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Research Worth Knowing About: Four Recently Published Studies

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This is the fifth installment in our *Research Worth Knowing About* series. In this edition, we look at four different types of research, all of which have something different to offer. First, we look at a meta-analysis on bilingualism, which reveals several cognitive benefits for those who are functionally bilingual. Next, we take a look at the results of a formative experiment in which researchers successfully used a combination of research-based practices to improve middle school students' writing of explanatory texts. In the third summary, we describe a study that examines correlations between pre-K and kindergarten teachers' vocabulary instruction practices and children's outcomes on measures of receptive vocabulary. Finally, we present the results of a study in which the investigators compared measures of oral reading fluency that were inclusive of many fluency facets (i.e., accuracy, rate, prosody, and comprehension) to the oft-used proxy measure for reading fluency, a 1-minute assessment measuring rate and accuracy, in order to determine whether the two types of assessments are well-aligned. If you would like to learn more about each of these studies, the full reference is provided before each summary.

Adesope, O. O., Lavin, T., Thompson, T., & Ungerleider, C. (2010). A systematic review and meta-analysis of the cognitive correlates of bilingualism. *Review of Educational Research*, 80, 207-245.

Approximately one quarter of Americans are bilingual, if bilingual is defined as being able to speak and understand a second language well enough to hold a conversation (McComb, 2001). A number of studies have examined cognitive skills in bilingual individuals. A recent meta-analysis examined 63 of these studies. They researchers found that, as compared to monolinguals, bilinguals have, on average:

- greater combined metalinguistic and metacognitive ability (ability to think about language as language and ability to think about one's own thinking).
- stronger abstract and symbolic representation (for example, recognizing earlier that the letters in a word represent the sounds in a word).
- stronger problem-solving skills (for example, in block design), perhaps due in part to

the greater cognitive flexibility required to choose among and draw upon multiple languages.

- greater attentional control, perhaps due to considerable practice suppressing the intrusion of one language into another when communicating.

There was no set of cognitive skills shown to be negatively associated with bilingualism, on average.

Results of this meta-analysis show that bilingualism is associated with a number of benefits beyond the obvious ability to communicate with a greater number of speakers in a greater range of settings. Findings suggest that bilingualism should be supported—not viewed as a deficit—in language and education policy.

Reference:

McComb, C. (2001, April 6). About one in four Americans can hold a conversation in a second language. *Gallup*. Retrieved from <http://www.gallup.com/poll/1825/About-One-Four-Americans-Can-Hold-Conversation-Second-Language.aspx>

Klein, P. D., & Rose, M. A. (2010). *Teaching argument and explanation to prepare junior students for writing to learn. Reading Research Quarterly, 45, 433-459.*

Klein and Rose conducted a formative design experiment (similar to action research but with the inclusion of specific elements to increase its methodological rigor) in which they collaborated with the teacher of an urban fifth- and sixth-grade classroom to: (a) administer pretests, (b) teach learning through the writing of argumentative texts, (c) modify the original approach, (d) teach learning through the writing of explanatory texts, and (e) administer posttests. Their final teaching approach involved:

- conducting literacy activities in content area instruction,
- communicating that writing is learning,
- explicitly teaching genre features,
- analyzing exemplary models,
- using writing as an inquiry tool,
- conducting writing conferences and scaffolding student revisions and editing,
- encouraging and supporting self-evaluations of students' writing, and
- incorporating motivational elements (e.g., engaging topics, student choice).

The researchers conducted a post-assessment to see whether the participating students had improved their abilities to use writing as a tool for learning in the content areas. Klein and Rose asked the 18 students (and a control group of 16 fifth and sixth graders) to take a science pre-test, write argumentative and experimental texts about nutrition, and take a science post-test. Compared to the control students, the experimental students (a) knew more about argumentative texts, explanatory texts, and science and (b) produced significantly higher-quality explanatory texts. The researchers concluded that their approach to teaching writing can help students to use writing as a learning tool.

Silverman, R., & Crandell, J. (2010). *Vocabulary practices in prekindergarten and kindergarten classrooms. Reading Research Quarterly, 45, 318-340.*

Silverman and Crandell observed 16 prekindergarten and kindergarten classrooms to identify the teaching methods used by teachers to facilitate children's vocabulary learning. They identified five practices that were used to teach word meanings: act/illustrate (using gestures, pointing, and kinesthetic acts), analyze (compare/contrast word meanings, consider multiple meanings, and identify synonyms/antonyms), contextualize (use word in unique context), define (definition or explanation of meaning), and word study (prompt children "to use a word they have been taught") (2010, p. 325).

To determine which practices were most effective in facilitating children's vocabulary learning, the authors compared pre- and post-test scores for the 244 children who were in these 16 classrooms. They used a test of general receptive word knowledge (PPVT-III) and a researcher-created, receptive test of target word knowledge. Then they examined correlations between children's vocabulary learning and the practices used in their respective classrooms to determine which practices were most related to vocabulary growth. In exploring these correlations, the researchers also considered (a) whether the practice occurred during a storybook read-aloud time or during another portion of the language arts block (non-read-aloud time) and (b) the child's performance on the pre-tests (initial vocabulary knowledge).

Key findings include the following:

- "Act/illustrate" methods during read-aloud time were effective for children with initial low vocabulary scores, but not for children with initially high vocabulary scores.
- "Analyze" methods were not used frequently enough by teachers to evaluate their effectiveness with confidence. No effects were demonstrated in this study.
- "Contextualize" method during non-read-aloud time was effective for all children, but most effective for children with initial high vocabulary scores.
- "Define" method during non-read-aloud time had a positive effect on all children's learning, but was most effective for children with initially high vocabulary scores.

- “Word study” methods were effective for all children’s learning both during read-aloud time and non-read-aloud time.

Based on these results, it is important to use a variety of teaching methods, both during read-aloud time and non-read-aloud time, to facilitate the learning of children with both high and low pre-existing vocabulary knowledge.

Valencia, S. W., Smith, A. T., Reece, A. M., Li, M., Wixson, K. K., & Newman, H. (2010). *Oral reading fluency assessment: Issues of construct, criterion, and consequential validity*. *Reading Research Quarterly*, 45, 270–291.

This study investigated various models for assessing oral reading fluency for students in grades 2, 4, and 6. The authors compared a 1-minute oral reading measure of words correct per minute (a commonly used proxy for fluency) with individual and composite measures of indicators of oral reading fluency (rate, accuracy, prosody, and comprehension) to examine differences among the results. Given that 1-minute oral reading “fluency” assessments are now commonplace across the nation, it is important to know whether the results are aligned with more in-depth measures of fluency.

The results indicate that assessments that included multiple indicators of oral reading fluency provided stronger understandings of oral reading fluency and fluency assessment and served as stronger predictors of general comprehension. When publisher-provided

benchmarks were used to identify students at risk of reading difficulty using the results of the 1-minute assessment, authors found both false positives and negatives. For example:

- A student may read slowly but have strong comprehension (thinking while reading). Her rate would cause the student to be labeled “at risk,” yet she is a strong reader who uses comprehension strategies.
- A student who can read quickly and accurately may not comprehend anything that he is reading. Yet, since the 1-minute assessment is based on rate and accuracy, the student would not be labeled “at risk” since his results meet or exceed the provided benchmarks.

This study raises issues regarding oral reading fluency definitions and assessment beyond rate and accuracy. It also raises concerns about the widespread use of 1-minute measures and corresponding benchmarks to identify students at risk of reading difficulty and to plan instruction. Schools and school districts need to consider other, broader assessments in order to have a better sense of students’ reading achievement. Assessment drives instruction, and inaccuracies in 1-minute assessments of oral reading “fluency” could lead to less effective instruction as compared to the use of more inclusive measures.

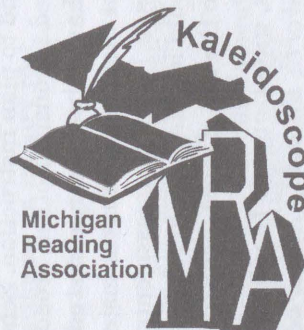
Comments, questions, or feedback on the *Research Worth Knowing About* column? Please contact the MRA Research Committee at marti968@msu.edu or nkduke@msu.edu.

KALEIDOSCOPE 2012

The Michigan Reading Association invites a deserving student from your school to become a published author!

SPECIFIC GUIDELINES:

- One entry per school building, any grade K-12.
- The original manuscript may be prose or poetry; please include the student's name, grade level, school name, city and state on the word document .
- Students may submit a black line drawing on a separate sheet of 8 1/2" x 11" paper (due to space limitations, drawing may not be published).
- The entry must be in "polished" form (no invented spellings): proofed and edited.
- The winning submission must be typed and a copy mailed with the student information sheet.
- **Manuscript must also be submitted electronically as a Microsoft Word attachment to mra@michiganreading.org. Include student name and teacher contact information.**
- **WORD LIMIT – Please count accurately.**
 - K - 6th grade 250 words
 - 7th – 12th grade 500 words
- Student Information Sheet must be completed and attached to entry.
- Mail entry to:
Kaleidoscope Entry
Michigan Reading Association
668 Three Mile Road
Grand Rapids, MI 49544



For more information contact the Michigan Reading Association office at mra@michiganreading.org or 1.800.MRA.READ.

DEADLINE FOR ENTRIES: DECEMBER 16, 2011

Student Information Sheet

Complete and attach to entry.

Title of Entry

Student's Name

Grade

Student Address

City

State

Zip Code

School Name

School Address

City

State

Zip Code

()

School Phone (include area code)

Teacher's Name (please print)

Teacher's email (new)

Principal's Signature

Parent Signature (new)

A submitted entry gives Michigan Reading Association permission to publish the manuscript in KALEIDOSCOPE 2012.

DEADLINE: December 16, 2011