Florida Center for Reading Research

Scientific Learning Reading Assistant

What is Scientific Learning Reading Assistant?

Scientific Learning Reading Assistant is a software program for students in grades 2-12 and for adult remedial readers. The program targets reading fluency, vocabulary and comprehension by increasing oral reading opportunities, and is designed to be used as a supplement or an intervention. Research indicates that repeated oral readings with guidance and feedback greatly assist in the development of fluent reading for good readers as well as for struggling readers (National Reading Panel, 2000). As implied by its name, *Scientific Learning Reading Assistant* enables the student to read alone. With the use of sophisticated speech recognition software, a student reads aloud independently receiving immediate intervention when encountering difficulty with pronunciation or word meaning. As the student reads, *Reading Assistant* records what s/he reads, how well s/he reads, and tracks her/his progress over time, providing the teacher with useful information to help guide instruction. *Reading Assistant* has recently updated and improved the program software and added 150 selections to its library. The program is comprised of four main features: The Library, The Reader, The Quizzes, and The Reports. The Library offers students a variety of texts at varying grade levels covering a wide range of interests including fiction, non-fiction, poetry, biographies, limericks, and folktales. The units within the library are sequenced from easier to more difficult. For elementary students, the texts span grade levels 1-6. The addition of science and social studies texts for older students targets content for state standards and spans reading lexiles 890-1190. *Reading Assistant's* library is continually being updated and expanded to increase students' choices in reading material.

The Reader in *Reading Assistant* refers to the mode in which the student will be working with the software and interacting with the many options that exist to assist and scaffold her/his oral reading. Once the student has signed in and chosen which story to read from the Library collection, s/he may briefly scan the story, click on any unfamiliar words, and listen to their pronunciation. By clicking the Show Vocab icon, a predetermined set of words are underlined in the story. The student may access the meaning of any of those words by an additional click on the word. Next, the student chooses either the Record My Reading icon to record her/his own reading, or the Read To Me icon to hear a professional reading of the story. The Read To Me icon, presents an expressive reading that is engaging and motivating. The Record My Reading mode is one of the distinctive features of *Scientific Learning Reading Assistant* because of the level of support offered to readers. The sentence or clause to be read is highlighted in black turning to grey when completed. If the student hesitates on a word for a few seconds, the word is highlighted in yellow; if the student is unable to read the word after a few seconds, the automated "tutor" will supply the pronunciation of the word, allowing time for the student to repeat the word. The student is then to continue reading from that point. Depending on the amount of difficulty a student encounters with a word or words in a sentence, the "tutor" will prompt her/him to reread from the difficult part of the sentence to ensure a fluent reading.

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Once the student has read and recorded any part of the story, the student has the option to monitor her/his own progress. First, by clicking on the Word Colors icon, words already read will be color-coded (green for great, blue for try again, red for needs work, and black for not yet read) according to how well s/he read. Then, by clicking on the Play My Reading icon, the student may listen to her/his own reading of the story.

The Reports feature of *Reading Assistant* is a management system that allows the teacher to access the progress of individual students or the entire class. For each selection read, individual reports allow the teacher to find out how effectively the students are using the software and how accurately they are progressing by indicating the quiz scores, the oral reading fluency scores in words correct per minute, and the vocabulary words accessed. Each of the components in the management system can be further broken down to yield even more specific information on each student's progress. Additionally, teachers can listen to recordings of individual students' readings to determine whether they are reading accurately and expressively. For assessment purposes, the software can be managed so that students read a specific leveled text. Then, reports are generated for teachers to individualize instruction.

The Teacher's Guide in *Scientific Learning Reading Assistant* is user-friendly and provides necessary information in clear, concise language. It includes an informative section on effective practices from research in developing reading fluency, as well as the link between vocabulary and comprehension. Additionally, it offers suggestions on how the program can be used in the classroom to promote literacy. *Reading Assistant* includes three installation options: a CD standalone version, a self-hosted network version, and a subscription-based web delivery. The Network version has extensive management features that permit administrators and teachers to set up and manage classes, reading groups, make assignments, and create performance reports. Fluency scores are plotted with trend lines to show teachers how students are performing in terms of year-end goals.

Is Reading Assistant aligned with Current Research?

The goal of *Reading Assistant* is to help students develop fluency while at the same time improving vocabulary knowledge and reading comprehension. The complex connection between vocabulary and comprehension is interestingly and creatively addressed in *Reading Assistant*

Reading Assistant addresses fluency, vocabulary development, and comprehension through several avenues. Students are provided varied and supported opportunities to read and reread selections with this software program as a means of increasing their ability to read quickly, accurately, and expressively enough to understand the meaning of text. The new science and social studies addition offers older students important content information with vocabulary, language, and modes of thought that are illustrative of each domain. Selections within units are related topically, and key vocabulary and concepts appear and reappear in different contexts both within and across selections, enabling students the chance to revisit important concepts and deepen their vocabulary understanding.
Support for word recognition and meaning exists on many levels. For students who skip, hesitate or mispronounce a word, the "tutor" offers immediate assistance with pronunciations. Listening to a word's pronunciation or accessing a word's meaning may be done anytime before, during and after reading.

The Reading Assistant glossary allows students to hear unfamiliar or difficult words pronounced slowly by syllables, with student-friendly definitions that are context specific. Then the word is used in a context-rich sentence to further clarify and enhance understanding of the word; a graphic accompanies many of the definitions. An aural and visual Spanish translation is available for many of the words. For certain words, the glossary provides Fun Facts that may help to establish the meaning of the word. The color-coded words permit teachers and students to see which words were problematic and this may motivate students to reread the selection. Before rereading, students are prompted to review the red and blue words in order to improve their rate and understanding during the second reading.

End of selection quizzes and pop-up quizzes are used to build understanding and assist the students in making connections to what they are reading. Each text contains various types of questions: those aimed at understanding the main intent of the text; those directed toward critical supporting details and vocabulary; multiple response questions requiring students to recognize multiple conditions, causes, or precursors to events from the text; interpreting paraphrased information then finding the corresponding sentences from the text. Inference and interpretation of main ideas are the primary means used to determine students understanding, rather than literal questioning and rote memory activities. All quizzes are open book. Pop-up questions are strategically located in the text to encourage students to actively attend to the vocabulary and ideas while they are reading rather than just reading for speed. A built-in reward system of quiz points is intended to motivate students and offer the possibility of challenging them to reread more accurately for understanding. The opportunity to reread the story and retake the quiz increases a student's possibility of becoming a more proficient reader and improving overall comprehension.

Scientific Learning Reading Assistant lends itself to flexible use and offers struggling readers extra support. The process of reading text that is an inherent part of *Reading Assistant,* such as previewing difficult words, checking word meanings, reading carefully for understanding, and thinking critically while reading, offers students the possibility of internalizing helpful reading habits. These supports within the program may be very reinforcing and serve to pave the way to a more successful reading experience. With the management system, teachers may assign leveled texts on an individual basis to further differentiate instruction. They may also adjust the amount of time the program waits before intervening and providing assistance. An additional feature of the new science and social studies texts includes printable copies of the passages with key vocabulary and comprehension questions listed. Teachers are encouraged to use these for extended class discussion and it would be a lost instructional opportunity to not do so. Research demonstrates that extra opportunities to engage in meaningful discussions of the text contribute to students' understanding and their ability to use critical thinking and reasoning skills (Fall, Webb, & Chudowski, 2000; Reznitskaya, Anderson, McNurlen, Nguyen-Jahiel, Archodidou, Kim, 2001; Sandora, Beck, & McKeown, 1999). Professional development for *Reading Assistant* comes with the purchase of the program. Schools receive an initial day of training and a second day of follow-up at the school to help interpret data. Additional days may be purchased. Unlimited technical support is provided via telephone and internet at no charge the first year. Thereafter, technical support is available for a yearly fee.

Research Support for Reading Assistant

Scientific Learning Reading Assistant is a relatively new software program built on research findings in reading fluency. A quasi-experimental study was conducted in a large Northeastern town to measure the impact of *Reading Assistant* on students' reading growth (Adams, 2006). Mainstream students in grades 2-5 from two schools participated in the study. Schools were matched on demographic characteristics and school achievement test profiles. The *Reading Assistant* software was given to 2nd and 3rd grade classrooms in one school and to 4th and 5th grade classrooms in the other school with a total of 228 students in the treatment condition. The complementary grades in each school served as the control classrooms with a total of 182 students.

Reading instruction for both the treatment and control conditions took place during its regularly scheduled time. Students in the treatment condition used the software in a computer lab for two 30-minute sessions each week for 17 weeks. Work with *Reading Assistant* occurred during the students' normally scheduled computer time, while control students participated in regularly scheduled classroom activities. Measures used for pre- and posttesting were the Standard Oral Reading Fluency Assessment Passages by Edformation (http://www.edformation.com). Statistical analyses using an analysis of variance indicated that fluency gains were significantly greater ($p<.001$) for students using the *Reading Assistant* software, than for control students. The following effect sizes indicate the gains per grade level for the *Scientific Learning Reading Assistant* treatment group compared to the control group: grade 2, .53; grade 3, .49; grade 4, .19; grade 5, .26.

Currently, several studies including one study by a third party evaluator, are taking place to determine the effectiveness of *Scientific Learning Reading Assistant* in various settings, across many age groups, and with English Language Learners. Additionally, for teachers interested in participating in these ongoing studies, information is available on the Scientific Learning website.

In sum, the design and content of *Reading Assistant* is in accordance with what we know from recent research about the development of reading fluency, vocabulary and comprehension. Results from the above study indicate a beginning level of support for reading fluency. Findings from current studies underway will help determine the impact that *Reading Assistant* has on students' reading growth in fluency and comprehension.

Strengths & Weaknesses

Strengths of *Scientific Learning Reading Assistant*:

- It offers a variety of opportunities for repeated readings with an emphasis on vocabulary and comprehension.
- Vocabulary instruction/support is rich and robust.
- Many types of support and assistance are available for readers; most particularly, immediate corrective feedback during the student's oral read aloud.
- Motivation and engagement are key characteristics of the program.
- The new science and social studies texts for older students target critical thinking.
- The Reports offer many possibilities to differentiate instruction.

- Implementation of *Reading Assistant* is easy and very flexible, for students and teachers.
- The speech recognition software may be customized for students with special needs.

Weaknesses of *Scientific Learning Reading Assistant*:

- None were noted.

Which Florida counties have schools that implement Reading Assistant?	321-631-1911	Escambia	850-469-6130	Palm Beach	561-434-8200
Brevard					
Broward	954-765-6271	Hillsborough	813-272-4050	Pasco	813-794-2648
Citrus	352-726-1931	Lee	239-337-8301	Polk	863-534-0500
Collier	239-377-0212	Manatee	941-708-8770	Sarasota	941-927-9000
Dade	305-995-1430	Okeechobee	863-462-5000	Walton	850-892-1100
DeSoto	863-494-4222		Orange	407-317-3202	
Duval	904-390-2115		Osceola	407-870-4008	