



neuhaus
EDUCATION CENTER
Teaching. Reading. Reaching.

*Research
Guide*





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Teaching. Reading. Reaching.

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Neuhaus Education Center has provided professional development in literacy instruction to teachers for 35 years. Throughout this time, our experience has confirmed our belief that teachers need and deserve the very best in ongoing professional development. We know beyond doubt that a teacher's knowledge and skills make the difference in students learning to read.

Our commitment is to offer the highest quality instruction that is consistent with current research findings. With comprehensive professional development, teachers return to the classroom prepared to implement the new instruction. We are gratified with our role as professional intermediary, making current research accessible and useful to the classroom teacher.

The National Commission on Teaching and America's Future (NCTAF) stated, "What teachers know and can do is one of the most important influences on what students learn" (Darling-Hammond, 1998, p. 6). Neuhaus Education Center is dedicated to providing quality, scientifically based professional development to teachers because better readers have brighter futures, and that means a brighter future for all.

Regina Boulware-Gooden, Ph.D.
Vice President of School Improvement and Research

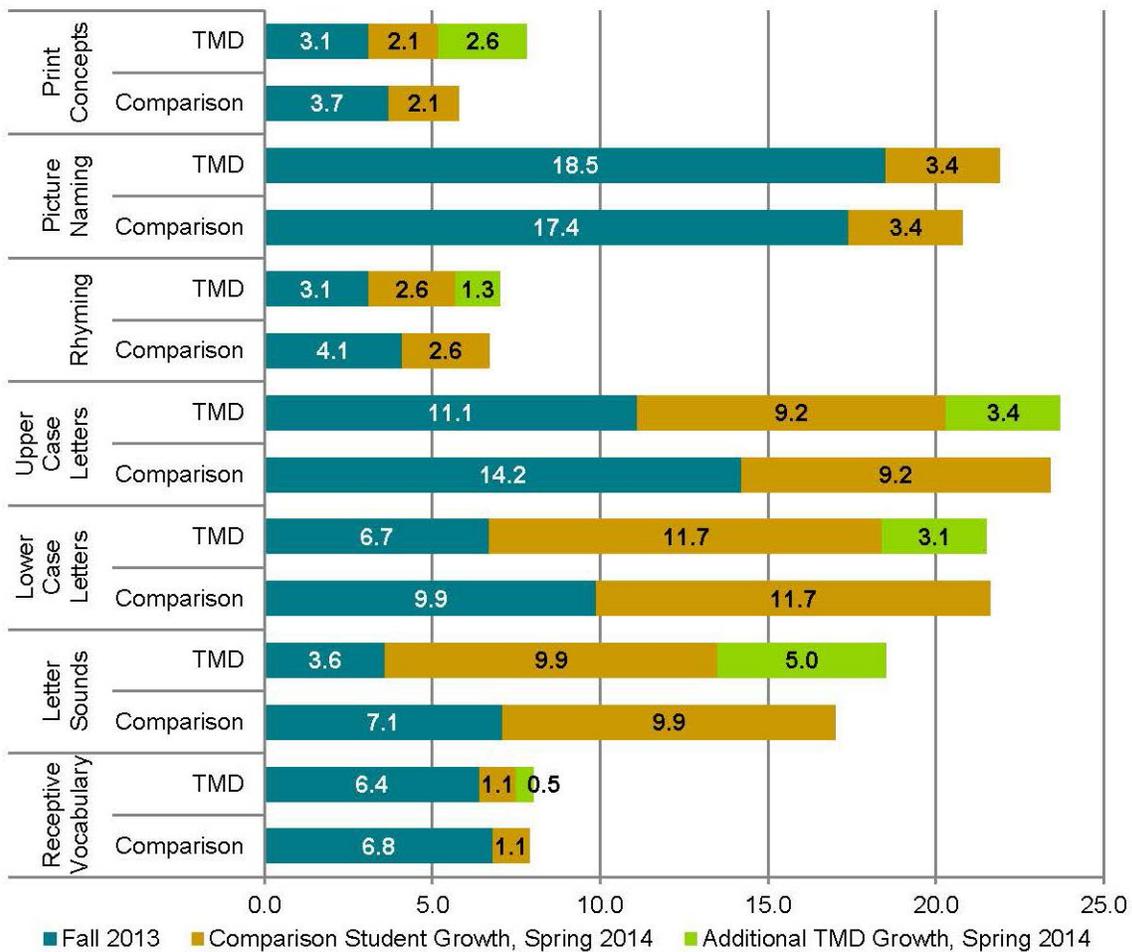
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Teachers Make the Difference (2013–2014)

Does evidence-based professional development and coaching improve the knowledge and classroom practice of early childhood educators, and subsequently improve student outcomes? That is what the Neuhaus Education Center (Neuhaus) sought to answer in the evaluation of the Teachers Make the Difference (TMTD) program for prekindergarten (PreK) teachers working with disadvantaged students in traditionally lower performing schools in the Houston Independent School District (HISD).

Neuhaus engaged 68 PreK teachers (TMTD teachers) in a yearlong professional development program that sought to improve educator’s skills in teaching four areas of early literacy—oral language, phonological awareness, letter recognition, and concepts of print. Did students of teachers who received TMTD achieve at higher levels compared to students whose teachers did not receive TMTD?

Figure 1
Student Outcomes Fall to Spring, by Subtest and Teacher Group



Underwood, S., Roccograndi, A., & Cox, M. (2014). *Neuhaus Education Center Teachers Make the Difference: 2013–2014 Evaluation Report*. Portland, OR: Education Northwest.

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In fall 2013 (blue bars), the average ELQA scores of students of TMTD teachers were significantly lower than those of students of comparison teachers on every subtest, with the exception of Picture Naming (Figure 1). By spring 2014 (tan and green bars), this pattern was reversed and average scores of students of TMTD teachers were higher than those of students of comparison teachers on every subtest, with the exception of Lowercase Letters. From fall to spring, the average rate of change in ELQA scores among TMTD teacher's students was significantly higher than that of comparison teachers' students on all subtests except Picture Naming.

Demonstration School Initiative (2013-2014)

In collaboration with Houston Independent School District's (HISD) elementary chiefs, school support officers, and director of literacy, Neuhaus Education Center sought to provide job-embedded professional development through coaching at two HISD schools. The schools were chosen by the Chief School Officer. The purpose of this partnership was to ensure that evidenced-based reading instruction was put into action and sustained throughout the school year. Over the course of the 2013-2014 school year, Neuhaus coaches and Houston ISD administrators, embarked on a journey to create sustainable change within Houston ISD schools. Coaching served as a way to develop instructional plans that were evidenced-based and fostered the development of highly trained teachers. The coaching support ranged on a continuum from coaching groups of teachers through the facilitation of Professional Learning Communities (PLCs) and school-based instructional rounds to the support of individual teachers as needed. Demonstration schools were provided with support through the use of various coaching techniques that included, but were not limited to, observations and feedback, filming and conferencing, demonstration lessons, and the establishment of teacher leaders. The expected outcomes were the introduction and refinement of instructional strategies and increased student achievement.

Results

Additionally, a sample group of demonstration school and comparison school students were administered beginning and end of year assessments using the Gates-MacGinitie Reading Test. This test was administered to determine the extent of students reading ability before and after support was provided at their campus. Normal Curve Equivalent (NCE) scores were analyzed at the end of the year. These scores describe students' level of achievement in relation to the achievement of other students in the same grade. The results indicate an increase in overall reading outcomes for students at schools that were supported by Neuhaus coaches. Schools that did not have the support of Neuhaus coaches had a drop in overall reading outcomes, even though their scores at the beginning of the year were significantly higher than those from the demonstration schools. It should be noted that the decline in scores for the two comparison schools was not attributable to fewer correct answers than those on the pretest, but that their spring raw scores did not gain compared to the original norming group.

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| Demonstration Schools | Beginning of Year | End of Year | Change |
|----------------------------|-------------------|-------------|--------|
| Hobby Elementary | 41.61 | 51.11 | +9.5 |
| Jefferson Elementary | 42.65 | 51.00 | +8.35 |
| Comparison Schools* | Beginning of Year | End of Year | Change |
| Windsor Village Elementary | 69.00 | 64.06 | -4.94 |
| Browning Elementary | 56.95 | 49.72 | -7.23 |

*Not supported by Neuhaus coaches

Conclusion

The overall results of the coaches' findings indicated definite strengths throughout the coaching initiative. Administrators were able to continuously refine the details of what evidence-based instruction should look like on their campus and disseminate that information to school teams. The support was documented both qualitatively by the coaches and quantitatively through the collection of pre- and post-tests. Both provided evidence for a positive impact of coaching and allowed Neuhaus to move forward with the knowledge that Neuhaus had been able to bring improved student achievement to the individual campuses.

Language and Literacy for Young Readers in Kansas (2003-2004)

Neuhaus' *Language and Literacy for Young Learners* (LLYL) curriculum was used in a major early education project in Kansas. Topeka Family Guidance and Service Center, The University of Kansas, and School District 501 in Topeka were the recipients of a three-year, 2.7-million-dollar *Early Reading First* grant. The ultimate goal of the *Early Reading First* program, authorized by the *No Child Left Behind* law, was to improve the school readiness of our nation's youngest learners, especially those from low-income families.

Michele Berg, Ph.D., director of the Topeka Family Guidance and Service Center, and her colleagues studied LLYL at Neuhaus and provided professional development and support for the 15 teachers who were part of the grant. Preliminary results showed that the preschool children who were taught by teachers using LLYL were flagged at a lower at-risk rate than other children entering kindergarten. Of note, only 15.7% of children using LLYL were flagged at-risk on standardized measures of oral language, compared to 58% of children using a standard preschool curriculum and 33% of the children entering kindergarten with other preschool experiences. Many of America's children face daunting challenges as they enter kindergarten lacking the necessary skill to learn how to read. The study demonstrated that LLYL prepared the preschoolers entering kindergarten for success. Results are presented in Figure 4.

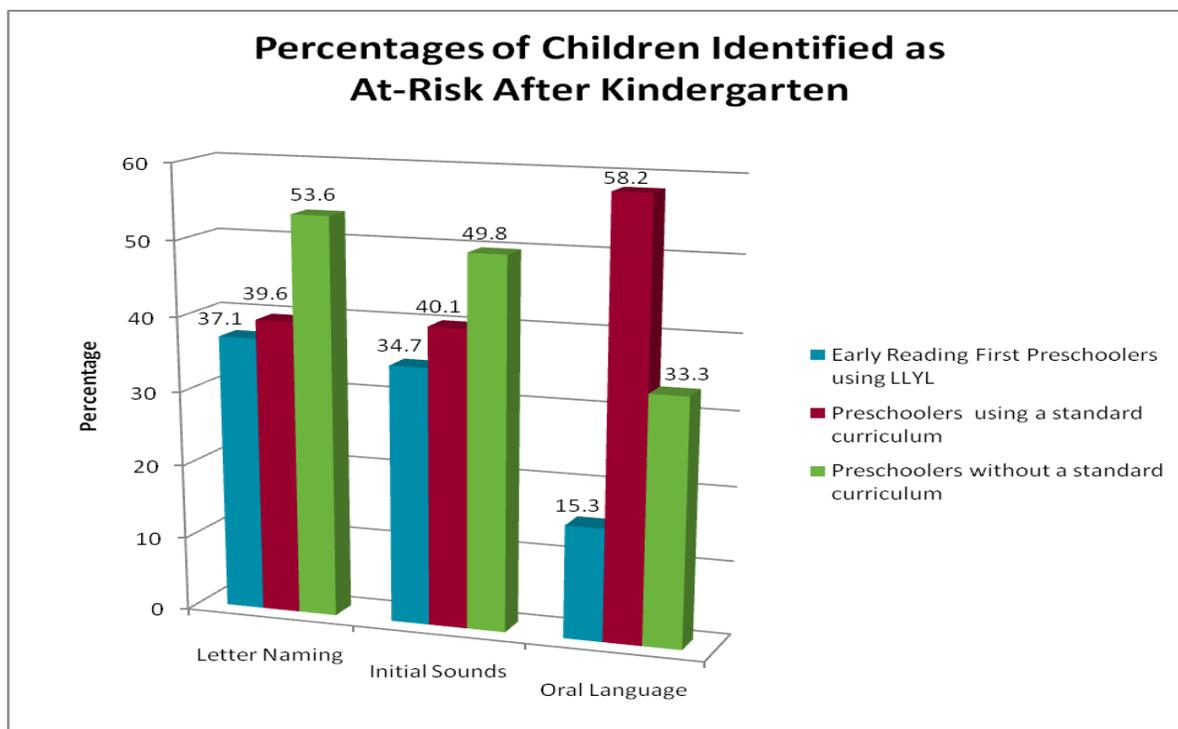


Figure 4. Percentages of children identified as at-risk after kindergarten.

Teachers Succeed with *Reading Readiness and Language Enrichment* (2005-2006)

An independent longitudinal study reported that students whose teachers augmented state-adopted basal reading series with Neuhaus' *Reading Readiness* (RR) and *Language Enrichment* (LE) curricula made greater gains on standardized tests than students in a comparison group who were instructed from only the basal reading series. The 18-month study demonstrated that kindergarten students who received RR instruction were better able to successfully blend word parts, name more letters, and identify more letter-sound correspondences at the end of the year than the comparison group. When RR was followed by LE in the first-grade, students performed better than the comparison group in word reading, reading comprehension, and fluency. The difference between the two groups was statistically significant.

Two groups of students in a school district in southwestern U.S. participated in the study. A comparison group ($n = 94$) received classroom literacy instruction from the state-adopted basal reading series in kindergarten and first grade. The treatment group ($n = 96$) received RR in kindergarten and LE in first grade, in addition to the basal reading series. RR and LE were used as part of the 90-minute language arts block and did not constitute additional time in reading instruction. Each group was followed from the middle of kindergarten through the end of first grade.

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Measures for the kindergarten and first-grade treatment and comparison groups included the Texas Primary Reading Inventory (TPRI). Analysis of the data indicated that the treatment group outperformed the comparison group on kindergarten TPRI measures of phonological awareness, letter naming, and letter-sound correspondences. The treatment group also performed better than the comparison group on first grade TPRI reading comprehension, fluency, and end-of-year word reading. The present study supported the use of RR and LE in addition to a basal reading series in kindergarten and first grade to improve phonological awareness, letter knowledge, letter-sound knowledge, word reading, fluency, and reading comprehension.

For further information, contact Emily O. Dean, Ph.D., assistant professor at McMurry University, at emilyodean@gmail.com.

District-wide Longitudinal Study of *Language Enrichment*

Results of this longitudinal study were reported in:

- Carreker, S., Neuhaus, G. F., Swank, P. R., Johnson, P., Monfils, M. J., & Montemayor, M.L. (2007). Teachers with linguistically-informed knowledge of reading subskills are associated with a Matthew effect in reading comprehension for monolingual and bilingual students. *Reading Psychology, 28*, 187-212.
- Carreker, S., Swank, P. R., Tillman-Dowdy, L., Neuhaus, G. F., Monfils, M. J., Montemayor, M. L., & Johnson, P. (2005). *Language enrichment* teacher preparation and practice predicts third-grade reading comprehension. *Reading Psychology, 26*, 401-432.

In 1997, Neuhaus Education Center in Houston, Texas, began a three-year collaboration with Brownsville Independent School District (BISD) in Brownsville, Texas, to provide 60 hours of professional development and ongoing follow-up for teachers in Grades 1 and 2. Neuhaus' *Language Enrichment* (LE) curriculum was chosen as the vehicle for providing scientifically-validated information on reading, writing, and spelling.

Brownsville, Texas, is located on the Texas-Mexico border, 350 miles south of Houston. It was not economical for the teachers to travel to Houston, nor were there sufficient Neuhaus staff members to send to Brownsville. As a result, the professional development was provided to the BISD teachers through Interactive Video Conferencing (IVC). Teachers attended professional development classes in cohorts of 35-50 throughout the three-year collaboration. Ultimately, 478 first- and second-grade teachers received professional development in LE via IVC.

During the first year of the collaboration, Neuhaus staff members observed each teacher via IVC or on-site visits. During the second year of the collaboration, each school appointed a facilitator who was charged with the responsibility of providing materials and support for the teachers. Neuhaus staff members worked closely with

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the facilitators, furthering their knowledge of the curriculum and developing their skills in mentoring teachers.

The state-mandated reading test scores of 522 third-grade students from 13 BISD elementary schools were analyzed. The results demonstrated that third-grade students who received LE in second grade performed at statistically significantly higher levels of proficiency on the test than third-grade students who did not receive LE in second grade. Furthermore, students who received LE from teachers who had participated in the professional development early in the school year performed better than students whose teachers participated in the professional development later in the year.

The results indicated that (1) early instruction in LE enhanced performance on the third-grade state-mandated reading test, (2) the students who had longer exposure to LE significantly higher on the reading test, and (3) this achievement was demonstrated by a majority of students whose primary language is not English.

The trend continued past third grade. Continued achievement in reading for students who received LE in second grade was demonstrated with an analysis of their performance on the fifth-grade state-mandated reading test. Figure 2 shows the gains made over time by students whose second-grade teachers had no or varied levels of experience with LE.

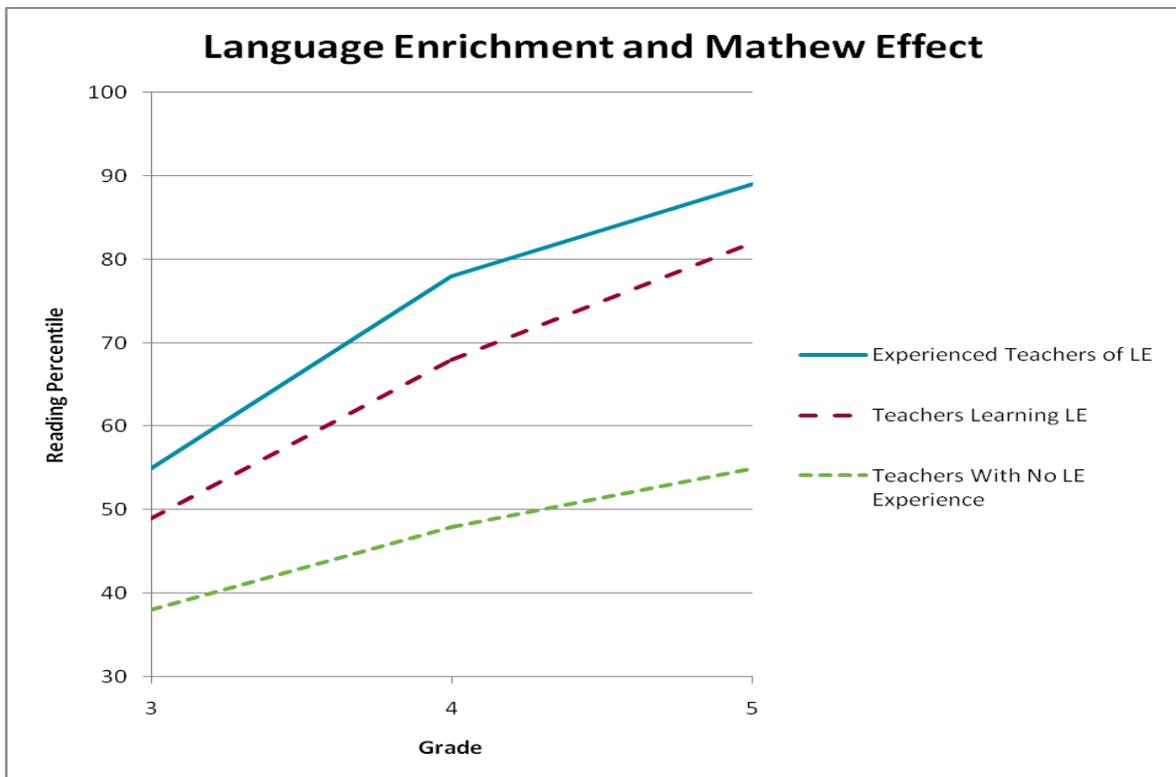


Figure 2 Reading gains for students whose second-grade teachers had no or varying levels of experience teaching *Language Enrichment* (LE); $n = 522$.

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Note: The Matthew Effect (Stanovich, 1986) poses that “the rich get richer and the poor get poorer.” Students who have the requisite skills for beginning reading continue to gain requisite skills for proficient reading. Students without the requisite skills for beginning reading do not gain proficiency and fall further and further behind in reading and all academic areas that require reading.

Developing Metacognitive Skills

Results of this study were reported in:

Boulware-Gooden, R., Carreker, S., Thornhill, A., & Joshi, R. M. (2007). Instruction of metacognitive strategies enhances reading comprehension and vocabulary of third-grade students. *The Reading Teacher*, 61(1), 70-77.

Data from an intervention study conducted by Neuhaus with third-grade students suggested that the addition of metacognitive strategies to daily comprehension lessons boosted students’ comprehension and spelling by 20% and vocabulary by 40% on standardized and criterion reference measures. In the study, 130 third-graders in two schools were given 30-minute comprehension lessons daily over a five-week period. Students in one school received metacognitive strategies that the students in the other school did not receive. Metacognitive strategies help students to “think about their thinking” before, while, and after they read. Strategies used in the study were taken from Neuhaus’ *Developing Metacognitive Skills* curriculum and included vocabulary word webs, identification of the elements of expository (informational) text, and summary activities.

In the first school, students were given expository passages of approximately 300 words to read. The passages were from a commercially-published comprehension program. Before reading the passages, the teacher set a purpose for reading and activated students’ background knowledge. Students discussed new vocabulary words and copied the words, their definitions, and sentences that illustrated the meanings of the words from the board. After reading the passages, students answered questions that were generated by the teacher. Students answered half the questions orally and half the questions in written form. The final activity was for students to read and answer six questions that were specifically designed by the publisher to accompany each of the passages.

In the second school, the students read the same passages and were taught metacognitive strategies. Before reading the passages, the teacher set a purpose for reading and activated background knowledge. Students discussed the same vocabulary words. Rather than copy the definitions, students discussed the origins and meanings of the words, generated synonyms, antonyms, and other words related to the new vocabulary words, and recorded the information on vocabulary webs. As students read, they were encouraged to think about the elements of expository text. After reading the passages, students were asked to identify the subject, main idea, supporting ideas, and details and generate a summary paragraph that contained $\frac{1}{3}$ the number of words of the original passages. Students

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then orally answered the same teacher-generated questions and read and answered the six questions that accompanied the passages.

Figure 1 shows the pretest scores of experimental group in blue and the control group in green. Gains for the experimental group are in maroon and gains for the control group are in yellow. The gains for the experimental group in vocabulary ($p = .001$, $\eta^2 = .161$) and reading comprehension ($p = .041$, $\eta^2 = .041$) were statistically significant.

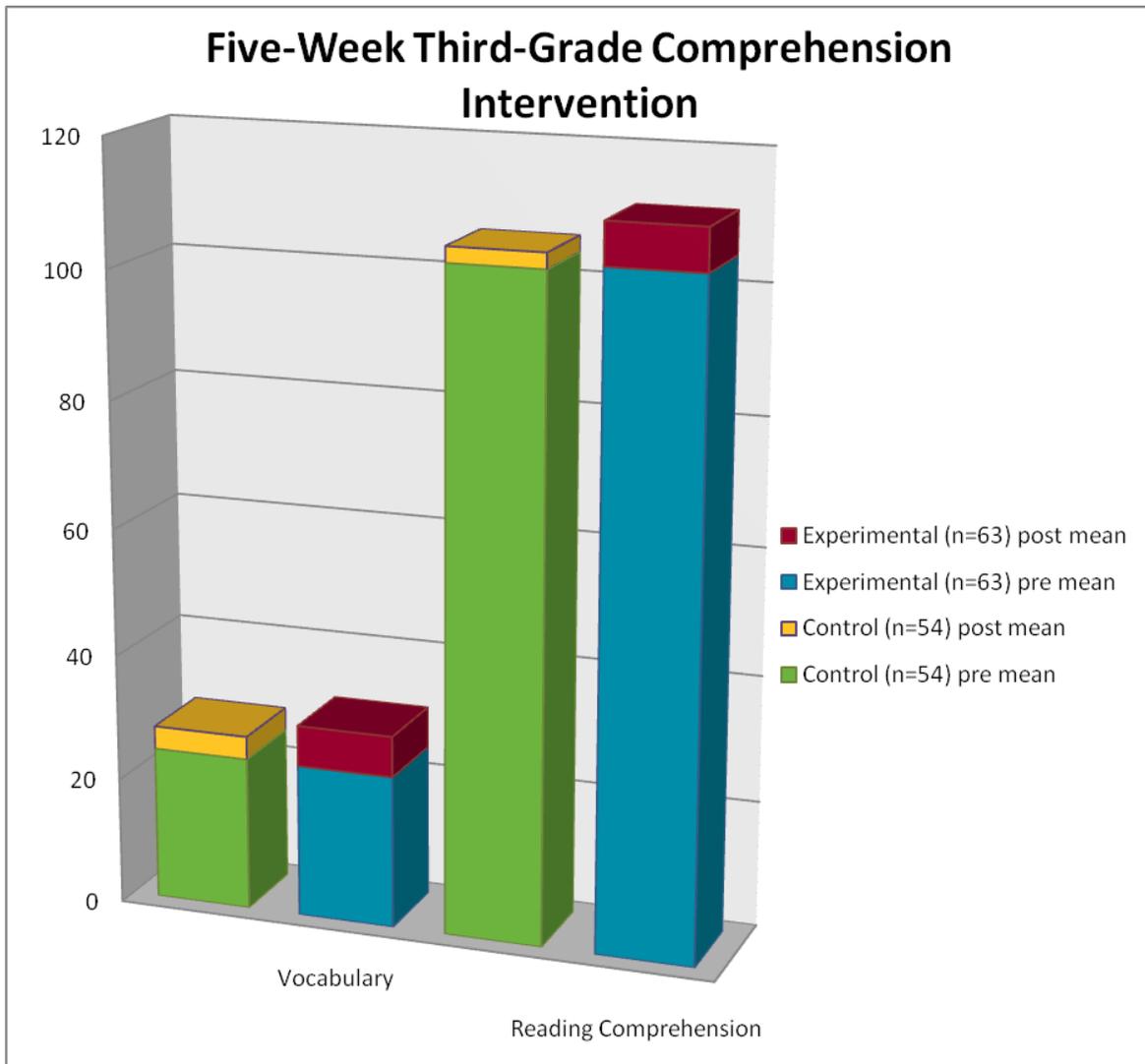


Figure 1. Five-week third-grade comprehension intervention in two schools.

Note: Three months after the initial post-testing, the vocabulary measure was re-administered to the two groups. Gains in vocabulary for the experimental group held. The reading comprehension measure was not re-administered.

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Middle School Study with Developing Metacognitive Skills (2004-2005)

Neuhaus' *Developing Metacognitive Skills* was implemented in a middle school in a large urban school district. The sample was 98% Hispanic and 2% Black. The school grouped students in clusters for instructional purposes. One cluster was randomly assigned as the treatment group and one was randomly assigned as the control group. Science and social studies classes were targeted for instruction because many students have difficulties in comprehending expository text (Hacker and Tennes, 2002).

Students in Grades 6 and 7 received metacognitive strategies that focused on activating background knowledge, vocabulary webs, text organization, summarizing, and questioning. Students in Grade 6 received the metacognitive strategies in science and social studies classes twice a week; therefore, these students received a total of 40 hours of instruction. Students in Grade 7 received the metacognitive strategies twice a week in social studies classes only for a total of 20 hours of instruction.

The teachers received professional development in the summer and implemented the curriculum at the beginning of the school year. Prior to implementation, students were pretested on the *Gray Silent Reading Test* and a criterion vocabulary test. A master reading specialist observed each classroom once a week to verify fidelity of implementation and provide feedback to the teachers. At the end of the ten weeks, students were post-tested. Fifty-three students completed the study: 16 Grade 6 experimental students; 20 Grade 7 experimental students, and 17 Grade 6 and 7 comparison students.

Students in Grade 7 who received 20 hours of *Developing Metacognitive Skills* demonstrated statistically significant gains over the comparison group ($F(1,34) = 4.84, p = .035, \eta^2 = .067$). There was no difference between groups in vocabulary. Students in Grade 6 who received 40 hours of instruction demonstrated statistically significant gains over the comparison group ($F(1, 31) = 10.77, p = .003, \eta^2 = .227$). Students in Grade 6 also demonstrated statistically significant gains in vocabulary ($p = .016, \eta^2 = .231$).

In sum, exposure to metacognitive strategies (i.e., 20 hours vs. 0 hours) boosted student achievement in reading comprehension. Greater exposure to metacognitive strategies (i.e., 40 hours vs. 20 hours) produced greater gains in both reading comprehension and vocabulary.

Even though sample sizes were small, the gains should be considered noteworthy. Students from this middle school were low SES and qualified for free or reduced lunch. Additionally, students were not precluded from the study if they were classified as learning disabled.

The Impact of Professional Development on Teacher Knowledge

Carreker, S., Joshi, R. M., & Boulware-Gooden, R. (2010). Spelling-related teacher knowledge and the impact of professional development on Identifying appropriate instructional activities. *Learning Disabilities Quarterly*, 33, 148-158.

Spelling-related content teacher knowledge includes awareness of phonemes, syllables, and morphemes. Teachers who possess this knowledge should be better able to assess student needs and design appropriate instruction. In Study 1, 36 preservice teachers and 38 inservice teachers completed measures to evaluate their spelling-related content knowledge and their ability to choose appropriate activities for spelling instruction. Overall, the inservice teachers demonstrated greater knowledge and were better able to identify appropriate instructional activities. In Study 2, the spelling-related content knowledge of 157 teachers completing varying hours of professional development was analyzed to determine the effect of professional development on spelling-related content knowledge. In general, the inservice teachers' knowledge was positively correlated with the number of hours of professional development.

Professional Development: Comparison of Online and Onsite Delivery

Carreker, S., Boulware-Gooden, R., & Slania, M. L. (unpublished manuscript). *Is online professional development on spelling an effective alternative to onsite professional development on spelling?* Retrieved from www.readingteachersnetwork.org

Spelling is often taught as a rote memory skill. However, spelling is a cognitive linguistic skill that can be learned with thorough knowledge of English speech sounds and patterns. Teachers who are knowledgeable about speech sounds and frequent and reliable patterns of English can promote students' spelling achievement through explicit instruction of the sounds and patterns. Professional development can increase teacher knowledge of spelling.

The current paper presented a study of two groups of inservice teachers ($n = 126$) who received professional development workshops on spelling via two different venues. One group received a workshop presented by two master instructors, and the second group received an online workshop. The content of the workshops was identical. Both groups made statistically significant gains in spelling knowledge. The results suggested that teachers can increase their knowledge of spelling through online professional development, which is flexible, convenient, and does not require teachers to give up valuable instructional time.

PUBLICATIONS BY NEUHAUS STAFF

Allen, K. A., Neuhaus, G. F., & Beckwith, M. (2011). In J. R. Birsh (Ed.), *Multisensory teaching of basic language skills* (3rd ed.). Baltimore, MD: Paul H. Brookes Publishing Co.

This chapter offers a rationale for letter recognition and naming. The chapter includes principles of effective classroom teaching and instructional activities for teaching letter names, sequencing, alphabetizing, and dictionary work.

Carreker, S. (2012). Beginning handwriting, spelling, and written composition instruction. In M. Hougen & S. Smartt (Eds.), *The fundamentals of literacy assessment and instruction*. Baltimore, MD: Paul H. Brookes Publishing Co.

Carreker, S. (2012). Teaching the structure of the language through seeing, hearing and doing. In L. C. Moats, K. E. Dakin, & R. M. Joshi (Eds.), *Expert perspectives on interventions for reading: A collection of best-practice articles from the International Dyslexia Association* (pp. 55-65). Baltimore, MD: The International Dyslexia Association.

Carreker, S. (2012). The parts of speech: Foundation of writing. In L. C. Moats, K. E. Dakin, & R. M. Joshi (Eds.), *Expert perspectives on interventions for reading: A collection of best practice articles from the International Dyslexia Association* (pp. 229-236). Baltimore, MD: The International Dyslexia Association.

Carreker, S. (2011). Teaching reading: Accurate decoding and fluency. In J.R. Birsh (Ed.), *Multisensory teaching of basic language skills* (3rd ed.). Baltimore, MD: Paul H. Brookes Publishing Co.

For students to become fully literate, the components of reading – decoding and comprehension – and all other elements of literacy instruction must be directly taught. The focus of this chapter is the explicit, systematic instruction of decoding, which leads to efficient comprehension and reading achievement.

Carreker, S. (2011). Teaching spelling. In J. R. Birsh (Ed.), *Multisensory teaching of basic language skills* (3rd ed.). Baltimore, MD: Paul H. Brookes Publishing Co. *Spelling is a more difficult skill than reading. Spelling instruction enhances reading proficiency through the reinforcement of phonemes and letter patterns. Learning to spell requires explicit instruction, which is the focus of this chapter.*

Carreker, S. & Birsh, J. R. (2011). *Multisensory teaching of basic language skills activity book* (2nd ed.). Baltimore, MD: Paul H. Brookes Publishing Co.

This workbook is a supplement to the textbook, Multisensory Teaching of Basic Language Skills, and contains activities that reinforce and extend the information presented in the textbook. The activities are designed to target and refine the necessary linguistics skills and insights about language structures that teachers

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need to help all students learn to read.

Carreker, S., & Boulware-Gooden, R. (2015). *Personal competencies through the eyes of the classroom teacher*. Center on Innovations in Learning, Temple University, Philadelphia, PA.

http://www.centeril.org/resources/PCs_and_the_Teacher.pdf

Joshi, R. M., & Carreker, S. (2009). Spelling: Development, assessment, and instruction. In G. Reid, (Ed.), *Routledge companion to dyslexia* (pp. 113-125). London, UK: Routledge.

This chapter presents the importance of spelling instruction and instruction that is effective for students with dyslexia.

Joshi, R. M., Hoiem, T., Xiwu-Feng, Chengappa, R., & Boulware-Gooden, R.J. (2005). Learning to spell by ear and by eye: A cross-linguistic comparison. In R. M. Joshi and P. G. Aaron (Eds), *Handbook of orthography and literacy*. New York: Lawrence Erlbaum.

PUBLICATIONS IN PEER-REVIEWED JOURNALS

Aaron, P.G., Joshi, R. M., Boulware-Gooden, R., & Bentum, K. (2008). Diagnosis and treatment of reading disabilities based on the Component Model of reading: An alternative to the Discrepancy Model of Learning Disabilities. *Journal of Learning Disabilities, 41*, 5-28.

Boulware-Gooden, R., Carreker, S., Thornhill, A., & Joshi, M. (2007). Is teaching metacognitive strategies effective for third grade readers? *The Reading Teacher, 61*, 70-71.

Boulware-Gooden, R., Joshi, R. M., Gregorinko, E. (2015). The role of phonology, morphology, and orthography in English and Russian spelling. *Annals of Dyslexia, 21*(2), 142-161.

Carreker, S., & Joshi, R. M. (2010). Response to intervention: Are the emperor's clothes really new? *Psicothema, 22*, 943-948.

Carreker, S., Joshi, R. M., & Boulware-Gooden, R. (2010). Spelling-related teacher knowledge and the impact of professional development on identifying appropriate instructional activities. *Learning Disabilities Quarterly, 33*, 148-158.

Carreker, S., Neuhaus, G. F., Swank, P. R., Johnson, P., Monfils, M. J., & Montemayor, M. L. (2007). Teachers with linguistically informed knowledge of reading subskills are associated with a Matthew effect in reading comprehension for monolingual and bilingual students. *Reading Psychology, 28*, 187-212.

Carreker, S., Swank, P. R., Tillman-Dowdy, L., Neuhaus, G. F., Monfils, M. J., Montemayor, M. L. et al. (2005). *Language Enrichment* teacher preparation and practice predicts third-grade reading comprehension. *Reading Psychology, 26*, 401-432.

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- Joshi, R. M., Aaron, P.G., Hill, N., Ocker-Dean, E., Boulware-Gooden, R., & Rupley, W.H. (2008). Drop Everything and Write (DEAW): An innovative program that improves literacy skills. *Learning Inquiry*, 2, 1-12.
- Joshi, R., Binks, E., Graham, L., Dean, E., Smith, D. & Boulware-Gooden, R. (2009). Do textbooks used in university reading education courses conform to the instructional recommendations of the National Reading Panel? *Journal of Learning Disabilities*, 42(5), 458-463.
- Joshi, R., Dahlgren, M., & Boulware-Gooden, R. (2002). Teaching reading in an inner-city school through multisensory approach. *Annals of Dyslexia*, 52, 129-137.
- Joshi, R. M., Treiman, R., Carreker, S., & Moats, L. C. (2008/2009). How words cast their spell: Spelling instruction focused on language, not memory, improves reading and writing. *American Educator*, 32(4), 6-43.
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- Post, Y. V., & Carreker, S. (2002). Orthographic similarities and phonological transparency in spelling. *Reading and Writing: An Interdisciplinary Journal*, 15, 317-340.
- Post, Y. V., Carreker, S., & Holland, G. (2001). The spelling of final letter patterns: A comparison of instruction at the level of the phoneme and the rime. *Annals of Dyslexia*, 51, 121-146.
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