# Florida Center for Reading Research
Fundations

What is Fundations?

Fundations is a subprogram of the Wilson Reading System, published in 2002, specifically designed for K-3 students. It was designed for use in three situations: (1) preventatively, in grades K-3, for whole class instruction; (2) as an intervention for the targeted lowest 30th percentile of student readers; or, (3) for students with language based learning disabilities, as intensive instruction. When implemented preventatively with a whole class, a basic *Fundations* lesson is 25-30 minutes long. This 30-minute lesson is supplemented by an additional 30-minute 1:1 or small group session when used with students in the lowest 30th percentile. Students with learning disabilities receive not only this supplementary 1:1/small group lesson, but an additional 30 minutes to an hour session with a literature-based program and decodable text as well. In all situations, *Fundations* is designed to be combined with literature-based instruction.

The program is built on several key instructional principles. Students receive highly explicit and systematic instruction, and concepts are introduced in small increments and practiced and reviewed frequently to ensure mastery. Students are given immediate and instructive feedback as they learn, and have the opportunity to use multiple modalities as they approach learning new information and building onto material that has already been mastered. Lesson content is delivered through a variety of creative activities consisting of specific instructional routines that the teacher's manual presents in a detailed format. Mastery of each activity's procedure is required so that the teacher becomes proficient at maintaining fluid pacing during a lesson. Adequate pacing is intended to assist in procuring students' attention and enhance the reciprocal oral exchange between teacher and students.
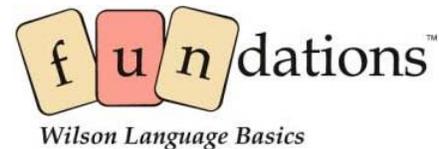
Fundations' primary focus is on phonemic awareness activities, letter recognition, phonics, and studying syllable types and affixes as a part of the decoding process. Vocabulary, fluency, and comprehension instruction are included in the program as well. In Level K, students learn letter formation by using "sky writing" involving gross motor movements, before they practice writing on paper. The letter names and sounds are learned, the alphabetic principle established and phonological awareness is emphasized. Through the use of multi-modality methods involving auditory input, manipulation of tiles and sound cards, "tapping" phonemes on their fingers to learn to blend words, and writing, students learn to read CVC words and the fundamentals of early reading and writing. At Level 1, phonological principles in reading and spelling continue to build systematically, leading the student through digraphs, long vowel sounds, two syllable words with short vowels, base words and suffixes, vocabulary, fluency, comprehension, and continued writing instruction.

The foundations established in Levels K and I are thoroughly reviewed at the onset of Level 2. Systematic instruction and cumulative review continue throughout Level 2 as new skills are introduced that assist students in reading more difficult text and spelling words with optional spelling patterns. Important skills taught at this level that facilitate fluent decoding include: learning to identify all of the six syllable types,

reading and spelling words with vowel teams, and dividing multisyllabic words. *Fundations* Level 3 will be available in Summer 2005.

The teacher's manual presents units, and lessons within those units, providing an overview, resources needed to complete the lessons, careful descriptions of the activities to be implemented, and a structured plan for each day's class. A synopsis of each unit is given at the unit's beginning, as well as a specific list of materials that both the teacher and the students will need. A master plan of the weeks of instruction for that unit is provided, and within that plan, a sequence of lesson activities for each day. Then, for daily instruction, even more specific instructions are given. Teacher materials include the manual and a CD-ROM, puppets to aid in instruction, sound cards, sentence and syllable frames, a home support packet, keyword puzzles at Level K, and a fluency kit at Level 1. Level 2 includes the above materials in addition to suffix and syllable frames, a Wilson grid scroll, and an alphabet wall strip. Student materials included with the program are building/letter boards, magnetic letter tiles, an alphabetic overlay, a dry erase writing tablet, a desk strip with the Wilson font, a gel word board, and a student composition and notebook. Assessments for teachers to use in monitoring student progress are provided. In addition, there is a Home Support Packet designed to encourage parental involvement in their child's learning which is also available in Spanish.

Fundations differs from the Wilson Reading System in that its instructional format includes the option of delivering instruction to a whole class rather than just to a small group or in a 1:1 setting. In addition, its lessons are designed to be 25-30 minutes rather than an hour in length as with Wilson. This is to aid younger students who have more limited attention and also to make the lessons easy to implement in general education classrooms with time constraints.

How is Fundations aligned with Reading First?

Fundations addresses each of the five components (phonemic awareness, phonics, fluency, vocabulary, and comprehension) required by Reading First. Phonemic awareness is emphasized in lessons where children segment and blend phonemes in words, and practice phoneme substitution, addition, and manipulation with up to six sounds in a syllable by Level 2. A unique feature of *Fundations* and the Wilson Reading Program is a tapping method in which students tap out the individual phonemes in a word with their fingertips, and then blend the phonemes into a word.

Several features of phonics instruction within the *Fundations* program distinguish it as being infinitely more than the study of sound-symbol correspondences. Students learn a letter-keyword-sound combination for each letter of the alphabet, and practice going from both letter to sound and sound to letter. Students match letter tiles to sounds presented to create words, and practice writing words and sentences using the sounds and letters they have learned up to that point. As students become facile at decoding and reading one-syllable words, the emphasis gradually shifts to decoding syllable by syllable. This is accomplished in part, by a system that enables students to analyze the internal structure of a word. Students are taught to recognize vowels, consonants, digraphs, blends, digraph blends, and, to identify word parts such as syllables, base words and suffixes. Knowledge gained from Levels 1 and 2 provides a foundation for the decoding of multisyllabic words.

A number of multisensory techniques within the *Fundations* program are combined into activities during phonics instruction intended to heighten students' awareness to word structure with the ultimate goal of increasing fluent decoding and automatic word recognition. In order to help students secure words in memory that

contain different spellings for the same sound, *ai* versus *ay* for example, an interactive exchange between teacher and student is established. An instructional sequence would involve large sound cards with each digraph represented, students listen to and echo the teacher's pronunciation, and the sounds would be associated with their key words: ai-bait-/ā/, ay-play-/ā/. Next, students build the words with the sound cards, then tap and read the words. An explanation of the syllable that contains the *ay* or ai digraph follows and students build additional words containing the two different spellings for long *a.* After this, students "mark" a one-syllable word such as *train* by underlining the entire word and circling the *a*i digraph. "Marking words" is one part of word analysis that draws attention to characteristics of a specific word (digraphs, blends, base words, suffixes, syllables) by using diacritical markings, underlining, circling, and crossing out the silent e. Finally, students add other examples of words with the *ai* and *ay* digraph to the corresponding syllable section of their notebooks.

Another teaching technique employed by *Fundations* is intended to help students learn to spell words with multiple spellings. For example, there are two ways to spell the sound /z/, *s* or *z*. The teacher presents the word *froze,* and after saying and tapping the word *froze*, students must identify which sound has the optional spelling. Next, they build the word with letter tiles, leave a blank tile for the *z, Fro_e,* and place the two spellings for /*z*/ underneath the blank tile. Finally, they consult their student dictionaries to find the correct spelling and replace the blank tile with the correct letter tile. When approaching words with multiple spellings, students are taught to be flexible and try the word with optional spellings to confirm accuracy.

While presenting a multisyllabic word for spelling, students are presented with the following format. The teacher pronounces the word *mascot* and the students echo. Next, students say one syllable at a time. Using the dry erase writing tablets with syllable frames, the students point to the first syllable frame and say *mas*, and point to the second frame and say *cot*. Students spell the word one syllable at a time, using letter tiles that are placed into each syllable frame. To conclude the activity, students say and spell each syllable, while touching each syllable frame. Level 2 introduces suffixes that are added to unchanging basewords. The teacher builds the word with the sound cards and adds the appropriate suffix frame. Students read the baseword and then the whole word. Next, they mark the word by underlining the baseword, circling the suffix, identifying whether it is a vowel suffix or a consonant suffix, and then discuss the new word's meaning.

Students expand their vocabulary through the introduction of a "Word of the Day". Words for this activity are chosen because of their high frequency of use. Additionally, they correspond with the particular word structure being studied. Some words with multiple meanings are included in explicit vocabulary instruction. During instruction, students are instructed to "mark up" a decodable word. The meaning of the word is discussed, a sentence is formed which students then read and include in the vocabulary sections in their workbooks. The Words of the Day are written on 5 x 8 index cards for future use in word games and activities. In Level 2, the vocabulary notebook simulates a dictionary, giving students the chance to hone their dictionary skills using words from each unit within *Fundations*. Words are entered in columns, as they would be in an actual dictionary.

Irregular words, or "trick" words are selected because of their high frequency of use and are taught as words to be memorized. Students do not tap out these words since they are not phonetically regular. Teachers present the word, point out the part that is tricky and lead students as they spell and trace the word using "sky writing". Then, with closed eyes, they visualize the word, and trace it again. In Level 2,

students write the word, using the Gel Word Boards. They erase the word by tracing over it two more times. The activity ends by students writing the word in their Trick Word Dictionary. By the end of Level 2, students will have had the opportunity to learn 172 of the most frequent words according to the America Heritage Word Frequency Book.

Fluency development is approached with activities designed to increase speed, accuracy and expressiveness. The teacher models prosody and students are taught a unique phrasing technique to aid them in expressive reading. Echo and choral reading are typically a part of every lesson. With Levels 1 and 2, a fluency kit accompanies the curriculum that provides timed practice exercises for sounds, words lists, trick words, phrases and stories. Controlled stories (95-100% decodable) are used for repeated reading and students chart their progress. The fluency goal established by *Fundations* for students completing first grade is 60 words/minute, and 90 words/minute for second grade.

Beginning comprehension activities are introduced at the kindergarten level, with acting out and retelling stories during Storytime. As students learn to decode words, they progress to short selections of 95-100% decodable text. The structure of narrative and expository text is taught, as students learn to note setting and characters, the sequence of events, and the solution of a story's problem. Visualization is taught as a specific comprehension strategy. *Fundations* recognizes its limitations in the area of comprehension and recommends that it be combined with a more formal literature program that explicitly teaches other comprehension strategies, and provides a more varied choice of reading material for children that encompasses many genre.

To use the *Fundations* program preventatively or as an intervention measure, a teacher may learn the basic teaching techniques from a CD-Rom that is provided with the *Fundations* kit. It is helpful in that it has a live demonstration of each of the activities required to teach *Fundations.* A one-day inservice workshop can also be arranged.

Research Support for Fundations

Fundations was first published in 2002, although it is built upon many of the same principles as the Wilson Reading System, which first appeared in 1988. Its instructional content and design are supported by the principles emerging from formal scientific research in reading instruction. Because of its recent publication, there is not as yet research specifically focused on *Fundations*. However, there are some research studies that support the efficacy of the Wilson Reading System, which is comparable in its scope and approach.

Data collected by Wilson Language Training were analyzed by Dr. Frank Wood at Wake Forest University in 2002. The data were pre- and post-tests collected by Wilson tutors in training at multiple sites across the U.S. The Woodcock Reading Mastery Test (1998) was used to collect data on student performance. Data were gathered across two years, 1999-2000 and 2000-2001, from a total of 374 students. The mean age was approximately 10-11 years, with all participants having IQs in the normal range. Data were analyzed with several questions in mind, and the findings were as follows: (1) pre-/post-test differences were statistically significant on the following subtests and cluster scores: word identification, word attack, passage comprehension, basic skills cluster, and total reading cluster; (2) students with low IQ benefited from remediation as well as did higher IQ children; (3) the most severe group saw greater improvement in their Total Reading Cluster than did the least

severe group; and (4) students at all grade levels from grade 3 through grade 7/8 benefited from remediation (i.e., older as well as younger students). It must be pointed out that this study employed a very weak pre-test, post-test design that did not include control or comparison groups. Although the students in this study showed gains in their standard scores on a number of reading measures, which means they were "closing the gap" with average readers, without an appropriate control group, the gains cannot be attributed specifically to the Wilson Reading System.

A study conducted by the Lynn Public Schools in Massachusetts during the 2000-2001 school year focused on the effects of the Wilson Reading System on spelling ability. Spelling performance in K-3 students who had been engaged in the Wilson Reading System was above grade level for the majority of students in grades 1-3. Specifically, at the grade 1 level, 96% of the students were above grade level, with an average grade level of 2.8. In grade 2, 92% were above grade level, with the average grade level being 3.9, and 88% of the third grade students tested above grade level, with an average grade level of 4.9. This study, of course suffers from the same weaknesses as the previous study, so we cannot determine whether these outcomes were the result of using the Wilson Reading System, or whether they reflect other aspects of the instructional program delivered at the school.

O'Connor and Wilson (1995) examined the effectiveness of the Wilson Reading System with 220 language learning disabled students in grades 3-12. The study used a pre-/post-test design, and did not include a control group. The students selected for the study had a history of difficulty learning to read and had not shown progress in other reading programs using a small group or 1:1 approach. Thirty-five percent had been retained at least one grade. Most received direct special education services in daily pull-out programs: 48% were in pull-out programs for up to 1/3 of the day; 26% for up to ¾ of the day; 18% were in special education classes for the entire day; 8% were in regular classrooms all day. The assessment measure used to measure children's reading performance was the Woodcock Reading Mastery Test-Revised (1998) (word attack, passage comprehension, and total reading). In addition, the Wilson Reading System Test was used to measure spelling growth. Participating teachers in the study were trained at a two-day workshop at the beginning of the school year, and then worked with each student in 1:1 lessons 2-3 times/week. The teachers were observed a minimum of 5 times per year to ensure instructional fidelity. An average of 62 lessons had been completed at the time of the posttest. Posttest results indicated significant gains for all the word attack (average gain = 4.6 grade levels) and passage comprehension (average gain = 1.9 grade levels) comparisons made. There were also significant gains for the Total Reading comparisons (average gain = 1.9 grade levels), which is noteworthy when considering that these students were previously relatively unresponsive to intervention programs.

These results are similar to those reported by Wilson Reading System data collected by Wilson in the 1997-98 school year. Data from 55 locations across the country were gathered, using the Woodcock Reading Mastery Test as a pre- and post-test. The students chosen to participate in the study had poor word attack and spelling skills, and total reading scores at least one level below grade level. There were 168 participants from grades 2-5. The post-test results on the word attack subtest, after 64 sessions of Wilson training, reflected an average grade level gain of 3.8, and on the total reading scores, an average grade level gain of 1.6 was seen (Education Commission of the States, 1999).

The studies reported thus far have two major limitations: they have not used appropriate control groups, and much of the data has been collected by the

teachers who actually provided the instruction. This latter weakness could easily produce some unintended bias in measurement of outcomes on the post tests. However, it is noteworthy that all of the studies to date have shown that instruction using the Wilson Reading System can accelerate reading growth in children who have struggled in learning to read at rates greater than one year's growth for one year of instruction. This type of acceleration is essential if children who have struggled in learning to read are to "close the gap" in reading ability with their peers. Currently, the Wilson Reading System is one of four reading programs being included in the Power4Kids Initiative, which is a randomized field trial of intervention methods for struggling readers in grades 3 and 5. Because of the design of this study, it will provide important new information both about the effectiveness of each of the methods in the study and also will examine their relative effectiveness when compared to one another.

Strengths & Weaknesses
Strengths of *Fundations*:
- *Fundations* is highly systematic, both within lessons and across lessons.
- *Fundations* is derived from research that has been proven to be successful with a wide variety of learners.
- Multisensory methods are employed in teaching children sounds, their representative letters, and their combination into words, phrases, and sentences.
- Students learn a variety of techniques to analyze multisyllabic and unknown words, and words with spelling options.
- Frequent practice and review build mastery in students.
- *Fundations* can be taught in a 1:1 setting, a small group, or to a whole class, and can be used for preventative, intervention, or immediate, intensive intervention purposes.
- Many lesson activities and games are geared toward whole class or group participation.
- Materials are very teacher-friendly, and the accompanying CD-ROM gives excellent demonstrations of each of the teaching activity types used in the program. A teacher can thus review each technique as needed.

Weaknesses of *Fundations*:
- None were noted.

Which Florida counties have schools that implement Fundations?

Broward	954-765-6271	Okeechobee	863-462-5000
Collier	239-254-4100	Orange	407-317-3202
Levy	352-486-5231	Palm Beach	561-434-8200
Martin	352-671-7702	Sarasota	941/927-9000

For More Information
www.*fundations*.com

References
Education Commission of the States (1999). Denver, CO.

Lynn Public Schools (2001). Wilson Spelling Results 2000-2001. Published in Wilson
Literacy Solutions: Evidence of Effectiveness.

O'Connor, J.R. & Wilson, B.A. (1995). Effectiveness of the Wilson Reading System used
in public school training. In McIntyre, C. & Pickering, J. (eds.) Clinical Studies
of Multisensory Structured Language Education. Salem,OR: International
Multisensory Structured Language Education Council.

Wood, F. (2002) Data analysis of the Wilson Reading System. Published in Wilson
Literacy Solutions:Evidence of Effectiveness.

Woodcock, R.W. (1998). Woodcock Reading Mastery Tests- Revised. Circle Pines,
MN.:American Guidance Service.