Purpose of the IAA

- Creating real access to the high school general education curriculum for students with disabilities (SWDs)

- Improving educational outcomes achieved by SWDs
Research Partners

Planning Team
Keith Lenz
Gary Adams

Materials & Assessment Team
Doug Carnine
Bonnie Grossen
Betsy Davis

Instructional Methods Team
Don Deshler
Jean Schumaker
Janis Bulgren
Target Population

• High-school students with disabilities (SWDs) who:
  • Have been formally classified
  • Are expected to earn standard high school diplomas
  • Are or have been enrolled in a rigorous general education curriculum
  Or
  • Could be enrolled in a rigorous general education curriculum if support were available
Interactive Research Model

<table>
<thead>
<tr>
<th>Strands</th>
<th>Project Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>I: Descriptive Research on Contextual Factors</td>
<td>1 2 3 4 5 n</td>
</tr>
<tr>
<td>II: Student-Learning Research</td>
<td></td>
</tr>
<tr>
<td>III: Teacher-Learning Research</td>
<td></td>
</tr>
<tr>
<td>IV: School-Change Research</td>
<td></td>
</tr>
</tbody>
</table>
Achievement Gap

Grade Level in Achievement

Grade in School
Mean Percentage of Intervals General Education Teachers Were Observed in Various Activities for Each School

![Bar chart showing mean percentage of intervals for different activities at various schools.](chart.png)
Mean Percentage of Intervals General Education Teachers Were Observed in Various Activities

General Education Teacher Observation

1. Lecture/read
2. Give directions
3. Listening
4. Ask question
5. Monitor
6. Model
7. Verbal rehearsal
8. Simple enhancer
9. Advance organizer
10. Role Play
11. Content Enhancement (complex)
12. Elaborated Feedback
13. Write on board
14. Describe skill/strategy
Mean Percentage of Intervals Special Education Teachers Were Observed in Various Activities for Each School

Mean percentage of intervals special education teachers were observed in various activities for each school.
Special Education Teacher Observations

1. Lecture/read
2. Give directions
3. Listening
4. Ask question
5. Monitor
6. Model
7. Verbal rehearsal
8. Simple enhancer
9. Advance organizer
10. Role Play
11. Content Enhancement (complex)
12. Elaborated Feedback
13. Write on board
14. Describe skill/strategy
Course Options for SWDs

- **Type A**: Courses taught by SPED teachers for SPED students
- **Type B**: Courses taught by general education teachers for low achievers and at-risk students
- **Type C**: Rigorous courses taught by general education teachers with heterogeneous groups of students
- **Type D**: Advanced placement courses taught by general education teachers
- **Type E**: Other courses taught by general education teachers (e.g., vo-tech electives)
### Rigorous General Education Enrollments for SWDs

<table>
<thead>
<tr>
<th>Rigorous general education enrollments for students with disabilities.</th>
<th>Rural Schools</th>
<th>Suburban Schools</th>
<th>Urban Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1R</td>
<td>2R</td>
<td>3R</td>
</tr>
<tr>
<td>Total number of special education students</td>
<td>48</td>
<td>14</td>
<td>50</td>
</tr>
<tr>
<td>Total possible core class enrollments $^1$</td>
<td>192</td>
<td>56</td>
<td>200</td>
</tr>
<tr>
<td>Actual number of rigorous general education enrollments</td>
<td>15</td>
<td>49</td>
<td>6</td>
</tr>
<tr>
<td>Estimated number of students with disabilities by general education teachers</td>
<td>55</td>
<td>24</td>
<td>N/A $^2$</td>
</tr>
</tbody>
</table>

$^1$ This number reflects the number of enrollments possible if every student with a disability were enrolled in a rigorous general education class each class period of the day.

$^2$ N/A = not available.
Enrollments in “Rigorous” General Education Classes

- Total possible “rigorous” class enrollments: 3220
- Actual # of “rigorous” enrollments: 682
- Total # of SWD: 805
- Estimates for GE teachers of # of SWD: 205
Model for Ensuring Access and Positive Outcomes

Program Planning
- Program Rubric
- Intervention Mosaic

Program Components
- Homework Assistance
- IEP Process
- Learner-Friendly Courses
- Skills/Strategies Instruction

Formative Evaluation Tools
- Student Progress Measures
- Benchmark Assessments

Final Outcomes
- Success in Rigorous Courses
- High School Graduation
- Passing Scores on State Assessments
- Enrollment in Post-Secondary Education
The Content Literacy Continuum

During School:
Level 1: Enhanced content instruction (Mastery of critical content for all regardless of literacy levels)
Level 2: Embedded strategy instruction (Routinely weave strategies instruction within and across classes using large-group methods)
Level 3: Intensive strategy instruction (Mastery of specific strategies using 8-stage instructional sequence; individual Strategic Tutoring)
Level 4: Intensive basic skill instruction (Mastery of entry level literacy skills at the 4th-grade level)
Level 5: Therapeutic intervention (Mastery of language underpinnings of curriculum content and learning strategies)

After School: Strategic Tutoring (Extending the instructional time “box” through before- and after-school tutoring)
Student-Learning Research Studies
Learner-Friendly Courses
Through Content Enhancement
Comparing Two Concepts

Introduction: Concept Comparison Routine

- Evergreen
- Deciduous
**Concept Comparison Table**

<table>
<thead>
<tr>
<th>ELEMENTS OF LITERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONCEPT</strong></td>
</tr>
<tr>
<td><strong>Plot</strong></td>
</tr>
<tr>
<td><strong>Theme</strong></td>
</tr>
<tr>
<td><strong>CHARACTERISTICS</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>LIKE CHARACTERISTICS</strong></td>
</tr>
<tr>
<td><strong>UNLIKE CHARACTERISTICS</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>SUMMARY</strong></td>
</tr>
</tbody>
</table>
Mean Percentage Total Scores

<table>
<thead>
<tr>
<th>Student Subgroups</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD</td>
<td>56.68</td>
<td>71.32</td>
</tr>
<tr>
<td>LA</td>
<td>62.64</td>
<td>86.36</td>
</tr>
<tr>
<td>NA</td>
<td>76.02</td>
<td>83.48</td>
</tr>
<tr>
<td>HA</td>
<td>84.14</td>
<td>86.93</td>
</tr>
</tbody>
</table>
## Concept Anchoring Table

<table>
<thead>
<tr>
<th><strong>Known Information</strong></th>
<th><strong>Anchoring Table</strong></th>
<th><strong>New Concept</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parts of a Pizza</strong></td>
<td></td>
<td><strong>Fractional Parts</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Characteristics of Known Concept</strong></td>
<td><strong>Characteristics Shared</strong></td>
<td><strong>Characteristics of New Concept</strong></td>
</tr>
<tr>
<td>Crust</td>
<td>One whole for one person</td>
<td>1 (The whole)</td>
</tr>
<tr>
<td>Meat</td>
<td>One whole divided by 2</td>
<td>1/2 (One half)</td>
</tr>
<tr>
<td>Cut it</td>
<td>One whole divided by 3</td>
<td>1/3 (One third)</td>
</tr>
<tr>
<td>Friends</td>
<td>One whole divided by 4</td>
<td>1/4 (One fourth)</td>
</tr>
<tr>
<td>Party</td>
<td>One whole divided by 5</td>
<td>1/5 (One fifth)</td>
</tr>
<tr>
<td>Football games</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Understanding of the New Concept**

Fractional parts are like parts of a pizza when the pie is divided up for friends to eat. If two friends divide it, each gets 1/2 pizza. If three friends divide it, each gets 1/3 pizza. If four divide it, each gets 1/4 pizza. If five divide it, each gets 1/5 pizza.
Anchoring Known Information to New Information
## Concept Anchoring Routine

### Condition 1: Sub-Groups of Students

<table>
<thead>
<tr>
<th>Concept</th>
<th>LD</th>
<th>LA</th>
<th>NA</th>
<th>HA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyramid of Numbers</td>
<td>Enhanced</td>
<td>Enhanced</td>
<td>Enhanced</td>
<td>Enhanced</td>
</tr>
<tr>
<td>Commensalism</td>
<td>Not Enhanced</td>
<td>Not Enhanced</td>
<td>Not Enhanced</td>
<td>Not Enhanced</td>
</tr>
</tbody>
</table>

### Condition 2: Sub-Groups of Students

<table>
<thead>
<tr>
<th>Concept</th>
<th>LD</th>
<th>LA</th>
<th>NA</th>
<th>HA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyramid of Numbers</td>
<td>Not Enhanced</td>
<td>Not Enhanced</td>
<td>Not Enhanced</td>
<td>Not Enhanced</td>
</tr>
<tr>
<td>Commensalism</td>
<td>Enhanced</td>
<td>Enhanced</td>
<td>Enhanced</td>
<td>Enhanced</td>
</tr>
</tbody>
</table>
Results for Student Subgroups

Condition 1
(Commensalism Enhanced)

Condition 2
(Pyramid of Numbers Enhanced)

Groups of Students in Conditions

LD  LA  NA  HA  LD  LA  NA  HA

Percentage Correct

40  50  60  70  80  90  100

0  10  20  30  40  50  60  70  80  90  100
## Recall Enhancement Routine

<table>
<thead>
<tr>
<th></th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LD (N=9)</td>
<td>LD (N=9)</td>
</tr>
<tr>
<td>Nonreviewed Facts</td>
<td>Presented in lecture</td>
<td>Presented in lecture</td>
</tr>
<tr>
<td>Reviewed Facts</td>
<td>Enhanced with routine</td>
<td>Facts repeated</td>
</tr>
<tr>
<td></td>
<td>NLD (N=11)</td>
<td>NLD (N=12)</td>
</tr>
</tbody>
</table>
Student Performance on Reviewed Facts

- LD Students
  - Control: 41.8%
  - Experimental: 70.9%

- NLD Students
  - Control: 64.29%
  - Experimental: 84.85%
Percentage of Students Performing at Passing Levels

<table>
<thead>
<tr>
<th></th>
<th>Nonreviewed Facts</th>
<th>Reviewed Facts</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD</td>
<td>22</td>
<td>77</td>
</tr>
<tr>
<td>LD</td>
<td>22</td>
<td>66</td>
</tr>
<tr>
<td>NLD</td>
<td>58</td>
<td>63</td>
</tr>
<tr>
<td>NLD</td>
<td>63</td>
<td>100</td>
</tr>
<tr>
<td>LD</td>
<td>11</td>
<td>77</td>
</tr>
<tr>
<td>LD</td>
<td>11</td>
<td>66</td>
</tr>
<tr>
<td>NLD</td>
<td>66</td>
<td>66</td>
</tr>
<tr>
<td>NLD</td>
<td>66</td>
<td>100</td>
</tr>
</tbody>
</table>
# Question Exploration Guide

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>What is the Critical Question?</td>
</tr>
<tr>
<td>2</td>
<td>What are the Key Terms and explanations?</td>
</tr>
<tr>
<td>3</td>
<td>What are the Supporting Questions and answers?</td>
</tr>
<tr>
<td>4</td>
<td>What is the Main Idea Answer?</td>
</tr>
<tr>
<td>5</td>
<td>How can we use the Main Idea?</td>
</tr>
<tr>
<td>6</td>
<td>Is there an Overall Idea? Is there a real-world use?</td>
</tr>
</tbody>
</table>
The Course Organizer

○ THIS COURSE:

Is about

○ COURSE QUESTIONS:

○ COURSE STANDARDS:

What?

How?

VALUE?

CONTENT:

PROCESS:

COURSE PROGRESS GRAPH
The Frame Device

The FRAME Routine

Key Topic

Main idea

Main idea

Essential details

Essential details

So What? (What’s important to understand about this?)
Strategy Instruction
# Learning Strategies Curriculum

<table>
<thead>
<tr>
<th>ACQUISITION</th>
<th>STORAGE</th>
<th>EXPRESSION &amp; DEMONSTRATION OF COMPETENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Identification Strategy</td>
<td>FIRST-Letter Mnemonic Strategy</td>
<td>Sentence Writing Strategy</td>
</tr>
<tr>
<td>Paraphrasing Strategy</td>
<td>Paired Associates Strategy</td>
<td>Paragraph Writing Strategy</td>
</tr>
<tr>
<td>Self-Questioning Strategy</td>
<td>LINCS Vocabulary Strategy</td>
<td>Error Monitoring Strategy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>InSPECT Strategy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Theme Writing Strategy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assignment Completion Strategy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Test-Taking Strategy</td>
</tr>
</tbody>
</table>
Learning Strategy

- A Learning Strategy is how a person plans, acts, and evaluates performance on a task and its outcome.
Application of Strategies

Assignment: In chronological order, list the political leaders of the Soviet Union from 1917 to the fall of communism. What strategies did you use?

- Lenin
- Stalin
- Khrushchev
- Brezhnev
- Andropov
- Chernenko
- Gorbachov
The Strategy

FIRST Letter Mnemonic Strategy:
Step 1: Form a word
Step 2: Insert a letter
Step 3: Rearrange the letters
Step 4: Shape a sentence
Step 5: Try combinations

Little Soviet Kids Become Adult Commies Gradually

LENIN
STALIN
KHRUSHCHEV
BREZHNEV
ANDROPOV
CHERNENKO
GORBACHOV
The Sentence Writing Strategy

- **P**ick a formula
- **E**xplore words to fit the formula
- **N**ote the words
- **S**earch and check
Sentence Writing Strategy

Mean Percentage of Complete Sentences

Baseline | Post-Instruction
---|---
70 | 99
The Paragraph Writing Strategy

• Set up a diagram
• Create a title
• Reveal the topic
• Iron out the details
• Bind it together with a clincher
• Edit your work
Paragraph Writing Strategy

Mean Percentage of Points Earned

- Baseline: 36
- Post-Instruction: 80
The Error Monitoring Strategy

- Write on every other line using “PENS”
- Read the paper for meaning
- Interrogate yourself using the “COPS” questions
- Take the paper to someone for help
- Execute a final copy
- Reread your paper
Error Monitoring Strategy

![Bar graph showing mean percentage of errors corrected between Pretest and Posttest.](image-url)

- **Pretest**: 25
- **Posttest**: 90
Error Monitoring Strategy

The bar chart shows the mean number of errors per word before and after instruction.

- Baseline: 0.27
- Post-Instruction: 0.04
Steps of the Theme Writing Strategy

- Think
- Organize it
- Write a draft
- Evaluate it
- Refine it
Theme Writing Strategy

Mean Percentage of Points Earned

<table>
<thead>
<tr>
<th></th>
<th>Mean Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>24</td>
</tr>
<tr>
<td>Post-Instruction</td>
<td>74</td>
</tr>
</tbody>
</table>

Baseline: 24%
Post-Instruction: 74%
All Writing Strategies

Targeted LD Students: 3.5
All Students in District: 2.5
Theme Writing Strategy

Mean Grade in English

- Underprepared Students
- Prepared Students

<table>
<thead>
<tr>
<th></th>
<th>English Grade</th>
<th>Overall GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underprepared</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Prepared</td>
<td>2.6</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Homework Assistance through Strategic Tutoring
Strategic Tutoring Instructional Phases

Assessing → Constructing → TEACHING → Transferring
Strategic Tutoring Model

The role of the Strategic Tutor is to:

- Explain content, build knowledge
- Share extensive knowledge of strategies
- Apply principles of Strategic Instruction
- Mentor and “connect” with students
Strategic Tutoring Study 1

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>After ST</th>
</tr>
</thead>
<tbody>
<tr>
<td>STUDENT 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tests</td>
<td>46</td>
<td>80</td>
</tr>
<tr>
<td>Quizzes</td>
<td>45</td>
<td>80</td>
</tr>
<tr>
<td>STUDENT 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tests</td>
<td>54</td>
<td>86</td>
</tr>
<tr>
<td>Quizzes</td>
<td>58</td>
<td>84</td>
</tr>
<tr>
<td>STUDENT 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tests</td>
<td>59</td>
<td>87</td>
</tr>
<tr>
<td>Quizzes</td>
<td>61</td>
<td>91</td>
</tr>
</tbody>
</table>
Strategic Tutoring Study 2

Mean Percentage Score

Baseline  After ST  Pretest  Posttest
TESTS & QUIZZES
STRATEGY KNOWLEDGE
Teacher-Learning Studies
Teacher Training Results

Content Enhancement Routines

<table>
<thead>
<tr>
<th>Concept</th>
<th>Percentage of Teacher Behaviors Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept Mastery</td>
<td>93</td>
</tr>
<tr>
<td>Concept Compar.</td>
<td>93</td>
</tr>
<tr>
<td>Concept Anchoring</td>
<td>94</td>
</tr>
<tr>
<td>Recall Enhance.</td>
<td>96</td>
</tr>
</tbody>
</table>

Baseline vs After Training
Professional Development Approaches

- Traditional
  - Inservice on inservice days

- Enlightened
  - Interviews, partnership learning, participant choice, in-class modeling, ongoing

- Instructional Coaches
  - Enlightened + Onsite coaching and collaboration for implementation
# Effectiveness of Staff Development Activities

<table>
<thead>
<tr>
<th></th>
<th>Knowledge</th>
<th>Skill Acquisition</th>
<th>Classroom app.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present information</td>
<td>40-80%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Present &amp; Model</td>
<td>80-85%</td>
<td>10-40%</td>
<td>5-10%</td>
</tr>
<tr>
<td>Present &amp; Model &amp; Practice &amp; Feedback</td>
<td>80-85%</td>
<td>80%</td>
<td>10-15%</td>
</tr>
<tr>
<td>Present &amp; Model &amp; Practice &amp; Feedback &amp; Coaching</td>
<td>90%</td>
<td>90%</td>
<td>80-90%</td>
</tr>
</tbody>
</table>
Lesson 1: The Anchoring Table

This lesson introduces the Anchoring Table, which serves as the centerpiece of the Anchoring Routine. This table is used to graphically depict the key elements in teaching a New Concept by creating an analogy to a Known Concept.
Lesson 2: The Linking Steps

This lesson is about the Linking Steps of the Concept Anchoring Routine. The Linking Steps are the procedures teachers use to co-construct the Anchoring Table with students in class. That is, the teacher uses these steps to lead a discussion and create the Anchoring Table in partnership with the students. To do this, the teacher displays a blank Anchoring Table on the board or an overhead transparency. The students have blank Anchoring Tables at their desks. Everyone fills in a table as the discussion proceeds.
Lesson 3: The Cue-Do-Review Sequence

The Cue-Do-Review Sequence involves:
• Cuing the students that the routine will be used,
• Doing the Linking Steps, and
• Reviewing what’s been learned.
Cue-Do-Review. That’s all there is to it!
Lesson 4: Example Routines

The Concept Anchoring Routine can be used with students of all ages. This lesson contains three different examples of teachers using the Concept Anchoring Routine. In the first example, the teacher uses the routine in an elementary classroom. In the second example, the teacher uses the routine in a middle school classroom. In the third example, the teacher uses the routine in a high school classroom.
Creating Your Own Anchoring Table

Now it's your turn to create an Anchoring Table for a concept of your choice.

- Turn to page 14 in your instructor's manual and read the chapter entitled, "Get Ready!"
- On the following screen, you will be provided with a blank Anchoring Table to complete with your own content. Just click on a space in the table and enter the information you have chosen. Remember to keep your phrases short for each space.
- When you have completed the table, click on the "Print" button to print out your work.
- Click on "Next Page" button to begin creating your custom Anchoring Table.
Study 1: Implementation Results

ANCOVA: No differences
R.M. ANOVA: Significant gains for both groups (p < .001)
Study 1: Knowledge Test Results

ANCOVA: No differences
R.M. ANOVA: Significant gains for both groups (p < .001)
Study 1: Anchoring Table Test

ANCOVA: No differences
R.M. ANOVA: Significant gains for both groups (p < .001)
Study 1: Concept Acquisition Test (All Students)

HLM Approach: Significant posttest differences $(p<.014)$
Significant gains for both groups $(p<.001)$
Study 1: Concept Acquisition Test (Students with LD)

HLM Approach: No significant differences between groups
Significant gains for both groups (p<.001)
School-Change Research
Effects of Content Enhancement

General Education Economics Class (10th)  
Muskegon High School

Average Unit Test Score

Students with Disabilities  Non-Disabled Peers


0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

53.5% 68.9% 71.1% 79.5%
9th Grade Physical Science

Average % Score on Unit Tests

- Students w/ Disabilities (n=13): 62%
- Students w/o Disabilities (n=65): 65%
- Whole Group (n=78): 74%

9th Grade Physical Science (n=78)
Content Enhancement Study at MHS 9th Grade Physical Science

A Look at Various Achievement Subgroups
(Subgroups determined by average of first three tests given.)

<table>
<thead>
<tr>
<th>Level of Achievement SUBGROUPS</th>
<th>Avg first 3 tests</th>
<th>Avg last 3 tests</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;B&quot; Students (n=16)</td>
<td>83%</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>&quot;C&quot; Students (n=25)</td>
<td>72%</td>
<td>79%</td>
<td></td>
</tr>
<tr>
<td>&quot;Failing&quot; Students (n=37)</td>
<td>55%</td>
<td>69%</td>
<td>14%</td>
</tr>
</tbody>
</table>
Sentence Writing Strategy
(Example Class Among 1000 Students)

![Bar chart showing the mean percentage of sentences for complete and complicated sentences in pretest and posttest.](chart.png)
Comparison of Writing MEAP Over 3 Years

Muskegon in Relation to Like Districts & State of Michigan
Comparisons of Writing MEAP Over 3 Years
% Students Passing the Test

Muskegon
Class of 1999: 94.1%
Class of 2000: 92.0%
Class of 2001: 93.8%

12 Comparable MI Cities
Class of 1999: 79.8%
Class of 2000: 78.2%
Class of 2001: 85.4%

MI Middle Cities
Class of 1999: 81.9%
Class of 2000: 81.9%
Class of 2001: 86.8%

State of Michigan
Class of 1999: 85.4%
Class of 2000: 90.4%
Class of 2001: 90.4%

Percentage of Students
Self-Questioning Strategy

- **A**ttend to clues as you read
- **S**ay some questions
- **K**eep predictions in mind
- **I**dentify the answer
- **T**alk about the answers
Self-Questioning 7th Grade Science Class Growth Scores

Mean Percentage of Points

- Comparison
- Experimental

0 10 20 30 40 50 60

comparison experimental
Word Identification Strategy

- Discover the context
- Isolate the prefix
- Separate the suffix
- Say the stem
- Examine the stem
- Check with someone
- Try the dictionary
Word Identification Intervention at MHS

Word Identification Intervention at MHS (9th grade)
ALL STUDENTS (Average # students per year is ~100)

Grade Equivalent Scores on DST: R

<table>
<thead>
<tr>
<th>Year</th>
<th>PRE (Form A)</th>
<th>POST (Form B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995-96</td>
<td>6.7</td>
<td>9.6</td>
</tr>
<tr>
<td>1996-97</td>
<td>6.7</td>
<td>9.8</td>
</tr>
<tr>
<td>1997-98</td>
<td>6.0</td>
<td>9.6</td>
</tr>
<tr>
<td>1998-99</td>
<td>5.8</td>
<td>9.3</td>
</tr>
<tr>
<td>1999-00</td>
<td>6.2</td>
<td>8.4</td>
</tr>
<tr>
<td>2000-01</td>
<td>6.5</td>
<td>9.0</td>
</tr>
<tr>
<td>2001-02</td>
<td>6.1</td>
<td>8.4</td>
</tr>
</tbody>
</table>
LD Subgroups in Word Identification Intervention at MHS

Average # LD Students Served ~ 10 (~10% total group)

Grade Equivalent Scores on DST: R

PRE (Form A) | POST (Form B)

1998-99: 5.1 | 9.1
1999-00: 5.0 | 6.9
2000-01: 5.0 | 7.9
2001-02: 6.5 | 10.1
## Strategic Reading Study: 2002-03

### Comparison of Pre & Post Testing on Gates-MacGinitie Reading Test (Forms S&T)

<table>
<thead>
<tr>
<th></th>
<th>Pre GL</th>
<th>Post GL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison School</td>
<td>6.3</td>
<td>5.8</td>
</tr>
<tr>
<td>Experimental School</td>
<td>5.9</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Average Extended Scaled Scores

- Pre GL: 6.3
- Post GL: 5.8
Strategic Reading Class at Muskegon High School

Grade Level Scores on GMRT-Comprehension Subtest


Pretest (Form S)  Posttest (Form T)

(# responders/total group)
State Reading Competency Scores: Chase Middle School

<table>
<thead>
<tr>
<th>Skill Levels</th>
<th>Percentage of All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsatisfactory</td>
<td>29</td>
</tr>
<tr>
<td>Basic</td>
<td>26</td>
</tr>
<tr>
<td>Proficient</td>
<td>23</td>
</tr>
<tr>
<td>Advanced</td>
<td>26</td>
</tr>
<tr>
<td>Exemplary</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Unsatisfactory: 29%
- Basic: 26%
- Proficient: 23%
- Advanced: 26%
- Exemplary: 1%

-0-5-10-15-20-25-30-35-40

Proficient and Advanced levels have the highest percentages.
Validated practices
Fidelity implementation
Coordinated implementation
Quality Professional Development
Strong Administrative Leadership

Student Success = Vision Supports
For More Information

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