

Title: Blending instruction in the early grades

Date: December 2016

Question: Could you provide information on blending instruction in the early grades?

Response:

We have prepared the following memo with information on blending instruction/phonemic awareness in the early grades. Citations include a link to a free online version, when available. All citations are accompanied by an abstract, excerpt, or summary written by the author or publisher of the document. We have not done an evaluation of the methodological rigor of these resources, but provide them for your information only.

References

Bast, J. M. (2013). *Integration of phonics into elementary reading programs*. Thesis. Dominican University of California. Retrieved on December 13, 2016, from <http://files.eric.ed.gov/fulltext/ED542750.pdf>

Abstract: Understanding phonics is an important part of a young student's ability in learning how to read. The problem is that there is no set system that teachers follow in teaching phonics skills. The purpose of this study is to discover the ways that first grade teachers teach phonics to their students to help promote students success in reading. The present study is a qualitative design using an interview protocol to collect information from teachers in elementary school classrooms, in public and private institutions. Participants formed a sample of convenience. They were recruited from suburban areas in the area north of San Francisco. The data collected was analyzed by coding themes. Results indicate teachers use three main instrumental methods to teach phonics: integration of spelling into reading, differentiated instruction based on students' learning levels, and varied methods of instruction.

Berg, M., & Stegelman, T. (2003). The critical role of phonological and phonemic awareness in reading success: A model for early literacy in rural schools. *Rural Special Education Quarterly*, 22 (4), 47-54.

Abstract: Early and continuous monitoring of emerging reading skills is a major component of preventing reading failure as well as an effective approach to lowering the incidence of special education referrals. In this article, seminal and contemporary research pertinent to the development of reading skills is highlighted and the critical relationship of phonological processing ability to the understanding of letter-sound associations is outlined. The findings regarding the long-term consequences of early reading difficulties are discussed and the benefits of a diagnostic/prescriptive approach to instruction are examined. The developmental sequence of

phonological awareness skills is presented along with a detailed discussion of screening and assessment measures that can be used to guide reading instruction in pre-kindergarten through the second grade.

Carlisle, J. F. (2003). Morphology matters in learning to read: A commentary. *Reading Psychology, 24* (3-4), 291-322.

Abstract: This paper provides a review of current research on the relevance of morphological awareness to reading and reading instruction. On the assumption that many educators are relatively unfamiliar with morphology, children's development of awareness of the morphemic structure of words is discussed, as is the need for children to learn strategies that will help them read, spell, and understand morphologically complex words. Educational practices and implications, based on theory and research findings, are presented. Results suggest that educators and educational researchers need to incorporate more word study into reading and spelling programs, focusing attention to both form and meaning. In addition, the value of instructional goals and programs in morphological awareness for children in the early elementary years needs to be explored.

Compton, D. L. (2009). Modeling the growth of decoding skills in first-grade children. *Scientific Studies of Reading, 4*(3), 219-259.

Abstract: The purpose of this study was to demonstrate the usefulness of combining curriculum-based measurement and hierarchical linear modeling procedures to identify the characteristics of first-grade children that predict growth rates in the acquisition of decoding skills (as assessed through measures of isolated word and nonword reading). This study examined the relative importance of both static (initial levels of performance) and dynamic (rate of growth) measures of cognitive-processing abilities (i.e., phonemic awareness and rapid naming speed) and emergent print knowledge (i.e., letter name, letter sound, more advanced graphophoneme knowledge, and orthographic awareness) as predictors of decoding growth in a sample of 75 first-grade children. Over the course of an academic year, a set of parallel word and nonword reading tasks, constructed using curriculum-base measurement techniques and administered on a monthly basis, were capable of demonstrating individual change in decoding skill. Furthermore, results indicate that growth in cognitive-processing abilities and general knowledge about print could likewise be measured and adequately modeled. In this sample of children, rate of growth in word and nonword reading was predicted by a different combination of static and dynamic variables representing both cognitive-processing abilities and print knowledge. Results suggest that in the very earliest stages of word reading development there may be a strong association between the rate of growth in cognitive processing, print knowledge, and decoding skills.

Ehri, L. C., Nunes, S. R., Willows, D. M., Schuster, B. V., Yaghoub-Zadeh, Z., & Shanahan, T. (2001). Phonemic awareness instruction helps children learn to read: Evidence from the National Reading Panel's meta-analysis. *Reading Research Quarterly, 36* (6), 250-287.

Abstract: A quantitative meta-analysis evaluating the effects of phonemic awareness (PA) instruction on learning to read and spell was conducted by the National Reading Panel. There were 52 studies published in peer-reviewed journals, and these contributed 96 cases comparing the outcomes of treatment and control groups. Analysis of effect sizes revealed that the impact of PA instruction on helping children acquire PA was large and statistically significant ($d = 0.86$). PA instruction exerted a moderate, statistically significant impact on reading ($d = 0.53$) and spelling ($d = 0.59$). Not only word reading but also reading comprehension benefited. PA instruction impacted reading under all the conditions examined although effect sizes were larger under some conditions. PA instruction helped various types of children: normally developing readers as well as at-risk and

disabled readers; preschoolers, kindergartners, and first graders; low socioeconomic status children as well as mid-high SES. PA instruction improved reading, but it did not improve spelling in disabled readers. PA instruction was more effective when it was taught with letters than without letters, when one or two PA skills were taught than multiple PA skills, when children were taught in small groups than individually or in classrooms, and when instruction lasted between 5 and 18 hours rather than longer. Classroom teachers were effective in teaching PA to their students. Effect sizes were larger for studies using more rigorous experimental designs, with rigor assessments drawn from Troia (1999). In sum, PA instruction was found to make a statistically significant contribution to reading acquisition.

Ehri, L. C., Nunes, S. R., Stahl, S. A., & Willows, D. M. (2001). Systematic phonics instruction helps students learn to read: Evidence from the National Reading Panel's meta-analysis. *Review of Educational Research*, 71 (3), 393-447. Retrieved on December 13, 2016, from, <http://journals.sagepub.com/doi/pdf/10.3102/00346543071003393>

Abstract: A quantitative meta-analysis evaluating the effects of systematic phonics instruction compared to unsystematic or no-phonics instruction on learning to read was conducted using 66 treatment-control comparisons derived from 38 experiments. The overall effect of phonics instruction on reading was moderate, $d = 0.41$. Effects persisted after instruction ended. Effects were larger when phonics instruction began early ($d = 0.55$) than after first grade ($d = 0.27$). Phonics benefited decoding, word reading, text comprehension, and spelling in many readers. Phonics helped low and middle SES readers, younger students at risk for reading disability (RD), and older students with RD, but it did not help low achieving readers that included students with cognitive limitations. Synthetic phonics and larger-unit systematic phonics programs produced a similar advantage in reading. Delivering instruction to small groups and classes was not less effective than tutoring. Systematic phonics instruction helped children learn to read better than all forms of control group instruction, including whole language. In sum, systematic phonics instruction proved effective and should be implemented as part of literacy programs to teach beginning reading as well as to prevent and remediate reading difficulties.

Foorman, B. R., & Torgesen, J. (2001). Critical elements of classroom and small-group instruction promote reading success in all children. *Learning Disabilities Research & Practice*, 16 (4), 203-212. Retrieved on December 13, 2016, from, http://fcrr.org/publications/publicationspdf/files/critical_elements.pdf

Abstract: The components of effective reading instruction are the same whether the focus is prevention or intervention: phonemic awareness and phonemic decoding skills, fluency in word recognition and text processing, construction of meaning, vocabulary, spelling, and writing. Findings from evidence-based research show dramatic reductions in the incidence of reading failure when explicit instruction in these components is provided by the classroom teacher. To address the needs of children most at risk of reading failure, the same instructional components are relevant but they need to be made more explicit and comprehensive, more intense, and more supportive in small-group or one-on-one formats. The argument is made that by coordinating research evidence from effective classroom reading instruction with effective small-group and one-on-one reading instruction we can meet the literacy needs of all children.

Gray, C., Ferguson, J., Behan, S., Dunbar, C., Dunn, J., & Mitchell, D. (2007). Developing young readers through the linguistic phonics approach. *International Journal of Early Years Education*, 15 (1), 15-33.

Abstract: This paper reports findings from a large-scale evaluation undertaken to explore the impact of the 'linguistic phonics approach' (LPA) on young children's reading. The LPA is a

systematic and applied programme that differs from traditional phonics programmes. For example, rather than ask children to look at letters and speculate on the sounds they make, the LPA begins with the sounds and oral language skills children bring with them to school and progresses to a stage where they marry sounds with the written word. Implicit in the approach is the notion that children can learn to make associations between their spoken language (native speech sounds which are embedded from around the age of one) and the written language. Findings from this three-stage test/retest matched-samples evaluation ($n = 745$, Yr 2 and Yr 3 pupils) indicate that the LPA does significantly raise standards and that the gains made by pupils taught through this approach sustain over time. Particularly worthy of note is the finding that, in contrast to non-systematic phonics approaches, the LPA positively affects the attainment levels of high-, middle- and low-ability readers.

Lane, H. B., Pullen, P. C., Eisele, M. R., & Jordan, L. (2002). Preventing reading failure: Phonological awareness assessment and instruction. *Preventing School Failure: Alternative Education for Children and Youth*, 46 (3), 101-110.

Abstract: The article addresses translating phonological awareness research for classroom reading instruction. It presents a practical overview of phonological awareness development and its relationship to beginning reading, including a synopsis of findings of recent research and an explanation of the development of phonological skills. It presents methods for formal and informal assessment of children's phonological awareness and describes strategies for classroom-based instruction in phonological skills with emergent readers.

Linan-Thompson, S., Vaughn, S., Hickman-Davis, P., & Kouzekanani, K. (2003). Effectiveness of supplemental reading instruction for second-grade English language learners with reading difficulties. *The Elementary School Journal*, 103 (3), 221-238.

Abstract: The effectiveness of an intervention that involved both English as a second language strategies and effective reading practices (based on research with monolingual English speakers) for English language (EL) learners at risk for reading problems and learning to read in English is described. 26 second-grade students who were both EL learners and at risk for reading difficulties were identified and provided an intensive reading intervention in English. Students received 13 weeks (58 sessions) of supplemental reading instruction daily for 30 minutes per day individually or in groups of 2 or 3. Students' oral reading fluency, phoneme segmentation fluency, nonsense word reading, and reading comprehension were assessed prior to, immediately after, and on 2 subsequent occasions following intervention (4 weeks and 4 months). Students made significant gains from pre- to posttest on the outcome measures: word attack, passage comprehension, phoneme segmentation fluency, and oral reading fluency. The largest standardized mean differences in scores at posttest were for passage comprehension and oral reading fluency. Scores at 4-week follow-up increased significantly for word attack, passage comprehension, and phoneme segmentation fluency. Long-term follow-up (over 4 months) indicated significant gains for oral reading fluency and significant losses for phoneme segmentation fluency.

Mitchell, M. J., & Fox, B. J. (2000). The effects of computer software for developing phonological awareness in low-progress readers. *Reading Research and Instruction*, 40 (4), 315-332.

Abstract: This study examined the effectiveness of two computer programs designed to increase phonological awareness in young children. The programs, DaisyQuest and Daisy's Castle, provide instruction and practice in rhyme identification, phonological analysis (segmenting), and phonological synthesis (blending). Thirty-six kindergarten and 36 first grade students, who demonstrated below grade level performance in reading, were randomly assigned to one of three experimental conditions, and participated in daily, 20 minute, small-group training sessions, over a

period of four weeks. Pre-and posttests of rhyming, segmentation, phoneme isolation and blending were administered, and the effects of computer-administered phonological awareness instruction were compared with teacher-delivered phonological awareness instruction and an instructional technology control group. After five hours of instruction, children who received computer-administered phonological awareness instruction and children who received teacher-delivered phonological awareness instruction showed a significant increase in phonological processing over that of the instructional technology control group.

O'Connor, R. E., & Padeliadu, S. (2000). Blending versus whole word approaches in first grade remedial reading: Short-term and delayed effects on reading and spelling words. *Reading and Writing*, 13 (1), 159-182.

Abstract: Twelve very poor readers in May of first grade, including four with disabilities, were randomly assigned to one of two daily tutoring conditions designed to teach children to read regularly spelled short words by one of two methods: blending sounds to form words, or cumulative introduction of whole words. Both treatments included letter/sound correspondences and spelling words in the reading set. At the end of ten sessions, no differences were found between the treatment outcomes; however, delayed posttests one week later found differences favoring the blending treatment on reading and spelling instructional words, and on transfer to words composed of known letter sounds.

Quiroga, T., Lemos-Britton, Z., Mostafapour, E., Abbott, R. D., & Berninger, V. W. (2002). Phonological awareness and beginning reading in Spanish-speaking ESL first graders: Research into practice. *Journal of School Psychology*, 40 (1), 85-111.

Abstract: In the first study, 30 Spanish-speaking English-as-a-second language (ESL) first graders whose families were Latino immigrants and who received all their school instruction in English completed an assessment battery with both Spanish and English measures of phonological awareness, Verbal IQ (VIQ), oral language proficiency, and single-word reading (real words and pseudowords); they also named English alphabet letters. Phonological awareness in Spanish predicted (a) phonological awareness in English and (b) English word reading; thus, phonological awareness may transfer across first and second languages and across oral and written language. English VIQ and oral language proficiency predicted both English and Spanish word reading, but Spanish VIQ and oral language proficiency did not predict English word reading. In the second study, the 4 males and the 4 females with the lowest reading achievement participated in an instructional design experiment in which empirically supported instructional components for teaching beginning reading to monolingual English speakers were included. These components were phonological awareness training (in both Spanish and English), explicit instruction in alphabetic principle (in English), and repeated reading of engaging English text with comprehension monitoring (in English). Both individual students and the group as a whole increased in real-word reading and pseudoword reading beyond the level expected on the basis of their Spanish or English VIQ or oral proficiency. Implications of this research for school psychology practice are discussed, especially the importance of early reading intervention and progress monitoring for Spanish-speaking ESL first graders.

Reading, S., & Van Deuren, D. (2007). Phonemic awareness: When and how much to teach? *Reading Research and Instruction*, 46 (3), 267-285.

Abstract: Literacy skills of 1st grade children were assessed; one group received instruction in phonemic awareness in kindergarten, while one group did not. Both groups received phonemic awareness instruction during 1st grade. At the beginning of 1st grade, the group with early phonemic awareness training scored higher on phoneme segmentation and had fewer children identified for

reading difficulties. By middle of 1st grade, literacy skills of children without the early training were comparable to skills of children with such training in kindergarten. Results suggest that learning phonemic awareness skills during 1st grade supports grade level reading, learning phonemic awareness skills can occur within a short time period, and learning these skills beyond a sufficient level does not necessarily result in improved oral reading fluency.

Torgesen, J. K. (2000). Individual differences in response to early interventions in reading: The lingering problem treatment resisters. *Learning Disabilities Research & Practice*, 15 (1), 55-64. Retrieved on December 13, 2016, from http://www.fcrr.org/publications/publicationspdffiles/individual_differences.pdf.

Abstract: The goal of many recent intervention studies has been to examine the conditions that must be in place for all children to acquire adequate reading skills. Although the ultimate goal of reading instruction is to help children acquire the skills necessary to comprehend text, an important subgoal for early reading instruction is to teach children to identify words accurately on the printed page. Five recent studies of methods to prevent reading difficulties were examined in light of the goal that every child should acquire adequate words reading skills during early elementary school. It was estimated that our best current methods, if applied broadly, would leave anywhere from 2% to 6% of children with inadequate words reading skills in the first and second grades. Several broad characteristics of these “treatment resisters” are identified, and the implications of these findings for future research are discussed.

Swanson, E. A., & Vaughn, S. (2010). An observation study of reading instruction provided to elementary students with learning disabilities in the resource room. *Psychology in the Schools*, 47 (5), 481-492. Retrieved on December 13, 2016, from https://www.researchgate.net/profile/Elizabeth_Swanson/publication/227672177_An_observation_study_of_reading_instruction_provided_to_elementary_students_with_learning_disabilities_in_the_resource_room/links/0fcfd50e603dca0e12000000.pdf

Abstract: This study documents the amount and quality of reading instruction provided to second-through fifth-grade students with learning disabilities provided resource-room services. Reading instruction provided by 10 special education resource-room teachers was observed. Findings reveal that teachers and students were on task during instructional time that included phonological awareness, word study, comprehension, reading fluency, and vocabulary instruction of average to high average quality. Although class size was small overall, whole-group instructional delivery was most common. Students made statistically significant gains in oral reading fluency but did not increase their standard scores on measures of comprehension or word reading.

Vaughn, S., Mathes, P., Linan-Thompson, S., Cirino, P., Carlson, C., Pollard-Durodola, S., Cardenas-Hagan, E., & Francis, D. (2006). Effectiveness of an English intervention for first-grade English language learners at risk for reading problems. *The Elementary School Journal*, 107 (2), 153-180.

Abstract: A first-grade reading and language development intervention for English language learners (Spanish/English) at risk for reading difficulties was examined. The intervention was conducted in the same language as students’ core reading instruction (English). Two hundred sixteen first-grade students from 14 classrooms in 4 schools from 2 districts were screened in both English and Spanish. Forty-eight students (22%) did not pass the screening in both languages and were randomly assigned within schools to an intervention or contrast group; after 7 months, 41 students remained in the study. Intervention groups of 3 to 5 students met daily (50 minutes) and were provided systematic and explicit instruction in oral language and reading by trained bilingual reading intervention teachers. Students assigned to the contrast condition received their school’s

existing intervention for struggling readers. Intervention students significantly outperformed contrast students on multiple measures of English letter naming, phonological awareness and other language skills, and reading and academic achievement. Differences were less significant for Spanish measures of these domains, though the strongest effects favoring the intervention students were in the areas of phonological awareness and related reading skills.

Waugh, R. E., Frederick, L. D., & Alberto, P. A. (2009). Using simultaneous prompting to teach sounds and blending skills to students with moderate intellectual disabilities. *Research in Developmental Disabilities, 30* (6), 1435-1447.

Abstract: The purpose of this study was to examine the effects of simultaneous prompting on acquisition of letter-sound correspondences and blending skills of previously taught words for three elementary students with moderate intellectual disabilities, and to measure generalization of those skills to untaught words. The three students were first taught to read five nouns using sight-word instruction. After acquisition of the five words the students were taught letter-sound correspondences and to blend the sounds in order to apply word-analysis skills. All the students demonstrated application of letter-sound correspondences and blending skills to read the five sight words and the untaught, generalization words. This study took place across two partial academic school years and therefore provides regression and recoupment data for the students.

Wilson, J., & Colmar, S. (2008). Re-evaluating the significance of phonemic awareness and phonics in literacy teaching: The shared role of school counsellors and teachers. *Journal of Psychologists and Counsellors in Schools, 18* (2), 89-105.

Abstract: This article examines recent research and developments relating to the role of phonemic awareness and phonics in early literacy education and the relevance of these findings for school counsellors and teachers. It defines and reviews the role of phonemic awareness and phonics in theoretical models of reading processes, including whole-language, code-based and balanced literacy programs, to determine the varying degrees of significance attributed to these components in early reading instruction. It critically reviews recent national and international government research, reports and recommendations to examine how phonemic awareness and phonics are conceptualized and translated into educational policy. In doing so, the article highlights the need for establishing a comprehensive and explicit theoretical and practical framework for the teaching of phonemic awareness and phonics, and a thorough analysis of the range of traditional and contemporary methods of teaching phonemic awareness and phonics in the classroom. The importance of school counsellors having a greater understanding of research about contemporary best practices in literacy education, and a key role, in partnership with teachers, in ensuring such knowledge is put into practice, is emphasized.

Wolter, J. A., Wood, A., & D'Zatko, K. (2009). The influence of morphological awareness on first-grade children's literacy development. *Language, Speech, and Hearing Services in the Schools, 40* (3), 1-13. Retrieved on December 14, 2016, from, https://www.researchgate.net/profile/Julie_Wolter/publication/26328465_The_Influence_of_Morphological_Awareness_on_the_Literacy_Development_of_First-Grade_Children/links/0f31753a1b71f766d3000000.pdf

Abstract: Purpose: The purpose of this study was twofold. First, we investigated whether first-grade children evidenced morphological awareness and whether they used their knowledge of morphological relations to guide their spelling. Second, we sought to determine whether children's morphological awareness abilities were predictive of their performance on word-level reading and spelling measures. Method: At the beginning of the academic school year, 43 first-grade children were administered an oral morphological awareness production task, a series of single-word

morphological spelling tasks, and a battery of language and literacy tasks. Results: The first-grade children were able to generate words reflecting morphological relations before they received explicit instruction regarding morphological relations between words. In addition, the children used morphological information to guide their spelling of single words, as evidenced by a difference in patterns of spellings between 1- and 2-morpheme words. Regression analyses revealed that the children's performance on the oral morphological production task explained unique variance on their reading and spelling measures above and beyond the variance that was accounted for by phonological awareness. Conclusion: Children as young as first graders evidenced morphological awareness, and morphological awareness influenced the children's literacy development. Theoretical implications of the findings are discussed.

Yopp, H. K., & Yopp, R. H. (2000). Supporting phonemic awareness development in the classroom. *The Reading Teacher*, 54 (2), 130-143. Retrieved on December 14, 2016, from, <http://literacyhow.com/wp-content/uploads/2013/08/SupportingPhonemicAwarenessDevelopmentintheClassroom.pdf>

Excerpt: Phonemic awareness is the awareness that the speech stream consists of a sequence of sounds—specifically phonemes, the smallest unit of sound that makes a difference in communication. First, most experts call for phonemic awareness activities that are child appropriate. Second, phonemic awareness instruction should be deliberate and purposeful. Third, phonemic awareness instruction must be viewed by educators as only one part of a much broader literacy program. In addition to these general guidelines, teachers should consider various dimensions of phonemic awareness instruction when planning and designing learning activities. These include the unit of sound to be emphasized, the type of operation to be performed on those units, and whether the activities are to be strictly oral or include concrete cues such as chips and letters.

Other relevant resources

Institute for Education Science, What Works Clearinghouse

<http://ies.ed.gov/ncee/wwc/FWW>

From the website: For more than a decade, the WWC has been a central and trusted source of scientific evidence on education programs, products, practices, and policies. We review the research, determine which studies meet rigorous standards, and summarize the findings. We focus on high-quality research to answer the question “what works in education?”

Relevant literacy intervention reports:

- Open Court Reading© (<http://ies.ed.gov/ncee/wwc/Intervention/232>): Open Court Reading© is a reading program for grades K–6 that is designed to teach decoding, comprehension, inquiry, and writing in a three-part progression. Part One of each unit, Preparing to Read, focuses on phonemic awareness, sounds and letters, phonics, fluency, and word knowledge. Part Two, Reading and Responding, emphasizes reading literature for understanding, comprehension, inquiry, and practical reading applications. Part Three, Language Arts, focuses on writing, spelling, grammar, usage, mechanics, and basic computer skills.
- Project Read® Phonology (<http://ies.ed.gov/ncee/wwc/Intervention/235>) Project Read® is a multisensory language arts curriculum designed for use in a classroom or group setting. Two main objectives of the program are to use language in all its forms, and to use responsive instruction rather than preplanned textbook lessons. The program emphasizes direct instruction, and lessons move from letter-sounds to words, sentences, and stories. Project Read® has three strands: Phonics/Linguistics, Reading Comprehension, and Written Expression, which are integrated at all grade levels, though the emphasis of the specific strands differs by grade.

Methods

Keywords and Search Strings Used in the Search

- “Blending instruction” AND “elementary”
- “Blending instruction strategy” AND “early elementary”
- “Phonemic awareness instructional practices” AND “early elementary”
- “Systematic phonics instruction” AND “early elementary”
- “Phonemic awareness” AND “literacy” AND “elementary”

Search of Databases

EBSCO Host, ERIC, PsychInfo, PsychArticle, Google, and Google Scholar

Criteria for Inclusion

When REL West staff review resources, they consider—among other things—four factors:

- **Date of the Publication:** The most current information is included, except in the case of nationally known seminal resources.
- **Source and Funder of the Report/Study/Brief/Article:** Priority is given to IES, nationally funded, and certain other vetted sources known for strict attention to research protocols.
- **Methodology:** Sources include randomized controlled trial studies, surveys, self-assessments, literature reviews, and policy briefs. Priority for inclusion generally is given to randomized controlled trial study findings, but the reader should note at least the following factors when basing decisions on these resources: numbers of participants (Just a few? Thousands?); selection (Did the participants volunteer for the study or were they chosen?); representation (Were findings generalized from a homogeneous or a diverse pool of participants? Was the study sample representative of the population as a whole?).
- **Existing Knowledge Base:** Although we strive to include vetted resources, there are times when the research base is limited or nonexistent. In these cases, we have included the best resources we could find, which may include newspaper articles, interviews with content specialists, organization websites, and other sources.

This memorandum is one in a series of quick-turnaround responses to specific questions posed by educators and policymakers in the West Region (Arizona, California, Nevada, Utah), which is served by the Regional Educational Laboratory West (REL West) at WestEd. This memorandum was prepared by REL West under a contract with the U.S. Department of Education’s Institute of Education Sciences (IES), Contract ED-IES-12-C-0002, administered by WestEd. Its content does not necessarily reflect the views or policies of IES or the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.