

Literacy at the Middle School Level: Using the CLC to Guide Rtl Decisions

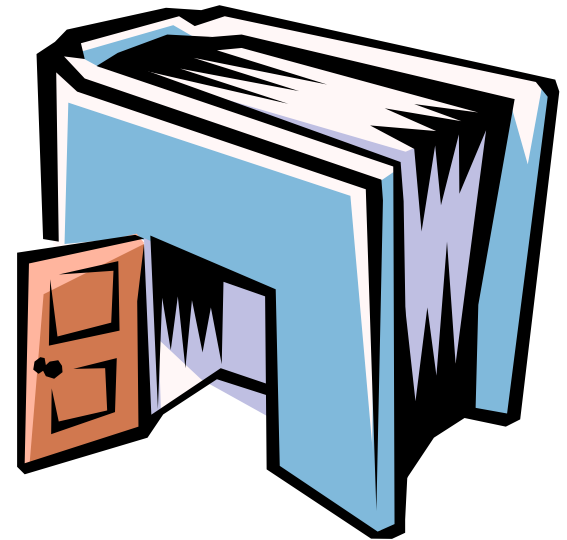
Joan M. Miller, Ph.D.

NYS Response to Intervention Technical Assistance Center

Mount Saint Mary College, Newburgh, NY

Content Literacy

**is the door to
content acquisition.**



(Source: University of Kansas Center for Research on Learning)

Content Literacy

The listening, speaking, reading and writing skills and strategies necessary to learn in each of the academic disciplines.

(Source: University of Kansas Center for Research on Learning)

Adolescent Literacy in the U.S.:

The Problem (McPeak et al., 2007)

- Approximately two-thirds of eighth- and twelfth-grade students read at less than the “proficient” level as described by NAEP (National Institute for Literacy, 2006).
- Approximately 32 percent of high school graduates are not ready for college-level English composition courses (ACT, 2005).
- Over half of adults scoring at the lowest literacy levels are drop-outs and almost a quarter are high school graduates (NCES, 2005).

The Problem (McPeak et al., 2007)

(continued)

- Approximately 40 percent of high school graduates lack the literacy skills employers seek (Achieve, Inc., 2005).
- U.S. drop-outs' literacy skills are lower than most industrialized nations, performing comparably only to Chile, Poland, Portugal and Slovenia (OECD, 2000).
- A full 70 percent of U.S. middle and high school students require differentiated instruction—that is, instruction targeted to their individual strengths and weaknesses (Alliance for Excellent Education for the Carnegie Corporation of New York).

THE MANY STRANDS THAT ARE WOVEN INTO SKILLED READING

LANGUAGE COMPREHENSION

BACKGROUND KNOWLEDGE
(facts, concepts, etc.)

VOCABULARY
(breadth, precision, links, etc.)

LANGUAGE STRUCTURES
(syntax, semantics, etc.)

VERBAL REASONING
(inference, metaphor, etc.)

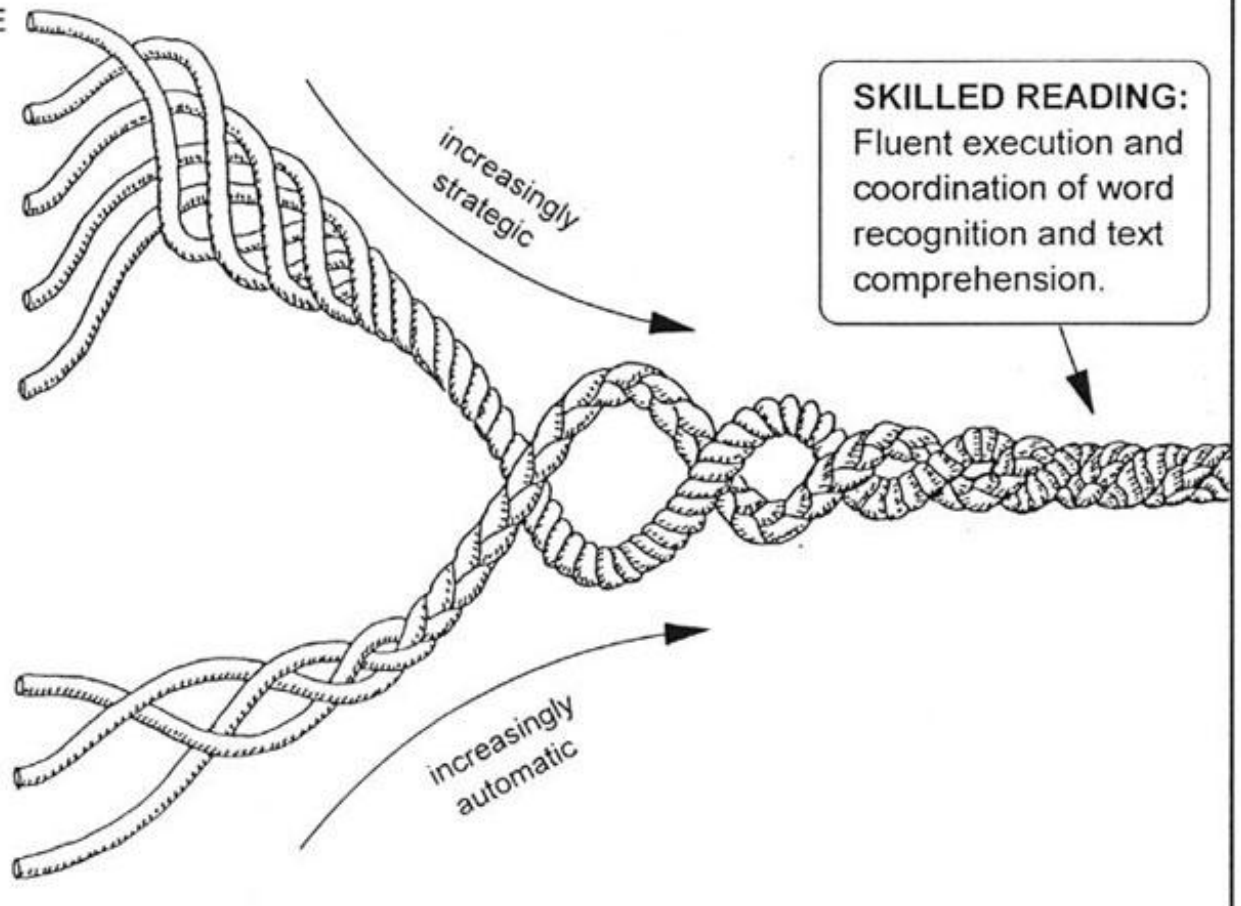
LITERACY KNOWLEDGE
(print concepts, genres, etc.)

WORD RECOGNITION

PHONOLOGICAL AWARENESS
(syllables, phonemes, etc.)

DECODING (alphabetic principle,
spelling-sound correspondences)

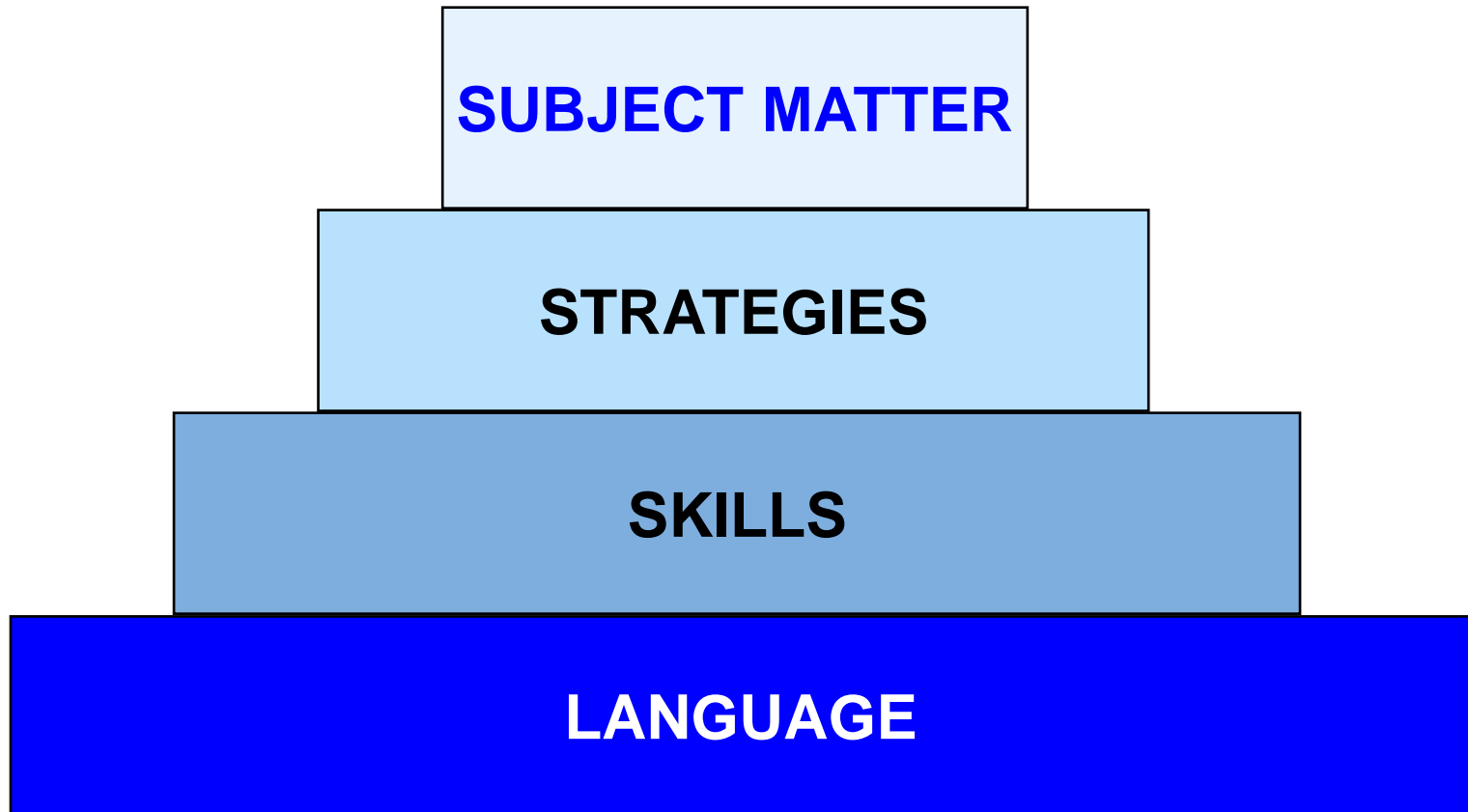
SIGHT RECOGNITION
(of familiar words)



SKILLED READING:
Fluent execution and
coordination of word
recognition and text
comprehension.

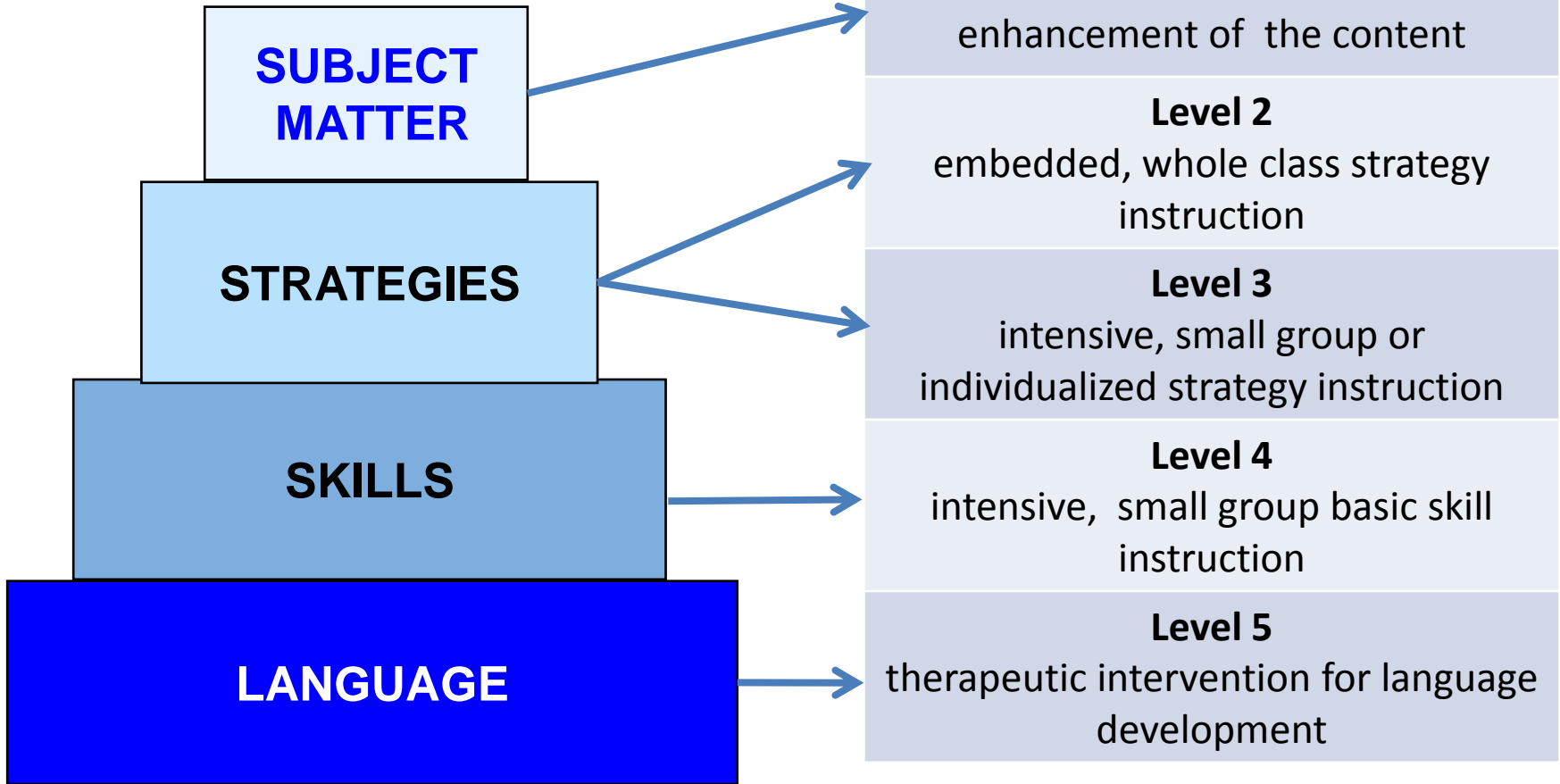
(Source: University of Kansas Center for Research on Learning)

Building Blocks for Academic Competency



(Source: University of Kansas Center for Research on Learning)

Building Blocks for Academic Competency



How does the Content Literacy
Continuum fit into Response to
Intervention?

How does the CLC fit into Rtl?

Rtl Tier (Stupski)	CLC Level (KU- CRL)	
Tier 1	1	Enhance content instruction (mastery of critical content for <i>all</i> students regardless of literacy levels)
	2	Embedded strategy instruction (routinely weave strategies within <i>and</i> across classes using large group instructional methods)
Tier 2	3	Intensive strategy instruction (mastery of specific strategies using 8-stage instructional sequence; individual Strategic Tutoring)
Tier 3	4	Intensive basic skill instruction (mastery of entry level literacy skills at the 4th grade level)
	5	Therapeutic intervention (mastery of language underpinnings of curriculum content and learning strategies)

Let's look at **Level 1** of the CLC,
which is part of **Tier 1** of Rtl.

The Rtl – CLC Connection

Rtl Tier (<i>Stupski</i>)	CLC Level (<i>KU- CRL</i>)	
Tier 1	1	Enhance content instruction (mastery of critical content for <i>all</i> students regardless of literacy levels)
	2	Embedded strategy instruction (routinely weave strategies within <i>and</i> across classes using large group instructional methods)
Tier 2	3	Intensive strategy instruction (mastery of specific strategies using 8-stage instructional sequence; individual Strategic Tutoring)
Tier 3	4	Intensive basic skill instruction (mastery of entry level literacy skills at the 4th grade level)
	5	Therapeutic intervention (mastery of language underpinnings of curriculum content and learning strategies)

Content Enhancement Teaching Routines

Planning and Leading Learning

- Course Organizer
- Unit Organizer
- Lesson Organizer

(Source: University of Kansas Center for Research on Learning)

Teacher(s):
Time:

The Course Organizer

Student:
Course Dates:

This Course:

MATH 90

is about preparing numerate individuals who value math and appreciate its role in society.

Course Questions:

How do we +, -, x, / integers and rational #'s in a proper order of operations?

How are the laws of exponents applied?

How do we perform operations (+, -, x, /, F.O.I.L.) on polynomials? (principles of algebra)

How do we solve equations and inequalities?

How do we use the problem-solving model to understand, plan, solve, and check a word problem?

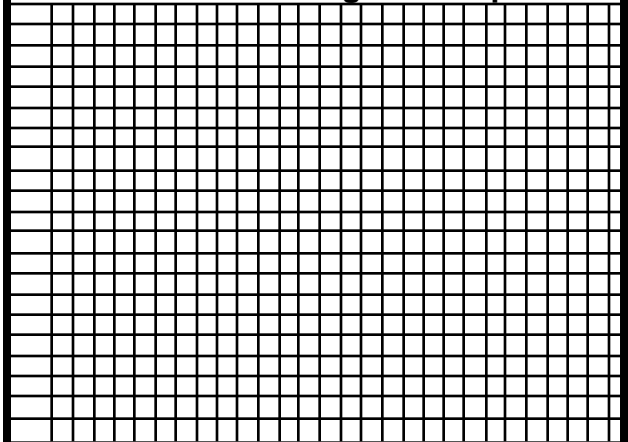
Why should we recognize, discuss, and write about mathematical ideas as they relate to real-life situations?

Why is it important to have confidence in my ability to solve a variety of mathematically related problems?

Course Standards:

Exams	50%
Homework	
Hand-in Assignments	
Quizzes	20%
Final Exam	<u>30%</u>
Total	100%

Course Progress Graph



Course Map

This Course: ^{Math 90}

Student:

includes

○ Community Principles

- 1) Show a desire to learn.
- 2) Be a self-advocate
- 3)
- 4)

○ Learning Routines and Practices

Course Organizer	Unit Organizer
Lesson and Demonstration	Independent Practice
Peer Tutoring	Framing Routines
Assignment Planners	

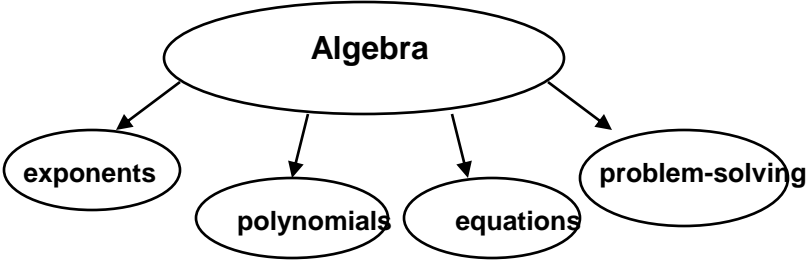
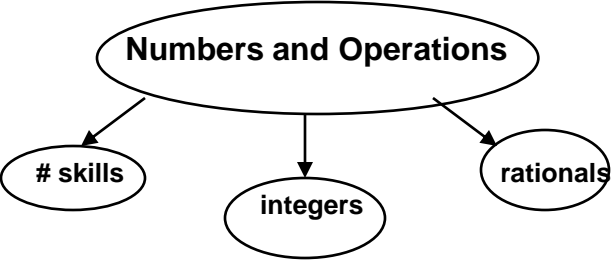
○ Individual Adaptations

- extended work time
- extended test time
- use of technology/ software
- presentation method
- noon tutorial Rm. 214

○ Critical Concepts

addition	subtraction	multiplication	division
order of operations		fractions	rationals
	decimals		
percents	exponents	powers	ratio
proportion	polynomials: monomials, binomials, and trinomials		
F.O.I.L.	equations	like terms	distributive
property	scientific notation	inequalities	word problems

○ Learned in these units



The Unit Organizer

④ BIGGER PICTURE

NAME Sharra Ti
DATE 4/1

<p style="font-size: 2em; margin: 0;">← The Animal Kingdom →</p>		<p style="font-size: 1.5em; margin: 0;">Interrelationships</p>																										
<p>② LAST UNIT/Experience</p> <p style="font-size: 1.5em; margin: 0;">Invertebrates</p>	<p>① CURRENT UNIT</p> <p style="font-size: 2em; margin: 0;">Vertebrates</p>	<p>③ NEXT UNIT/Experience</p> <p style="font-size: 1.5em; margin: 0;">Ecology</p>																										
<p>⑧ UNIT SCHEDULE</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">4/1</td><td>Introduce vertebrates</td></tr> <tr><td>4/4</td><td>Fish/Amphibian of choice report due</td></tr> <tr><td>4/5</td><td>Fish/Amphibian quiz</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td>4/10</td><td>Reptile quiz</td></tr> <tr><td>4/12</td><td>Trip to natural history museum</td></tr> <tr><td>4/15</td><td>Trip report due</td></tr> <tr><td> </td><td> </td></tr> <tr><td>4/16</td><td>Bird/Mammal quiz</td></tr> <tr><td>4/17</td><td>Lab report due</td></tr> <tr><td>4/18</td><td>Review</td></tr> <tr><td>4/19</td><td>Test</td></tr> </table>	4/1	Introduce vertebrates	4/4	Fish/Amphibian of choice report due	4/5	Fish/Amphibian quiz					4/10	Reptile quiz	4/12	Trip to natural history museum	4/15	Trip report due			4/16	Bird/Mammal quiz	4/17	Lab report due	4/18	Review	4/19	Test	<p>⑤ UNIT MAP</p> <div style="text-align: center;"> <pre> graph TD A([The most advanced and intelligent animals on the earth pp. 427-482]) -- "is about..." --> B[] A -- "such as the" --> C([fishes]) A -- "such as the" --> D([amphibians]) A -- "such as the" --> E([reptiles]) A -- "such as the" --> F([birds]) A -- "such as the" --> G([mammals]) </pre> </div>	
4/1	Introduce vertebrates																											
4/4	Fish/Amphibian of choice report due																											
4/5	Fish/Amphibian quiz																											
4/10	Reptile quiz																											
4/12	Trip to natural history museum																											
4/15	Trip report due																											
4/16	Bird/Mammal quiz																											
4/17	Lab report due																											
4/18	Review																											
4/19	Test																											
<p>⑦ UNIT SELF-TEST QUESTIONS</p> <p>What are the basic differences among the major groups of vertebrates? In what ways is life on land more difficult than life in water? What is mean by cold blooded and warm blooded? Which of the major groups of vertebrates is the most successful group? Why?</p>	<p>⑥ UNIT RELATIONSHIPS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">explanation</td></tr> <tr><td>compare/contrast</td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>		explanation	compare/contrast																								
explanation																												
compare/contrast																												

Example of Results: The Course Organizer

When teachers used a Course Organizer Routine, students considered at risk for school failure answered more course content questions correctly.

For example, for students classified as LD:

Number of “Big Idea” Course Questions Answered Correctly	Beginning of the Course	End of the Course
when teachers used COs	3/10	8/10
when teachers did not use COs	3/10	4/10

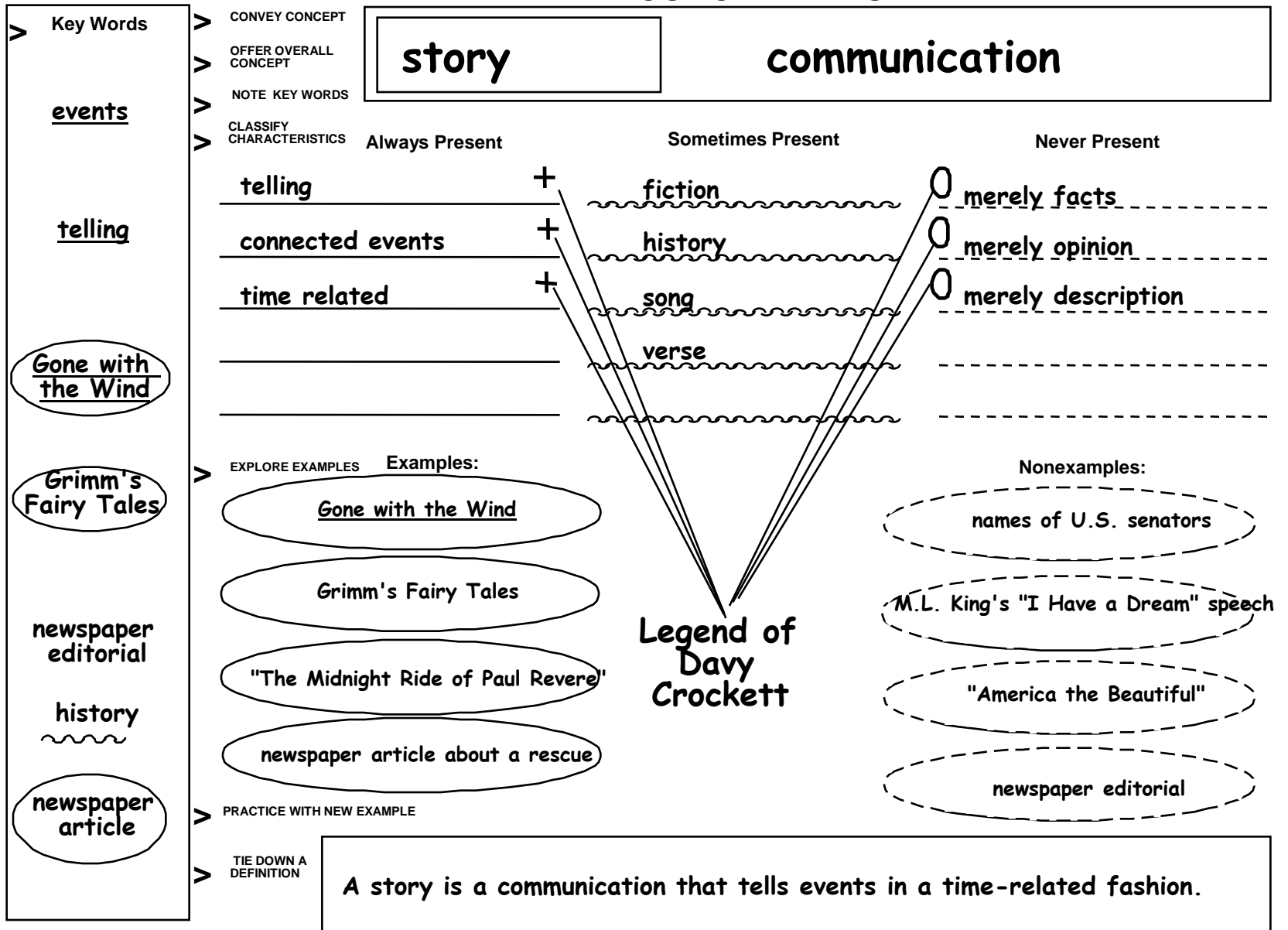
Content Enhancement Teaching Routines

Teaching Concepts

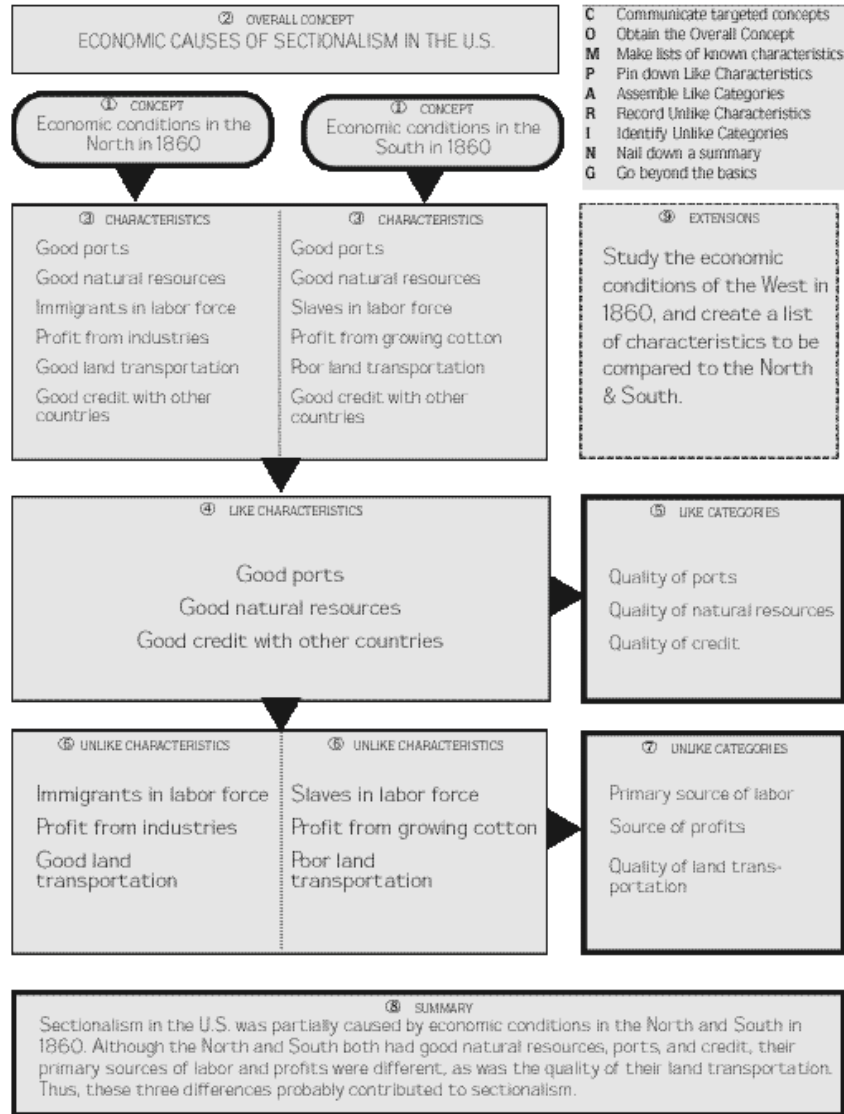
- Concept Mastery Routine
- Concept Anchoring Routine
- Concept Comparison Routine

(Source: University of Kansas Center for Research on Learning)

CONCEPT DIAGRAM



COMPARISON TABLE



Example of Results:

Concept Comparison Routine

- Students with LD and other low-achieving students gained an average of 15 to 24 percentage points on tests or tasks that required students to demonstrate understanding of concept comparisons. Teachers continued using the routine after the studies were completed.

Content Enhancement Teaching Routines

Explaining Text, Topics, and Details

- Framing Routine
- Survey Routine
- Clarifying Routine

(Source: University of Kansas Center for Research on Learning)

Progressive Era

is about...

a period of social change in the U. S.

Main idea

Social Problems

Main idea

Tools for Social Change

Main idea

Social Changes

Essential details

Unsafe food

Essential details

Muckrakers wrote about problems

Essential details

Meat Inspection Act

Monopolies

Bully pulpits forced new laws

Anti-trust Act

Unsafe and unfair working conditions

Activists organized protests

Commerce and Labor Departments

Limited voting rights

Demonstrators created public pressure

Voting rights expanded

So What? (What's important to understand about this?)

To really create social change, many people have to be organized, outspoken, and persistent!

Example of Results: The Framing Routine

- The Framing Routine was studied in intermediate and secondary classes (grades 4-12) characterized by diversity.
- In each study, teachers learned the routine easily, and student learning gains were observed by teachers and researchers.
- Students gained an average of 10 to 15 percentage points on tests or tasks that required demonstration of mastery.
- Students' writing fluency increased dramatically. Students wrote an average of 96 more words on post-test writing tasks; ideation was significantly more coherent; mechanical errors reduced significantly.

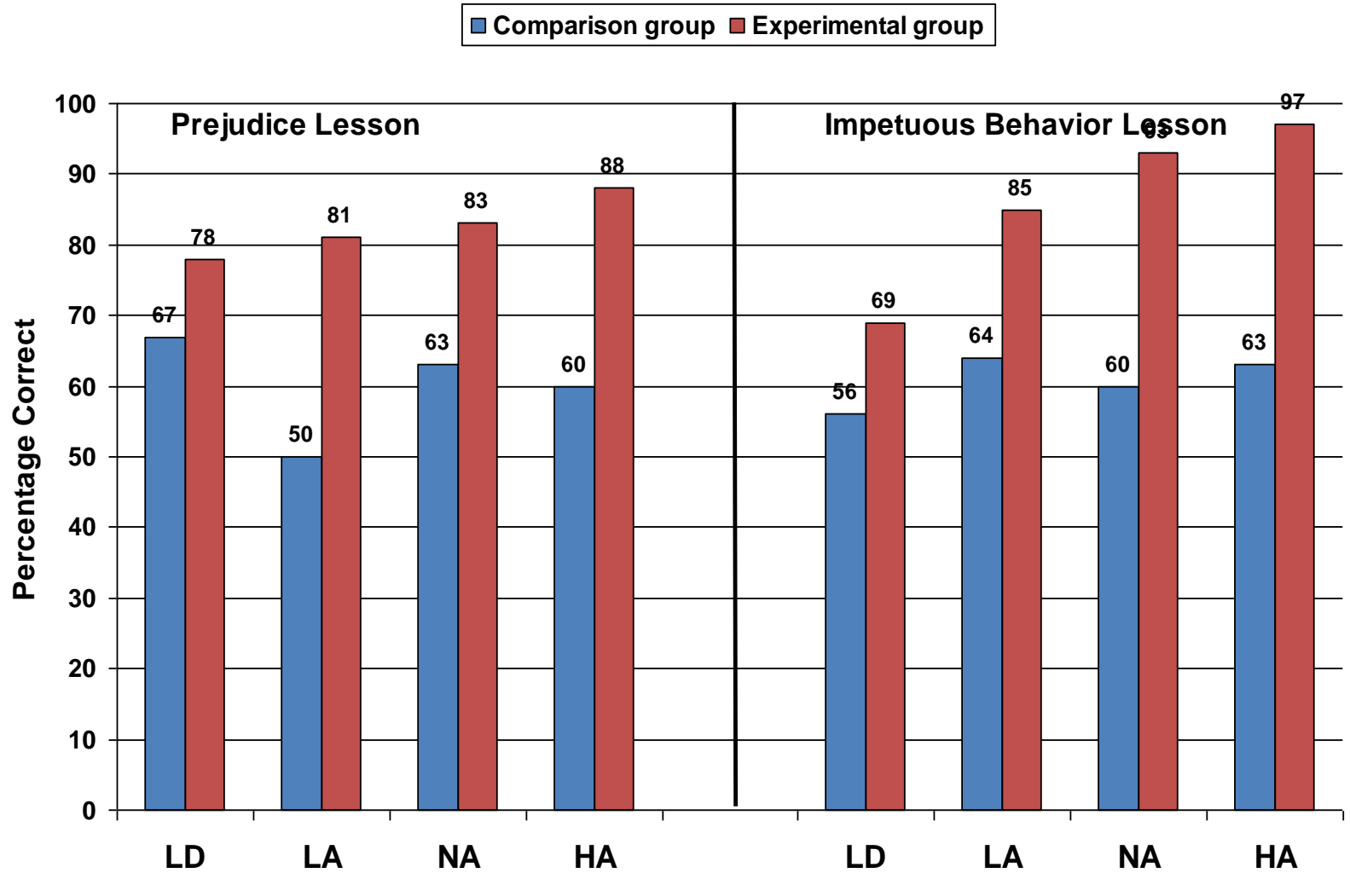
Content Enhancement Teaching Routines

Increasing Performance

- Quality Assignment Routine
- Question Exploration Routine
- Recall Enhancement Routine

(Source: University of Kansas Center for Research on Learning)

Example of Generalization Results: Question Exploration



Let's look at **Level 2** of the **CLC**,
which is still **Tier 1** of **Rtl**.

The Rtl – CLC Connection

Rtl Tier (Stupski)	CLC Level (KU- CRL)	
Tier 1	1	Enhance content instruction (mastery of critical content for <i>all</i> students regardless of literacy levels)
	2	Embedded strategy instruction (routinely weave strategies within <i>and</i> across classes using large group instructional methods)
Tier 2	3	Intensive strategy instruction (mastery of specific strategies using 8-stage instructional sequence; individual Strategic Tutoring)
Tier 3	4	Intensive basic skill instruction (mastery of entry level literacy skills at the 4th grade level)
	5	Therapeutic intervention (mastery of language underpinnings of curriculum content and learning strategies)

CLC 2/RtI 1 : Learning Strategies

- ❖ are explicit, step-based procedures for accomplishing specific **thinking** tasks.
- ❖ are useable **across** content areas and topics (usually).
- ❖ are taught through **direct instruction**.
- ❖ are practiced/used repeatedly **within content area lessons**.
- ❖ can benefit from **Strategic Tutoring**
- ❖ become fluent, metacognitively regulated, **independent strategies**.

Examples of Learning Strategies

Learning strategies for	Examples
• <i>reading comprehension</i>	reciprocal teaching
• <i>vocabulary</i>	keywords mnemonics
• <i>written expression</i>	self regulated strategy development
• <i>math</i>	Solve It
• <i>metacognition</i>	self-monitoring

Strategic Instruction Model (SIM)

(University of Kansas Center for Research on Learning)

Strategies Related to Reading

- Paraphrasing and Summarizing
- Inference Strategy
- Self-Questioning Strategy
- DISSECT

Strategies Related to Expressing Information

- Error Monitoring
- Sentence Writing
- Theme Writing

Strategies Related to Storing and Remembering Information

- First Letter Mnemonic Strategy
- LINC'S Vocabulary Strategy
- Word Mapping Strategy

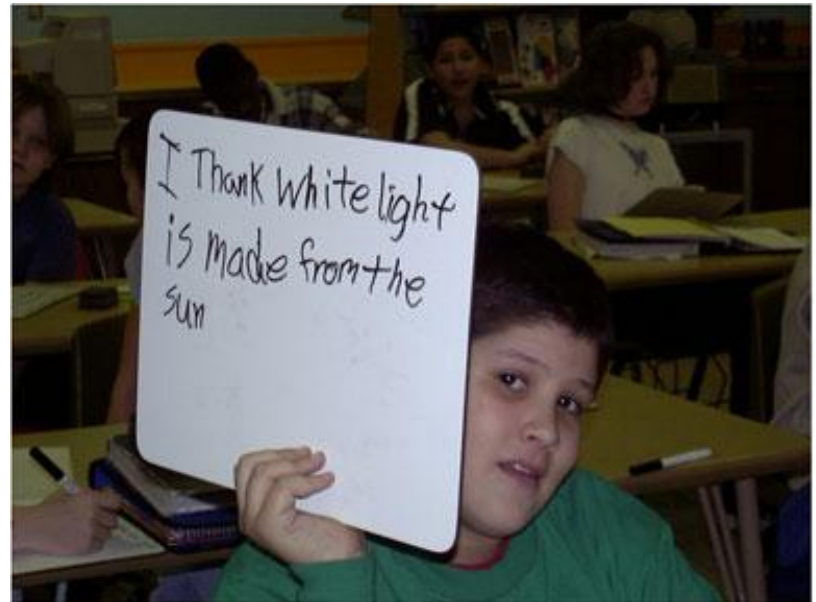
other categories of SIM strategies

- strategies related to demonstrating competence
- strategies related to social interaction
- strategies related to community building
- strategies related to motivation
- strategies related to math

One KU-CRL Example:

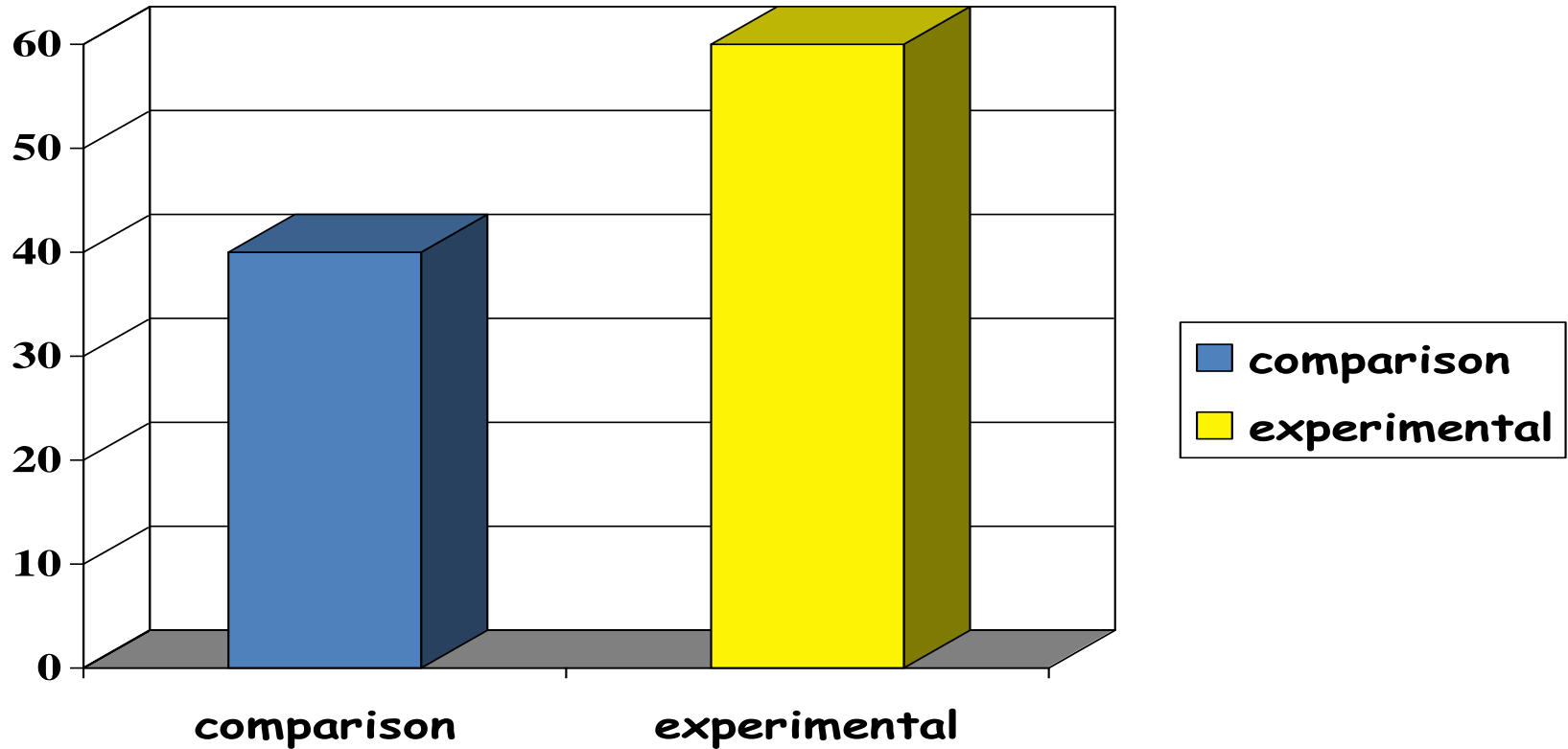
The Inference Strategy

- **I**nteract with the questions and the passage as you read.
- **N**ote what you know.
- **F**ind the clues.
- **E**xplore and supporting details.
- **R**eturn to the question.



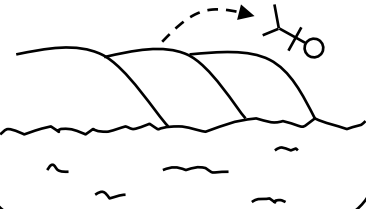
Another KU-CRL Example:

Self-Questioning



7th Grade Science Class: Growth Scores (2001) (n=133)

Another example: The LINCing Vocabulary Strategy

① Term palisades	④ LINCing Story My pal, Joe, dove from the cliff into the ocean.	⑤ LINCing Picture 	② Definition A line of steep cliffs a long a river or ocean.
③ Reminding Word pal			

LINCS Results

- Vocabulary test scores on chapter tests
 - Without LINCS = 54%
 - With LINCS = 89%

Let's look at **Level 3** of the **CLC**,
which is **Tier 2** of **Rtl**.

The Rtl – CLC Connection

Rtl Tier (Stupski)	CLC Level (KU- CRL)	
Tier 1	1	Enhance content instruction (mastery of critical content for <i>all</i> students regardless of literacy levels)
	2	Embedded strategy instruction (routinely weave strategies within <i>and</i> across classes using large group instructional methods)
Tier 2	3	Intensive strategy instruction (mastery of specific strategies using 8-stage instructional sequence; individual Strategic Tutoring)
Tier 3	4	Intensive basic skill instruction (mastery of entry level literacy skills at the 4th grade level)
	5	Therapeutic intervention (mastery of language underpinnings of curriculum content and learning strategies)

Level 3 of the CLC consists of

- more intense instruction on learning strategies through manipulation of variables such as
 - ❖ decreased number of strategies targeted at a time
 - ❖ increased time of instruction
 - ❖ decreased student-teacher ratio
 - ❖ use of Strategic Tutoring

CLC Level 2 vs. Level 3

	CLC Level 2	CLC Level 3
INSTRUCTION	embedded	intensive
GROUPING	large – full class	small – select students
OUTCOME	content mastery and strategic learning	mastery / generalization of strategic learning
PRIMARY INSTRUCTOR	content teacher	support teacher
REINFORCEMENT INSTRUCTOR	support teacher	content teacher

(Source: University of Kansas Center for Research on Learning)

Let's look at **Level 4** of the **CLC**,
which is **Tier 3** of **Rtl**.

The Rtl – CLC Connection

Rtl Tier (Stupski)	CLC Level (KU- CRL)	
Tier 1	1	Enhance content instruction (mastery of critical content for <i>all</i> students regardless of literacy levels)
	2	Embedded strategy instruction (routinely weave strategies within <i>and</i> across classes using large group instructional methods)
Tier 2	3	Intensive strategy instruction (mastery of specific strategies using 8-stage instructional sequence; individual Strategic Tutoring)
Tier 3	4	Intensive basic skill instruction (mastery of entry level literacy skills at the 4th grade level)
	5	Therapeutic intervention (mastery of language underpinnings of curriculum content and learning strategies)

CLC Level 4: Provide more intensive intervention for those who need work on basic literacy elements

Students develop the foundational decoding, fluency, and comprehension skills through specialized, direct, and intensive instruction in reading. Intensive instruction in listening, speaking, and writing is often a part of these services.

For example: courses in researched-based reading programs such as the SRA Corrective Reading Program

Source: University of Kansas Center for Research on Learning)

CLC Level 3 vs. Level 4

	Level 3	Level 4
INSTRUCTION	intensive on learning strategies	intensive on skills
GROUPING	small – select students	small – select students
OUTCOME	mastery and generalization of learning strategies	mastery of basic literacy skills
PRIMARY INSTRUCTOR	support teacher	support teacher
REINFORCEMENT INSTRUCTOR	content teacher	content teacher and specialist

Source: University of Kansas Center for Research on Learning

Let's look at **Level 5** of the **CLC**,
which is still **Tier 3** of **Rtl**.

The Rtl – CLC Connection

Rtl Tier (<i>Stupski</i>)	CLC Level (<i>KU- CRL</i>)	
Tier 1	1	Enhance content instruction (mastery of critical content for <i>all</i> students regardless of literacy levels)
	2	Embedded strategy instruction (routinely weave strategies within <i>and</i> across classes using large group instructional methods)
Tier 2	3	Intensive strategy instruction (mastery of specific strategies using 8-stage instructional sequence; individual Strategic Tutoring)
Tier 3	4	Intensive basic skill instruction (mastery of entry level literacy skills at the 4th grade level)
	5	Therapeutic intervention (mastery of language underpinnings of curriculum content and learning strategies)

CLC Level 5: an intensive clinical option for those who need it

Students with underlying language disorders learn the linguistic, related cognitive, metalinguistic, and metacognitive underpinnings they need to acquire content literacy skills and strategies.

For example: Speech-language pathologists engage students in curriculum-relevant therapy.

Source: University of Kansas Center for Research on Learning

The Stupski Foundation's Next Step

- To support wide-spread implementation of the KU-CRL Content Literacy Continuum, the Stupski Foundation developed *The Secondary Literacy Instruction Intervention Guide* (McPeak et al., 2007), which is available at
- http://www.stupski.org/documents/Secondary_Literacy_Instruction_Intervention_Guide.pdf

- *The Secondary Literacy Instruction Intervention Guide* (McPeak et al., 2007) includes
 - a description of the Content Literacy Continuum (CLC)
 - a description of a comprehensive aligned instructional system (CAIS)
 - a SAMPLE three-year, district-wide ‘roadmap’ for implementing the secondary Content Literacy Continuum (CLC)
 - ***a detailed list of reading programs that could be used for Levels 3 through 5 of the Content Literacy Continuum, and***
 - ***a list of screening and diagnostic tests commonly cited for secondary literacy students.***

To be included in the Stupski list for Levels 3-5 of the CLC, a literacy program had to:

- ✓ address two or more of the five main components of reading as identified by the National Reading Panel
- ✓ target students in middle and high school grades (Grades 5-12)
- ✓ have independent, third-party research
- ✓ have research that is scientifically-based (randomized control groups) or meets the criteria for quasi-experimental research

Hence,

- the *Secondary Literacy Instruction Intervention Guide* (McPeak et al., 2007) is a useful resource for
 - guiding district or school implementation of the CLC
 - guiding selection of appropriate literacy programs for Rtl Tiers 2 and 3
 - identifying possible assessments to use

Questions?

Major Sources

- McPeak, L., Trygg, L., Minadakis, A., & Diana, P. (2007). The secondary literacy instruction and intervention guide: Helping school districts transform into systems that produce life-changing results for all children. Mill Valley, CA: The Stupski Foundation. Retrieved April 14, 2009 from http://www.stupski.org/documents/Secondary_Literacy_Instruction_Intervention_Guide.pdf
- The work of Lenz, Deshler, Schumaker and others of the Center for Research on Learning at the University of Kansas. For example, see

Lenz, B. K., Deshler, D., Schumaker, J.B., & Ehren, B.J. (2008). Content literacy continuum: Research on outcomes in secondary schools. Lawrence, KS: Center for Research on Learning – University of Kansas. Retrieved June 24, 2009 from <http://smarttogether.org/outcomes/GatesReport.pdf>