

Florida Center for Reading Research

Academy of Reading

What is Academy of Reading?

The *Academy of Reading* is a reading intervention software tool designed to complement an existing reading curriculum for students in K-12 and adults. It is an intervention program for those who are behind in their basic reading skills as well as for learners who need to develop and improve reading acquisition skills. The program focuses on phonemic awareness, phonics, and reading comprehension. The *Academy of Reading* recommends 20-30 minutes, 3-5 times per week, though younger students or exceptional students may only be able to work for 15 minutes at a time and high school students and adults may work as long as 45 minutes.

The *Academy of Reading* is designed to improve automaticity, which is defined by the program as learning skills to a level of rapid automatic responding through practice. The systematic and explicit instruction and practice is presented in training modules called Phonemic Awareness, Reading Subskills, and Comprehension. In the first two modules, most of the instruction includes a blend of Phonemic Awareness and Reading Subskills. Comprehension is presented only after students master the first two modules.

There are three ways to determine student placement within the *Academy of Reading*. A teacher may assign the AutoTest, a Cloze Paragraph Assessment, which evaluates the results and automatically guides the student through the program in a sequential manner. The Cloze Paragraph Assessment consists of ten paragraphs, each containing 100 to 200 words with some words missing. The student silently reads the paragraph and fills in the blanks using a pull-down menu offering three or four word choices. The results determine whether the student had little difficulty (80 to 100%), some difficulty (60 to 79%), or considerable difficulty (0-59%) with the material. The AutoTest, whose results are available for teachers, is designed to place learners into training sequences based on their reading scores relative to their current grade level. A second avenue, generally utilized for K-1 or for non-readers, is the AutoPilot. This guide assigns appropriate training exercises relative to the student's grade level. Finally, the teacher can assign students to exercises based on her own knowledge of her student's reading ability.

Academy of READING®

The Phonemic Awareness Training exercises consist of word matching, sound matching, and blending and segmenting. Teachers may choose for these exercises to be presented in three different ways: Series I is entirely auditory, Series II provides an auditory/textual cue with the answers presented orally, and Series III provides auditory/textual answer choices with the cue presented orally. The *Academy of Reading* offers a choice of two sets of sounds: one that presents phonemes in as much isolation as possible, and one that presents the phonemes with a schwa extension. The word matching exercise in the Phonemic Awareness module begins with matching rhyming words, moves to matching beginning sounds, and finally to matching ending sounds. The Sound Matching exercise moves from beginning, to middle, to ending sounds. The Blending and Segmentation exercises present first 3 and then 4 phoneme words. Students move from one exercise to another only when they complete three sets of one skill with 85% accuracy. Upon mastery of a skill, students are

automatically promoted to the next skill in the sequence. Each exercise presents complete directions orally, which may be repeated as often as necessary, and an optional practice opportunity. Feedback is presented throughout the *Academy of Reading* practices in the form of an animated video guide who congratulates the student on his success or reminds him to begin again. When the student makes an incorrect answer choice, he must repeat a similar exercise. When the student has mastered an exercise, an award is placed in the 'Awards Room' on the computer. Students may also view graphs and results in the 'Results Room' at the end of each set of exercises.

The Reading Subskills section contains Visual Match Training, Auditory-Visual Match Training, and Oral Reading. In Visual Match Training, students identify and match high frequency spelling patterns of consonants and vowels, including real and nonsense words. To master this exercise, a student must have three consecutive practices of 50 items that are 96% correct and have an average response time on three consecutive practices, which varies no more than 100 milliseconds. Accuracy and consistency (consistent rate of response) determine success. In the Auditory-Visual Match Training an auditory target item and three visual answer items are presented in practices in the following order: letter names, letter sounds, cv/vc nonsense words, cvc nonsense words, cvc words, cvcv nonsense words, cvcv words, ccvc nonsense words, ccvc words, cvcc nonsense words, cvcc words, cvvc nonsense words, and cvvc words. Mastery is attained through the same criteria as in Visual Match Training. As in the Phonemic Awareness training, students may check the 'Results Room' to review their progress. The Oral Reading section of Reading Subskills, which includes words, phrases, and sentences at levels 1 through 10, allows students to record their pronunciation of the skills learned in the Visual Match and Auditory-Visual Match training. The student records his response, listens to the correct pronunciation and to his own pronunciation, and marks his response as correct or incorrect. The same exercise can be teacher assisted with the teacher sitting beside the student, sharing headphones, and marking the answers correct or incorrect.

Reading Comprehension Training is designed to improve retention and comprehension of written text. Each exercise measures the student's comprehension, which is assessed through questions about main idea, inference, detail, vocabulary, sequence, and relationship. After reading a passage for the first time, students can achieve mastery by answering 100% of questions correctly. Rereading (having text present to answer questions) requires 100% correct for mastery in addition to at least 60% on the retention score (the first attempt at the questions). Texts used are graded for readability using the Fry Readability Scale. The levels 1 to 10 represent increasing levels of difficulty, and are not associated with grade level.

The *Academy of Reading* is primarily a computer-based program, though teachers are provided with materials including visuals for introducing students to the format, training checklists, implementation checklists, and student certificates. For students above 1st grade, a pre-test, comprised of Cloze passages, will place students at an appropriate level. This assessment is also used as a post-test at the teacher's discretion. The teacher can view or print student summary reports, score analyses, and pre-test and post-test gains reports by class or by individual student. The *Academy of Reading* computer-based program includes a Results Room (containing results of all training, testing and graphs and tables in a student's file), an Awards Room (an award is placed in the room when a student masters a training exercise), an Analysis Room (class reports and data analysis), a Message Center (instructors can send motivational and other messages to a student or class), a Library (online books

or third-party programs), and a Games Room (access to third-party games that have been set up for use).

How is the Academy of Reading aligned with Reading First?

Reading First identifies five areas as critical to the development of reading: phonemic awareness, phonics, fluency, vocabulary, and comprehension. The strength of the *Academy of Reading* is its explicit and systematic computer-based practice in the areas of phonemic awareness and phonics. One feature worth noting is the number of practice opportunities available. For example, in the Phonemic Awareness section, teachers can individualize practice by choosing for a student to engage in 12 to 96 practice opportunities for each individual skill. Vocabulary, fluency, and comprehension are also addressed, with many opportunities for practice.

Phonemic awareness training exercises are provided in Section I of the Phonemic module. Students are provided with explicit auditory exercises that move systematically from matching words that rhyme, to matching words with the same beginning, ending, and middle sounds, to blending three and then four phonemes, and finally to segmenting three and then four phonemes.

Phonics is addressed in both the Phonemic module and in the Auditory-Visual Match exercises of the SubSkills section. In Series II of the Phonemic module, students repeat the exercises of Series I with text added. For example, students hear the word 'cat' and must match it to the target text that has the same ending sound: /k/, /p/, or /t/. In the Auditory-Visual Match exercises students match what they hear with what they see, beginning with letter names, moving to letter sounds, to multi-letter words, and to non-words and phrases.

Vocabulary is developed through repeated exposure to visual and auditory-visual matching of words and phrases. In addition, there is an 8,000-word glossary, which allows students to access pronunciation and definition of words as they are encountered.

Fluency is addressed in the *Academy of Reading's* focus on automaticity. In order to progress through the exercises, students must demonstrate an ability to respond at a high level of accuracy and at a consistent rate of speed. For example, students may correctly identify letters, non-words, words, and phrases, but until their rate of response is consistent, they will not continue to advance in the program.

Comprehension is addressed in ten graded levels of silent reading comprehension exercises, which include follow-up questions regarding main idea, inferences, facts and details, vocabulary, and relationships.

In the *Academy of Reading's* one-day introductory training, teachers learn the underlying principles of the program and how to implement it in the classroom. A follow-up training is provided two to six weeks after the program has begun. At this time, teachers learn techniques for motivating students and for progress monitoring. An additional one-day special-education in-service workshop is offered.

Research Support for Academy of Reading

The original AutoSkill Component Reading Subskills (CRS) program was expanded between 1985 and 1995 to become the *Academy of Reading*. In 1986, Fiedorowicz conducted a pilot study using this earlier version (CRS) of the Academy of Reading. Sixteen boys (average age 11) who were determined to be reading disabled due to a discrepancy in age and reading ability based on the WISC-R and the WRAT were selected for inclusion in the study. All participants were pre and post-tested with

the Student Problem Individual Reading Evaluation (SPIRE) (Albert & Kravitz, 1971), the Gallistel-Ellis Test of Coding Skills (G-E) (Gallistel & Ellis, 1974), and the Qualitative Analysis of Silent and Oral Reading Test (QASOR) (Aulls, 1983). Eight of these students were randomly selected to participate in the study during the first semester of the school year. The remaining subjects were trained during the second semester. At post-test, the 8 trained participants performed significantly better than untrained participants on reading accuracy and speed, although they were not significantly different on an audio-visual matching sample to text. The assessment of the wait-list control group after they had completed an equivalent amount of training showed similar gains in reading accuracy and speed. The results showed grade-level equivalent improvement of slightly more than 1 grade level on the SPIRE. The results of this study are encouraging and show that this computerized training is generally effective in improving specific component reading skills as well as general reading skills.

The Ministry of Education in Ontario, Canada sponsored a follow-up study by Fiedorowicz and Trites in 1987. For this quasi-experimental study, 115 reading disabled students from 5 school districts were placed in three different groups. This was not a random assignment, but the students were matched according to scores on the WRAT-R for projected reading grade, IQ, age, sex, and SES. The eligibility assessment consisted of the Wechsler Intelligence Scale for Children - Revised (WISC-R) to determine level of intellectual functioning, and the Slosson Oral Reading Test (SORT), as well as the reading subtest of the Wide Range Achievement Test - Revised (WRAT-R), both of which were used to determine reading word recognition grade delay. All students were evaluated pre and post-training using the WRAT-R, the SPIRE, the QASOR, and the G-E. The trained and the untrained groups had equivalent scores at pretest.

Seventy-four students in the intervention group received the AutoSkill computer program in ½ hour sessions, 3 days per week for a total of 56 hours. Twenty-four students in one control group received an alternate computer-assisted training in programs related to language arts in ½ hour sessions, 3 days per week, for a total of 30 hours. An untrained control group of 17 students, from a different school, progressed normally within the school system in programs the school boards typically provided for them. Comparison of post-test results for the AutoSkill and the Untrained Control Group indicated that the AutoSkills group attained significantly higher scores on the WRAT-R, the GE phonics and syllables, the SPIRE oral and silent reading errors, latency, and retention, and the QASOR fluency measure. In comparisons of the alternate computer-trained control group and the matched AutoSkill-trained subsample, the AutoSkill-trained subsample exhibited significant improvement on measures of word recognition as well as speed and accuracy of paragraph reading. Although the beginning characteristics of students in this study were matched across the training and control groups, the results must be interpreted with caution, since the students in the different groups actually attended different schools and had different teachers for their basic instruction. Thus, it is difficult to disentangle the effects of the AutoSkills program from other potential effects of the different schools and classrooms the students attended.

In conclusion, preliminary results of the effectiveness of AutoSkills training are promising and the instructional strategies of *Academy of Reading* are aligned with current research. Although other reports are provided by the *Academy of Reading*, methods employed were not consistent with scientifically based research. Future

studies with sound experimental designs including control groups may contribute more definitive information about the efficacy of the *Academy of Reading*.

Strengths & Weaknesses

Strengths of *Academy of Reading*:

- Phonemic awareness and phonics exercises are explicit and systematic.
- Practice is extensive.
- This program provides an extensive resource for non-readers, disabled readers, and students performing at Level 1 on FCAT.

Weaknesses of *Academy of Reading*:

- While fluency is addressed in the Reading Subskills section of the program through intense building of automaticity, there is no opportunity for timed reading nor is teacher feedback of oral reading a prominent component of this program.
- It is the role of the teacher to guide and support the students as they progress through the program that makes the difference in its successful implementation.

Which Florida districts have schools that implement Academy of Reading?

Alachua	352-955-7880	Lee	239-337-8301
Baker	904-259-0401	Leon	850-487-7147
Bradford	904-966-6800	Levy	352-486-5231
Brevard	321-633-1000	Manatee	941-708-8770
Broward	754-321-2600	Marion	352-671-7702
Clay	904-284-6510	Martin	772-219-1200
Dade	305-995-1430	Nassau	904-321-5881
Dixie	352-498-6131	Okaloosa	850-833-3109
Duval	904-390-2115	Orange	407-317-3202
Escambia	850-469-6130	Palm Beach	561-434-8200
Franklin	850-653-8831	Pinellas	727-588-6011
Gilchrist	352-463-3200	Polk	863-534-0521
Hardee	863-773-9058	Putnam	386-329-0510
Hendry	863-674-4642	Saint Johns	904-819-7502
Hernando	352-797-7001	St. Lucie	772-429-3925
Hillsborough	813-272-4022	Sumter	352-793-2315
Indian River	772-564-3150	Volusia	386-734-7190
Jackson	850-482-1200	Washington	850-638-6222
Lake	352-253-6510		

For More Information

<http://www.autoskill.com/products/reading/index.php>

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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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