Florida Center for Reading Research

Headsprout Early Reading

What is Headsprout Early Reading?

Headsprout Early Reading is a supplemental beginning reading program for students in kindergarten through 2nd grade who are not yet reading or who are in the beginning stages of the reading process. Designed to teach the foundational skills and strategies that are critical in becoming a skilled, fluent reader, this internet-based program creatively captures the attention of the young reader through the use of engaging, highly interactive activities, and serves as an on-line tutor, providing one-on-one instruction. Requirements for this program are any internet-connected PC or Mac computer on school-site premises. Schools receive access to Headsprout's on-line lessons, automated classroom and individual student progress reports, a teacher's guide, phonics-based flashcards, and a license to download and print all 70 Headsprout stories and progress maps from the Headsprout website. Students always use the latest software since upgrades for *Headsprout Early Reading* are automatic and free.

Headsprout Early Reading consists of two parts: *Headsprout Reading Basics*, lessons 1-40 and *Headsprout Reading Independence*, lessons 41-80. Before starting the lessons, a brief tutorial gives students practice in all of the mouse movements and types of activities they will encounter in the program. Students work independently 3-5 times a week with animated, on-line lessons or episodes lasting approximately 20 minutes. Lessons begin with easier skills that gradually increase in difficulty by building upon each other through guided practice, repetition, and cumulative review. Instruction includes securing the alphabetic principle, beginning and advanced decoding strategies, developing fluent reading and deriving meaning from text. A scope and sequence portrays the components of reading found in the 80 lessons. Another chart delineates the sequence of individual sound and units of sound introduction for each episode (lesson), including decodable words and sight words, giving a snapshot view of what a student should accomplish at various points in the program.

Many unique aspects inherent in the design of *Headsprout Early Reading* facilitate the student's acquisition of early reading skills. First, in an attempt to reduce errors, the necessary skills and strategies of reading are broken into their component parts (Twyman, Layng, Stikeleather, & Hobbins, in press). The careful construction of each lesson explicitly, sequentially and systematically leads a student to mastery of that lesson's objective. Another important aspect is the program's ability to adapt to the unique needs and pace of each student, allowing some students to move through lessons quickly while others who require extra practice are given more instruction. This is accomplished by the technology responding to a student's pattern of errors. A series of correction procedures exist that are sequenced by the intensity of support they offer students. Depending on the student's response, immediate feedback is given and a simple error correction is begun. If the student persists with the error, a more supportive correction routine is supplied, additional learning and practice opportunities are created, or, the skill is taught again and students are returned to the original task. The pedagogical framework within each episode of *Headsprout Early Reading* is designed such that students only exit after they have achieved mastery of the lesson's key objectives. This particular feature of

Headsprout Early Reading increases a student's likelihood of success in the following lesson.

How is Headsprout Early Reading aligned with Reading First?

Headsprout Early Reading incorporates the five critical components of reading instruction cited by the National Reading Panel and Reading First: phonemic awareness, phonics, fluency, vocabulary and comprehension. Another important element to establish with beginning readers and one that is found within these lessons is the idea of print concepts.

Phonemic awareness and phonics instruction are carefully intertwined in *Headsprout Early Reading*. Students have the opportunity to work with individual sounds or sound blends in isolation followed by identifying the target sounds in the context of a word. Students practice seeing, hearing, and saying individual sounds while continuously being made aware of the fact that the sounds they hear are part of words. The sound-letter association, or alphabetic principle, is established immediately through sound isolation, segmenting, blending and manipulation exercises. *Headsprout Early Reading* effectively uses visual techniques that cue the young reader to the separation of sounds when learning sound blends, how letter-sounds join to form a word, and when segmenting and blending words. While decoding individual words, this program either uses a finger pointing under the individual sounds in the word, or uses lines. As the word is slowly sounded out, the corresponding letters are underlined. Then the entire word is underlined quickly to signal a blending of the word at normal speed. Decodable text is used to enable students to apply the sound-letter relationships they have been learning in the context of simple sentences and stories. Every few lessons, students receive a Headsprout Reader decodable book to encourage independent reading and practice the skills they have been learning.

Fluency development is the hallmark of *Headsprout Early Reading*. All dimensions of fluency are addressed in this program: reading rapidly, accurately and with expression. Automaticity is developed immediately in beginning lessons as students learn to quickly identify and say sounds. Opportunities for repeated practice, with a focus on increasing speed, allow students the possibility to build sound pronunciation and word reading fluency that is quick and accurate, strengthening future sentence reading. With decodable text, students practice fluency with skills they have already learned. Accuracy is addressed by hearing a fluent model as well as through the many helpful correction procedures. Story reading involves hearing an expressive model and then having several chances to read the story independently, each time trying to increase speed. In later stories, a stopwatch appears in the top corner and students can time their own reading, trying for a faster reading each time.

Vocabulary instruction occurs throughout the lessons once students use sounds to construct words. Activities in the lessons link the words in sentences to their meaning by use of pictures and actions. Students may read sentences with a missing word and choose the correct word to fill in the blank, or rearrange a random ordering of words so that they represent the correct order. All decodable words and irregular words appear in a vocabulary exercise prior to being read in a story so that a student's chance of a successful reading is increased. Vocabulary instruction illustrates that words in sentences take on meaning that is not necessarily clear when reading the same words in word lists. Sight words are developed through varying styles of multiple repetitions.

Comprehension instruction is an integral part of *Headsprout Early Reading.* Students soon understand that the individual sounds they are learning connect to make words that are already in their speaking vocabulary. Once words are learned, they are quickly put into sentences that are linked with pictures. When sentences or stories are read, a question is heard, and students demonstrate understanding by choosing the corresponding picture. Questions are either literal or inferential and pertain to the story's main idea, or the main idea and details. If students experience difficulty in answering correctly, they are encouraged to go back into the story to look for the answer. If they still can't figure out the answer, the correct section of the story is highlighted so that they become aware of the answer.

Professional development exists as a half or whole day training addressing how to best use *Headsprout Early Reading* and/or Reading First and scientifically-based reading research. This may take place in person or via telephone and the Web, is tailored to the needs of the school, and is available for an extra cost. Due to the self-explanatory nature and ease of implementation of the program, extensive professional development is not necessary. During initial implementation however, telephone and email support are available.

Research Support for Headsprout Early Reading

Headsprout Early Reading is a fairly new program, which appeared in 2002 as *Headsprout Reading Basics* and was expanded in 2003 to include *Headsprout Reading Independence*. During development, formative evaluations of the instructional methods used in *Headsprout Early Reading* employed a single-subject, changing criterion design that focused on experimental control of variables (Layng, Twyman, & Stikeleather, 2002, 2003, in press). Rigorous formative evaluation with regard to the instructional design of the program was used as data were continuously collected and analyzed (Layng, et al. 2003). Because *Headsprout Early Reading* is internet-connected, all data from individual students are uploaded to the Headsprout server and analyzed, and information is generated on the performance of thousands of students and is available for school reports and program revisions as needed.

Developmental and validation testing for *Headsprout Reading Basics* occurred within the Headsprout laboratories in 2001-2002 (Layng et al. 2002). Students participating in the analysis (n=241) were beginning readers who had not shown understanding or skill in the use of the alphabetic principal in reading. They came from a cross-section of socioeconomic, gender, race and geographic categories. The mean age for the students was 5 years and 3 months, with 12% described as special needs learners. All responses for every individual were collected and entered into the Headsprout database and analyzed. Overall, the mean percent correct of responses during work with the program was over 94%. Only 15% of the special needs learners scored below 90% in correct responses. Pre- and post-testing for 20 of the students was performed with the Woodcock-Johnson Letter-Word Identification subtest. Pre-testing yielded a mid-Kindergarten score (.5) and at the time of post-testing, students scored at a mid-1st grade level (1.5). While these results are encouraging, additional evidence about the instructional utility of the Headsprout program will help determine whether or not these same results would have been achieved for these children independent of other factors in their ongoing educational experiences (i.e., classroom instruction).

Once developmental testing determined the program was reliably producing the desired outcome for almost every learner, Headsprout Reading Basics was deployed in a much larger field (beta) test over the internet. Over 1,000 learners participated from

all regions of the country. Data from the field test were collected and analyzed to further improve the program prior to launch in the schools. Field test learners produced the same high percent correct scores as the developmental (validation) testing learners.

A pilot study for Headsprout Reading Basics was implemented in a Title I kindergarten class in the Seattle Public School system in 2002 (Layng et al. 2002 in press). With a high mixture of racial and ethnic minority students, 70% of the students qualified for free and reduced lunch. The Headsprout program was integrated into the instructional day. Teachers received minimal amounts of computer training and technical assistance was available as needed. Students completed the program in 13-37 weeks depending on scheduling and attendance. Although no formal, standardized pre-tests were performed, a smaller group of students, n=23, who completed the lessons in 15 weeks time, were administered the Developmental Reading Assessment (DRA) after instruction was completed. While 100% of the students scored above grade level, 82% of the students scored at an early to mid 1st grade level. Again, in the absence of an appropriate control or comparison group, these data, while promising, do not conclusively demonstrate the unique instructional power of this program.

Headsprout Reading Basics was used in the following year (2003) in the same school, for a small group of kindergarteners (n=16) with essentially the same demographics. Assessment using the Woodcock-Johnson Word Identification subtest yielded a pre-test level of .4 or early Kindergarten while post-testing revealed a mid 1st grade level, 1.3. What is impressive about these results is that they were obtained during the 9th or 10th month of kindergarten with only 12-15 weeks of instruction. However, an evaluation that includes an appropriate control or comparison group will help yield more conclusive evidence.

Headsprout Early Reading is a young program and its developers are interested and actively engaged in the continued evaluation of the program. New studies are in preparation and a longitudinal study conducted by independent researchers, slated for implementation in the Fall of 2003, will evaluate this program in pre-schools in Michigan and elementary schools in West Virginia.

In sum, the content and design of *Headsprout Early Reading* reflect scientific research with an abundance of instructional strategies in phonemic awareness, phonics, fluency, vocabulary and comprehension. The developers of *Headsprout Early Reading* have produced a wide array of evidence that most children who work with the program acquire the specific skills it is designed to teach. However, whether use of the program produces gains in reading that are independent of, or in addition to, the gains that might result from classroom instruction is yet to be determined in studies that employ appropriate control groups.

Strengths & Weaknesses

Strengths of *Headsprout Early Reading*:

- Every student response is acknowledged with appropriate reinforcement and feedback.
- All lessons are highly interactive and provide multiple opportunities for practice, which in turn, increase student involvement.
- The sequence of sounds in this program were chosen because of their consistency in pronunciation.
- Sounds are held out or stretched during pronunciation and sounding out of words.

- A high focus on all aspects of fluency: establishes automatic letter-sound and word recognition, models expressive readings of text, and provides multiple opportunities for repeated readings that are geared to increasing speed.
- Decodable texts are used to provide students with the chance to apply the skills they have been learning.
- By weaving cumulative review throughout all episodes, the potential for increasing the retention of skills and strategies is augmented.
- The program adapts to a student's pattern of response, offering corrective feedback and teaching routines that are supportive and instructional.
- Even though the program does not use voice recognition technology, the design of instruction encourages frequent oral responding, which is verified by a model for comparison.

Weaknesses of *Headsprout Early Reading*:

- None were noted.

Which Florida districts have schools that implement Headsprout Early Reading?

Bradford	904-966-6800

For More Information

www.headsprout.com

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Lead Reviewer: Michelle Wahl, M.S.
Date Posted: September, 2003

Important Note: FCRR Reports are prepared in response to requests from Florida school districts for review of specific reading programs. The reports are intended to be a source of information about programs that will help teachers, principals, and district personnel in their choice of materials that can be used by skilled teachers to provide effective instruction. Whether or not a program has been reviewed does **not** constitute endorsement or lack of endorsement by the FCRR.

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