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Research Worth Knowing About

MRA RESEARCH COMMITTEE (NICOLE M. MARTIN AND NELL K. DUKE, CO-CHAIRS, TANYA CHRIST, JULIA M. REYNOLDS)

There's a lot that gives research a bad name...applying labels such as "research-based" or "research-tested" just to sell a product, using research findings selectively to support a particular ideology, publishing esoteric studies that seem to hold little promise for actually making a difference now or in the future....

But there is also a lot of value to research. Research can address questions we have about our practice (for example whether one approach to spelling instruction or another is likely to be more effective for our students), draw attention to things we didn't realize (for example, that U.S. schools tend to neglect a particular area of instruction), and allow us to gather information we couldn't gather on our own (for example because we can't follow students long enough or don't have enough students with a particular profile or challenge).

In the "Research Worth Knowing About" columns, we highlight relatively recent studies that we believe have real value—that address pressing questions or concerns in classrooms and have real implications for practice. We offer three of these columns below. Each addresses three recently published studies. We hope you will agree that these studies are indeed worth knowing about.

I.

Thousands of research studies related to literacy are published every year. A number of these studies are conducted in classrooms and other educational settings and have direct implications for practice. This marks the first in a series of columns the MRA Research Committee plans to publish on recent research studies that are well worth knowing about. The first concerns how teachers can facilitate preschool-aged children's vocabulary learning during read-alouds. The second examines the kinds of classroom discussions that can improve reading comprehension. The third examines the effectiveness of online versus face-to-face instruction. Full reference is provided for each study in case you would you like to learn more.

Blewitt, P., Rump, K., Shealy, S., & Cook, S. (2009). Shared book reading: When and how questions affect young children's word learning. *Journal of Educational Psychology, 101* (2), 294-304.

Blewitt and her colleagues examined how the kinds of questions teachers asked during read-alouds impacted 3-year-old children's vocabulary learning. Children came from preschools serving middle and upper middle class families. Children were asked low-demand questions, high-demand questions, or a combination of low- and high-demand questions that started from low and moved to high—what the authors called a "scaffolding-like condition." Low-demand questions required recall of target-word

descriptions provided in the text or illustrations, as in

- "What were they selling in the *pagoda*?"
- "How many wheels does the *pram* have?" (p. 304).

High-demand questions necessitated inferences or predictions related to story content in which the target word was used, as in

- "Do you think the ticket man lives in the *pagoda*?"
- "Do you think Zippy could push the *pram*?" (p. 304).

The researchers found that both low- and high-demand questions resulted in vocabulary learning. However, the scaffolding condition resulted in the greatest vocabulary learning. That is, children gained the greatest depth of word knowledge when teachers used low-demand questions at first, when children were less familiar with the target word, and high-demand questions later, once children were more familiar with the target word.

Murphy, P. K., Wilkinson, I. A. G., Soter, A. O., Hennessey, M. N., & Alexander, J. F. (2009). Examining the effects of classroom discussion on students' comprehension of text: A meta-analysis. *Journal of Educational Psychology, 101*, 740-764.

Despite increases in students' reading comprehension scores, higher-level comprehension of texts is challenging for many students. One instructional method—text discussion—represents a promising solution to this problem. To explore its effectiveness, this meta-analysis examined the relative impact of nine different approaches to text discussion. Researchers selected, coded, and analyzed a total of 42 research reports. They found that all of the discussion approaches had positive effects, such as improving students' comprehension and/or changing classroom talk patterns (increasing students' and decreasing teachers' contributions) over time. For example, the following approaches were found to have positive effects on reading comprehension:

- Instructional Conversations (teacher-led discussions centered around a central theme or idea in the text)
- Junior Great Books Shared Inquiry (investigations of key questions through discussions of selections from this book series)

Text discussions seemed to be most effective for struggling students and made the most difference in the first 3 weeks. Although research design and assessment choices (measure used, type of comprehension tested) affected the impacts of discussion, the researchers concluded that discussion approach was the single largest factor impacting student outcomes. Because different types of discussion sought to achieve and achieved different goals, they also noted that teachers need to be careful about the match between the discussion approach and their instructional goals when they select the approach they wish to use.

U.S. Department of Education. (2009). Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies. Washington, D.C.: Office of Planning, Evaluation, and Policy Development. Available: www.ed.gov/about/offices/list/opepd/ppss/reports.html.

Has *online learning* become a major presence in your school, your district, or even your life? Online learning is big, it's here, and it will only continue to grow. But does it work? A systematic search of the research literature from 1996 through 2008 identified more than 1,000 empirical studies of online learning. Studies were reviewed to find those that contrasted an online to a face-to-face condition, measured student learning outcomes, used a rigorous research design, and provided adequate information to calculate an

effect size. As a result of this screening, 51 independent effects were identified that could be subjected to meta-analysis. Key findings include:

- Students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction. Learning outcomes for students who engaged in online learning exceeded those of students receiving face-to-face instruction.
- Instruction combining online and face-to-face elements had a larger advantage relative to purely face-to-face instruction than did purely online instruction.

The review of the research literature found just 5 experimental or quasi-experimental studies comparing the effectiveness of online and face-to-face instruction for K-12 students. Thus, educators must be careful to generalize findings reported above to the K-12 population because the results are for the most part based on studies in other settings (medical training, higher education, etc.).

II.

This is the second installment in our *Research Worth Knowing About* series. In this edition we summarize three studies that help us learn “what works” in different ways. In the first study, the author looks at whether and how DIBELS works to predict reading comprehension in urban first-grade students. In the second study, the authors look at whether a multimedia vocabulary intervention works to improve students' vocabulary learning. In the third study, the authors examine what kinds of profiles work to describe reading motivation in African American and Caucasian students. If you would like to learn more about each of these studies, the full reference is provided before each summary.

Riedel, B. W. (2007). The relation between DIBELS, reading comprehension, and vocabulary in urban first-grade students. *Reading Research Quarterly*, 42, 546-567.

DIBELS (Dynamic Indicators of Basic Early Literacy Skills) subtests (letter identification, initial sounds, phonemes, nonsense words, oral reading, retelling) are offered in a 1-minute format to measure “fluency” of students' literacy skills. Yet, there is little independent research available to validate (or not)

that DIBELS reliably measures literacy skills. In the current study, Riedel examined the relationship between DIBELS subtests and reading comprehension at the end of first and second grades with urban students. Some findings were:

- The Oral Reading Fluency (ORF) subtest was a better predictor of comprehension than the remaining DIBELS subtests, including retelling (designed to measure comprehension).
- Use of other DIBELS subtests in combination with ORF did not improve predictions of reading comprehension beyond ORF alone.
- Students with satisfactory ORF scores but poor comprehension had lower vocabulary scores than students with satisfactory ORF scores and satisfactory comprehension.

Although ORF was the strongest predictor of reading comprehension in this study, it was not a perfect predictor. The correlation between ORF and reading comprehension at the end of first grade was .67, meaning that about 45% of the difference in reading comprehension among students is explained by ORF. Approximately 15% of students had satisfactory ORF scores yet poor reading comprehension at the end of first grade. Thus, caution should be exercised in using this as a measure of reading comprehension for any student.

Silverman, R., & Hines, S. (2009). The effects of multimedia-enhanced instruction on the vocabulary of English-language learners and non-English language learners in pre-kindergarten through second grade. *Journal of Educational Psychology, 101*, 305-314.

Silverman and Hines compared the effects of two instructional conditions on 85 pre-kindergarten to second graders' vocabulary learning. They also explored whether there were differential effects for learning based on whether the children were English-language learners (ELLs) or non-English-language-learners (non-ELLs). In the first condition, children were taught words through traditional storybook read-alouds that were reread on three days each, using strategies such as pre-teaching word meanings, reviewing word-meanings while reading text, asking children to repeat the words and read them on word cards, and engaging children in applying word knowledge after reading through word games. The second condition imple-

mented these same traditional practices across two days per storybook and also implemented a multimedia presentation in which the children were exposed to the same new vocabulary through video clips and asked to attend and respond to these words' meanings through teacher facilitation.

There were two key findings:

- ELL children who received traditional *plus* multimedia vocabulary instruction (condition 2) performed significantly better on both a researcher-constructed assessment of vocabulary that was taught through the intervention and a standardized measure of general receptive vocabulary knowledge; the knowledge gap between ELLs and non-ELL was closed for words taught in the intervention and narrowed for general vocabulary.
- Non-ELL children learned the vocabulary just as well whether they were taught the words in traditional only or traditional plus multimedia conditions; that is, multimedia did not have a negative impact on non-ELLs' vocabulary learning (some researchers have suggested that multimedia may have such negative effects due to cognitive overload, this was not the case in this study).

These results suggest that multimedia in the form of video clips may have an important role to play in supporting ELL students' vocabulary development.

Guthrie, J. T., Coddington, C. S., & Wigfield, A. (2009). Profiles of reading motivation among African American and Caucasian students. *Journal of Literacy Research, 41*, 317-353.

Helping students to become motivated readers is an important educational goal, but reading motivation is more complex than often believed. To explore how multiple motivations and sociocultural differences may affect students' reading motivation, Guthrie and his colleagues built different profiles of readers and analyzed potential differences between African American and Caucasian students.

Caucasian (N=186) and African American (N=59) fifth-graders from 13 classrooms and 3 schools participated. All students completed: (1) an experimenter-developed motivation questionnaire; (2) the Gates-MacGinitie Reading Test; (3) the Woodcock-Johnson III Reading Fluency Test; and (4)

an experimenter-developed word reading test.

On the basis of questionnaire, readers were classified into four profiles:

- *Avid* – These students enjoy reading and read both in and outside of school.
- *Ambivalent* – These students are also often intrinsically motivated, but they sometimes avoid certain texts.
- *Apathetic* – These students are not generally interested in reading, but they generally do not avoid reading in school.
- *Averse* – These students are not intrinsically motivated to read, and they actively avoid reading most texts.

As these profiles demonstrate, Guthrie and his colleagues found that students could have multiple motivations. For example, the fifth graders could be intrinsically motivated and still avoid certain texts; they could also have high self-efficacy and still find specific texts difficult. Guthrie and his colleagues also found that there were ethnic differences in students' motivations and achievement. The connection between avoidance and achievement was stronger for African American students; they benefited more from "nonavoidant, disciplined, conscientious reading for school purposes" (p. 346) than Caucasian students. Also, the connection between intrinsic motivation and achievement was strong for Caucasian students; high levels of intrinsic motivation were associated with higher achievement for the fifth graders.

The researchers concluded that "individuals possess a limited set of varying motivational patterns. Instruction should be fine tuned to nurture all the motivation patterns of all students in the classroom" (p. 347).

III.

This is the third installment in our *Research Worth Knowing About* series. In this edition we summarize three studies that help us learn how to improve primary students' vocabulary, reading acquisition, and reading comprehension. In the first study, the authors compared the relative effects of two kinds of vocabulary instruction in kindergarten. In the second study, the authors explored the effects of parents' home involvement activity on K-3 students' reading acquisition. In the third study, the authors examined the effects of a 4-session semantic

ambiguity instructional program on third graders' metalinguistic awareness and reading comprehension. If you would like to learn more about each of these studies, the full reference is provided before each summary.

Coyne, M., McCoach, B., Loftus, S., Zipoli, R., & Kapp, S. (2009). Direct vocabulary instruction in kindergarten: Teaching for breadth versus depth. *The Elementary School Journal*, 110 (1), 1-18.

Coyne and his colleagues compared the immediate and delayed effects of three conditions for supporting 42 kindergarteners' vocabulary learning: extended instruction (which included a definition of the word, several examples of the word used in context, and activities that necessitated children's demonstrations of word-meaning understanding), embedded instruction (which included noticing the word used in the story context and a brief definition of the word), and incidental learning (no instruction). The intervention was administered in the context of three 30-minute, small-group read-alouds. All children were taught nine words (three words per condition).

There were four key findings:

Children learned approximately the same number of words whether they were taught using embedded or extended instruction. Considering that embedded instruction takes considerably less time than extended instruction (30-60 seconds versus 5 minutes), embedded instruction is probably the best instructional choice when only partial word-meaning understanding is the goal of instruction.

Children gained deeper vocabulary knowledge through extended instruction than embedded instruction. If deep word-meaning understanding is the teacher's goal, then extended instruction is the best choice.

The effects of deep vocabulary knowledge gained through extended instruction deteriorated over time. This suggests the need for ongoing instruction of word meanings.

Incidental learning resulted in significantly less word learning than either extended or embedded instruction.

These results suggest that teachers should consider both time constraints and children's needs when selecting instructional methods for developing vocabulary.

Sénéchal, M., & Young, L. (2008). The effect of family literacy interventions on children's acquisition of reading from kindergarten to grade 3: A meta-analytic review. *Review of Educational Research, 78*, 880-907.

Sénéchal and Young (2008) reviewed the existing literature to discover whether and how parent-child reading activity affects K-3 children's reading acquisition. They conducted a meta-analysis, by searching for experimental and quasi-experimental studies that had compared children who had participated in parent-child reading activity to those who had not. The researchers identified 16 studies that met their criteria. In these studies, parent involvement activities involved:

- parents reading aloud (3 studies),
- children reading aloud to their parents (6 studies), or
- parents actively tutoring children on important reading skills (7 studies).

The researchers found that "combining the results of the 16 intervention studies, representing 1,340 families, showed that parent involvement had a positive impact on children's reading acquisition" (p. 889). They calculated moderately-large effects (.65) or an average gain of 10 percentile points on standardized testing performances. Parents' tutoring activity, which typically involved validated curricular programs (e.g., Teach Your Child to Read in 100 Easy Lessons, Reading Made Easy), was the most effective activity (equivalent to a gain of 17 percentile points on standardized test performances), with parents listening to their children read also making a significant difference. Sénéchal and Young explored the influence of various study variables, such as the family's country of residence or socioeconomic background. For the most part, these variables did not appear to make a difference.

Sénéchal and Young concluded that teachers should encourage parents to listen to their children read aloud to them and, if resources permit, consider training parents to tutor their children as well.

Zipke, M., Ehri, L. C., & Cairns, H. (2009). Using semantic ambiguity instruction to improve third graders' metalinguistic awareness and reading comprehension: An experimental study. *Reading Research Quarterly, 44*(3), 300-321.

This study examined whether developing third-grade students' ability to recognize semantic ambiguity—as

in multiple-meaning words (e.g., *bat*), multiple meaning sentences (e.g., "The dog chased the man on a bike."), and riddles—might, like other forms of metalinguistic awareness, improve their reading comprehension. Students were assigned at random to semantic ambiguity instruction or to book reading and discussion involving books without semantic ambiguity. Students in the semantic ambiguity group had four 45-minute sessions as follows:

Session 1: Multiple Word Meanings

- Brainstorming and discussing homonyms
- Picking out homonyms from a set of words
- Learning strategies for identifying homonyms

Session 2: Multiple Sentence Meanings

- Discussing ambiguous sentences
- Representing ambiguous sentences using Colorforms

Session 3: Riddles

- Discussing riddles
- Having students write their own riddles following a set of steps

Session 4: Riddles

- Reading *Amelia Bedelia and the Surprise Shower* (Parish, 1979), stopping at every multiple meaning sentence discussing both possible meanings
- Reading *Amelia Bedelia's Family Album* (Parish, 1988), asking students to predict Amelia's interpretation and add their own entries to the book

Results indicated that students in the semantic ambiguity group grew in their ability to recognize multiple meaning words and sentences and also in their reading comprehension as measured by a norm-referenced paragraph completion assessment but not a norm-referenced multiple-choice assessment. Semantic ambiguity instruction may be a valuable addition to reading comprehension instruction.

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.

Teachers as Writers

This section sets aside a place for teachers to publish original poetry, short stories, or snapshot memoirs related to teaching.

I Remember...

The snippet of pale blonde locks secured
to the faded page by translucent tape,
your halting stumbling steps, and "Mama."

Tiny chocolate frosted hands, face, and tray
intermingled with giggles and glee.
Pooh and binkie every evening,
Burt, Ernie, and Mr. Rogers at noon,
and innocence.

A blue and white striped shirt,
my wide eyes and wringing hands,
your beaming smile and appetite to learn.
Special Fridays as I drove you home,
with a Happy Meal for two.

Six rooms, teachers, and times,
freedom to roam and be, yet a furrowed
brow and pinched face for all the world to see.

Soon enough though, you could be found,
walking head and shoulders above the crowd,
underclassmen parting like Moses and his sea.

A broad smile, buckling your belt,
backing out the drive,
trading the old yellow bus for a younger green
truck.

Transportation secured, uniform on,
you greet the world of commerce.
My smile wide, my thoughts scattering;
Where has the time flown?

All this rushes back as I gaze at you,
so regally garbed, perched on the brink of achieve-
ment.

My heart swelling, my eyes moist as you,
confidently nod, firmly grasp and shake,
and continue on, eager to seek what lies ahead.

Sarah Keyser Brown
Flushing, MI

The Field

To be a field of open spaces, windy places,
and always faces of children playing young and
innocent—beset not by worldly wants, desires or
frustrations.

To be a field where cares are counted only in the
wins today or what game tomorrow; where the birds
seek my solitude to glide or swiftly dart from thicket
to tree; where a boy can holler his ya-hoo and a girl
can bat a ball or two.

Where in the winter the snow does cover me with
a bonnet of white; where a snowball fight, with forts
and sleds defending this side from that; and, with
cries of fright or delight the child comes as in the
spring to run and play with only thoughts of today.

Oh, if only the world could sit in silence and see
my field where the only oppression is the dent of
small feet upon my face, and could see the person
as God intended; free from the scorn and blight of
others; trusting each other, to see this space bared of
hate and want—evil and blood—then to pass judg-
ment on this field as to how it stacks up to the rest of
the world.

Though I'm barren of money and buildings, of
oil and colonies, and false ideologies of all the things
that man devised to aid his brother to paradise, I feel
that here upon my breast are all the things that are
the best.

Oh God, sprinkle my sands upon the winds,
scatter my dust over all the lands, and though I'm
laid bare, I'll always know that somewhere children
will be playing, and with these children, my hope
and prayer is that they may grow and take through
life part of my field for their paradise.

Donald Neal Thurber
La Salle, MI