

EVIDENCE OF EFFECTIVENESS SIPPS

SIPPS (Systematic Instruction in Phoneme Awareness, Phonics and Sight Words) is a decoding program for beginning readers developed by John Sheffelbine of California State University, Sacramento in collaboration with the Developmental Studies Center (DSC). The program is based on two related premises: Comprehension and decoding skills differ in both nature and pace of acquisition, and distinct instructional approaches are required for teaching skills in each area. SIPPS is a stand-alone program that teaches decoding in a way suited to each child's needs and abilities, with the central goal of having students become fluent readers in the shortest possible amount of time, so that they can concentrate on comprehending what they read.

Theoretical and Research Basis

When learning to read, students initially use context as a strategy for decoding print, then proceed to using spelling-sound relationships, and finally achieve automaticity—quick and effortless recognition of most words (Juel, 1991). A major goal of beginning-reading instruction is to teach students that spelling-sound information is more useful than context in decoding text. However, switching from using context to using spelling-sound strategies is unnatural and many students have difficulty making this transition. Because using spelling-sound strategies is unnatural, and because the English system of phonics is complex, beginning reading has to be taught carefully and well (Adams, 1990; Snider, 1995). SIPPS instruction is guided by a scope and sequence of phonemic awareness, phonics, and structural analysis. Critical content is introduced, reviewed, practiced with guidance, and applied to reading and writing. Teacher-directed instruction efficiently and effectively communicates the abstract and unnatural content of word-recognition strategies.

The SIPPS program corresponds to three developmental levels of progression in decoding: simple alphabetic (SIPPS *Beginning Level*), spelling pattern (SIPPS *Extension Level*), and polysyllabic/morphemic (SIPPS *Challenge Level*). Instruction at the Beginning and Extension levels includes concepts of print, phoneme awareness, phonics, and high-frequency sight words. Instruction at the Challenge level focuses on syllabic patterns and morphological units.

Phoneme awareness. SIPPS Beginning and Extension levels include instruction in rhyming, identifying beginning and ending sounds, blending, segmenting, and manipulating sounds in a word by adding, dropping, or switching sounds. Beginning level emphasizes blending and segmenting, because research indicates that these skills are most critical for reading (Adams, 1990; Pressley, 1998). Extension level emphasizes segmentation and manipulation—the most difficult phonological tasks.

Phonics. The way sounds are represented in English is complex. English uses various combinations of letters to represent sounds, particularly for the 18 vowel sounds that are represented by the 6 vowel letters. Also, because English is not strictly phonetic but also morphemic, decisions have to be made about which spelling-sound relationships are most important to teach. SIPPS Beginning and Extension levels focus on the 43 most consistent and frequent spelling-sound relationships identified from an analysis of the 1,008 most frequently used single-syllable words (Sheffelbine, 1994). These high-utility spelling-sound relationships enable students to read many words as early as possible.

Polysyllabic decoding. Reading polysyllabic words is a complex process, and syllabication strategies at best give an approximate pronunciation of a word and are unlikely to lead to a correct pronunciation when the word is not in the reader's listening vocabulary. SIPPS Challenge level de-emphasizes rules for dividing words and, instead, emphasizes reading syllables automatically and identifying likely syllables in a polysyllabic word. The program teaches students affixes and open and closed syllables because they frequently occur in words (Groff, 1971). Affixes also are limited in number and, especially in the case of suffixes, are reasonably consistent across words. In the reading by syllables routine, students read each syllable in a word as it is written on the board and then read the word as a whole. In the morphemic transformation routine, students practice reading base words with a series of affixes (Moats, 1995). In the reading entire words routine, students are encouraged to identify possible syllables in a flexible manner, first noting any irregular suffixes and then deciding which syllables are open and which are closed (Groff, 1971).

Evidence of Effectiveness

Findings from Pilot Testing and Field Testing

In an early pilot study involving approximately 25 first-grade students at a single school in the Sacramento, CA, area, the percentage of nonreaders dropped from 66% to 10% and the percentage of students reading at or above the primer level increased from 34% to 70%.

The encouraging results from this study prompted a more careful assessment of program effects, using a norm-referenced measure of decoding ability, in a larger field test. The field test involved approximately 200 2nd through 6th grade students at a school in West Sacramento, CA, where the student population was 93% socioeconomically disadvantaged, 62% Hispanic, and 33% limited English proficient. Effects on decoding ability were evaluated using fall and spring scores on the Slosson Oral Reading Test. During this two year study, English-speaking students gained an average of 1.6 grade levels in decoding ability each year after seven months of SIPPS implementation. This is more than twice the growth that would be normatively expected over a seven-month period. Spanish-speaking bilingual students showed even greater growth. They gained an average of 2.6 grade levels in decoding ability each year, almost four times expected growth. These findings are illustrated in Figure 1.

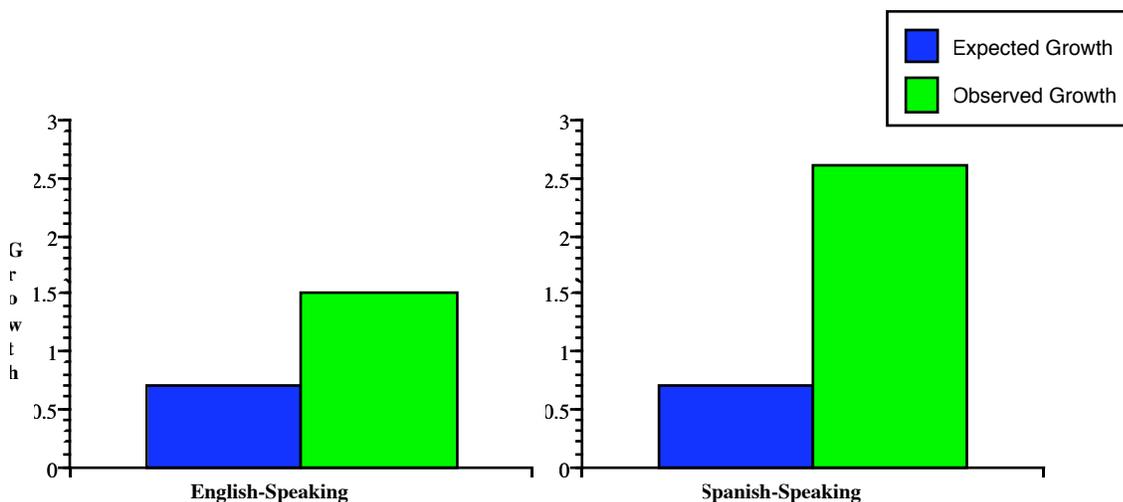


Figure 1. Growth in Grade-Equivalent Decoding Scores After Seven Months of SIPPS

Findings from Comparative Evaluations

The field test findings indicated that students learned to decode considerably faster than would be expected on the basis of normative development. In order to determine whether this degree of improvement was greater than that achieved by an alternative phonics program, a comparative study of SIPPS was conducted. This study involved two program schools (one of which served large numbers of Hispanic and socioeconomically disadvantaged students) and two matched comparison schools in Napa, CA. A total of 547 students in 1st through 3rd grades were assessed in the fall, prior to the beginning of instruction in reading, and again in the spring, after seven months of instruction. Students who received SIPPS instruction showed significantly greater gains in decoding (approximately four more months of growth in grade-equivalent scores on the Slosson Oral Reading Test) than comparison students ($p < .006$, $ES = .24$), whose teachers used Saxon Phonics and other state-adopted phonics materials. The differences were greatest for the school with a large Hispanic, low-SES population, relative to its matched comparison school ($p \leq .003$, $ES = .38$). These findings are illustrated in Figure 2. Also, as was found in the earlier field test, the gains in decoding from SIPPS instruction were greater for Spanish-speaking English language learners than for English-speaking students ($p < .03$, $ES = .22$). These findings are illustrated in Figure 3.

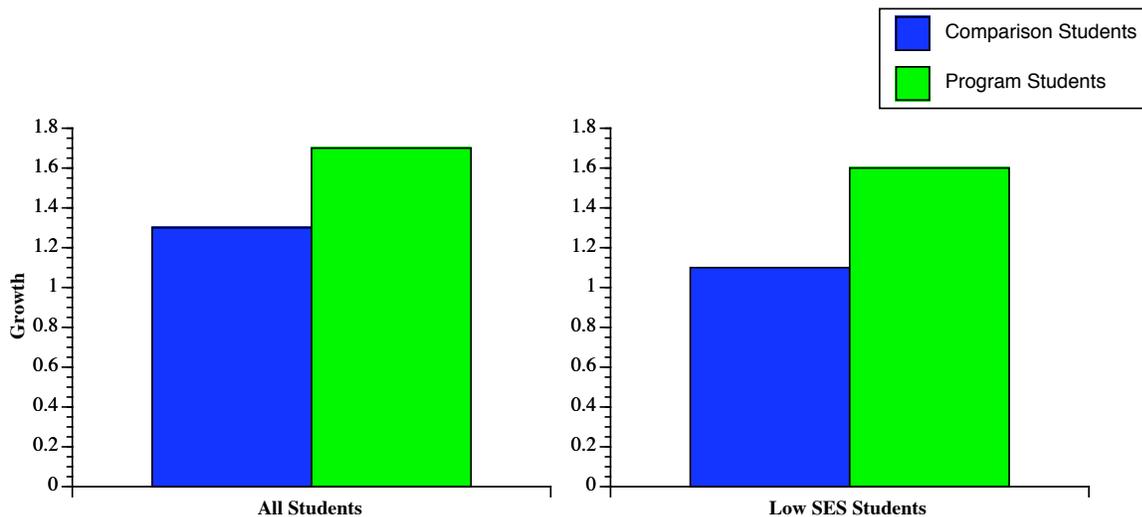


Figure 2. Growth in Grade-Equivalent Decoding Scores After Seven Months of SIPPS Instruction vs. Alternative Phonics Instruction

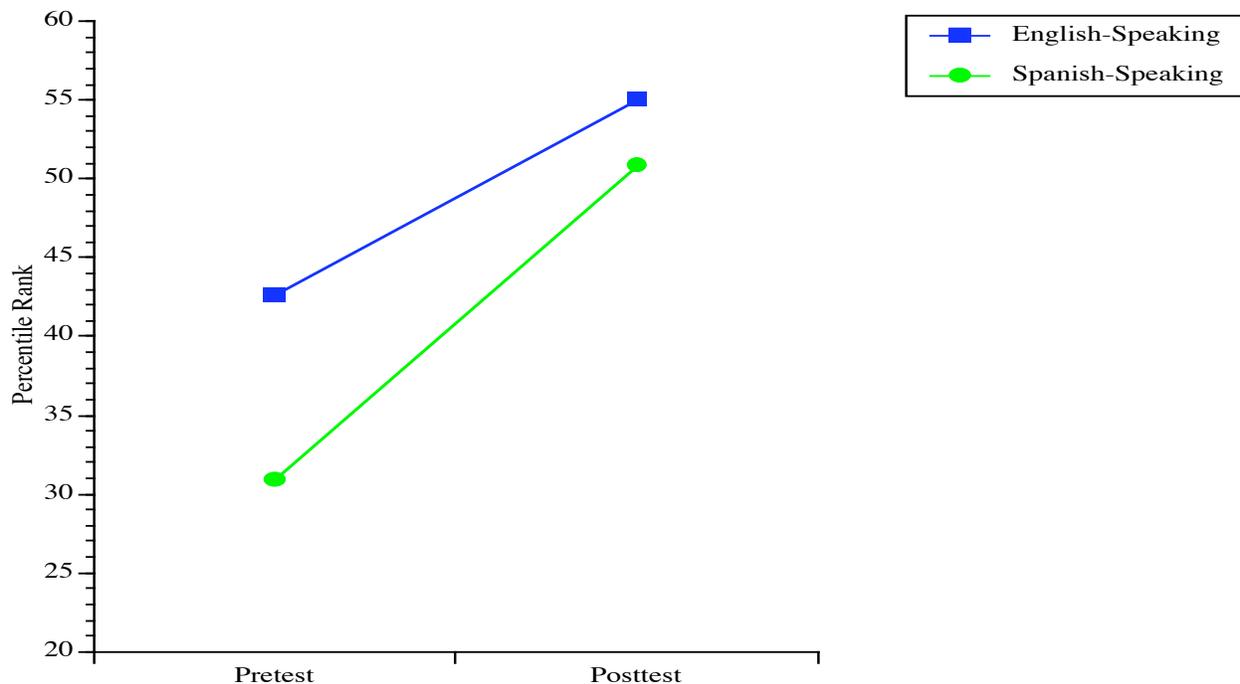


Figure 3. Gains in Decoding from Pretest to Posttest on the Slosson Oral Reading Test for English-Speaking and Spanish-Speaking Students, Napa, CA, 2001-2002

This comparative evaluation demonstrated that SIPPS was a better approach to phonics instruction than the other phonics programs used at the comparison schools in this district. The comparatively greater gains it yielded were not only statistically significant, but substantial—in this instance, equivalent to what we would expect if program students had experienced four additional months of decoding instruction than comparison students.

SIPPS’ effectiveness has been readily apparent to teachers. Throughout its piloting, field testing, and comparative evaluation, virtually all of the participating teachers (including those who did not like the program when it was introduced) reported that SIPPS was very effective with their students and led to substantial gains in decoding ability, as well as increases in students' motivation to read (due to their increased reading ability).

In addition to these evaluations of the entire SIPPS program, SIPPS *Challenge Level* has been evaluated in two comparative evaluations. In one study conducted with fourth and sixth grade students from three schools in Austin, TX, that served a heterogeneous, lower- and middle-class population, students received six weeks of *Challenge Level* syllabification instruction. Relative to comparison students, the fourth and fifth grade students that received SIPPS *Challenge Level* made significantly greater progress in their ability to identify polysyllabic words on the *San Diego Quick Assessment* and the *Woodcock Reading Mastery Tests*.

A second evaluation of SIPPS *Challenge Level* was conducted with fourth-, fifth-, and sixth-grade students at two schools serving a heterogeneous population in Elk Grove, CA. Teachers taught a total of 40 twenty-five-minute *Challenge Level* lessons over a three month period. Comparison students received no special instruction. Students that

received SIPPS made significantly greater progress in their ability to identify polysyllabic words on the *Slosson Oral Reading Test*. Average growth for the SIPPS students was 33.4 words, compared to 13.4 words for comparison students.

These findings clearly show that SIPPS is an effective program for teaching all students to decode, and indicate that it is particularly effective for English language learners and socioeconomically disadvantaged students. SIPPS has shown the largest gains in reading ability for students who typically have the most difficulty learning to read, and therefore have the greatest need for explicit phonics instruction.

Additional data on the effectiveness of SIPPS is currently being gathered from a larger number of schools that recently began using the program and are evaluating its effectiveness with their student populations.