RTI Planning & Implementation: Tier 1

RTI Leadership Network
Session 5
March 9, 2010
Presentation Overview

1. Tier 1 Overview
2. Why Focus on Tier 1?
3. Professional Development for Tier 1
4. Tier 1 Behavior
   ● PBIS
5. Highly Effective Teaching
   ● Environment
   ● Brain Research
   ● Curriculum
   ● Daggett’s Model
   ● Marzano’s Strategies
6. Vocabulary & Comprehension
7. Math
1. What are you doing to strengthen your Core Curriculum & Instruction?

2. What are you doing for the students that need additional support?

3. Data-Based Decision Making

After that: The Devil is in the Details!!
Essential Component 1: Multi-tier Model

**Tier 1:**
- CORE Curriculum & Instruction; Universal Supports;
- Universal Screening & Progress Monitoring; and
- Instructional and Behavioral Interventions (Differentiation)

**Tier 2:**
- TARGETED Interventions and Progress Monitoring

**Tier 3:**
- INTENSIVE Interventions & Progress Monitoring

- Significantly Low Underachievement
- Insufficient Response to Intervention

IDEA Partnership
Most schools do not have the resources to provide interventions to more than 20 percent of the students.
Tier 1: Core Curriculum & Instruction, Universal Screenings, & Interventions

**Academic Systems**
- Quality core curriculum
- Quality instructional strategies
- Differentiated instruction
- Embedded interventions

**Behavioral Systems**
- School-wide positive behavior intervention supports (PBIS)
- Articulated expectations
- Social skills instruction
- Pro-social and pro-active discipline strategies

- Universal Screening of academic and behavioral performance
- Continuous progress monitoring
“Powerful classroom instruction begins with the adoption and use of an evidence-based curriculum, but effective teachers do not simply teach such a program page-by-page in the same way for all students. Rather, they differentiate instruction, providing instruction designed to meet the specific needs of students in the class.”

RTI Action Network
Core Instruction: Tier 1

- All students receive “Big Ideas” of lesson
- Differentiate instruction based on skill grouping
- Organize students based on skill performance
  - Higher performing, more students,
  - Lower performing, fewer students
- Same amount of time, different use of that time
- Breadth of skill focus might vary
Universal Screening

“Schools use universal screenings in essential academic areas to identify each student’s level of proficiency (usually three times a year). The screening data are organized in a format that allows for the inspection of both group and individual performance on specific skills. Teachers meet in grade-level or department teams to analyze data on all students, set group goals for the next assessment period, and plan for whole class instructional change based on the data. Interventions at Tier 1 are oriented towards whole-group instructional procedures.” (NASDSE)

- Purposes of Universal Screening:
  - Assessment of the Core Curriculum & Core Instruction
  - Identify those students who need further interventions at Tier 2
### Universal Screening

#### HCCSC’s Universal Screening Tools - Academic

<table>
<thead>
<tr>
<th>Grades K-2</th>
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<tr>
<td>- HCCSC Kindergarten</td>
<td>- Fountas &amp; Pinnell Reading Benchmark</td>
<td>- ELA Standard 7 Rubric</td>
<td>- Quarterly Writing Prompts</td>
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<td>Screening Tool</td>
<td>- ELA Standard 7 Rubric</td>
<td>- Quarterly Writing Prompts</td>
<td>- NWEA</td>
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<td>- Marie Clay Letter ID (K)</td>
<td>- Quarterly Writing Prompts</td>
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<td>- Learnia for short cycled assessments</td>
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<td>- NWEA</td>
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RTI Assessments

- Special education consideration - Must have assessments in the 8 areas to identify a specific learning disability:
  1. Math computation/calculation
  2. Math problem solving
  3. Written expression
  4. Oral expression
  5. Listening comprehension
  6. Basic reading skills
  7. Reading fluency skills
  8. Reading comprehension

NWEA

Quarterly Writing Assessments

HCCSC Standard 7 Rubric

DIBELS, RR, & NWEA
How Does it Fit Together? Group-Level Diagnostic Std. Treatment Protocol

Step 1

All Students at a grade level

Step Universal Screening

- Fall
- Winter
- Spring

- Intensive 1-5%
- Supplemental 5-10%
- Core 80-90%

Step 2

Addl. Diagnostic Assessment

- Individual Diagnostic

Step 3

Instruction

- Individualized
  Intensive

- Small Group
  Differentiated
  By Skill

Step 4

Results
Monitoring

- None
- Continue With
  Core Instruction

Batsche, 2007
Why Focus on Tier 1?

“F”?! I'm not learning this material, you must not be a very good teacher!

What??
Key Concept: Systems Thinking/Alignment

Figure 1  Potential misalignment among schools and departments

Figure 2  Alignment achieved with common values, philosophy, and strategic plan
Root Causes of Poor Achievement

- Lack of Frequent Formative Assessment
- Lack of Additional Time for Non-Mastery Students
- Poor Instructional Practices
- Gap Between Intended/Delivered Curriculum
- Poor Reading Skills

Source: Bob Marzano

Dr. Steve Benjamin

Strategies:
- Universal Screening & Progress Monitoring, Inform
- Tier 2 & Tier 3
- HET, Lit. Model, PD Model
- HET & Curriculum Mapping
- Lit. Model
Curriculum Types

“The intended curriculum is content specified by the state, district, or school. The implemented curriculum is content actually delivered by the teacher, and the attained curriculum is content actually learned by students. The discrepancy between the intended curriculum and the implemented curriculum (OTL) is a prominent factor in student achievement.”

Marzano, 2003
Changing Student Demographics

• Census 2000 – ½ of our Nations 100 Largest Cities are Home to More Blacks, Hispanics, Asians and Other Minorities Than Whites

• Census 2000 – The Vast Majority of American Cities (71 of the top 100) Lost White Residents

• Census 2000 – White, N/H Residents are now a Minority of the Total Population in the 100 Largest Urban Centers
Changing Student Demographics (cont.)

- Hispanics Will Make Up 33% of the United States PreK-12 Population by 2025

- Every Time we Introduce Another Variable into our Classrooms we Increase the Challenge

- Effect on NCLB and AYP
Out of every 100 ninth graders....

International Center for Leadership
65 will graduate from high school

International Center for Leadership
39 will enter college

International Center for Leadership
26 are still enrolled in the sophomore year

International Center for Leadership
15 will graduate from college

International Center for Leadership
## Student Survey Percentages

<table>
<thead>
<tr>
<th>Survey Statement</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy being at school</td>
<td>50.2</td>
<td>47.4</td>
<td>53.2</td>
</tr>
<tr>
<td>Teachers make school an exciting place to learn</td>
<td>33.0</td>
<td>32.9</td>
<td>32.6</td>
</tr>
<tr>
<td>School is boring</td>
<td>45.5</td>
<td>49.9</td>
<td>41.5</td>
</tr>
<tr>
<td>Teachers have fun at school</td>
<td>38.5</td>
<td>39.8</td>
<td>37.6</td>
</tr>
<tr>
<td>Learning can be fun</td>
<td>63.5</td>
<td>59.0</td>
<td>69.3</td>
</tr>
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International Center for Leadership
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<tr>
<td>At school I am encouraged to be creative</td>
<td>58.8</td>
<td>56.4</td>
<td>61.3</td>
</tr>
<tr>
<td>My classes help me understand what is happening in my everyday life</td>
<td>39.8</td>
<td>39.3</td>
<td>40.9</td>
</tr>
<tr>
<td>I learn new things that are interesting to me at school</td>
<td>66.3</td>
<td>63.8</td>
<td>69.9</td>
</tr>
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<td>Total</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
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<td>--------</td>
</tr>
<tr>
<td>School is a welcoming and friendly place</td>
<td>62.8</td>
<td>62.9</td>
<td>63.0</td>
</tr>
<tr>
<td>Teachers care about my problems and feelings</td>
<td>45.6</td>
<td>43.5</td>
<td>48.3</td>
</tr>
<tr>
<td>I am proud of my school</td>
<td>48.8</td>
<td>47.8</td>
<td>50.8</td>
</tr>
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<th>Survey Statement</th>
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<tr>
<td>Students respect teachers</td>
<td>39.1</td>
<td>41.5</td>
<td>36.9</td>
</tr>
<tr>
<td>Teachers respect students</td>
<td>54.2</td>
<td>53.8</td>
<td>55.7</td>
</tr>
<tr>
<td>Students respect each other</td>
<td>29.4</td>
<td>31.8</td>
<td>27.3</td>
</tr>
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<td>Teachers care about me as an individual</td>
<td>51.0</td>
<td>50.1</td>
<td>52.7</td>
</tr>
<tr>
<td>Teachers care if I am absent from school</td>
<td>49.5</td>
<td>47.7</td>
<td>52.1</td>
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International Center for Leadership
Changing Paradigms

The 19th Century

- Information scarce
- Students need to memorize, follow instructions
- Learning not related to other content areas
- Students work in a closed environment
- National citizenship

The 21st Century

- Information abundant
- Students learn to create and problem-solve
- Content integrated with other subjects, real world
- Students work across multiple boundaries
- Global citizenship

Source: New Tech Network
Teaching and Learning in a Knowledge Economy

- Teacher Centered
  - Student Centered
- Working alone on short, simple tasks
  - Working in teams on long, complex tasks
- Accountable to Teacher
  - Accountable to Peers
- Passive Learning
  - Active Learning
- Static information
  - Fluid Information

Source: New Tech Network
Employer’s Perspective

TOP 5 NEW-HIRE SKILLS
(based on % employers ranking ‘very important’)

- Oral Communications
- Teamwork/Collaboration
- Professionalism/Work Ethic
- Written Communications
- Critical Thinking

Are They Really Ready to Work? Employers’ perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce, Partnership for 21st Century Skills, 2006

Source: New Tech Network
Building Capacity with Stakeholders

- Faculty, Staff, & Administrators
  - Professional Development:

  “Never before has the pressure been so high to find ways to support successful teaching and learning through effective professional development.”

  Salpeter, 2003
Building Capacity for RTI

- Professional Development for Faculty, Staff, & Administrators:
  - **Tier 1**
    - Relationships, Relevance, & Rigor (HET & Daggett)
    - Understanding the Framework of Poverty (Ruby Payne)
  - Core Curriculum (State Standards)
    - Curriculum Mapping (vertical & horizontal alignment)
    - Development of conceptual, integrated curriculum (HET)
  - Core instruction
    - HCCSC Literacy Models & Reading in the Content Areas
    - Brain-compatible instruction/Scientifically-Based (HET)
    - Differentiation (HET - Inquiries)
    - Relevance (HET – Key Points & Inquiries)
  - Data collection & analysis
    - Universal screening & progress monitoring tools; Triangulation of data
    - Using data to drive instruction
Guiding Principles of PD Model

1. Teachers cannot change a behavior or practice until they see what the new behavior or practice looks like in a real world setting multiple times.

2. For professional development to truly be effective and sustained, it must be accompanied with on-going coaching in a non-threatening environment.

- Professional Development Coordinators provide ongoing training, coaching, & support
  - Demonstration Classroom Model
Building Capacity with Stakeholders

- Giving Teachers Tools for Success:
  - Weekly Structured Collaboration Time – 45 Minutes
    - 30 min. delayed start every Wednesday

“The engine that drives high student achievement is teacher teams working collaboratively toward common curriculum expectations and using interim assessments to continuously improve teaching and attend to students who are not successful.”

Marshall, 2005
District calendar reflecting delayed starts for teacher collaboration
Professional Development Funding

- Title II-A Grant Funds
- Title I Funds
  - % towards professional development
- Special Education
  - % towards professional development
  - 15% towards early identification & intervention
- State professional development grant funds
- General Fund
Tier 1: HCCSC

**Academic Systems**
- Curriculum Mapping
- Highly Effective Teaching Model
- Differentiated instruction
- Embedded interventions

**Behavioral Systems**
- School-wide & Classroom Procedures continuously taught & modeled
- Lifelong Guidelines & LIFESKILLS taught & modeled
- Pro-social and pro-active discipline strategies

- Universal Screenings: NWEA, DIBELS, Quarterly Writing, # of Office Referrals, etc.
- Continuous progress monitoring: Running Records, etc.

IDEA Partnership
Tier 1 Behavior

This is a big, fat waste of my time!

Hellpp!! It's the thought police!

Yeah, yeah... Kill the messenger.

Borrrring...
6 components of School-wide PBIS

1. Select & define **expectations & routines** (OAT – Observable, Acknowledgeable, & Teachable Behaviors)
   • Lifelong Guidelines (LLG), LIFESKILLS (LS), & Procedures

2. Teach behavior (LLG & LS) & routines (procedures) directly (in all settings)

3. Actively monitor behavior
   • Active Monitoring (MIS) –
     • Movement (you cannot stay stationary)
     • Interaction (high frequency, brief, & positive)
     • Scanning (continuously scanning the environment)

4. Acknowledge appropriate behavior (Target Talk)
   • Too often we acknowledge bad behavior

5. Review data to make decisions (office/counselor referrals)

6. Correct behavioral errors
   • Pre-correction/De-escalation/Boosters/
     Functional Behavior Assessment

Dr. Robert March, www.successfulschools.org
## Standard Treatment Protocol Hybrid: Behavior

<table>
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<th>Tier</th>
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<tr>
<td><strong>Tier 2</strong></td>
<td><strong>Targeted interventions for some low-responding students:</strong></td>
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HCCSC’s RTI Behavior Plan

• Tier 1
  • Set up a culture in your school (Relationships, Absence of Threat)
  • Teach & Model Expectations – Lifelong Guidelines, LIFESKILLS, School-wide & Classroom Procedures
  • State in positive terms

• Tier 2
  • Same as Tier 1
  • T2 has to do with the frequency & quality of teaching your procedures (How often do you directly teach & model your procedures?)
  • Qualify for T2 – any student with 3 or more office referrals

• Tier 3
  • Functional Behavioral Assessments & Plans
  • Check in & check out procedures, etc.

• Tier 4
  • Wrap-around services
Lifelong Guidelines

- TRUSTWORTHINESS – To act in a manner that makes one worthy of trust and confidence
- TRUTHFULNESS – To be honest about things and feelings with oneself and others
- ACTIVE LISTENING – To listen with the intention of understanding what the speaker intends to communicate
- NO PUT-DOWNS – To never use words, actions and/or body language that degrade, humiliate, or dishonor others
- PERSONAL BEST – To do one’s best given the circumstances and available resources

LIFESKILLS

- CARING – To feel and show concern for others
- COMMON SENSE – To use good judgment
- COOPERATION – To work together toward a common goal or purpose
- COURAGE – To act according to one’s beliefs despite fear of adverse consequences
- CREATIVITY – To generate ideas; To create something original or redesign through imaginative skill
- CURIOSITY – A desire to investigate and seek understanding of one’s world
- EFFORT – To do your best
- FLEXIBILITY – To be willing to alter plans when necessary
- FRIENDSHIP – To make and keep a friend through mutual trust and caring
- INITIATIVE – To do something, of one’s own free will, because it needs to be done
- INTEGRITY – To act according to a sense of what’s right and wrong
- ORGANIZATION – To plan, arrange, and implement in an orderly way; to keep things orderly and ready to use
- PATIENCE – To wait calmly for someone or something
- PERSEVERANCE – To keep at it
- PRIDE – Satisfaction from doing one’s personal best
- PROBLEM SOLVING – To create solutions to difficult situations and everyday problems
- RESOURCEFULNESS – To respond to challenges and opportunities in innovative and creative ways
- RESPONSIBILITY – To respond when appropriate; to be accountable for one’s actions
- SENSE OF HUMOR – To laugh and be playful without harming others

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Tier 1: Highly Effective Teaching

**Academics**
- Conceptually-Based Curriculum tied to a theme
- Integrated Curriculum
- Relevance & Rigor
  - Key Points, Immersion, Being-there Experiences
- Brain-compatible instructional strategies
- Explicit instruction
  - Key Points & Inquiries
- Differentiation (Inquiries)

**Behavior**
- Character Education Curriculum, 21st Century Skills
  - Lifelong Guidelines (LG) & LIFESKILLS (LS)
  - Culture – absence of threat
- PBIS (Positive Behavior Intervention & Support);
  Proactive Classroom Management
  - Classroom & School Procedures
  - LG & LS
  - Agendas
  - Australia
- Environment Conducive to Learning

Ongoing training & follow-up coaching are embedded in the model
The environment must be *purposeful* and it must clearly show what you expect the audience to know.

Choose appropriate colors, lights, music and display subject materials while paying close attention to removing clutter (anything not needed)
“Fast” Food Environment

Source: T.J. Mears of Susan Kovalik & Associates.
Fine Dinning Environment

Source: T.J. Mears of Susan Kovalik & Associates.
Visual Noise!!

Source: Linda Jordan of Susan Kovalik & Associates.
Classroom Environments

Fantastic example of a kindergarten classroom
Classroom Environments

Again, notice how there is very little clutter hung on the walls.

Immersion area

Another kindergarten classroom
Calendar area in the back of the room away from the direct instruction area. Personal calendars is an even better way to handle this daily instruction.
Classroom Environments

Kindergarten classrooms

Australia area with procedures
Classroom Environments

“The 8 Smarts” in the shape of brains

Primary classroom
Classroom Environments
Highly Effective Teaching
Source: T.J. Mears of Susan Kovalik & Associates.
Highly Effective Teaching

Source: T.J. Mears of Susan Kovalik & Associates.
1. Research on the biology of learning has given us a window on learning never before realized in the history of civilization.
   - Translate the biology of learning into practical application
   - Implement the nine bodybrain-compatible elements

2. Teaching strategies that align with the way the human brain learns have the greatest impact.
   - Design the physical classroom to support long-term learning
   - Create workable teams of students
   - Develop classroom management that uses agreements, procedures, Lifelong Guidelines and LIFESKILLS

3. Curriculum development by classroom teachers makes learning meaningful.
   - Anchor curriculum to a yearlong theme and rationale
   - Align district and state learning goals within the theme
   - Orchestrate being there experiences tied to meaningful content being there.
   - Reach out to the community
Intelligence is a function of experience.

Learning is an inseparable partnership between brain & body.

There are multiple intelligences or ways of solving problems and/or producing products.

Learning is a two step process. Making meaning through Pattern-Seeking (input) & Developing a mental Program for using what we understand and wiring it into long-term memory (output).
Intelligence Is A Function Of Experience

We are not born intelligent, only with a capacity to be so
Every day our experiences can:

- enhance
- stifle
- or diminish

our intellectual, social, and/or emotional capacity.
BODYBRAIN
COMPATIBLE
ELEMEANTS

Absence of Threat/
Nurturing Reflecting
Thinking

Enriched
Environment

Movement

Mastery/
Application

Collaboration

Choices

Immediate
Feedback

Adequate
Time

Meaningful
Content

© Susan Kovalik & Associates, 2008
HET YEARLONG THEME PARTS

ORGANIZING CONCEPT (THEME):

RATIONALE:

E.E. p. 14.4

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© Exceeding Expectations by Susan Kovalik & Karen D. Olsen, p. 17.3
1. You Can’t Judge a Book by Its Cover
- Have You Filled A Bucket Today? (LLG/LS, Procedures)
- You’re Smarter than You Think (Multiple Intelligences, The Brain)
- I Pledge Allegiance (Rights and Responsibilities)

Concept: Impact
Being There Locations: School Campus, County Courthouse, Virtual Study Trip
Social Action Project: Inform members of the community of their rights and responsibilities as citizens of the United States of America.

2. The Meaning From Within
- The Magic School Bus (The Scientific Process)
- The Greedy Triangle (Attributes, Geometry, Fractions)
- Whoever You Are (Traditions, Cultural Awareness)

Concept: Similarities and Differences
Being There Locations: School Campus, Queen's Supermarket, Pizza Hut
Social Action Project: Advertise, collect, and sort items for a local food bank.

Our World is...
Our Open Book

Organizing Concept: Impact is a force or power that causes someone or something to change.

Rationale: By recognizing and understanding our power to impact the community in which we live, we are able to act as responsible citizens in making our country a better place for all.

4. Reading the Fine Print
- A Chair For My Mother (Economics)
- The Great Kapok Tree (Our Past, Our Present, Our Future)

Concept: Progress
Being There Locations: First Federal Bank of Huntington, Wal-Mart, Pathfinder Services
Social Action Project: Research, identify, and invest in a non-profit agency to assist in serving citizens of our community.

3. All on the Same Page
- 101 Places You Gotta See Before You're 12 (Location, Mapping)
- Water, Water Everywhere (Laws of Nature)
- Diary of a Worm (Living Things)

Concept: Change
Being There Locations: School Visitation, Botanical Gardens, Fort Wayne Zoo, Art Chemical
Social Action Project: Research, plan, and develop a habitat for our school campus.
I Pledge Allegiance

- Proud to be an American (LLG, LS)
- We, the People (ML, the brain and body)
- Land of the Free (powers and responsibilities of govt. and the people)

Concept: Power

Being There Locations: School Campus, Kids Campus
Child Center

Social Action Project: To determine the needs of the school and community and act to enhance learning opportunities.

With Liberty and Justice for All

Indivisible

- The American Spirit (force and motion, technological advances)
- Crown Thy Good with Brotherhood (state government agencies, health organizations)

Concept: Systems

Being There Locations: Huntington Airport, Huntington Reservoir, Health Department

Social Action Project: To educate the community about technology and health services available to them.

Organizing Concept: Power is the ability to maintain, adjust or influence the norm.

Rationale: It is important to understand how power impacts every aspect of our lives positively or negatively. Responsible citizens utilize power to affect communities in positive ways.

One Nation

- Let Freedom Ring (impact of wars in America, conflict resolution)
- There’s Pride in Every American Heart (electricity and magnets, economics and development)

Concept: Progress

Being There Locations: Forks of the Wabash, Local Business

Social Action Project: To use collaborative business efforts to fundraise for a local charity.

And to the Republic for Which It Stands

- Amber Waves of Grain (plants, Earth/Sun relationship)
- This Land Was Made For You and Me (Earth and the processes that shape it)
- Home of the Brave (Native American Tribes, Explorers, colonization)

Concept: Cause and Effect

Being There Locations: Forks of the Wabash, Wabash River

Social Action Project: To conserve the Earth’s resources and educate others to do the same.
Key Point

There are many different kinds of plants and animals. They have special adaptations for their different environments. But all plants and animals have the same basic need for food, water, and shelter. Plants and animals use things in their environment for survival. Understanding plant and animal needs and adaptations help us become better caretakers of our world.
“A student must care about new information or consider it important for it to go through the limbic system expeditiously, form new synaptic connections, and be stored as long-term memory.”

Judy Willis
<table>
<thead>
<tr>
<th>Bloom’s</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Daggett’s Model

International Center for Leadership
## Marzano’s 9 High Yield Strategies

### Marzano’s Nine Categories of Instructional Strategies That Have The Highest Affect On Student Achievement

<table>
<thead>
<tr>
<th>Category</th>
<th>Average Effect Size</th>
<th>Percentile Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying similarities &amp; differences</td>
<td>1.61</td>
<td>45</td>
</tr>
<tr>
<td>Summarizing &amp; note taking</td>
<td>1.00</td>
<td>34</td>
</tr>
<tr>
<td>Reinforcing effort &amp; providing recognition</td>
<td>.80</td>
<td>29</td>
</tr>
<tr>
<td>Homework &amp; practice</td>
<td>.77</td>
<td>28</td>
</tr>
<tr>
<td>Nonlinguistic representation</td>
<td>.75</td>
<td>27</td>
</tr>
<tr>
<td>Cooperative learning</td>
<td>.73</td>
<td>27</td>
</tr>
<tr>
<td>Setting objectives &amp; providing feedback</td>
<td>.61</td>
<td>23</td>
</tr>
<tr>
<td>Generating &amp; testing hypotheses</td>
<td>.61</td>
<td>23</td>
</tr>
<tr>
<td>Questions, cues, &amp; advance organizers</td>
<td>.59</td>
<td>22</td>
</tr>
</tbody>
</table>

Robert Marzano – *Classroom Instruction That Works*
SLD Determination – Article 7

(b) The CCC must **not** determine that a student is eligible for special education and related services under this article if:

(1) The determinant factor is:

   (A) **lack of appropriate instruction in reading**, including the essential components of reading instruction, which means **explicit and systematic instruction in**:

      (i) phonemic awareness;

      (ii) phonics;

      (iii) vocabulary development;

      (iv) reading fluency, including oral reading skills; and

      (v) reading comprehension strategies

   (B) **lack of appropriate instruction in math**; or

   (C) **limited English proficiency**; and

(2) a student does not otherwise meet the eligibility criteria under this rule and 511 IAC 7-41.
Vocabulary & Comprehension Strategies

- How has your district addressed these issues for struggling students?
  - Particularly for older students who struggle with content because of poor vocabulary?

- Vocabulary Approaches:
  - Bob Marzano’s work – Building Academic Vocabulary
  - Ruby Payne’s work – Sketching & Graphic Organizers
  - SIM – Strategic Instructional Model
  - Isabel Beck’s work – focusing more on teaching Tier 2 words & use of word walls
  - Louis Moat’s work – focusing on teaching word morphology – roots, affixes, prefixes
  - Teaching teachers to use (and have students use) multiple exemplars as well as non-examples of words
  - Other?
Vocabulary Word Map

- Definition or Synonym
- Antonym

- Vocabulary Word

- Use It in a Sentence

- Draw a Picture or Relate It to Yourself

Graphic Organizers & Sketching

High Ability Students: Give Examples & Non-Examples

Adapted from materials of Raymond C. Jones, found at www.readingquest.org
Comprehension

- Teaching comprehension monitoring to students
- Teaching teachers to teach with advanced organizers linked to prior knowledge
  - Thinking Maps
- Ensuring there is content that can be read at the appropriate level (i.e.: Lexiles)
- Use of assistive technology – Kurzweil, Read: Outloud, other?
Comprehension Resources

Teaching Reading in the Content areas: If Not Me, Then Who?, by Rachel Billmeyer & Mary Lee Barton, ASCD

I Read It, But I Don’t Get It: Comprehension Strategies for Adolescent Readers, by Cris Tovani, Stenhouse

Do I Really Have to Teach Reading: Content Comprehension Grade 6-12, by Cris Tovani, Stenhouse
This is so important

- Yet it feels that often our efforts are fragmented & not explicit enough for the students who really need the support

- What do schools/classrooms look like where students are expected to increase their vocabulary & comprehension skills?
Research about language in children from ages 1 to 3 years from stable households by economic group.

<table>
<thead>
<tr>
<th>Number of words exposed to</th>
<th>Economic group</th>
<th>Affirmations (strokes)</th>
<th>Prohibitions (discounts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 million words</td>
<td>Welfare</td>
<td>1 for every</td>
<td>2</td>
</tr>
<tr>
<td>20 million words</td>
<td>Working class</td>
<td>2 for every</td>
<td>1</td>
</tr>
<tr>
<td>30 million words</td>
<td>Professional</td>
<td>5 for every</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Meaningful Differences in the Everyday Experience of Young American Children (1995), by Betty Hart & Todd R. Risley
The range of most textbooks and instruction is indicated by the circle around the Lexile Scores 700 to 900.
2005-06 Lexile Framework® for Reading Study
Summary of Text Lexile Measures

Interquartile Ranges Shown (25% - 75%)

* Source of National Test Data: MetaMetrics
Summary of High School Textbook Lexile Measures

Subject Area Textbooks

- ELA
- Math
- Science
- Social Studies
- Arts
- CTE

Text Lexile Measure (L)

Interquartile Ranges Shown (25% - 75%)

International Center for Leadership
A significant contributor to the lack of academic success and frustration at the secondary level is low achievement in basic mathematics:

- 74% statewide ISTEP math passing rate
- 21% CORE 40 Algebra 1 ECA passing rate

Meanwhile the ‘math’ stakes are getting higher for all students:

4 yrs. of math new Purdue rule

Cordova says the increase from the current requirement of three years of math is “very, very important” for success in college.

She says studies show students with four years of math in high school increase their chances of receiving a college degree by 73 percent.

Cordova announced the change at a board of trustees meeting Friday.

She said regardless of the students’ majors in college, “if they have four years of math their critical thinking skills are much improved.”

Columbus Republic, May 31, 2009

Source: Math Matters
Top Reasons For Not Doing Well

- Lack of reading skills
  - Focusing on understanding what the problem is asking.
  - Secondary Literacy Model.
- Non-aligned curriculum
  - Curriculum mapping; Alignment of test difficulty.
- Non-best practice instruction
  - Highly Effective Teaching (HET) methodologies.
- Lack of additional learning time for non-mastery students.
  - Before school tutoring, SRT tutoring, recycle through module, Algebra Lab
- Lack of frequent aligned assessments
  - Short cycle assessments. If you don’t get it, study sessions, try again.
- Lack of sufficient student practice.
  - Have to practice to play. Get it done, get it in. No zeros.
  
  — Bob Marzano
Why does math matter to students now?

“Algebra class will be important to you later in life because there’s going to be a test six weeks from now.”
"The beauty of this is that it is only of theoretical importance, and there is no way it can be of any practical use whatsoever."
Student View of Math...
Wolfram|Alpha's long-term goal is to make all systematic knowledge immediately computable and accessible to everyone. …to collect and curate all objective data; implement every known model, method, and algorithm; and make it possible to compute whatever can be computed about anything. Our goal is to build on the achievements of science and other systematizations of knowledge to provide a single source that can be relied on by everyone for definitive answers to factual queries.

http://www16.wolframalpha.com
## Best Practices in Math

### Teaching Practices

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of <strong>manipulative</strong> materials</td>
<td>Rote practice</td>
</tr>
<tr>
<td><strong>Cooperative</strong> Group Work</td>
<td>Rote memorization of rules &amp; formulas</td>
</tr>
<tr>
<td>Discussion of mathematics</td>
<td>Teaching by telling</td>
</tr>
<tr>
<td>Questioning &amp; making conjectures</td>
<td>Single answer &amp; single method to find answer</td>
</tr>
<tr>
<td>Justification of thinking</td>
<td>Stressing memorization instead of understanding</td>
</tr>
<tr>
<td><strong>Writing</strong> About Math</td>
<td>Repetitive written practice</td>
</tr>
<tr>
<td><strong>Problem-solving</strong> approach to instruction</td>
<td>Use of drill worksheets</td>
</tr>
<tr>
<td><strong>Content Integration</strong></td>
<td>Teaching computation out of context</td>
</tr>
<tr>
<td>Use of calculators &amp; computers</td>
<td>Reliance on paper/pencil calculations</td>
</tr>
<tr>
<td>Being a <strong>facilitator</strong> of learning</td>
<td>Being dispenser of knowledge</td>
</tr>
<tr>
<td>Assessing learning as an integral part of instruction (<strong>Formative</strong>)</td>
<td>Testing for grades only (Summative)</td>
</tr>
</tbody>
</table>
# Best Practices in Math

## Problem Solving

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word problems with a <strong>variety of structures &amp; solution paths</strong></td>
<td>Use of cue words to determine operation to be used</td>
</tr>
<tr>
<td>Everyday problems &amp; applications</td>
<td></td>
</tr>
<tr>
<td>Problem-solving strategies (especially representational strategies)</td>
<td>Practicing problems categorized by type</td>
</tr>
<tr>
<td>Open-ended problems &amp; extended problem-solving <strong>projects</strong></td>
<td>Practicing routine, one-step problems</td>
</tr>
<tr>
<td>Investigating &amp; formulating questions from problem situations</td>
<td></td>
</tr>
</tbody>
</table>

*Best Practice, Third Edition* by Zemelman, Daniels, & Hyde, 2005
# Best Practices in Math

## Communicating Math Ideas

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Discussing</strong> mathematics</td>
<td>Doing fill-in-the-blank worksheets</td>
</tr>
<tr>
<td><strong>Reading</strong> mathematics</td>
<td>Answering questions that need only yes or no responses</td>
</tr>
<tr>
<td><strong>Writing</strong> mathematics</td>
<td>Answering questions that need only numerical responses</td>
</tr>
<tr>
<td><strong>Listening</strong> to mathematics ideas</td>
<td></td>
</tr>
</tbody>
</table>

## Reasoning & Proof

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawing logical conclusions</td>
<td>Relying on authorities (teacher, answer key)</td>
</tr>
<tr>
<td><strong>Justifying</strong> answers &amp; solution processes</td>
<td></td>
</tr>
<tr>
<td>Reasoning inductively &amp; deductively</td>
<td></td>
</tr>
</tbody>
</table>

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## Best Practices in Math

### Creating Representations

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating one’s <strong>own representation</strong> that makes sense</td>
<td>Copying conventional representations without understanding</td>
</tr>
<tr>
<td>Creating multiple representations of the same problem or situation</td>
<td>Reliance on a few representations</td>
</tr>
<tr>
<td>Translating between representations of the same problem or situation</td>
<td></td>
</tr>
<tr>
<td>Representation using <strong>electronic technology</strong></td>
<td></td>
</tr>
<tr>
<td>Using representations to make the abstract ideas more concrete</td>
<td>Premature introduction of highly abstract representations</td>
</tr>
<tr>
<td>Using representations to build understanding of concepts through reflection</td>
<td>Forms of representations as an end product or goal</td>
</tr>
<tr>
<td>Sharing representations to communicate ideas</td>
<td></td>
</tr>
</tbody>
</table>

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## Best Practices in Math

### Making Connections

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecting math to other subjects &amp; to real world</td>
<td>Learning isolated topics</td>
</tr>
<tr>
<td>Connecting <strong>topics</strong> within mathematics</td>
<td>Developing skills out of context</td>
</tr>
<tr>
<td>Applying mathematics</td>
<td></td>
</tr>
</tbody>
</table>

### Numbers/Operations/Computation

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing <strong>number &amp; operation sense</strong></td>
<td>Early use of symbolic notations</td>
</tr>
<tr>
<td>Understanding the meaning of key concepts such as place value, fractions, decimals, ratios, proportions, &amp; percents</td>
<td>Memorizing rules &amp; procedures without understanding</td>
</tr>
<tr>
<td>Various estimation strategies</td>
<td></td>
</tr>
<tr>
<td>Thinking strategies for basic facts</td>
<td></td>
</tr>
<tr>
<td><strong>Using calculators</strong> for complex calculations</td>
<td>Complex &amp; tedious paper/pencil computations</td>
</tr>
</tbody>
</table>

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### Best Practices in Math

#### Geometry/Measurement

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing <strong>spatial sense</strong></td>
<td>Memorizing facts &amp; relationships</td>
</tr>
<tr>
<td>Actual measuring &amp; exploring the concepts related to units of measure</td>
<td>Memorizing equivalencies between units of measure</td>
</tr>
<tr>
<td>Using geometry in problem solving</td>
<td>Memorizing geometric formulas</td>
</tr>
</tbody>
</table>

#### Statistics/Probability

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collecting &amp; organizing data</td>
<td>Memorizing formulas</td>
</tr>
<tr>
<td>Using statistical methods to describe, analyze, evaluate, &amp; make decisions</td>
<td></td>
</tr>
</tbody>
</table>

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## Best Practices in Math

### Algebra

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognizing &amp; describing patterns</td>
<td>Manipulating symbols</td>
</tr>
<tr>
<td>Identifying &amp; using functional relationships</td>
<td>Memorizing procedures</td>
</tr>
<tr>
<td>Developing &amp; using tables, graphs, &amp; rules to describe situations</td>
<td></td>
</tr>
<tr>
<td>Using variables to express relationships</td>
<td></td>
</tr>
</tbody>
</table>

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# Best Practices in Math

## Assessment

<table>
<thead>
<tr>
<th>Increase These Practices</th>
<th>Decrease or Eliminate These Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making assessment an <strong>integral part of teaching</strong></td>
<td>Having assessment be simply counting correct answers on tests for the sole purpose of assigning grades</td>
</tr>
<tr>
<td>Focusing on a broad range of mathematical tasks &amp; taking a <strong>holistic view</strong> of mathematics</td>
<td>Focusing on a large number of specific &amp; isolated skills</td>
</tr>
<tr>
<td>Developing <strong>problem situations</strong> that require applications of a number of mathematical ideas</td>
<td>Using exercises or word problems requiring only one or two skills</td>
</tr>
<tr>
<td>Using <strong>multiple assessment techniques</strong>, including written, oral, &amp; demonstrative formats</td>
<td>Using only written tests</td>
</tr>
</tbody>
</table>

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Resources

*Exceeding Expectations*
by Susan Kovalik & Karen Olsen
Books For Educators
www.thecenter4learning.com

*Rigor & Relevance from Concept to Reality*
by Willard Daggett
International Center for Leadership in Education
www.LeaderEd.com
Resources

*Best Practice*
by Zemelman, Daniels, & Hyde,
Heinemann

*Classroom Instruction That Works*
by Robert Marzano, ASCD
1. **Next Meeting:**
   - Tuesday, April 20\(^{th}\), 12:00 PM Eastern Time

2. **Next Topic:**
   - Focusing on Tier 2 (Academics & Behavior)
     - Interventions
     - Progress Monitoring

3. **I am Always Available in Between Sessions:**
   - Phone Calls
   - E-mail
   - Additional WebEx Meetings
Contact Information

Chuck Grable,  
Assistant Superintendent for Instruction  
Huntington County Community School Corporation

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Huntington, IN 46750

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(260) 356-5464