

Applying PAL II RW writing subtests to practice

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The goal for this application to practice is to prevent writing problems. To accomplish this goal, it draws upon existing published research-supported Assessment Measures in *PAL II RW* and published research-supported Instructional Methods in Revised PAL Instructional Products. This document (see cited research at end of document) explains how the assessment and instructional tools can be applied to practice to prevent writing problems in Grades 1 to 5.

History of research-supported assessment and instructional measures in this application to practice and explanation of how these can be used to prevent writing problems

A. Two sets of grants from the National Institute of Child Health and Human Development (NICHD), on which Professor Virginia Berninger was the Principal Investigator, funded the writing research conducted at the University of Washington, in school systems in Washington State, and elsewhere that is discussed in this Document on the Pearson website. Professor Robert Abbott served as statistician for designing, analyzing, interpreting, and disseminating results of research studies. He also served on many PhD supervisory committees of graduate research assistants who participated in research studies. Sylvia Abbott, a former elementary school teacher, participated in several of the assessment and instructional intervention studies while working on her PhD in school psychology, and authored articles on instruction (e.g., Abbott et al, 1997), and co-authored a book on translating research studies into lesson plans. As a practicing school psychologist after completing her Ph.D., she helped revise that book.

Set one: RO1 1989–1992, Shannon Award, 1992–1994, RO1 1995–2000, RO1 2001–2006, two years of no-cost extension to 2008. The studies focused on writing assessment (achievement and related processes and their correlational and longitudinal relationships) and instructional interventions for typical writers and children with writing disabilities.

Set two: Learning Disabilities Research Center with Family Genetics Project, Brain Imaging Project, Differential Diagnosis Project, and Instructional Intervention Project. 1995 to 2000, 2000 to 2005 with one year of no cost extension to 2006, 2011 to 2016 with one year of no cost extension to 2017.

B. Development of assessment and instructional tools based on grant-supported research on writing

Dr. Aurelio Prifitera, who proposed developing a psychometric test and User Guide based on NICHD-funded research at the University of Washington, also proposed that the test be called *Process Assessment of the Learner (PAL) Test Battery for Reading and Writing* and that the instructional products have PAL in the title. In 2001, PAL Test Battery for Reading and Writing was published. In 2007, after additional findings, revisions, and norming, *PAL II RW* was published. It contains subtests that assess achievement in a variety of writing skills and processes related to writing achievement. *PAL II RW* also

has reading measures, but they are not the focus of this application to practice for preventing writing problems. The original instructional products (published between 1998 and 2002) included:

- A book on *PAL Guides Interventions Reading and Writing*
- A book with *PAL Handwriting Lessons*
- A book on *PAL Teaching Talking Letters Teachers Guide*
- *Student Desk Cards* for teaching orthographic-phonological correspondences in the reading direction and phonological-orthographic correspondences in the spelling direction, which are not always the same
- A book of 15 *Research-Based PAL Reading and Writing Lesson Sets and Reproducible Instructional Materials* for doing so

These were all based on peer-reviewed research showing how to effectively teach at-risk readers and writers in grades 1 to 6.

C. Revision of the user guide for PAL II RW and each of the four PAL instructional products based on updated research since the original products were published. This revised user guide and these revised instructional products were published in 2020 and are summarized next because only these are related to Process Assessment of the Learner (PAL) To prevent writing problems (POW) Described in this document.

Revised User Guide for Process Assessment of the Learner, 2nd Edition. Diagnostic for Reading and Writing (PAL-II RW) (Berninger, 2020d). In addition to information on administering each subtest as in the original User Guide, the *Revised User Guide for PAL II RW* also contains detailed information on assessment-intervention for Tier 1 (screen-intervene), Tier 2 (problem-solving consultation), and Tier 3 (lesson plans for diagnosed specific writing disabilities at different grade levels). All three tiers are relevant to the prevention of writing problems as discussed later in this document.

Instructional tools:

Revised PAL Guides for intervention. Reading and Writing (Berninger, 2020a), Part I covers conceptual foundations for understanding and assessing functional writing systems and writing intervention research. Part II covers six steps in designing intervention plans and monitoring progress, which are relevant to the Tier 2 Problem Solving Consultation in the *Revised User Guide for PAL II RW* (Berninger, 2000d). Part III covers research-supported instructional activities used alone and in lessons with multiple writing instructional activities.

Revised PAL Handwriting Lessons (Berninger, 2020b). 24 evidence-based lessons are included for teaching letter legibility and automaticity, transfer of letter formation and retrieval from memory to word writing, and to multi-word and multi-sentence syntax during text composing.

Revised Talking Letters Teacher's Guide (Berninger, 2020c) and *Talking Letter Cards*, which can be used to teach phonological-orthographic correspondences in the spelling direction and orthographic-phonological correspondences in the reading direction; both need to be taught because the correspondences are not always the same in both directions.

Revised PAL Research-Based Reading and Writing Lessons with Reproducible Instructional Materials (Berninger and S. Abbott, 2020). Of the 15 lesson sets (see page 5 for Table of Contents in the book of lessons) based on translating peer-reviewed published research into evidence-based lessons at specific grade levels (see pages 5 to 6 of the book of lessons), seven are for teaching writing skills:

1. Handwriting in Grade 1 (Lesson Set 3)
2. Spelling in Grade 2 (Lesson Set 4)
3. Spelling in Grade 3 (Lesson Set 5)
4. Instructional Sandwich for Coordinating Different Aspects of Writing Instruction in Grade 3 (Lesson Set 7)
5. Instructional Sandwich for Coordinating Different Aspects of Writing Instruction in Transition from Grades 3 to 4 (Lesson Set 8)
6. Before and After School Writing Clubs in Grade 4 (Lesson Set 10)
7. Becoming a Functional Writer in Grades 3 and above (Lesson Set 14).

D. Why the focus of the application to practice is on writing and preventing writing problems

Currently there is much emphasis on evidence-based reading assessment and instruction, and many states and school systems administer only tests of reading and math achievement for annual assessments. Therefore, this document begins with an overview of the research findings in the two sets of NICHD grants awarded to the University of Washington (see IA above). These findings document the importance of also assessing writing in elementary school grades with the goal of preventing writing problems during the elementary and upper grades.

E. Research supporting methods for preventing writing problems

1. Writing disabilities in all language-based specific learning disabilities. The family genetics study in the second set of grants in IA in this document found that the three most prevalent language-based specific learning disabilities—Dysgraphia, Dyslexia, and Oral and Written Language Learning Disability (OWL LD)—all involve writing disability but at a different level of language (subword, word, or multi-word sentence syntax/multi-sentence text (Berninger, Richards, & Abbott, 2015)). Dysgraphia is a disability in *subword-level letter writing*. Dyslexia is a disability in *word-level spelling* (not just *word-level reading*) (Berninger, Nielsen, Abbott, Wijsman, & Raskind, 2008). OWL LD is a disability in *multi-word syntax-level language by ear, mouth, eye, and hand. Language by hand is written expression in composing*. Thus, writing instruction in the elementary school grades aimed at all three levels of language involved in writing—subword letter writing, word spelling, and multi-word syntax—may prevent dysgraphia, dyslexia, or OWL LD in the upper grades or at least reduce the severity of it.

2. Identifying at-risk writers through measures of writing achievement and writing-related processes. The first set of grants in IA in this document identified processes related to handwriting, spelling, and composing that were predictive of specific writing skills at specific grade levels 1 to 5 (for example, Abbott & Berninger, 1993; Berninger, Yates, & Lester, 1991; Garcia, Abbott, & Berninger, 2019; Nagy, Berninger, Abbott, Vaughan, & Vermeulen, 2003). Students can be screened early in the school year in grades 1 to 5 on both measures of achievement at subword, word, and multi-word levels of writing skills and measures of processes related to each of those skills, to identify those who score below the lower limit of the average range on these measures and thus are at risk for not succeeding in writing that school year.

3. Identifying effective writing interventions. Results of both sets of grants in IA in this document validated effective interventions for students in grades 1 to 5 who were identified early in the school year as being at-risk for specific writing problems (for example, Berninger, Vaughan, Abbott, R., Abbott, S., Brooks, Rogan, Reed, & Graham, 1997; and Berninger, Abbott, R., Rogan, Reed, Abbott, S., Brooks, Vaughan, & Graham, 1998; Brooks, Vaughan, & Berninger, 1999).

4. Screen-Intervene in grades 1 to 5. The results related to screening measures (i.e., which writing skills to assess) and instructional intervention shown to be effective for improving a specific weak writing skill were used to develop a screen-intervene model for prevention of writing problems in grades 1 to 5. For details, see Tier 1 in *Revised PAL II RW User Guide*, Berninger 2020d. These include procedures for identifying students with developmental disabilities (two or more standard deviations below mean and signs of delay during the preschool years) in cognition, oral/aural language, sensory, motor, and/or executive functions to whom this screen-intervene model does not apply and who require a different kind of intervention during formal schooling.

This screen-intervene model also takes into account research showing the effectiveness of providing instructional intervention for writing in the context of integrating lower-level and higher-level writing skills rather than teaching a single writing skill alone in isolation (Berninger, Abbott, Whitaker, Sylvester, & Nolen, 1995), teaching multiple connections across units of language and modes of language (Berninger, Vaughan, Abbott, R., Brooks, Abbott, S, Reed, Rogan, & Graham, 1998; Berninger, Vaughan, Abbott, R, Brookes, Begay, Curtin, Byrd, & Graham, 2000), teaching spelling in context of other writing skills (Berninger, Vaughan, Abbott, R., Begay, Coleman, Curtin, Hawkins, & Graham, 2002), and teaching multiple levels of language involved in translating ideas into written composition (Niedo & Berninger, 2016)—vocabulary choice, sentence construction, and organization of text for different genres (Davidson & Berninger, 2015).

5. Problem-solving consultation. As an elementary and secondary teacher and clinical psychologist in interdisciplinary medical settings and private practice, Berninger had observed many students struggling with writing. However, these writing problems were not typically identified formally with normed measures and there was no discussion of possible approaches to treating them. During the initial development of screen-intervene for writing problems, the research team observed the following: new students who struggled with writing might move to the school after earlier grades and not have had an opportunity to participate in screen-intervene. It was not clear whether any observed writing struggles they exhibited were due to lack of prevention through screen-intervene or some other reason.

Also, sometimes an at-risk writer failed to respond to the intervention being used in screen-intervene. Thus, to meet the needs of individual students who struggled with writing, a problem-solving consultation model was developed drawing on Berninger's training of clinical practica graduate students at the university, supervision of interns in the schools, and her ongoing consultation with local schools who sought her advice. Data on the effectiveness of the consultation was based on clinical assessment of the plan in place for the individual student once it was implemented. Details of the procedures and materials for implementing them are provided in the *Revised PAL II RW User Guide*, 2020d (see Tier 2 Problem Solving Consultation).

Forms are provided for:

- Teacher referral for writing struggles in classroom or failure to respond to screen-intervene
- The interdisciplinary team to plan and conduct formal assessment of student's writing skills
- Interview of parent/s and teacher/s
- Planning an individualized modification of the classroom writing instruction or the intervention used for the at-risk writer
- Evaluating the effectiveness of the modification for the individual student

6. Diagnosis and Specialized Instruction for Students Diagnosed with Language-Based Specific Learning Disabilities. As explained in research finding 1 under section F above, these three specific learning disabilities—Dysgraphia, Dyslexia, and OWL LD—all involve writing disabilities. For additional details, see Tier 3 in *Revised PAL II RW User Guide*, 2020d. For one kind of specialized instruction for writing, see Lesson Set 14 in Berninger & S. Abbott, 2020. For other examples of specialized writing instruction for Dysgraphia, Dyslexia, or OWL LD, see Berninger and Wolf (2019, second printing). The multiple language skills should be taught at cascading levels of language—subword, word, and multi-word sentence/text levels—close in time in a lesson to create a functional writing brain system (e.g., Richards, Berninger, Yagel, Abbott, & Peterson, 2017).

F. Benefits of writing prevention in the elementary grades

1. If screens show students are at risk for Dysgraphia, Dyslexia, or OWL LD and they receive evidence-based screen-intervene in grades 1, 2, 3, 4, and 5 that includes handwriting, spelling, and composing, then Dysgraphia, Dyslexia, or OWL LD may be prevented (or at least reduced in severity) during the middle school and high school grades. As a result, fewer students in a school would require the more costly pull special education programs. The *Revised PAL II RW Guide* (2020d) provides information on how members of an interdisciplinary team of professionals can contribute in different ways to ensure efficient provision of screen-intervene. For example, research has shown that an efficient and effective way to provide intervention for multiple students is Slavin's (1987) Walk About Model. See Berninger (2002 and 2015) for procedures for implementing it in multiple classrooms at the same grade level or across grade levels. Instructional groups are formed for at-risk writers who score below criterion on at least one screen measure in common.

Intervene is provided in the context of a set of multi-level writing skills that students benefit from to create a functional writing system, even if they are not at risk in all the same skills or in all levels of language relevant to creating a functional writing system. Intervene is delivered to them at the same time during the regular language arts instruction time for their grade level when they walk to the classroom and instructional group offering their intervene lesson. This approach can provide intervention for more students than a pull-out special education model in which only a limited number of students can be served at a given time or day.

2. Because screening is done for all students in grades 1 to 5, it allows a school to evaluate whether writing development is within the normal range (or higher) for all the students in grades 1 to 5 as well as to identify individual students who are at risk for specific writing skills that fall below the lower limits of the average range (Berninger, Vaughan, R Abbott, Brooks, S Abbott, Reed, Rogan, & Graham, 1998). Both kinds of information, which can be used to design the writing curriculum in general and intervention for at-risk writers, are valuable in preventing writing problems during elementary grades.

3. The screen-intervene model for writing may not only prevent writing problems but may also facilitate learning other literacy skills such as reading or writing skills at a different level of language than the writing skills taught.

Kindergarteners taught writing (but not reading) throughout the school year were all reading above the 75th percentile at the end of kindergarten (Traweek & Berninger, 1997).

For the lowest achieving readers in the lowest achieving schools in a large urban school district, first graders who were taught writing skills (handwriting, spelling, and composing) plus reading (phonics, word reading and decoding, and text reading) using lesson sets based on NIH grants in IA in this Pearson website document on applying PAL II RW writing subtests to practice were compared to a control group that received only the regular reading program that focused on phonics and decoding. Both the control group and the writing plus reading group improved significantly in decoding pronounceable pseudowords, but only the writing plus reading group improved significantly in reading real words and orthographic coding of single letters and letter groups in written words (Berninger, Dunn, Lin, & Shimada, 2004).

First graders taught handwriting, who also composed, improved significantly in word decoding, even though reading was not taught; and they improved as much as those in the control group given only phonological awareness training (Berninger, Vaughan, Abbott, Abbott, Brooks, Rogan, Reed, & Graham, 1997).

Second graders who were taught spelling showed transfer to real word reading as well as composing (Berninger, Vaughan, Abbott, R., Brooks, Abbott, S, Reed, Rogan, & Graham, 1998).

4. Just because a student can read words, it does not mean that they know how to spell words. In a longitudinal study across grades 1 to 5 or grades 3 to 7, longitudinal structural equation modeling showed that relationships across adjacent grades were consistently statistically significant for word spelling-word reading but not for word reading-word spelling. That is, spelling achievement in one grade predicted reading achievement in the next grade, but reading achievement in one grade did not always predict spelling achievement in the next grade (Abbott, Berninger, & Fayol, 2010). Thus, spelling needs to be explicitly taught.

Unfortunately, many schools do not use a formal program for teaching spelling. Many schools assume that because computer programs have spell checks, it is not necessary to teach spelling. However, even though the spell check flags spelling errors, developing writers need to be able to recognize the correct spelling among the choices to choose the correct one. Fortunately, considerable research now exists on effective teaching of spelling; for review, see Berninger (2024, Chapter 17).

For example, in contrast to word reading that draws on orthographic-phonological correspondences, word spelling draws on phonological-orthographic correspondences that need to be taught in that direction as Talking Letters (Berninger, 2020c) does. Although phonological and orthographic skills are necessary, they are not sufficient for English spelling, which is a morphophonemic orthography (Berninger, 2024; Garcia, Abbott, & Berninger, 2010; Nagy, Berninger, Abbott, Vaughan, & Vermeulen, 2003). Accordingly, grade-appropriate screens and related intervenes are needed for morphology, phonology, and orthography related to spelling.

5. Not all students have computers in the home or classroom and need to rely on handwriting to complete homework or written assignments in the classroom. Thus, explicit instruction in handwriting and its transfer to spelling and composing can contribute to prevention of writing problems and success in completing written assignments at school and at home.

6. Some school and homework assignments in the elementary grades require integrated writing-reading such as taking written notes about source material that is read, reading written notes to study for a test, or writing to record teacher talk. Explicit instruction in handwriting, spelling, and composing can prepare students for 1) integrating writing and reading and 2) integrating writing and listening to prevent difficulties in completing written assignments at school and in homework and when studying for tests.
7. Achieving grade-level writing, writing-reading integration, and writing-listening integration skills in the elementary school grades 1 to 5 will support transition from elementary school to middle school (grades 6 to 8) and prevention of writing-reading integration and writing-listening integration difficulties throughout middle school. Also see Treiman & Kessler (2014) for benefits of teaching writing in the elementary school years.

Schema for implementing PAL POW screen-intervene for grades 1 to 5

Already discussed in this document for PAL POW are three ways the materials in the PAL POW Kit can be used for application to practice for the goal of preventing writing problems: Screen-Intervene, Problem Solving Consultation, and Differential Diagnosis-Specialized Instruction. Detailed information about each is provided in the *Revised PAL II RW User Guide*. However, in this document, a schema with overview of screen-intervene is provided because of its potential to prevent specific learning disabilities involving writing for many students at-risk in writing achievement and related processes in grades 1, 2, 3, 4, and 5.

A. Administer the following *PAL II RW* (Berninger, 2007) subtests, based on research, at each grade level to identify those who fall below criterion of a scaled score of 8 (lower limit of average range for grade) and thus are at risk for not developing grade-appropriate writing skills. Then implement intervene by providing intervention for those students who fall below criterion on one or more items in a set of screening measures but also embed that instruction in lessons that teach to cascading levels of language close in time to create functional writing systems. When the intervention is completed, re-administer the screen measures to evaluate response to instruction (RTI). Note that for each grade level the number of the screen and intervene for writing in this Overview of Screen-Intervene for Writing may differ sometimes from what is in the *Revised User Guide for PAL II RW* (Berninger, 2020d) because that deals with reading as well as writing. Also, for Tier 2 Problem Solving Consultation and Tier 3 Differential Diagnosis-Specialized Instruction grades 3 to 5, *DASH 2* (Barnett, Henderson, & Scheib, 2024) and *WIAT 4* (NCS Pearson, 2020) subtests can be used in addition to measures in PAL POW Kit, but order these separately from PAL POW Test Kit. Contact Pearson for information on ordering *DASH 2* and *WIAT®-4*. Prior versions of each were used some years in research supporting *PAL II RW*.

B. All students at a given grade level in a school year are screened in the first, second, or third month of the school year. For those who score below criterion (below the lower limit of the average range — a scaled score of 8 or standard score of 90) and are at-risk on one or more screen measures, intervention is provided. An effective way to provide intervene for multiple children is the research-supported walk-about model (Slavin, 1987, Berninger, 2002, 2015). At language arts time the students walk to their instructional group where writing is taught at their instructional level in a group in their homeroom or another classroom. Thus, the instructional needs of more students at risk for specific kinds of writing problems can be served in an inclusionary educational setting than in a pull-out special education program for a few students.

C. Multiple educational professionals on multidisciplinary teams work collaboratively to implement this application to practice to prevent writing problems. School psychologists and speech and language specialists have the training required to administer and interpret standardized tests such as *PAL II RW* for screening purposes or *DASH 2* or *WIAT-4*; some of the measures yield scale scores ($M=10$, $SD=3$) and some measures yield standard scores ($M=100$, $SD=15$) to use in identifying students performing below the lower limits of the average range to qualify them for intervention. The special education and general education teachers have experience relevant to providing instruction. The whole multidisciplinary team can participate in implementing the assessment-instructional intervention links and problem solving any problems that may arise. See *Revised PAL II RW User Guide* (2020d) and *Revised Guides for Intervention. Reading and Writing* (2020a).

D. See Screen-Intervene by grade levels 1, 2, 3, 4, and 5 on the pages that follow.

Grade 1 Screen–Intervene

PAL II RW Alphabet Writing 15 (accuracy at 15 seconds for writing alphabet from memory, *PAL II RW Copy Task A* (sentence), and *PAL II RW Copy Task B* (paragraph))

Intervene 1 If student scores below criterion on Alphabet Writing 15, Copy A, and/or Copy B, provide Lesson Set 3 (Berninger & S. Abbott, 2020). This lesson set, which draws on lessons in *Revised PAL Handwriting Lessons* (Berninger, 2020b), teaches forming letters using numbered arrow cues, storing letters in the “mind’s eye,” retrieving letters from memory, and transferring legible and automatic letter writing to writing words and composing text. See Berninger, Vaughan, R Abbott, S Abbott, Brooks, Rogan, Reed & Graham (1997).

Screen 2 *PAL II RW Syllables* and *PAL II RW Phonemes* (phonological skills)

Intervene 2 Play the Sound Games for Phonological Awareness Training on pages 194 to 218 in the *Revised PAL II Guides for Intervention. Reading and Writing* (Berninger, 2020a). Phonology is relevant to word spelling in that sounds in spoken/heard words are translated into letters. See Berninger, R Abbott, Rogan, Reed, S Abbott, Brooks, Vaughan, & Graham (1998) for why sound units are important in spelling.

Screen 3 *PAL II RW Receptive Coding Task A*, (whole word), *Task B* (letter in a word), and *Task C* (letter group in a word)

Intervene 3 Play the Looking Games for Orthographic Awareness Training on page 191 in the *Revised PAL Guides for Intervention. Reading and Writing* (Berninger, 2020a). Orthographic awareness is also relevant to spelling in that sounds in spoken/heard words can be translated into a single letter, a letter group, or a multi-letter word pattern. For Looking Games use words from a regular reading program or regular spelling program or from the writing lessons yoked to screening results. Orthographic awareness and coding contribute to handwriting and spelling (Berninger, Yates, & Lester, 1991).

Screen 4 *PAL II RW Word Choice*, a measure of recognizing a correct word-specific spelling among choices all pronounced the same

Intervene 4 For students who are below criterion on Screen 4, use *Revised PAL Teacher’s Guide for Talking Letters and Talking Letters* student cards (Berninger, 2020c) for teaching phonological-orthographic correspondences for single letters and letter groups in the spelling direction.

Screen 5 *PAL II RW Narrative Fluency*

Intervene 5 If student scores below criterion on Screen 5, provide Lesson Set 3 with focus on thinking aloud before timed text-level composing about prompts in *Revised PAL Handwriting Lessons* (Berninger, 2020b) and sharing written compositions orally with writing buddies.

Grade 2 Screen–Intervene

Screen 1 same as Grade 1 Screen 1 for handwriting

Intervene 1 same as Grade 1 Intervene for handwriting, but at completion of PAL Lesson Set 3, add Before and After Alphabet Retrieval Games on page 192 of *Revised PAL Guides for Intervention. Reading and Writing* (Berninger, 2020a).

Screen 2 *PAL II RW Syllables*, *PAL II RW Phonemes*, and *PAL II RW Rimes* (phonological skills)

Intervene 2 same as Grade 1 Intervene 2 but add to Intervene spoken rime units on page 47 of the *Reproducible Instructional Materials* that go with the *Revised PAL Research-Based Reading and Writing Lessons* (Berninger & S. Abbott, 2020). The teacher pronounces each of the words in parentheses and asks the student to say what is left when the initial phoneme or phoneme blend is not pronounced; what remains is a phonological rime unit (Treiman & Kessler, 2014).

Screen 3 same as in Grade 1 Screen 3 (orthographic skills)

Intervene 3 same as in Grade 1 Intervene 3, but each of the 32 written word families on page 47 of the *Reproducible Instructional Materials* are added to the intervention. First, the teacher explains that sometimes sounds are spelled with multi-letter units larger than a single letter and students are going to learn 32 of these rimes (part of syllable remaining when initial phoneme or phoneme blend in syllable is deleted) to use in spelling words. (For research on rimes, see Treiman & Kessler, 2014). Then the teacher names each letter in the rime unit, pronounces the rime (word family), and spells, names, and writes the word or words in parentheses that contain the rime. Finally, the students name each letter in the rime, pronounce the rime, and spell, name, and write the word or words in parentheses that contain the rime. Once students understand what a rime is (i.e., not the same as rhyme) the rime units are called word families.

Screen 4 *PAL II RW Word Choice*, a measure of recognizing a correct word-specific spelling among choices all pronounced the same

Intervene 4 For students who score below criterion on Screen 4, provide instruction in Lesson Set 4 (Berninger & S. Abbott (2020) based on Berninger, Vaughan, R Abbott, Brooks, S Abbott, Reed, Rogan, & Graham (1998), with focus on spelling *monosyllabic* words with alphabetic principle in the spelling-direction (phoneme-1 or 2 letter grapheme correspondences) and transferring spelling to composing. Use *Revised PAL Teacher's Guide for Talking Letters* and *Talking Letters student desk cards* (Berninger, 2020c) to teach phoneme-grapheme correspondences in the spelling direction.

Screen 5 *PAL II RW Narrative Fluency*

Intervene 5 For students who score below criterion on Screen 5, provide instruction in Lesson Set 4 with focus on *text level composing* that is also included in the lesson set as well as *subword level* alphabet principle taught in the spelling direction and *word level* spelling.

Grade 3 Screen-Intervene

Screen 1 Same as Screen 1 Grades 1 and 2 plus *DASH 2 Copy Fast* and *DASH 2 Copy Best* (Barnett, Henderson, & Scheib, 2024) if available.

Intervene 1 Students who score below criterion on any Screen measures play "Before and After Alphabet Retrieval Games" on page 192 of *Revised PAL Guides for Intervention. Reading and Writing* (Berninger, 2020a). In addition, if frequent errors in legibility of letters and in confusion among similar letters occur on screen measures or in daily work, have student complete the *Revised PAL Handwriting Lessons* (Berninger 2020b).

Screen 2 and **Intervene 2** same as in Grade 2

Screen 3 and **Intervene 3** same as in Grade 2

Screen 4 *PAL RW Are They Related? Find the True Fixes Task A and Does It Fit? (items 1 to 10)*, *PAL II RW Word Choice* (spelling by recognition), and *WIAT 4 (NCS Pearson, 2020) Spelling* (spelling from dictation) if available.

Intervene 4 For students who score below criterion on Screen 4, provide instruction in spelling *polysyllabic* words in Lesson Set 5 (Berninger & S. Abbott, 2020) based on Berninger, Vaughan, Abbott, Brooks, Begay, Curtin, Byrd, & Graham (2000). Note that some students who did not participate in Lesson Set 4 in second grade might benefit from completing that Lesson Set before beginning Lesson Set 5.

For Lesson Set 5, complete the text composing for the writing prompts to practice applying spelling to composing. When PAL Lesson Set 5 is completed, then provide instruction in Lesson Set 7 (Berninger & S. Abbott, 2020) based on Berninger, Vaughan, Abbott, Begay, Curtin, Hawkins, & Graham (2002), with focus on subword alphabet principle and its alterations in spelling direction and word sorts using List 10 for structure words that glue other words in a sentence together and List 11 for content words. List 10 and List 11 are in the *Reproducible Instructional Materials* that go with the *Revised PAL Research Based Reading and Writing Lessons*. Point out to the students the Inflectional Suffixes for plural, past tense, and comparison when they occur (see page 49 of the *Reproducible Instructional Materials*).

Screen 5 *PAL II RW Expository Note Taking and Writing*

Intervene 5 For students who score below the criterion on Screen 5, provide instruction in Lesson Set 7, with focus on text composing (planning through reflective discussion, translating of ideas into words, words into sentences, and sentences into organization of text for different expository genres, reviewing and revising, and writing for an audience).

Grade 4 Screen–Intervene

Screen 1 Same as Screen 1 Grade 3

Intervene 1 For students who score below criterion on screen measures, provide instruction in Lesson Set 8 (Berninger & S. Abbott, 2020) based on Berninger, Abbott, Whitaker, Sylvester, & Nolen (1995) with focus on *subword level* Writer’s Warm-Up for Handwriting Automaticity.

Screen 2 *PAL II RW Expressive Coding, PAL II RW Find the True Fixes Task A, Task B, and Task C, PAL II RW Word Choice* (spelling by recognition), and *WIAT 4 Spelling* (spelling from dictation) if available

Intervene 2 For students who score below criterion on Screen Measures, provide instruction in Lesson Set 8, with focus on *word level* orthographic coding of written word in mind’s eye.

Screen 3 *PAL II RW Does It Fit?* and *PAL II RW Sentence Structure* and *WIAT 4 Sentence Building* and *WIAT 4 Sentence Combining*

Intervene 3 For students who score below criterion, provide instruction in Lesson Set 8, with focus on *sentence level* skills—sentence dictation and sentence construction in notes and composed text.

Screen 4 *PAL II RW Expository Note Taking and Writing*

Intervene 4 For students who score below criterion, provide instruction in PAL Lesson Set 8, with focus on *sentence-level* and *text-level* composing skills (planning, translating, reviewing and revising) for expository texts.

Grade 5 Screen–Intervene

Screen 1 Same as Screen 1 for Grade 4

Intervene 1 For students who score below criterion, provide instruction in Lesson Set 14 (Berninger & S. Abbott, 2020) based on Brooks, Vaughan, & Berninger (1999) with focus on subword level Writer’s Warm-Up for Handwriting Automaticity.

Screen 2 Same as Screen 2 in Grade 4

Intervene 2 For students who score below criterion on any Screen 2 measure, provide instruction in Lesson Set 14 with focus on *subword* alphabetic principle in the spelling direction, *word level* morphological variants, and *word and sentence level* written spelling of dictated sentences.

Screen 3 Same as Screen 3 for Grade 4

Intervene 3 For students who score below criterion on any screen 3 measure, provide instruction in Lesson Set 14, with focus on *sentence level* skills—sentence dictation and sentence structure in written notes and composed text.

Screen 4 Same as Screen 4 for Grade 4

Intervene 4 For students who score below criterion, provide instruction in Lesson Set 14 on integrated reading-writing, with focus on *sentence-level and text-level composing skills* (planning, translating, reviewing and revising) *for notes and composed written texts about read source material*.

Other screens for Grade 1 and Grades 2, 3, 4, and 5 (if still area of concern)

Grapho-Motor Skills

Administer *PAL II RW Finger Sense* (Finger Repetition and Finger Succession subtests), and if student scores below criterion, refer student to an occupational therapist for additional assessment of possible fine motor problems involving fingers and affecting handwriting, and if found, appropriate treatment for them.

Aural Language Skills

Administer *PAL II RW Sentences: Listening*, and if student scores below criterion, refer student to speech-language pathologist for additional assessment of possible aural language problems that could interfere with understanding a teacher's instructional language for writing and for integrating writing with other literacy skills. If aural language problems are found, the speech-language pathologist should recommend and provide intervention for them. If oral language problems have been observed in the classroom also ask the speech-language pathologist to assess them and provide intervention if found.

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