

## **SOUNDS IN MOTION: A Unique Approach to Early Literacy**

Frances Santore, M.A. CCC-SLP

Children from low socio-economic households and communities, make up a high percentage of students who are considered to be “at risk” for academic failure. Many of these children often enter kindergarten and first grade with delayed pre-academic skills in letter recognition, phonemic awareness, vocabulary, and language development, all of which can contribute to a literacy achievement gap in reading and writing. (Foster & Miller, 2007; Wolf, 2007; Moats, 2001). Without early intervention this gap increases with time, and as pointed out by Juel (1988), children who are poor readers at the end of first grade have an 88% chance of being poor readers at the end of 4<sup>th</sup> grade. Finding it more difficult to catch up academically, these children eventually represent the greatest percentage of students (based on SES) who drop out of high school (NCES, 2008).

Over the past 45 years, the United States Congress has passed a number of laws in an effort to close this academic achievement gap. The Elementary and Secondary Education Act (No Child Left Behind) originally passed in 1965, established Title 1 funding. Schools having 40% or more of students who qualify for free or reduced lunch based on their low SES, are given additional funds which may be applied to: curriculum instruction; counseling; parent involvement, and other types of pedagogical assistance. In 2009, 44% of nearly 50 million students enrolled in public education (K-12) in the United States qualified for Title 1 funding, and this number has increased annually over the past 5 years (NAEP, 2009).

In addition, Response To Intervention, a tiered instructional model to limit or prevent academic failure for students who are having difficulty learning, was introduced with the 2004 re-enactment of IDEA. Due to the recognition that disorders in reading are often linked to underlying linguistic deficits, speech-language pathologists working in public schools are being asked to become more involved in RTI activities, including early assessment, and remediation of literacy-based language delays (van Kleeck & Schuele, 2010).

While SLPs are trained to become experts in the diagnosis and remediation of language disorders, they are not generally instructed in the teaching of reading and writing, particularly in a classroom setting. SOUNDS IN MOTION, an interventional phonemic awareness and early literacy program can be a tool for clinicians facing this challenge. Used primarily with pre-kindergarten through first grade students, SIM may also be applicable to older students who are having difficulty learning to read. It enables speech-language pathologists to work collaboratively with teachers in general and special education classrooms, in developing early reading and writing skills. It also acts as an early diagnostic tool, identifying children who may need further evaluation.

Developed in an elementary school over a 15 year period, SIM was introduced to the professional community in 2006. Approximately 2500 therapists, classroom teachers, and reading specialists in 21 states have been trained to use the program. It has been applied successfully in a variety of school settings: public and private; rural and urban; in regular and special education classes; and in small group, and individual therapeutic sessions with children from all socio-economic backgrounds. It is effective with children who are ELL, children who are apraxic, and students having language and learning disorders. Most importantly, according to a variety of reading test results submitted by clinicians and teachers from public schools in seven states (New York, New Jersey, Virginia, South Carolina, Pennsylvania, New Mexico and Kansas), this program has helped children who qualify for Title 1 funding achieve reading benchmarks in kindergarten and first grade. In addition, teachers who have used the program for several years and reinforce the activities throughout the school day find that the number of children at risk for reading failure drops annually.

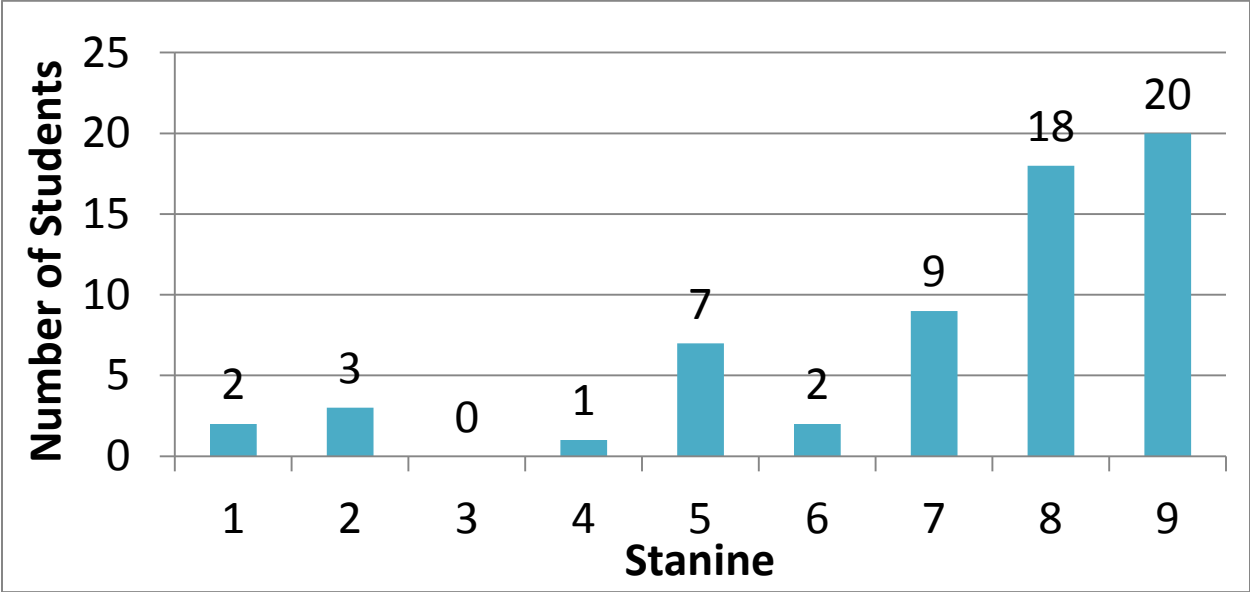


Fig. 1 – Dominie Test Results (Westminster Elementary school, Westminister, SC – First Grade) 2007- No SIM (children at Stanine 4 and below are at low average, and below average).

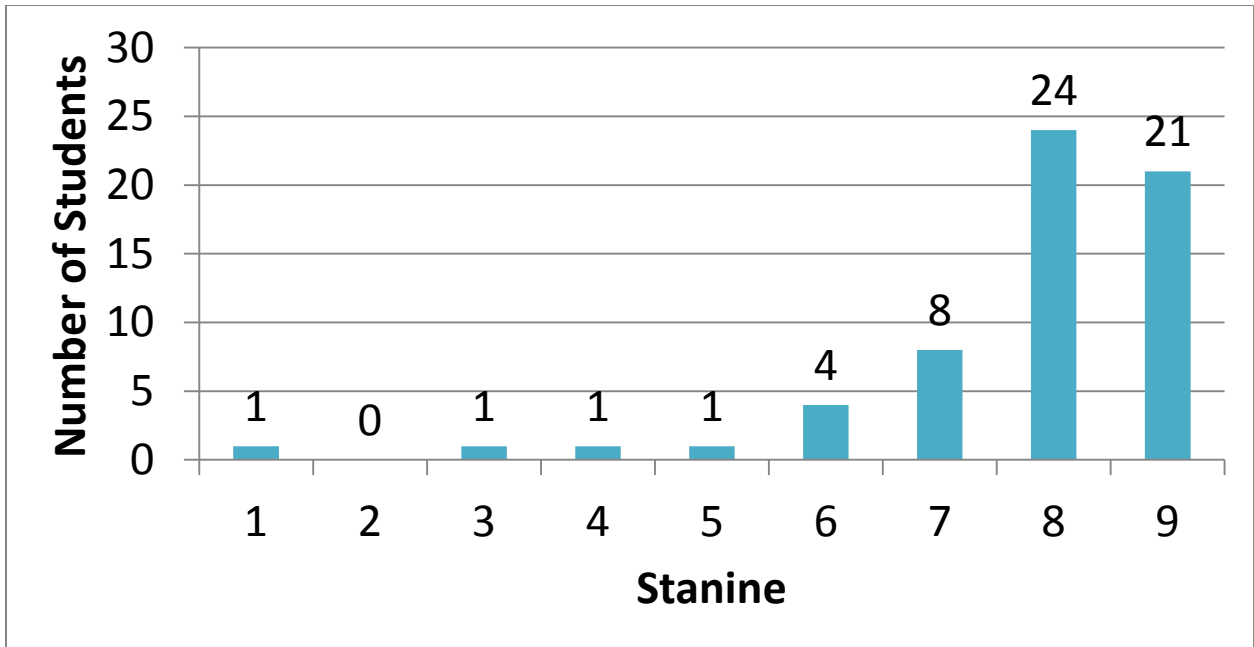


Fig. 2 – Dominie Test Results - 2008 – 2/3 classes had SIM

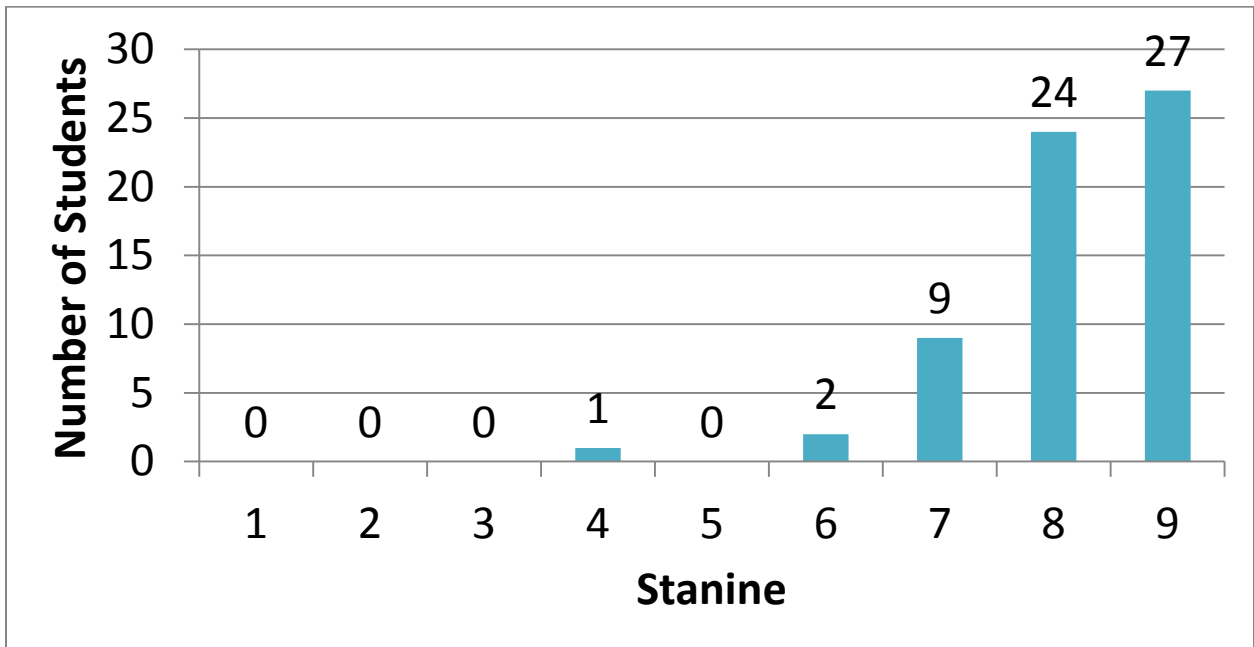


Fig. 3 – Dominie Test Results - 2009 – all 3 classes had SIM

## Goals of SIM:

The SOUNDS IN MOTION approach has a number of goals. Uniquely, it pairs kinesthetic gross motor movements with phonemes to teach articulation, phonemic awareness and sound/symbol association; it addresses improvement of receptive and expressive (oral and written) language skills, and it helps children develop the ability to become actively involved in the task of listening – a communication activity that is generally overlooked in academic instruction. Of the four communication activities that are taught and used during a child's school years, (listening, speaking, reading and writing) listening, which provides the foundation for all aspects of language and cognitive development, and plays a life-long role in the processes of learning and communication, is the activity that is most used (Wilt, 1950) and yet, it is the least taught (Burley-Allen, 1982).

## How does SIM work?

Since SIM is supplemental, it can be used to augment most reading programs. It consists of 15 weekly sessions, each lasting 30-40 minutes. The lessons are taught collaboratively by the SLP and the classroom teacher. Every session includes: a review of the body movements for previously taught phonemes; an introduction of movements for 2 new phonemes and practice combining these movements with those previously learned to create syllables and words; a specific listening activity (such as following directions, or auditory discrimination); and a language activity in the form of a Rebus story, or rhyme. Since great emphasis is spent on listening skills in SIM, two sessions are also devoted to teaching the children about noise abuse and how to protect their hearing. Children are tested prior to, during, and after the completion of the program to evaluate their communication and reading skills.

This program was initially created to address the need for treating the large number of children who were being referred for articulation therapy, by providing some weekly stimulation in auditory perception and phoneme production in the classroom. A technique designed to teach early learners to become actively involved in listening was introduced through the use of "whole body listening" (Truesdale, 1990). To develop correct auditory perception and articulation stimulation of phonemes for the entire class, "body movements," were introduced.

The body movements are part of the VerboTonal Method, an aural habilitation and rehabilitation program for children and adults created by the Croatian linguist and speech scientist, Petar Guberina. (Guberina and Asp, 1981; Santore, 1978 ). Guberina, a contemporary of Jean Piaget, had learned from him the importance of movement and play in helping children develop cognition and language. The body movements, which include characteristics of **tension, duration, pitch, intensity, and placement of the articulators in space**, associated with each phoneme were designed by kinesthesiologists under Guberina's direction. The goal was to establish a movement with the above characteristics so that, while a child was vocalizing and engaged in doing the movement, correct articulation of the phoneme would occur spontaneously.

Guberina believed that by providing visual, kinesthetic and proprioceptive clues to the deaf child, he could augment acoustic information about sound quality which was not being transmitted to the brain. For children with normal hearing the auditory channel is also activated, thus helping to develop correct articulation, auditory perception, and auditory memory for the phonemes.

As the program evolved, teachers requested additional listening, and phonemic awareness activities. They observed that not only were children blending and segmenting phonemes more easily in their reading, they also felt newly empowered to spell and write spontaneously - first sentences, then paragraphs, and even stories.

An example of this growth in writing and reading can be found with children at P.S. 92 in New York City. Of the 16 students entering the kindergarten class in 2008, 95% qualified for Title 1 funding. Six percent of the students were English Language Learners, but many of the other students exhibited significant language delays. Most had no pre-school educational experience, only a few could write their names, or had limited alphabet knowledge, and none had sound/symbol association. Due to these delays, the teacher and the speech-language pathologist chose to lengthen the program to 20 weeks as opposed to the recommended 15 weeks. In September, student A (Fig. 4), not having any alphabet knowledge, could not write any letters spontaneously. The marks at the top of the page represent his writing of his name. By April (Fig. 5), he was writing complete sentences with some reversals.

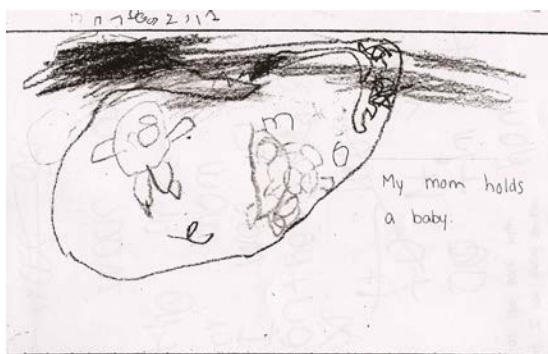


Figure 4.

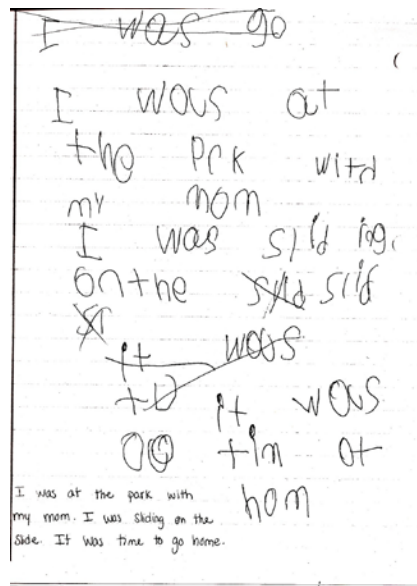


Figure 5.

Student B. had some alphabet knowledge in September (Fig. 6), but could not write her name or any words. By April (Fig. 7) she was writing sentences. Her listening skills indicate correct perception of the morphological marker “ed” in two words as evidenced by her spelling – “cold” for called; and “tukt” for tucked.



Figure 6.

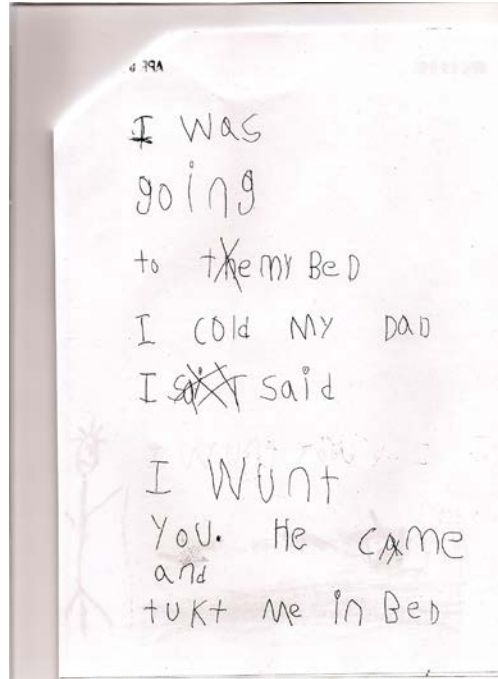


Figure 7.

The reading scores for this class (Fig. 8 ) show that not only were these children achieving end of Kindergarten benchmarks (level 2), but more than half of the students were achieving mid and year-end 1<sup>st</sup> grade benchmarks (levels 3 and 4) as well.

**Fig. ECLAS DATA Kindergarten  
Class P.S. 92 (96% of the students  
qualify for Title 1 funding)**

**January, 2009**

**Alphabet Recognition level 1**  
87% meeting benchmark

**Initial Consonants level 1**  
88% meeting benchmark

**Spelling level 1**  
75% meeting benchmark

**Decoding level 2**  
44% meeting benchmark

**Blending & Segmenting level 2**  
44% meeting benchmark

**May, 2009**

**Alphabet Recognition level 2**  
94% meeting benchmark

**Final Consonants level 2**  
94% meeting benchmark

**Spelling level 2**  
88 % meeting benchmark  
**69% above benchmark (4 level 3; 7  
level 4)**

**Decoding level 2**  
82% meeting benchmark  
**69% above benchmark (9 level 3; 2  
level 4)**

**Blending & Segmenting level 2**  
88% meeting benchmark

**Sight Words level 2**  
88% meeting benchmark  
**69% above benchmark (5 level 3; 6  
level 4)**

**Reading Accuracy level 2**  
88% meeting benchmark  
**69% above benchmark (5 level 3; 6  
level 4)**

**Level 1 – Mid year-Kindergarten  
Level 2 - End year-Kindergarten  
Level 3 – Mid year – First Grade  
Level 4 – End year – First Grade**

Figure 8



Figure 9: The class and their teacher doing the movement for the “p” phoneme.

Clinicians and teachers have found that SOUNDS IN MOTION seems to be effective for three reasons: it emphasizes the development of listening skills; it uses body movements that correspond to the linguistic aspects of the articulation of each phoneme; and, it is fun. It engages the children through movement, which reinforces perception, production, and sound/symbol association. While ongoing research continues, SOUNDS IN MOTION appears to be a program that can help “children at risk” take the first crucial steps in breaching the literacy achievement gap.



## **Listening Activities Emphasized in SIM**

1. ATTENTION TO LISTENING

2. SYLLABIFICATION

3. AUDITORY PERCEPTION OF PHONEMES

- PLACEMENT IN SYLLABLES AND WORDS

- DISCRIMINATION OF SHORT VOWELS AND CONSONANTS OFTEN CONFUSED

- **Consonants:**

- p/t/k f/s/th(voiceless) ch/tr

- b/d/g v/th (voiced) j/dr

- m/n l/r/w

- **Vowels:**

- Short i/e; o/u; a/e

4. AUDITORY SEQUENCING; MEMORY; FOLLOWING DIRECTIONS

5. HOW TO PROTECT YOUR HEARING

## References

- Aikens, N. L., & Barbarin, O. (2008). Socioeconomic differences in reading trajectories: The contribution of family, neighborhood, and school contexts. *Journal of Educational Psychology, 100*, 235-251.
- Al Otaiba, S., Connor, M.C., Foorman, B., Schutschneider, C., Greulich, L., & Sidler, J.F. (2009). Identifying and intervening with beginning readers who are at risk for dyslexia: advances in individualized classroom instruction. *Perspectives on Language and Literacy*, (Fall), 13 - 18.
- Brito, P. & Levey, S. (2001, October). The production and the perception of English vowels by bilingual native Spanish speaking children. Paper presented at the Ronald E. McNair International Research Conference, University of Puerto Rico, San Juan.
- Burley-Allen, M. (1982). *Listening: The Forgotten Skill*. New York: Wiley.
- Ehri, L.C. (1998). Research on learning to read and spell: a personal historical perspective. *Scientific Studies of Reading, 2*, 97-114.
- Eisenberg, D. & Santore, F. (1976). The Verbotonal Method of Aural Rehabilitation. *The Volta Review, 78*, 16-22.
- Foster, W. & Miller, M. (2007). Development of the Literacy Achievement Gap: A longitudinal Study of Kindergarten Through Third Grade. *Language, Speech, and Hearing Services in Schools, 38*, 173-181.
- Guberina, P. & Asp, C. (1981). *The Verbotonal Method for Rehabilitating People with Communication Problems*. Monograph#13. World Rehabilitation Fund, U.S. Department of Education, Washington, D.C.
- Juel, C. (1988). Learning to Read and Write: A Longitudinal Study of 54 Children from First Through Fourth Grades. *Journal of Educational Psychology, 80*, 217-234.
- Juel, C. (2005). The impact of early school experience on Initial reading. In Dickinson, D. and Neuman, S. (Eds.) *Handbook of early Literacy Research*. New York: Guilford.
- Kuhl, P.K. & Iverson, P. (1995) Linguistic Experience and the “perceptual magnet effect.” In W. Strange (Ed.), *Speech perception and linguistic experience: Theoretical and methodological issues in cross-language speech research*. Timonium, MD: York Press.
- Moats, L.C. (2001). Overcoming the Language Gap. *American Educator, 25*(5), 8-9.
- National Assessment of Educational Progress (2009) see: <http://nces.ed.gov/reading> .

National Center for Education Statistics. (2008). *Percentage of high school dropouts among persons 16 through 24 years old (status dropout rate), by income level, and percentage distribution of status dropouts, by labor force status and educational attainment: 1970 through 2007*. Retrieved from [http://nces.ed.gov/programs/digest/d08/tables/dt08\\_110.asp](http://nces.ed.gov/programs/digest/d08/tables/dt08_110.asp)

National Reading Panel (2000). *Teaching children to read: An evidenced-based assessment of the scientific Research literature on reading and Its Implications for reading Instruction* (No. NIH Pub. No. 00-4769). Washington, DC. U.S. Department of Health and Human Services.

Palardy, G. J. (2008). Differential school effects among low, middle, and high social class composition schools: A multiple group, multilevel latent growth curve analysis. *School Effectiveness and School Improvement, 19*, 21-49.

Pinker, S. (1984). *Language Learnability and Language Development*. Cambridge: Harvard University Press.

Santore, F. (1978). The Verbotonal Aural Rehabilitation Program for Hearing-Impaired Adults: A Five Year Summary Report. *Journal of the Academy of Rehabilitative Audiology, 11*, 33-44.

Stanovich, K. (1986). Matthew Effects in Reading: Some Consequences of Individual Differences in the Acquisition of Literacy. *Reading Research Quarterly, 21*(4), 360-407.

Strother, D.B. (1987). Practical Applications of Research: On Listening. *Phi Delta Kappan, 68* (8), 625-628.

Truesdale, S. (1990). Whole Body Listening: Developing Active Auditory Skills. *Language, Speech, and Hearing Services in Schools, 21*, 183-184.

Van Kleek, A. & Schuele, C.M. (2010). Historical Perspectives on Literacy and Early Childhood, *American Journal of Speech-Language Pathology, 19*, 341-355.

Wilt, Miriam E. (1950). A study of teacher awareness of listening as a factor in elementary education, *Journal of Educational Research, 43* (8), pp. 626-636.

Wolf, M. (2007). *Proust and the Squid: The Story and Science of the Reading Brain*. New York: HarperCollins Publishers.