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Title: Effects of Quality of Instruction on Student Vocabulary and Comprehension During Read Alouds

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Background / Context:
Description of prior research and its intellectual context.

Reading aloud to students in preschool and the early grades is ubiquitous in American classrooms and considerable research has been conducted on read aloud practices (Karweit & Wasik, 1996; Morrow & Brittain, 2003; Van Kleeck, Stahl, & Bauer, 2003; Varelas & Pappas, 2006; Wilkinson & Silliman, 2000). In a synthesis on read alouds, Swanson, Swanson, Vaughn, Wanzek, Petscher, Heckert, Cavanaugh, et al (2011) found that read aloud interventions had a positive effect on language outcomes (mean effect size = +0.29), phonological awareness (mean effect size = +.78), print concepts (mean effect size = +0.86), comprehension (mean effect size = +0.70), and vocabulary (mean effect size = +1.02). However, only four of the elementary school studies, included a measure of comprehension, and only 2 of the 21 treatment-comparison studies—both preschool studies—met three design issues that substantively strengthen study quality: the use of random assignment to condition, the inclusion of fidelity of implementation procedures, and the use of standardized dependent measures (Raudenbush, 2005; Shadish, 2002; U.S. Department of Education, 2003). Moreover, none of these studies focused specifically on the quality of the instructional delivery.

Compelling evidence indicates that explicit instruction has a positive impact on a range of student academic outcomes, particularly for students who are at-risk for academic difficulties (Gersten, 1998; Swanson & Hoskyn, 1998; Vaughn, Gersten, & Chard, 2000). The read aloud intervention incorporated four principles of explicit instruction in the lesson design and associated professional development with teachers. First, lessons were organized around a model, lead, test approach (Archer & Hughes, 2011). Second, read aloud lesson content was sequenced to become more complex over time, to build strategically on previous skills and strategies learned, and to require greater responsibility on the part of students to understand text (i.e., to develop coherent representations of text). Third, teachers and students engaged in frequent interactions about texts. In focus groups to prepare for the development of the intervention, we learned that teachers wanted read alouds to be highly interactive, but our classroom observations indicated that they frequently were not (Fisher, Flood, Lapp, & Frey, 2004). Fourth, teachers provided extensive feedback to students. They affirmed students' responses, and addressed aspects of students' responses they wanted to highlight and extend.

Purpose / Objective / Research Question / Focus of Study:
Description of the focus of the research.

Thus, the purpose of this study is to examine the interaction effect of the quality of instructional delivery on student vocabulary and reading comprehension. Although the focus of the intervention was on listening comprehension, we targeted comprehension skills also relevant for reading comprehension taking into account that listening comprehension and reading comprehension are related throughout development (Snow, 2002, RAND report). According to Perfetti, Landi & Oakhill, (2005), the primary variable that limits how closely reading comprehension skill can approach listening comprehension is word identification. Therefore, in order to create and sustain gains in comprehension, our intervention focused on teaching students how to use the same sorts of strategies to comprehend text when their teachers read to them in

first grade that they could use to read text on their own, a situation that would become increasingly important as students move through the grades, and the texts they read independently become more complex in terms of structure, content, and vocabulary.

Setting:
Description of the research location.

District: The households with elementary students who spoke languages other than English at home form a very diverse group with more than 100 different languages being spoken. Forty four percent of all elementary school students in the district spoke a language other than English at home. In terms of services, 26% of students in the district receive free and reduced meals, 18% receive ESOL services, and 14% receive special education services. Minority demographics include: African American: 10.4%, American Indian: .2%, Asian American: 19.3%, Hispanic: 22.1%, Multiracial: 4.6%, White: 43.1%.

Schools: A total of 39 first-grade classrooms from 12 schools in the Mid-Atlantic region were randomly assigned to an intervention or comparison condition. Nine out of 12 schools were Title 1 schools situated in an urban setting. One school was an inner city charter school with 98% African American students, and two schools out of the 12 were located in a suburban setting. The number of students in the schools who were ELs ranged from 20% to 60%.

Population / Participants / Subjects:
Description of the participants in the study: who, how many, key features, or characteristics.

Teachers: Thirty-six teachers were female, and white. One teacher was Hispanic and two were Pacific Islanders. The age range varied from 21 to more than 55 years old, with a mean age of 34. The mean number of years of teaching was 9.4 with a range from 1 to 31 years. Fifty-four percent of the teachers had a bachelor's degree and 39% had a master's degree or higher. The majority of the teachers (71%) had a specialization in elementary education or in elementary education and early childhood.

Students: 638 students participated in the study (317 were in the treatment classrooms and 321 were in the comparison classrooms).

Intervention / Program / Practice:
Description of the intervention, program, or practice, including details of administration and duration.

The read aloud intervention consisted of 12 narrative books and 12 expository books related to animals. Books were selected based on the appropriateness of the topic, book length, cost, availability, representation of diversity, text coherence, and the text's alignment with state science standards from the states participating in the Mid-Atlantic region. The intervention was taught over a period of 19 weeks. Each read aloud book was part of a 2-week science-based thematic unit, and it consisted of 6 or 7 lessons that lasted approximately 30 minutes. Three lessons focused on expository text and three or four lessons (depending on the week) focused on narrative text. One expository text and one narrative text were used during each unit. Expository lessons were taught before narrative lessons to help establish student's background knowledge about the specific topic of the book. For each book we developed a lesson plan that comprised activities to be used *before*, *during*, and *after the* read alouds, following principles of explicit instruction (i.e., a model, lead, test). For example, the *before reading* activities included language on how to identify the book type (e.g., expository or narrative), critical vocabulary to understand the text, and language on how to encourage students to predict what the story was going to be

about. The *during reading* lessons included story grammar elements for narrative texts and K-W-L components for expository texts. Instruction on new or reviewed vocabulary words also occurred as teachers read and discussed the text. *After reading,* lesson content focused on summarizing and retelling practice, and vocabulary review. Teachers modeled retelling using standard formats (Author et al., 2002) and students used these formats to practice retelling of the narrative text with the teacher or partner. Students received a visual prompt sheet that included icons representing who the story was about, what happened first, what happened next, and what happened at the end. A K-W-L chart provided the format for expository book retells. Given that all the expository text focused on animals, lesson plans included directions on helping students identify three important features of animals: *What they look like*; *What they eat*; and *Where they live*.

A fundamental feature of the read aloud intervention was the use of structured dialogs during and after read alouds between teachers and students, and among students. These structured dialogs were intended to extend student understanding of narrative and expository text through verbal interactions. If students did not understand the content of the story based on their retells or summarizations, the teacher would immediately address these comprehension breakdowns and misconceptions. Therefore, the dynamic components of the lessons were not prescribed, but during the professional development trainings, teachers practiced and received feedback on how to promote verbal interactions among students and between students and the teacher.

Research Design:
Description of the research design.

Classrooms were randomly assigned to Read Aloud condition or business-as-usual controls. Thus, 317 children in 20 classrooms in 11 schools were in the treatment condition and 321 children in 19 classrooms in 12 schools were in the control condition.

A one-way between subjects analysis of variance (ANOVA) demonstrated that pretest scores on the Gates-MacGinitie did not differ significantly by condition, $F(1, 604) = 0.13$, $p = .72$.

Data Collection and Analysis:
Description of the methods for collecting and analyzing data.

Two observations were conducted in each intervention classroom to measure fidelity of implementation. Data collectors also recorded instructional quality during the fidelity of implementation observations using a researcher-developed instrument that consisted of two forms, an "A" version to record the quality of instruction during the read aloud of narrative text, and a "B" version to record the quality of instruction during the read aloud of expository text. Both observation instruments were divided into the before, during, and after reading components. Data collectors used a 0-2 rating scale for behavior management, and quality of instruction (i.e., 0 = not done; 1 = done; 2 = done well). In addition, data collectors provided an estimate of student engagement, and a rating of items related to the implementation of high quality read alouds. We averaged the scores for before, during, and after reading for each observation, and then averaged the total scores for the two observations to obtain a final score per teacher. Interrater reliability was above .84.

Student outcome measures included the Gates-MacGinitie Test of Reading Comprehension, Listening Comprehension Subtest (MacGinitie, MacGinitie, Maria, & Dreyer, 2000), *Narrative Retells, Strong Narrative Assessment Procedure (SNAP) (*Strong, 1998*),* and two researcher developed measures, *Expository Retells*, and *Depth of Vocabulary Knowledge*.

A series of one-way between subjects ANOVA analyses were conducted to determine whether children missing data on one or more posttests differed significantly from those not missing data on any posttest for which they had data available.

To answer our research question, we used two-level models wherein children were nested in classrooms. For each outcome, a null model was run, followed by the addition of student listening comprehension at pretest (Pretest) at Level 1. Level 2 predictors were added one-by-one as follows: group assignment (Group; 0=control, 1=treatment) as predictor of the intercept, instructional quality of narrative read aloud lessons (Quality) as predictor of intercept, and an interaction term for group assignment by instructional quality (Group × Quality) as predictor of intercept. Pretest scores were group-mean centered, Quality and the Group × Quality interaction was grand-mean centered.

Findings / Results:
Description of the main findings with specific details.

Treatment and control classroom pretest results did not differ significantly, $F(1, 34) = 0.03$, $p = .87$, but instructional quality did, $F(1, 34) = 24.61$, $p < .001$. Instructional quality of narrative read aloud lessons was not significantly correlated with the mean Gates pretest score ($r = -.13$, $p = .46$), but instructional quality was significantly and strongly correlated with assignment to treatment ($r = .65$, $p < .001$).

To determine whether instructional quality had a moderating or mediating effect, we examined whether group assignment (treatment vs. control) predicted instructional quality. We found that group assignment and instructional quality correlated at .65, $p < .001$, and assignment explained 42 percent of the variance in instructional quality. On average, treatment classrooms had .25 higher instructional quality than control classrooms, $B = .253$, $SE = .051$, $p < .001$.

Conclusions:
Description of conclusions, recommendations, and limitations based on findings.

Our findings suggest that the effect of read alouds in first grade depend on the delivery of instruction. Instructional quality in the context of this study was defined as teacher ability to deliver an explicit instruction with fidelity. This finding is important given the current pressure teachers face to improve student outcomes. Moreover, because of the nature of our intervention, the principles of explicit instruction used in this study could be also implemented in the later grades to ensure that students receive high quality instruction not only in one grade but across their schooling years. Of particular importance is providing high quality instruction when delivering comprehension content and teaching vocabulary. Ironically, few studies have looked at the quality of instruction in these components.

Appendices
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Appendix A. References
References are to be in APA version 6 format.

Archer, A. L., & Hughes, C. A. (2011). Exploring the foundations of explicit instruction. In A. L. Archer & C. A. Hughes (Eds.), *Explicit Instruction: Effective and Efficient Teaching* (pp. 1–22). New York, NY: The Guilford Press.

Fisher, D., Flood, J., Lapp, D., & Frey, N. (2004). Interactive read-alouds: Is there a common set of implementation practices? *Reading Teacher, 58*, 8–17.

Karweit, N. L., & Wasik, B. A. (1996). The effects of story reading programs on literacy and language development of disadvantaged preschoolers. *Journal of Education for Students Placed at Risk, 1*, 319–348.

MacGinitie, W., MacGinitie, R., Maria, K., & Dreyer, L. (2000). *Gates-MacGinitie Reading Tests*. Itasca, IL: Riverside Publishing Company.

Morrow, L. M., & Brittain, R. (2003). The nature of storybook reading in the elementary school: Current practices. In A. Van Kleeck, S. Stahl & E. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 140–158). Mahwah, NJ: Lawrence Erlbaum.

Perfetti, C. A., Landi, N., & Oakhill, J. (2005). The acquisition of reading comprehension skill. In M. J. Snowling & C.Hulme (Eds.), *The science of reading: A handbook* (pp. 227–247). Oxford: Blackwell.

Raudenbush, S. W. (2005). Learning from attempts to improve schooling: The contribution of methodological diversity. *Educational Researcher, 34*(5), 25–31. doi: 10.3102/0013189x034005025

Shadish, W. R. (2002). Revisiting field experimentation: Field notes for the future. *Psychological*

Methods, 7, 3–18. doi: 10.1037/1082-989x.7.1.3

Snow, C. E. (2002). *Reading for understanding: Toward an R&D program in reading comprehension.* Santa Monica, CA: RAND. Retrieved from http://firstsearch.oclc.org/WebZ/DCARead?standardNoType=1&standardNo=0833031058:srcdbna me=worldcat:fromExternal=true&sessionid=0

Strong, C. J. (1998). *The Strong Narrative Assessment Procedure (SNAP).* Eau Claire, WI: Thinking Publications.

Swanson, E., Vaughn, S., Wanzek, J., Petscher, Y., Heckert, J., Cavanaugh, C., . . . Tackett, K. (2011). A synthesis of read-aloud interventions on early reading outcomes among preschool through third graders at risk for reading difficulties. *Journal of Learning Disabilities, 44,* 258–275. doi: 10.1177/0022219410378444

Swanson, H. L., & Hoskyn, M. (1998). Experimental intervention research on students with learning disabilities: A meta-analysis of treatment outcomes. *Review of Educational Research, 68,* 277–321.

U.S. Department of Education. (2003). *Random assignment in program evaluation and intervention research: Questions and answers.* Retrieved from http://www.ed.gov/rschstat/eval/resources/randomqa.pdf

Van Kleeck, A., Stahl, S. A., & Bauer, E. B. (2003). *On reading books to children: Parents and teachers.* Mahwah, NJ: Lawrence Erlbaum.

Varelas, M., & Pappas, C. C. (2006). Intertextuality in read-alouds of integrated science-literacy units in urban primary classrooms: Opportunities for the development of thought and language. *Cognition and Instruction, 24,* 211–259.

Vaughn, S., Gersten, R. M., & Chard, D. J. (2000). A search for the underlying message in the intervention research on learning disabilities. *Exceptional Children, 67,* 99–114.

Wilkinson, L. C., & Silliman, E. R. (2000). Classroom language and literacy learning. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson & R. Barr (Eds.), *Handbook of reading research* (Vol. III, pp. 337–360). Mahwah, NJ: Erlbaum.

Appendix B. Tables and Figures

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