
Thank you for your request to our REL Reference Desk regarding the value-added of Oral Reading Fluency screening with fourth and fifth grade students. Ask A REL is a collaborative reference desk service provided by the ten regional educational laboratories (REL) that, by design, functions much in the same way as a technical reference library. It provides references, referrals, and brief responses in the form of citations on research based education questions.

The information below represents the most rigorous research available. Researchers consider the type of methodology and give priority to research reports that employ well described and thorough methods. The resources were also selected based on the date of the publication with a preference for research from the last ten years. Additional criteria for inclusion include the source and funder of the resource.

Question: *What is the value added of administering oral reading fluency screening to all fourth and fifth grade students?*

Search Process

Key words and search strings used in the search: *oral reading fluency screening; AND value added AND fourth grade OR fifth grade; oral reading fluency AND reading comprehension*

Search databases and websites:

1. ERIC, <http://www.eric.ed.gov/>
2. JSTOR, <http://www.jstor.org/action/showAdvancedSearch>
3. Google Scholar, www.google.com/scholar
4. Institute of Education Sciences (IES) Resources, <http://ies.ed.gov>
5. What Works Clearinghouse, <http://ies.ed.gov/ncee/wwc/>

Sample Citations Retrieved (NOTE: Abstracts and executive summaries are copied directly from the reports when possible to ensure accuracy):

Denton, Carolyn A.; Barth, Amy E.; Fletcher, Jack M.; Wexler, Jade; Vaughn, Sharon; Cinno, Paul T.; Romain, Melissa; Francis, David J. (2011). The Relations Among Oral and Silent Reading Fluency and Comprehension in Middle School: Implications for Identification and Instruction of Students With Reading Difficulties. *Scientific Studies of Reading*, 15(2), 109-135. doi: 10.1080/10888431003623546

Summary/Abstract: The purpose of this study was to investigate the relations among oral and silent reading fluency and reading comprehension for students in Grades 6 to 8 ($n = 1,421$) and the use of fluency scores to identify middle school students who are at risk for failure on a high-stakes reading test. Results indicated moderate positive relations between measures of fluency and comprehension. Oral reading fluency (ORF) on passages was more strongly related to reading comprehension than ORF on word lists. A group-administered silent reading sentence verification test approximated the classification accuracy of individually administered ORF passages. The correlation between a maze task and comprehension was weaker than has been reported for elementary students. The best predictor of a high-stakes reading comprehension test was the previous year's administration of the grade-appropriate test; fluency and verbal knowledge measures accounted for only small amounts of unique variance beyond that accounted for by the previous year's administration.

Duesbery, Luke; Braun-Monegan, Jenelle; Werblow, Jacob; Braun, Drew (2012). Practical Issues in Field Based Testing of Oral Reading Fluency at Upper Elementary Grades. *Studies in Educational Evaluation*, 38(3-4), 121-126. doi: 10.1016/j.stueduc.2012.09.002

Summary/Abstract: In this series of studies, we explore the ideal frequency, duration, and relative effectiveness of measuring oral reading fluency. In study one, a sample of 389 fifth graders read out loud for 1 min and then took a traditional state-level standardized reading test. Results suggest administering three passages and using the median yields the highest predictive validity. Study two compared oral reading fluency rates at 30 and 60 s for 815 elementary and middle school students on the same passage. Results indicate that the 30 s measures yield a comparable score. Study three found relatively similar predictive validity of oral reading fluency for 67 fourth- and 125 sixth-grade students on Aimsweb, EasyCBM, and DIBELS. Implications for practice are discussed. (Contains 5 tables.)

Eason, Sarah H.; Sabatini, John; Goldberg, Lindsay; Bruce, Kelly; Cutting, Laurie E. (2013). Examining the Relationship Between Word Reading Efficiency and Oral Reading Rate in Predicting Comprehension Among Different Types of Readers. *Scientific Studies of Reading*, 17, 199-223. doi: 10.1080/10888438.2011.652722

Summary/Abstract: To further explore contextual reading rate, an important aspect of reading fluency, we examined the relationship between word reading efficiency (WRE) and contextual oral reading rate (ORR), the degree to which they overlap across different

comprehension measures, whether oral language (semantics and syntax) predicts ORR beyond contributions of word-level skills, and whether the WRE–ORR relationship varies based on different reader profiles. Assessing reading and language of average readers, poor decoders, and poor comprehenders, ages 10 to 14, ORR was the strongest predictor of comprehension across various formats; WRE contributed no unique variance after taking ORR into account. Findings indicated that semantics, not syntax, contributed to ORR. Poor comprehenders performed below average on measures of ORR, despite average WRE, expanding previous findings suggesting specific weaknesses in ORR for this group. Together, findings suggest that ORR draws upon skills beyond those captured by WRE and suggests a role for oral language (semantics) in ORR.

Foorman, Barbara R. & Petscher, Yaacov (2010). Development of Spelling and Differential Relations to Text Reading in Grades 3-12. *Assessment for Effective Intervention*, 36(1)7-20. doi: 10.1177/1534508410379844

Summary/Abstract: The authors claim that assessing spelling in Grades 3–12 has utility. They base their claim on data from 875,040 students in Grades 3–12 in 52,923 classes in 840 Florida schools who took the Reading Comprehension, Maze, and Word Analysis spelling portions of the Florida Assessments for Instruction in Reading during the 2009–2010 school year. The importance of instruction to spelling ability was evident in (a) the large intraclass correlations at the class relative to the school level, (b) the greater variability in spelling at the class level rather than at the student level, (c) the greater role of demographics at the class level compared to the student level, and (d) the role of high ability spelling classrooms compared to low ability spelling classrooms in differentiating Reading Comprehension and Maze performance. Growth in spelling was evident in the elementary grades but stagnant above Grade 7. The authors conclude with the hope that secondary teachers will include spelling instruction as part of their goal to engage students in reading for understanding.

Francis, David J.; Santi, Kristi L.; Barr, Christopher; Fletcher, Jack M.; Varisco, Al; Foorman, Barbara R.(2008). Form effects on the estimation of students' oral reading fluency using DIBELS. *Journal of School Psychology*, 46, 315-342. doi: 10.1016/j.jsp.2007.06.003

Summary/Abstract: This study examined the effects of passage and presentation order on progress monitoring assessments of oral reading fluency in 134 second grade students. The students were randomly assigned to read six one-minute passages in one of six fixed orders over a seven week period. The passages had been developed to be comparable based on readability formulas. Estimates of oral reading fluency varied across the six stories (67.9 to 93.9), but not as a function of presentation order. These passage effects altered the shape of growth trajectories and affected estimates of linear growth rates, but were shown to be removed when forms were equated. Explicit equating is essential to the development of equivalent forms, which can vary in difficulty despite high correlations across forms and apparent equivalence through readability indices.

Graney, Suzanne Bamonto; Martinez, Rebecca S.; Missall, Kristen N.; Aricak, O. Tolga (2010). Universal Screening of Reading in Late Elementary School: R-CBM versus CBM Maze *Remedial and Special Education*, 31(5), 368-377. doi: 10.1177/0741932509338371

Summary/Abstract: Two curriculum-based measurement tools are commonly used to assess progress in reading in elementary school: R-CBM and CBM maze. R-CBM is used in practice more frequently than CBM maze is, although CBM maze is more time efficient to administer than R-CBM is. The technical adequacy of each of these measures has been reported in the literature; however, a comparative analysis of their technical adequacy has not been published. The purpose of this study was to evaluate the technical adequacy of R-CBM and CBM maze to inform their use in a universal screening program of reading in fourth and fifth grades. Results suggest evidence of short- and long-term alternate forms reliability, criterion validity, and predictive validity for both R-CBM and CBM maze, supporting the possibility that the two measures are comparable for use in universal screening at those grade levels. (Contains 3 tables and 1 figure.)

Jenkins, Joseph R.; Graff, J. Jason; & Miglioretti, Diana L. (2009). Estimating Reading Growth Using Intermittent CBM Progress Monitoring. *Exceptional Children*, 75(2), 151.163.

Summary/Abstract: This study addressed three basic questions involving the amount of measurement needed to obtain valid estimates of reading growth. Participants were 41 students with learning disabilities from Grades 3 to 8, monitored across 10 weeks using curriculum-based measurement (CBM) of words read correctly (WRC). We compared growth slopes based on measurements taken weekly, every 2 weeks, every 3 weeks, every 4 weeks, and every 9 weeks to

an estimate of “true slope.” Results showed that frequency of progress monitoring could be significantly reduced without detracting from the validity of growth estimates. However, validity was negatively affected by minimizing the number of *WRC* scores collected at each measurement occasion and by employing only one rather than four scores to estimate baseline.

Kim, Young-Suk; Petscher, Yaacov; Schatschneider, Christopher; & Foorman, Barbara (2010). Does Growth Rate in Oral Reading Fluency Matter in Predicting Reading Comprehension Achievement? *Journal of Educational Psychology*, 102(3), 652-667. doi: 10.1037/a0019643

Summary/Abstract: In this study, we examined the relationship of growth trajectories of oral reading fluency, vocabulary, phonological awareness, letter-naming fluency, and nonsense word reading fluency from 1st grade to 3rd grade with reading comprehension in 1st, 2nd, and 3rd grades. Data from 12,536 children who were followed from kindergarten to 3rd grade longitudinally were used. These children were administered Dynamic Indicators of Basic Early Literacy Skills subtests, Peabody Picture Vocabulary Test – Third Edition, and reading comprehension (Stanford Achievement Test, 10th ed.) tasks multiple times in each year. Students’ initial status and rate of growth in each predictor within each grade were estimated using individual growth modeling. These estimates were then used as predictors in dominance regression analyses to examine relative contributions that the predictors made to the outcome: reading comprehension. Among the 1st-grade predictors, individual differences in growth rate in oral reading fluency in 1st grade followed by vocabulary skills and the autoregressive effect of reading comprehension, made the most contribution to reading comprehension in 3rd grade. Among the 2nd- and 3rd-grade predictors, children’s initial status in oral reading fluency had the strongest relationships with their reading comprehension skills in 3rd grade.

Kuhn, Melanie R.; Schwanenflugel, Paula J.; & Meisinger, Elizabeth B. (2010). Aligning Theory and Assessment of Reading Fluency: Automaticity, Prosody, and Definitions of Fluency. *Reading Research Quarterly*, 45(2), 230-251. doi: 10.1598/RRQ.45.2.4

Summary/Abstract: Over the past decade, fluent reading has come to be seen as a central component of skilled reading and a driving force in the literacy curriculum. However, much of this focus has centered on a relatively narrow definition of reading fluency, one that emphasizes automatic word recognition. This article attempts to expand this understanding by synthesizing several key aspects of research on reading fluency, including theoretical perspectives

surrounding automaticity and prosody. It examines four major definitions of reading fluency and their relationship to accuracy, automaticity, and prosody. A proposed definition is presented. Finally, the implications of these definitions for current assessment and instruction are considered along with suggestions for reenvisioning fluency's role within the literacy curriculum.

Nese, Joseph F. T.; Biancarosa, Gina; Anderson, Daniel; Lai, Cheng-Fei; Alonzo, Julie; Tindal, Gerald (2012). Within-Year Oral Reading Fluency with CBM: A Comparison of Models. *Reading and Writing: An Interdisciplinary Journal*, 25(4), 887-915. doi: 10.1007/s11145-011-9304-0

Summary/Abstract: This study examined the type of growth model that best fit within-year growth in oral reading fluency and between-student differences in growth. Participants were 2,465 students in grades 3-5. Hierarchical linear modeling (HLM) analyses modeled curriculum-based measurement (CBM) oral reading fluency benchmark measures in fall, winter, and spring with grade level and student characteristics (including special education and Limited English Proficiency status) as covariates. Results indicated that a discontinuous growth model fit the data better than a linear growth model, with greater growth in the fall than in the spring. Oral reading fluency growth rates also differed by grade and student characteristics. Implications for school practice and research are discussed.

Petscher, Yaacov & Kim, Young-Suk (2011). The Utility and Accuracy of Oral Reading Fluency Score Types in Predicting Reading Comprehension, *Journal of School Psychology*, 49(1), 107-129. doi: 10.1016/j.jsp.2010.09.004

Summary/Abstract: This study used data from the Dynamic Indicators of Basic Early Literacy Skills (DIBELS; Good & Kaminski, 2002) oral reading fluency (ORF) probes to examine variation among different ORF score types (i.e., the median of three passages, the mean of all three passages, the mean of passages 2 and 3, and the score from passage 3) in predicting reading comprehension as a function of student reading fluency level and to compare the screening accuracy of these score types in predicting student reading comprehension. The results revealed that the relation between oral reading fluency and reading comprehension varied as a function of students' oral reading fluency and that different score types had varying predictive validity for year-end reading comprehension. The mean of all three passages demonstrated a marginally better balance in screening efficiency from September to December of grade one (especially for low-performing students), whereas in grades two and three, the median score was the best predictor. Furthermore, across all grades, increasing reading rates were observed for the three

administered passages within an assessment period. The observed patterns mimicked previous experimental studies (Francis et al., 2008; Jenkins, Graff, & Miglioretti, 2009), suggesting that practice effects are an important consideration in the administration of multiple passages assessing oral reading fluency. (Contains 5 tables and 4 figures.)

Valencia, Sheila W.; Smith, Antony T.; Reece, Anne M.; Li, Min; Wixson, Karen K. & Newman, Heather (2010). Oral Reading Fluency Assessment: Issues of Construct, Criterion, and Consequential Validity. *Reading Research Quarterly*,45(3), 270-291. doi: 10.1598/RRQ.45.3.1

Summary/Abstract: This study investigated multiple models for assessing oral reading fluency, including 1-minute oral reading measures that produce scores reported as words correct per minute (wcpm). The authors compared a measure of wcpm with measures of the individual and combined indicators of oral reading fluency (rate, accuracy, prosody, and comprehension) to examine construct, criterion, and consequential validity. Oral reading data and standardized comprehension test scores were analyzed for students in grades 2, 4, and 6. The results indicate that assessments designed to include multiple indicators of oral reading fluency provided a finer-grained understanding of oral reading fluency and fluency assessment and a stronger predictor of general comprehension. Comparisons across grade levels also revealed developmental differences in the relation between oral reading fluency and comprehension, and in the relative contributions of oral fluency indicators to comprehension. When commonly used benchmarks were applied to wcpm scores to identify students at risk of reading difficulty, both false positives and false negatives were found. This study raises issues regarding the alignment of oral reading fluency definitions and assessment. It also raises concerns about the widespread use of wcpm measures and benchmarks to identify students at risk of reading difficulty and to plan instruction.

Williams, Jacqueline L.; Skinner, Christopher H.; Floyd, Randy G.; Hale, Andrea D.; Neddenriep, Christine; & Kirk, Emily P. (2011). Words Correct per Minute: The Variance in Standardized Reading Scores Accounted for by Reading Speed. *Psychology in the Schools*,48(2), 87-101. doi: 10.1002/pits.20527

Summary/Abstract: The measure words correct per minute (WC/M) incorporates a measure of accurate aloud word reading and a measure of reading speed. The current article describes two studies designed to parse the variance in global reading scores accounted for by reading speed. In Study I, reading speed accounted for more than 40% of the reading composite score variance in 4th-, 5th-, and 10th-grade students. In Study II, reading speed accounted for more than 30% of the reading/language arts composite score variance of fourth- and fifth-grade students. Across

both studies, when reading speed was combined with words read correctly and converted to WC/M the additional variance accounted for was less than 10% with one exception, fourth-grade students' reading/language arts scores. These findings are consistent with various theories regarding reading speed, provide direction for future researchers, and may assuage those concerned that WC/M is primarily a measure of aloud, accurate word reading (i.e., word calling). (Contains 9 tables and 3 footnotes.)

Referrals

Federally Funded Resources:

- US Department of Education, Institute of Education Sciences (IES) Resources, <http://ies.ed.gov>, Publication search engine available at: <http://ies.ed.gov/pubsearch/>
- What Works Clearinghouse: <http://ies.ed.gov/ncee/wwc/>

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