Improving Reading and Listening Comprehension in PreK through Grade 3 Settings: Conceptual Bases of Language-Based Interventions

Language and Reading Research Consortium

Acknowledgements

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Study 1:

- Study 1 (2010-2015): Language Bases of Reading Comprehension
  - National study of over 800 PreK-3 students over the next five years
  - Longitudinal study of higher and lower level language skills and their relations in reading comprehension

- Study 2 (2010-2013): Language-Based Comprehension Instruction
  - Iterative development of instructional practices to be used across five grades
  - Advisory Groups
  - Teaching Trials
  - Pilot Study

  - Test instructional practices from Study 2 across the nation in 295 PreK-3 classrooms

LARRC is a multi-university consortium of 15 researchers at 5 universities.

- The Ohio State University
- University of Kansas
- Arizona State University
- University of Nebraska-Lincoln
- Lancaster University

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>PK</td>
<td>400</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Yr 1</td>
<td>400</td>
<td>120</td>
<td>120</td>
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<tr>
<td>Yr 2</td>
<td>400</td>
<td>120</td>
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<tr>
<td>Yr 3</td>
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<tr>
<td>Yr 4</td>
<td>400</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Yr 5</td>
<td>400</td>
<td>120</td>
<td>120</td>
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<tr>
<td>Total</td>
<td>400</td>
<td>420</td>
<td>640</td>
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</table>
Study 1 Constructs

- Listening and reading comprehension
- Language skills
  - Vocabulary, grammar, inferencing, comprehension monitoring, text structure knowledge
- Working memory and related cognitive processes
- Decoding abilities and precursors to decoding (phonological awareness, letter knowledge)

Study 2: Design and Implementation

- Year 1:
  - Develop intervention
  - Revise based on research team and advisory panel feedback
  - First brief teaching trial
  - Revise based on feedback
- Year 2:
  - Second brief teaching trial
  - Revise based on feedback
  - Feasibility study
- Year 3:
  - Full year pilot study

Advisory Panels across Sites

- 4 Principals
- 8 PreK Administrators/Teachers
- 5 Kindergarten Teachers
- 4 First Grade Teachers
- 4 Second Grade Teachers
- 3 Third Grade Teachers
- 6 Reading Coaches/Language Arts Coordinators
- 1 Speech Pathologist
- 1 Director of Special Education

Unifying Principles of Instruction

- Language based
- Text based
- Concept based
- Adaptable
- Motivating
- Systematically organized

Instructional Focus on Language Components

- Syntax
- Morphology
- Vocabulary
- Text Structure
- Comprehension Monitoring
- Inferencing

Instructional Objectives

- Instructional objectives address four language domains plus opportunities for independent text interaction
  - Text structure
  - Integration
  - Word Knowledge
  - Grammar
  - ‘Let’s Read to Know’ lessons targeting opportunities for independent text interaction
- Each instructional objective in each domain is taught in every unit (adjusted for grade level)
**Targets and Evidence Based Techniques of Instruction**

<table>
<thead>
<tr>
<th>Objective Example</th>
<th>Evidence Based Techniques</th>
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<tbody>
<tr>
<td><strong>Grammar</strong></td>
<td></td>
</tr>
<tr>
<td>Create sentences with details that describe people, places, things and events</td>
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</tr>
<tr>
<td>1. Conversational Recast (PK, K, 1, 2, L3)</td>
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<tr>
<td>3. Expansions (PK, K, 1, L2, L3)</td>
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<tr>
<td>5. Inferential Questions (PK, K, 1, L2, L3)</td>
<td></td>
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<tr>
<td>6. Oral retelling (PK, K, L2)</td>
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<tr>
<td><strong>Word Knowledge</strong></td>
<td></td>
</tr>
<tr>
<td>Understands target common, proper, and abstract nouns, pronouns, verbs and adjectives</td>
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</tr>
<tr>
<td>1. Dialogic Reading (PK, K, 1, L3)</td>
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<tr>
<td>3. Compare and Contrast (PK, K, L3)</td>
<td></td>
</tr>
<tr>
<td>5. Journal Writing (PK, K, 1, L3)</td>
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<tr>
<td><strong>Text Structure</strong></td>
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<tr>
<td>Identify parts of a book including front and back covers, title page, table of contents, illustrations, tables and figures</td>
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<tr>
<td>1. Inferential questions similarities/differences (PK, K, 1, L3)</td>
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</tr>
<tr>
<td>3. Dialogic Reading FER Wh questions (PK, K, 1, L3)</td>
<td></td>
</tr>
<tr>
<td>6. Comprehension prompts (PK, K, 1, L3)</td>
<td></td>
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<tr>
<td><strong>Integration</strong></td>
<td></td>
</tr>
<tr>
<td>Express personal narratives</td>
<td></td>
</tr>
<tr>
<td>1. Story Retelling (PK, K, 1, L3)</td>
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</tr>
<tr>
<td>2. Journal Writing (PK, K, 1, L3)</td>
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<tr>
<td>4. Story reenactment (PK, K, 1, L3)</td>
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**First brief teaching trial: Winter/Spring 2011**

- 16 teachers delivered instruction for one unit
  - Six 25-30 minute lessons
  - Pre-K, K received “Animals and Their Needs”
  - Grades 1 and 2 received “Are Spiders Insects?”

- Lessons were observed by LARRC research staff and after each lesson teachers completed an online evaluation of the lesson
  - Planning and effort
  - Student engagement
  - Success meeting teaching objectives
  - Evaluation of texts and other teaching materials

**What we learned**

- Classroom Observation Data (the good)
  - Teachers:
    - were generally positive about the lessons
    - were well prepared to teach them
    - used the materials provided and employed a variety of instructional formats
  - Classroom Observation Data (the average and below average)
    - Teachers:
      - typically went over the allotted lesson time
      - skipped or neglected some of the lesson objectives
    - Teachers seemed to struggle with:
      - modeling the vocabulary words during instruction
      - evaluating, rephrasing and expanding on students’ responses

**Second brief teaching trial: Fall 2011**

- Teachers
  - 2 PreK classrooms
  - 1 Kindergarten classroom
  - 1 first grade classroom
  - 2 second grade classrooms
  - 117 lesson observations
  - 102 lesson logs
  - 5 end of unit surveys
  - 6 guided interviews
  - 81 student assessments

**What we learned**

- Fidelity to the different lesson types
  - 74% of lessons were implemented with high fidelity.
  - 26% were implemented with mid-level fidelity.
  - Fidelity to the different lessons types (of which there were seven) also showed generally high fidelity irrespective of lesson type.

- Teachers:
  - Liked the format of the lessons
  - Found them easy to follow
  - Appreciated that they had some freedom to deviate from the precise scripting and/or paraphrase
Perceived Student Benefit

- Positive comments:
  - Students seem able to communicate more clearly
  - PreK teacher thought “students are using more complete sentences”
  - Multiple teachers reported that students seemed more comfortable raising their hands to ask questions
  - 1st Grade teacher reported that students “are able to retell stories more accurately”
  - Kindergarten teacher thought that the students benefitted from the vocabulary instruction

Student engagement

- Observation feedback:
  - In 64% of lessons the students were viewed to be highly engaged
  - 33% of lessons the students were only moderately engaged
  - In 3% of lessons the students were poorly engaged

Curriculum Macrostructure as of Spring 2012

- One year program
  - 28 weeks of instruction
  - Four 7-week units
  - Five grade levels
  - PK, K, 1, 2, 3
  - English language learner curriculum PK only
  - Designed to overlay and complement curricula already in use
  - Instruction delivered by classroom teachers

Curriculum Macrostructure

- Each unit teaches one overarching language skill
  - Compare and contrast
  - Description
  - Cause and effect
  - Cycles

Feasibility study: March-May 2012

- 60 teachers across the four sites
- Implementing a 7 week fiction unit
- Data collected includes
  - Videotaped classroom observations
  - Child questionnaires
  - Teacher questionnaires
  - Post-unit assessments

Next steps

- Full year pilot study in academic year 2012-2013
- Ten teachers per grade
- Data collected will include:
  - Videotaped classroom observations
  - Child questionnaires
  - Teacher questionnaires
  - Pre- and post-test assessments