

1. **Title of the submission:** The History, Development, and Technical Adequacy of Phonological Awareness Literacy Screening (PALS) for Grades K-3: An Overview of One Assessment Based on SBRR
2. **Name(s) of the author(s):** Timothy J. Landrum, Marcia Invernizzi, Heather Partridge, & Jenni Ballow
3. **Affiliation(s) of the author(s):** University of Virginia
4. **Address(es) of the author(s):** University of Virginia
PALS Office
853 W. Main Street, Suite 104
P.O. Box 800785
Charlottesville, Virginia 22908-8785
5. **E-mail address(es) of the author(s):**
 - a. Landrum: TimL@virginia.edu
 - b. Invernizzi: mai@virginia.edu
 - c. Partridge: hap2c@virginia.edu
 - d. Ballow: jenni@virginia.edu

6. Abstract of paper:

One of the most effective strategies for preventing reading problems is identifying children experiencing difficulties early and accurately, then ensuring that they attain critical early literacy skills by providing additional instruction so they can catch up. This approach can be viewed as simultaneously proactive and preventive.

The Phonological Awareness Literacy Screening (PALS) was developed by reading researchers at the University of Virginia as the statewide screening tool for Virginia's Early Intervention Reading Initiative (EIRI). Since 1997, PALS has been used to screen nearly one million students in grades K through 3. In this paper, we describe the development of PALS with specific attention to (a) the key indicators of successful literacy acquisition in kindergarten through third grade, and the scientifically based reading research (SBRR) from which they are derived, and (b) the technical adequacy of the PALS instrument.

A substantial research base has suggested key variables that help identify children most likely to experience subsequent difficulties with reading achievement (Catts, 1993; Lyon, 1998; Scarborough, 1998, 2000; Torgesen, Wagner, Rashotte, Burgess, & Hecht, 1997; Torgesen & Wagner, 1998; Vellutino, Scanlon, Pratt, Sipay, Small, Chen, & Denckla, 1996). This research base indicates that measures of phonological awareness, alphabet knowledge, letter-sound knowledge, and other elements of early literacy (e.g. phonetic spelling, word recognition) serve as robust predictors of children's later literacy achievement.

The theoretical background for PALS is rooted in phonological awareness and early literacy research that has highlighted the importance of these variables. PALS tasks are both developmentally appropriate and engaging for young children. In this paper we first describe individual task and item development and field testing, with specific attention to how our own research and the reading research literature in general lead us to select items and tasks initially for inclusion in an item pool. We then describe the methods used to evaluate the adequacy and soundness of items and tasks. The paper also includes a discussion of our initial and ongoing field-testing process, as well as our analysis of statewide results each year. Finally, we conclude with some general observations about the process of early literacy screening, with particular attention to the problems associated with implementing mandates for yearly assessment. Throughout, we emphasize the appropriate use of PALS as a screening instrument for state and national initiatives such as Reading First.

We also provide an overview of the technical adequacy of PALS, which has been established through pilot studies and statistical analyses of PALS scores for over 680,000 students statewide in kindergarten through grade three. We include an overview of PALS' item reliability, inter-rater reliability, and internal consistency. The reliability of individual subtasks has been documented through the use of Cronbach's alpha. Reliability coefficients for individual tasks ranging from .79 to .96 and demonstrate the adequacy of their internal consistency. Inter-rater reliabilities expressed as Pearson correlation coefficients and have ranged from .93 to .99, demonstrating that PALS tasks can be scored consistently across individuals. In all of these analyses, PALS has been shown to be steady, reliable, and consistent among many different groups of users.

We also describe our research efforts to establish the content, construct, and criterion-related validity of PALS. Principal components analyses, discriminant function analyses, and intercorrelations among tasks provide evidence of the construct validity of PALS. Regression analyses have demonstrated the predictive relationship between PALS scores in the Fall and other measures (e.g., Stanford-9) in the Spring. Coefficients of determination have shown that a significant proportion of the variability in spring Stanford-9 scores (for kindergarten, 1st, and 2nd graders) and Standards of Learning (SOL) reading scores (for 3rd graders) can be explained by PALS scores from nine months earlier. Similar analyses have demonstrated the concurrent validity of PALS using the Cat-5 and the QRI for grades one; the Stanford-9 for kindergarten and grade two; the DRA for grades one, two, and three; and the SOL reading component for grade three. In addition, differential item functioning analyses using the Mantel-Haenszel statistic demonstrate the consistency of responses to specific tasks across groups of identified and not-identified students. All of these analyses provide evidence of the validity of PALS as an emergent literacy and early reading assessment that reliably identifies students in need of additional instruction.