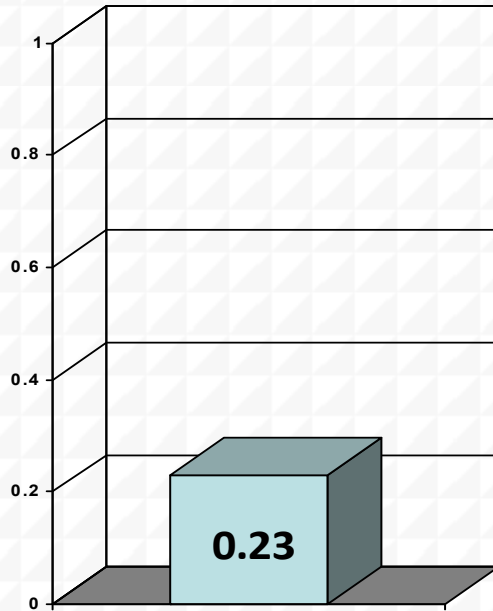


**Efficient**

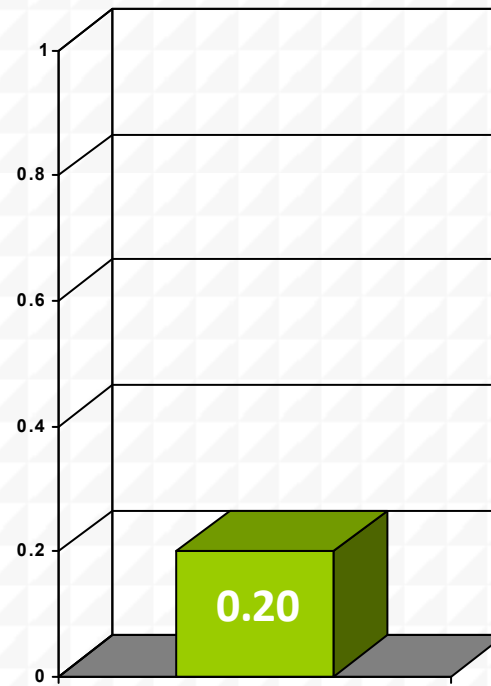


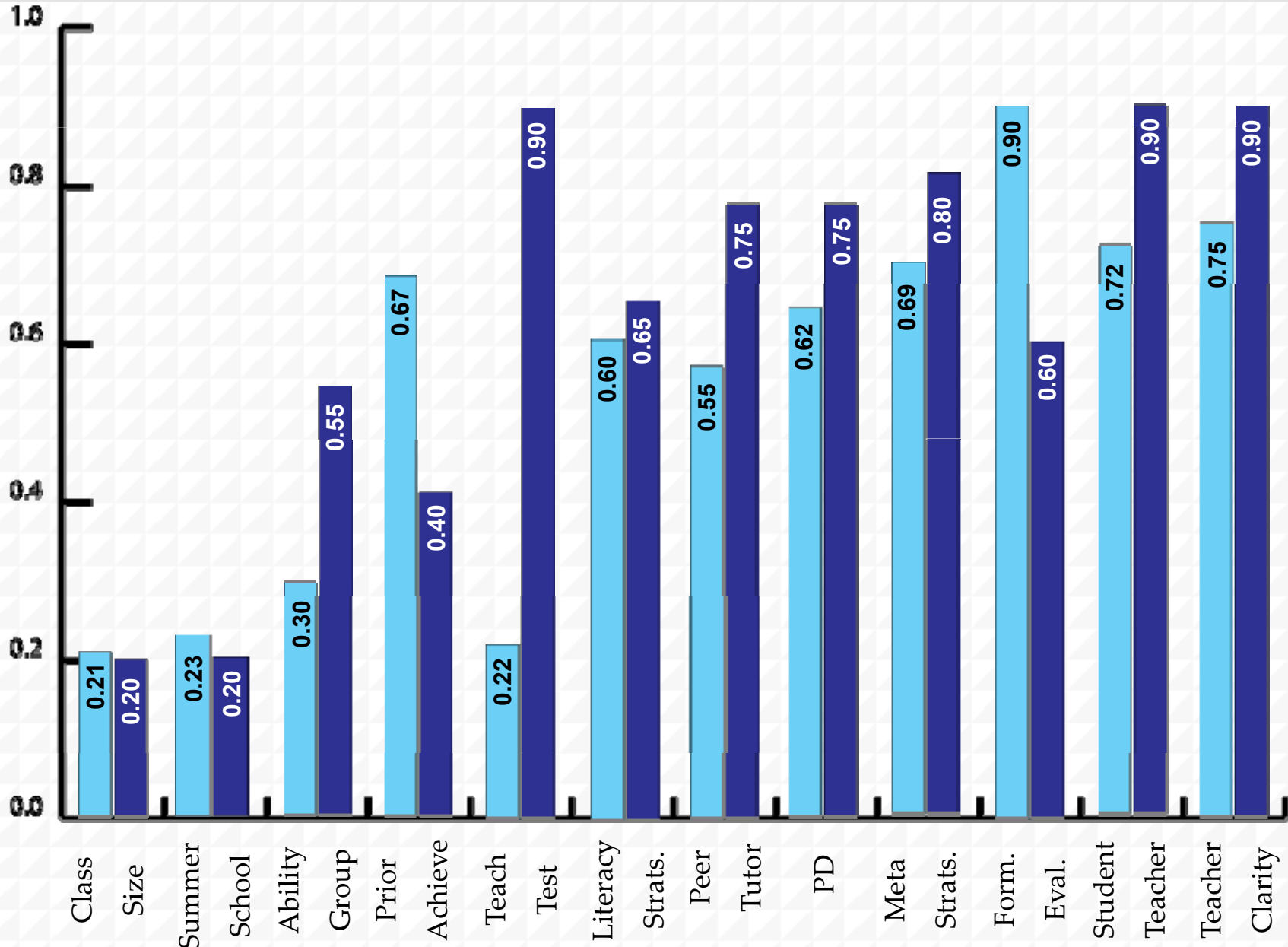
# Summer School

**Effective**



**Efficient**





# Greatest Impact

- What is effective?
- What you can impact?
- What is most efficient?

# Greatest Impact

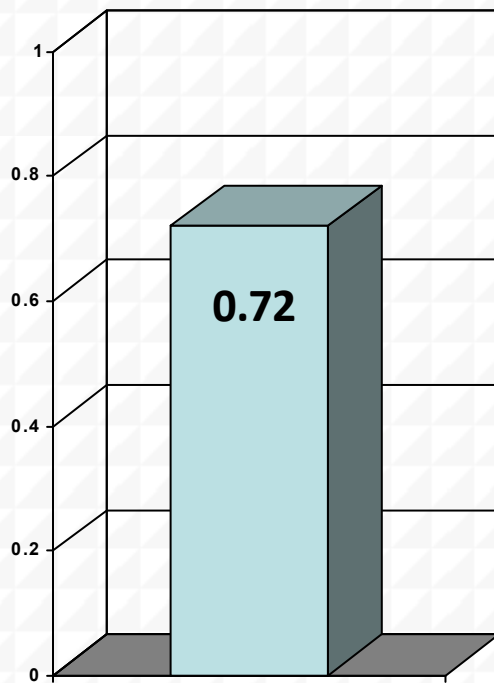
- Culture of High Expectations
- Relevance of Instruction
- Strong Relationships

# Findings

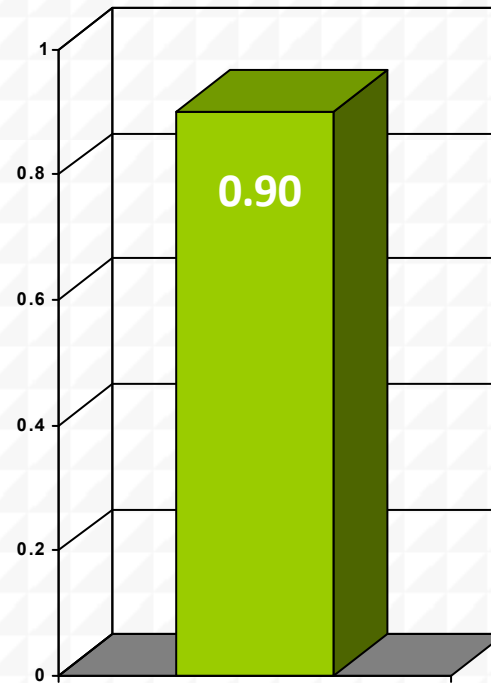
- Teachers are our greatest hope.

# Student Teacher Relationship

**Effective**

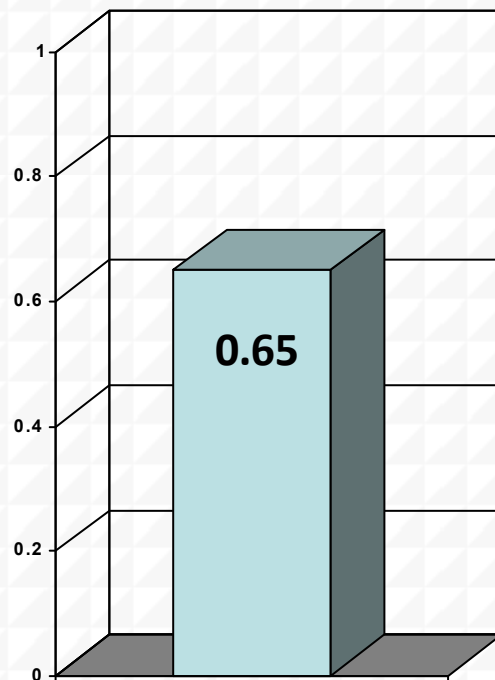


**Efficient**

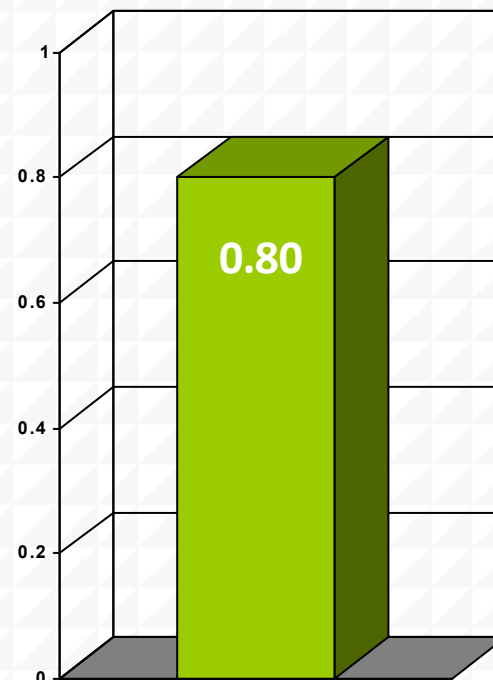


# Application of Knowledge

**Effective**

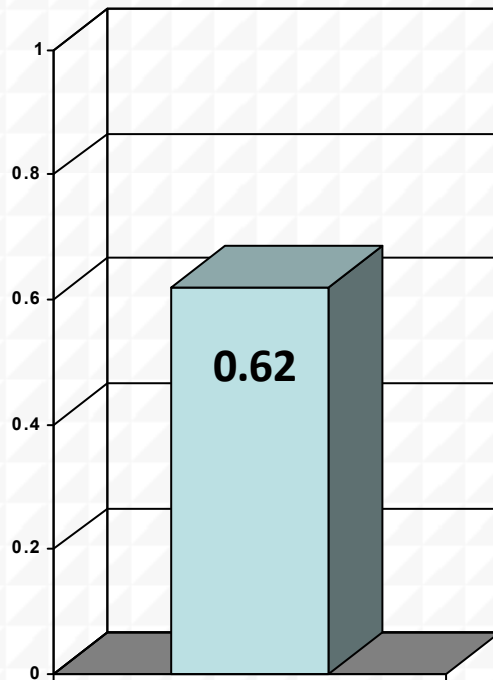


**Efficient**

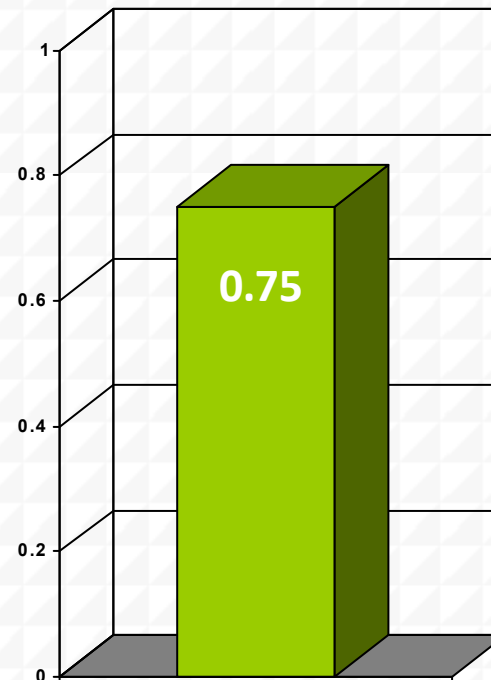


# Professional Development

**Effective**

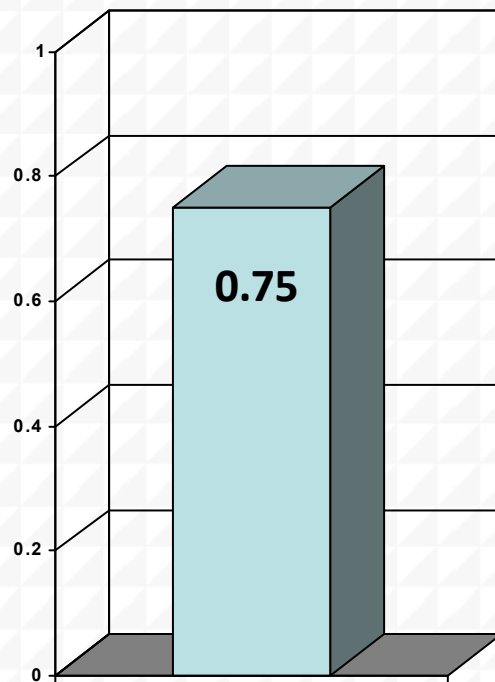


**Efficient**

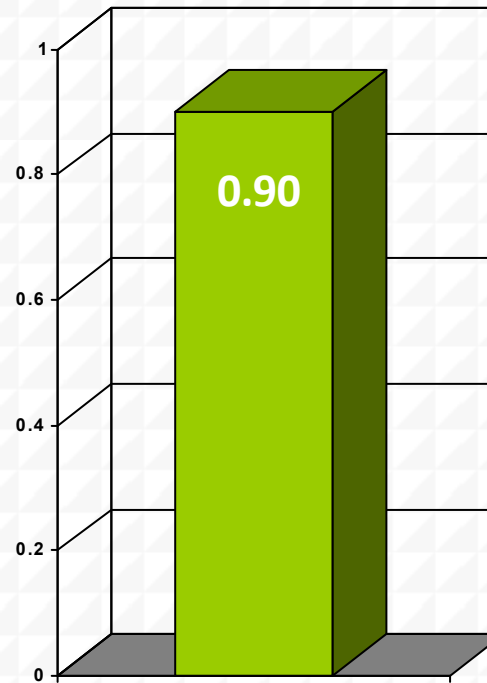


# Teacher Expectations and Clarity

**Effective**

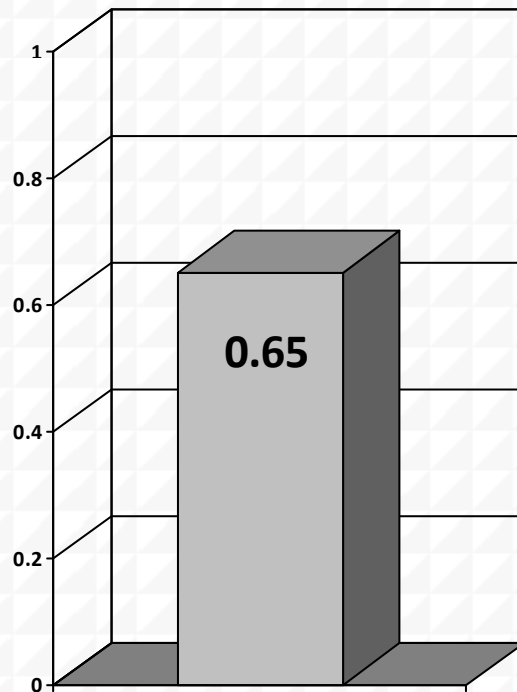


**Efficient**

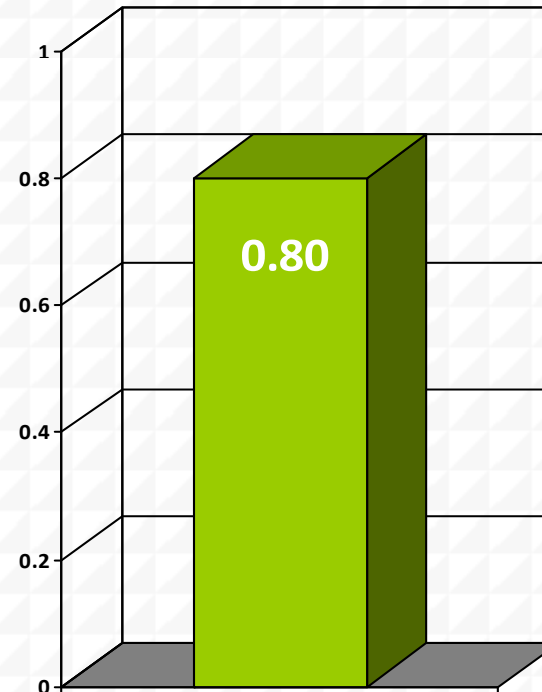


# Assessment to Inform and Differentiate Instruction

**Effective**

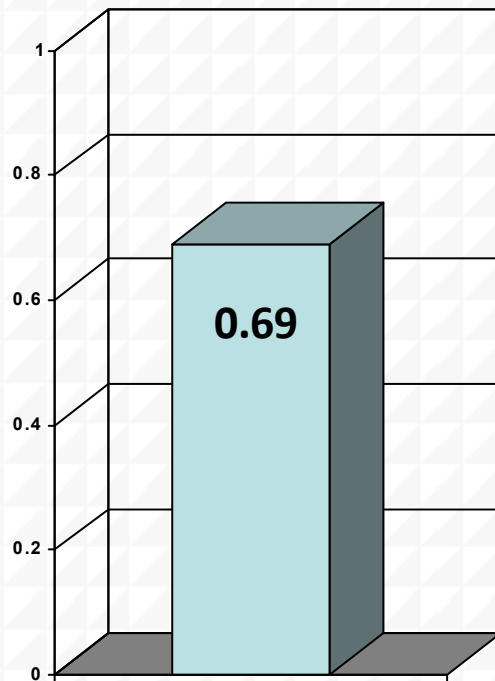


**Efficient**

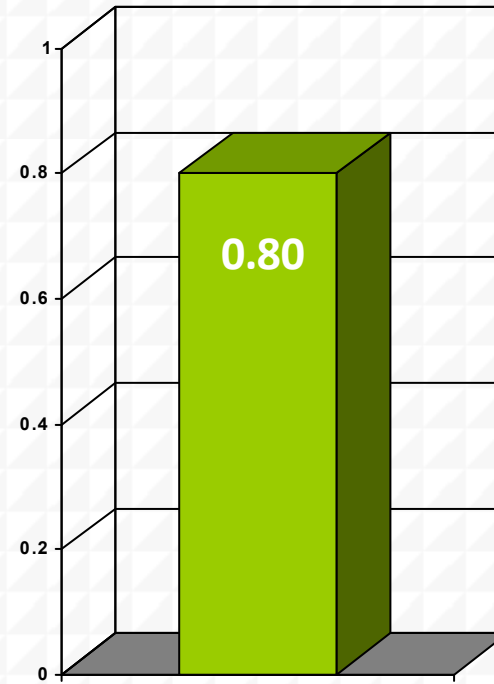


# Meta-Cognitive Strategies

**Effective**

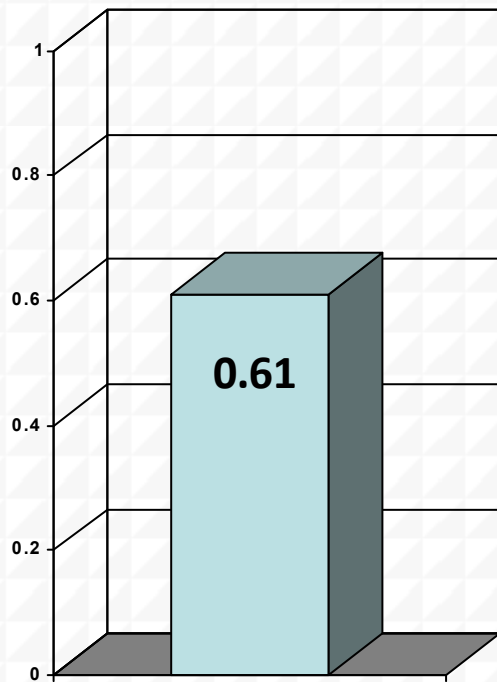


**Efficient**

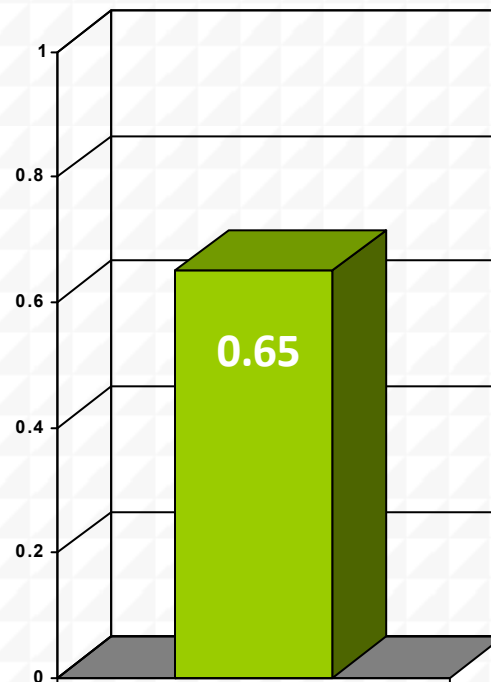


# Literacy Strategies

**Effective**



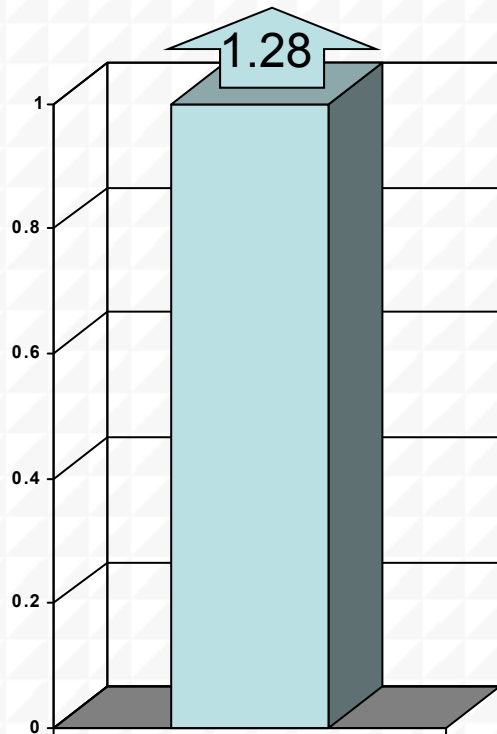
**Efficient**



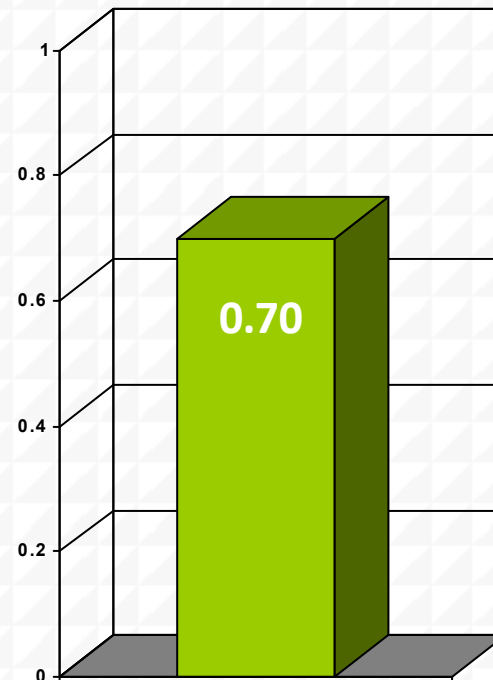
# why – what - HOW

# Plan Instruction based on how Students Learn

**Effective**



**Efficient**



# Application Model

1. Knowledge in one discipline
2. Application within discipline
3. Application across disciplines
4. Application to real-world predictable situations
5. Application to real-world unpredictable situations

# Knowledge Taxonomy

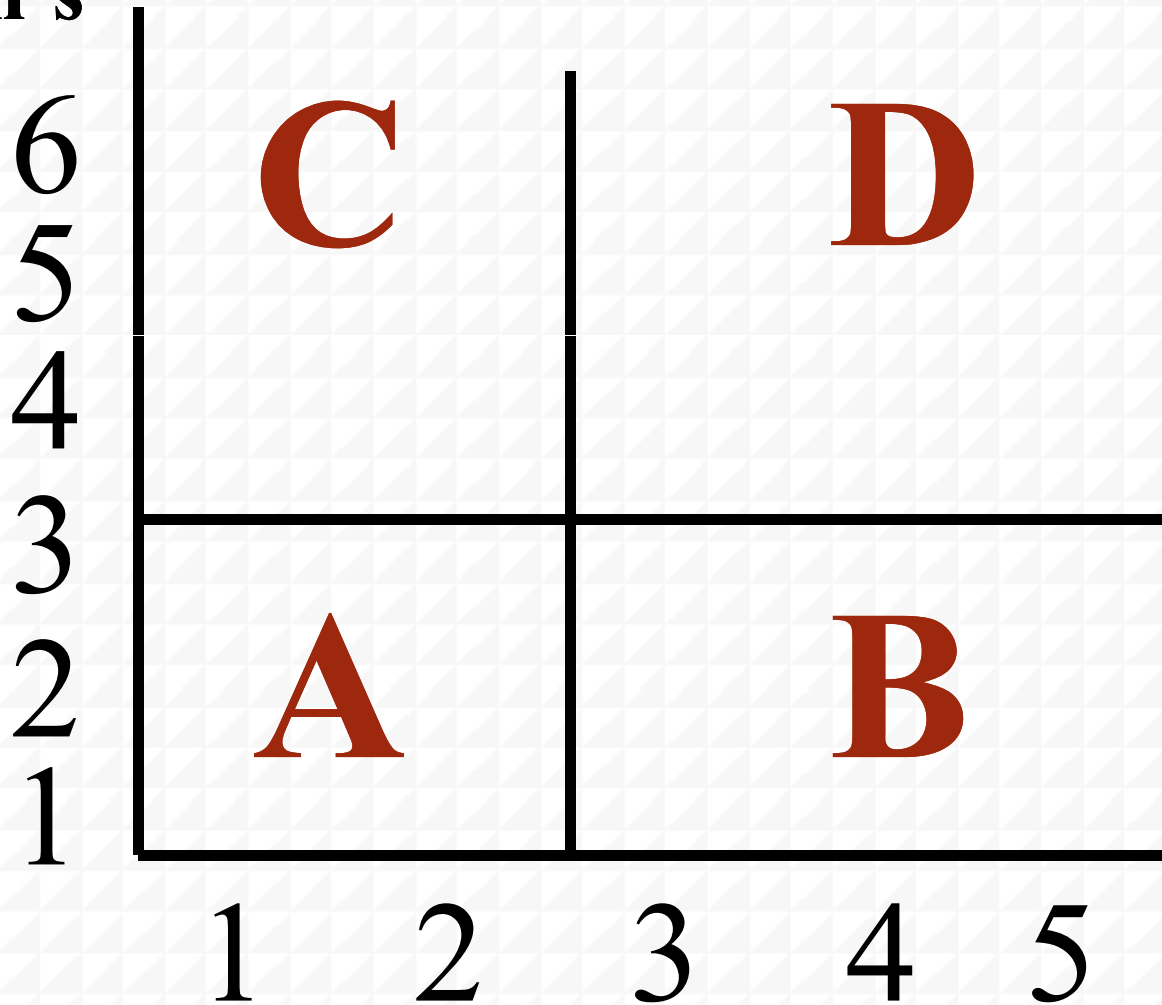
1. Awareness
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

# Application Model

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# Levels

**Bloom's**



# Rigor/Relevance Framework

6

- Analyze the graphs of the perimeters and areas of squares having different-length sides.
- Determine the largest rectangular area for a fixed perimeter.
- Identify coordinates for ordered pairs that satisfy an algebraic relation or function.
- Determine and justify the similarity or congruence for two geometric shapes.

5

- Obtain historical data about local weather to predict the chance of snow, rain, or sun during year.
- Test consumer products and illustrate the data graphically.
- Plan a large school event and calculate resources (food, decorations, etc.) you need to organize and hold this event.
- Make a scale drawing of the classroom on grid paper, each group using a different scale.

4

3

- Express probabilities as fractions, percents, or decimals.
- Classify triangles according to angle size and/or length of sides.
- Calculate volume of simple three-dimensional shapes.
- Given the coordinates of a quadrilateral, plot the quadrilateral on a grid.

2

- Calculate percentages of advertising in a newspaper.
- Tour the school building and identify examples of parallel and perpendicular lines, planes, and angles.
- Determine the median and mode of real data displayed in a histogram
- Organize and display collected data, using appropriate tables, charts, or graphs.

1

# Rigor/Relevance Framework

6

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- Obtain historical data about local weather

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1

A

Examples of parallel and perpendicular lines, planes, and angles.

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# Rigor/Relevance Framework

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- Organize and display collected data, using appropriate tables, charts, or graphs.

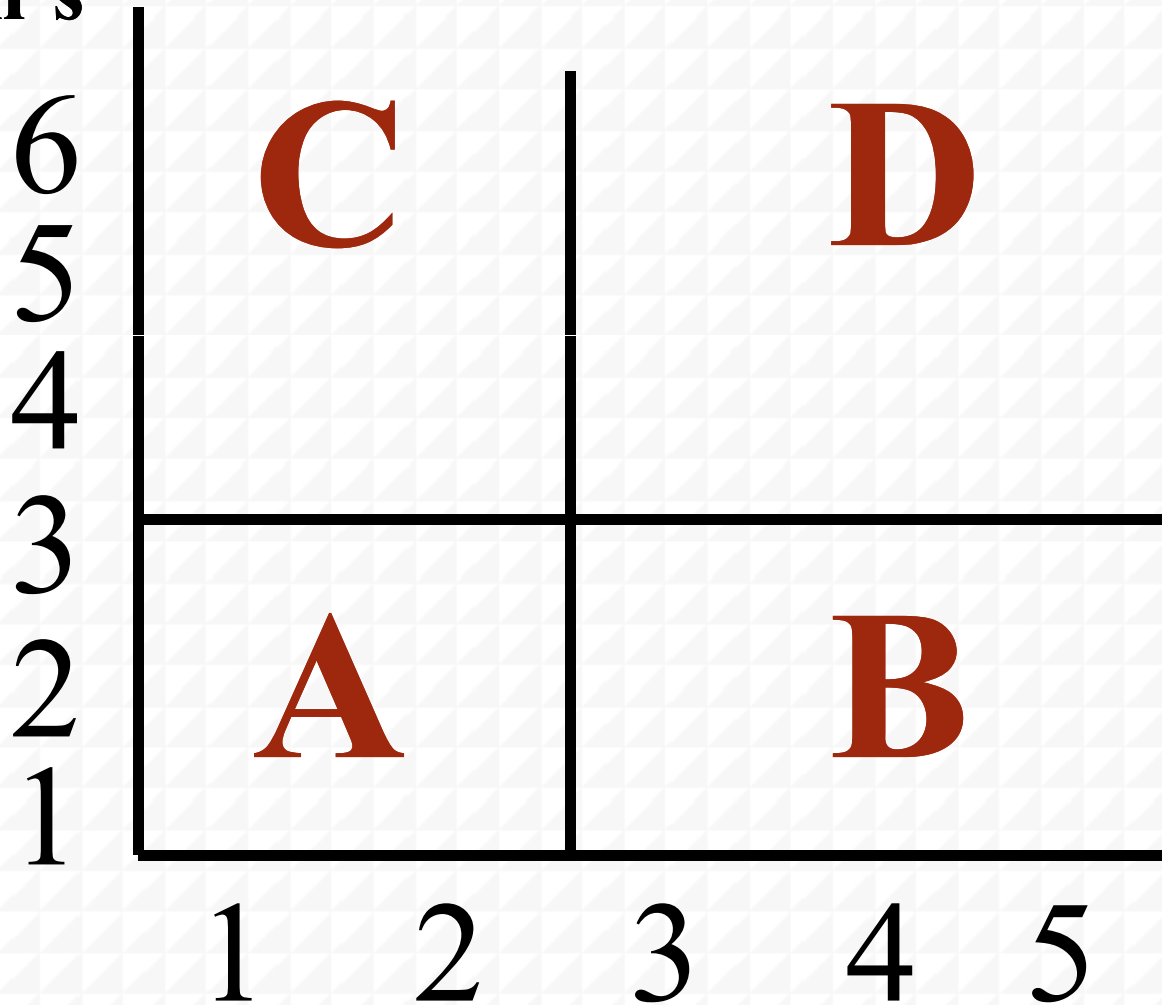
2

- Ex
- pe
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- dimensional shapes.
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1

# Levels

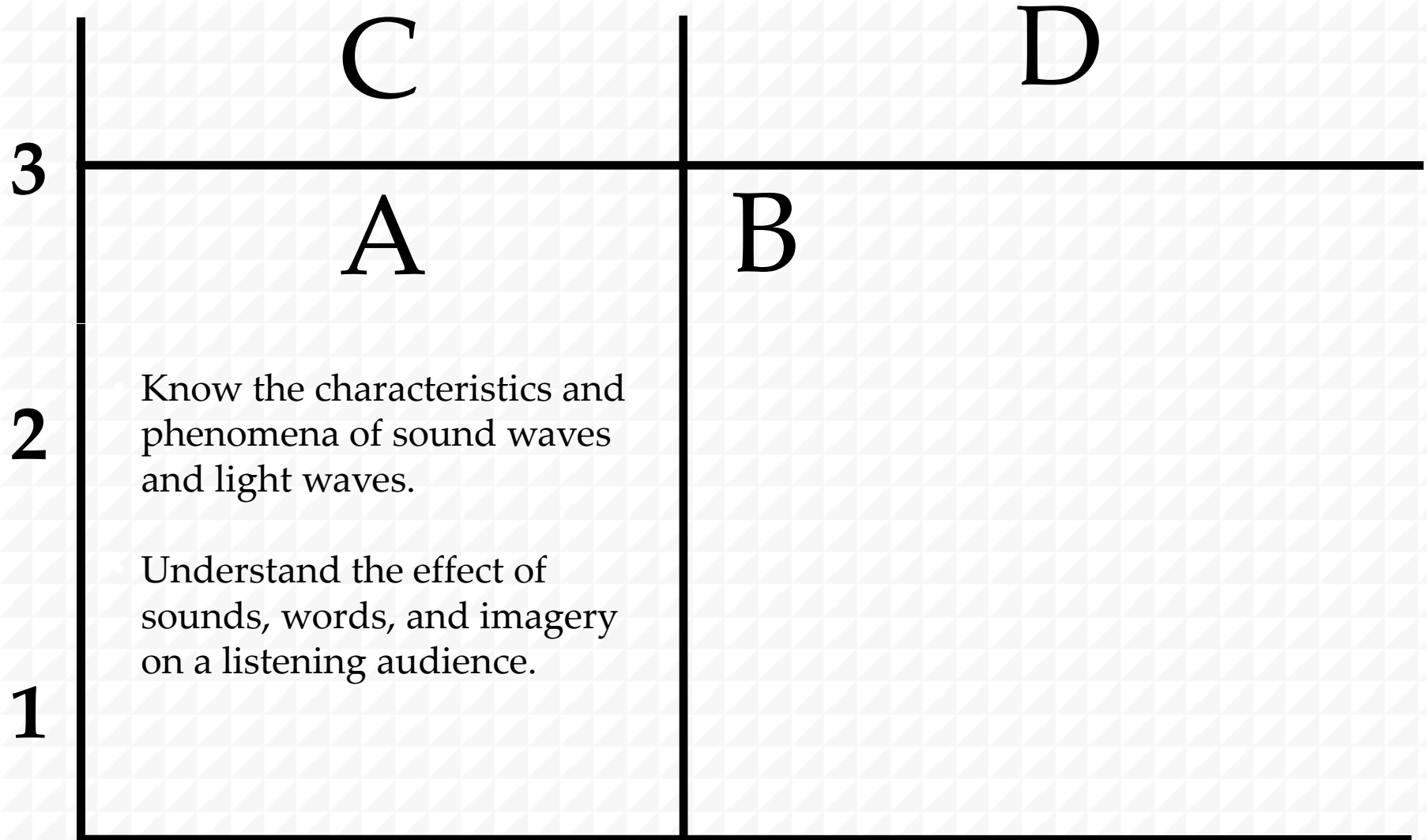
**Bloom's**

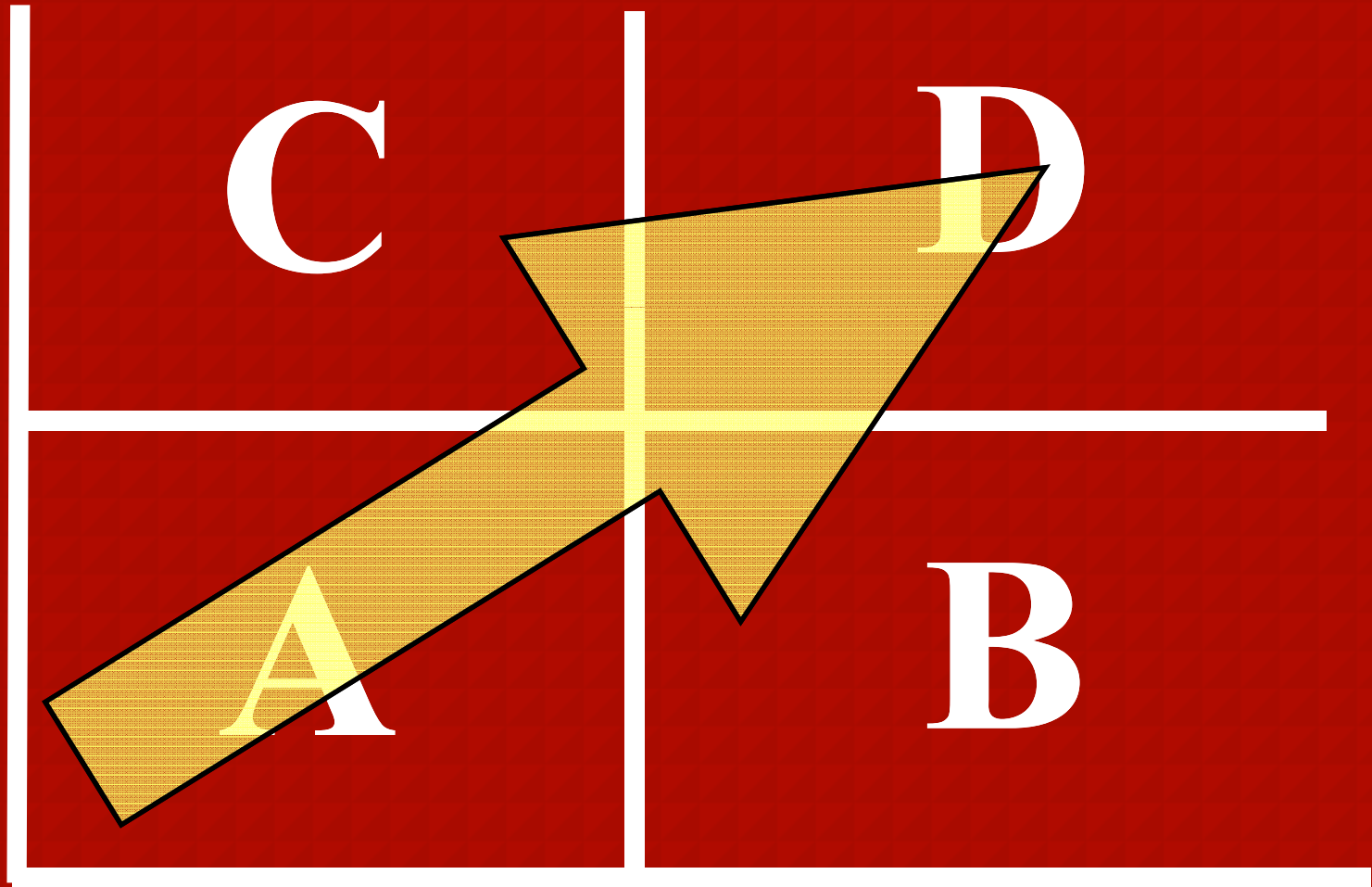


# Rigor/Relevance Framework

	C	D
3	A	B
2	Calculate with numbers, including decimals, ratios, percents, and fractions.	
1	Understand two-dimensional motion and trajectories by separating the motion of an object into x and y components.	

# Rigor/Relevance Framework





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