



Best Practices

Using Lexia Software to Drive Reading Achievement

An overview of Implementation Principles to apply
in your school for using Lexia Reading Skills Software
to Close the Reading Achievement Gap

Support ▶ Prevent ▶ Remediate

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Introduction

Lexia has over two decades of experience designing supplemental reading software that is based on proven approaches to reading skills acquisition. In fact, National Reading Panel findings released in 2000 recommends instruction in the same set of critical reading skills that Lexia programs emphasize, including phonemic awareness, phonics, fluency, vocabulary and comprehension. With over 20 years of research-based development and testing, Lexia software continues to produce results in the classroom, engaging students in the individualized practice they need to become independent, motivated readers.

The key to students' success is in the design of the Lexia programs. The motivational elements provided by the computer interface keeps students engaged and working sequentially and systematically through the foundational reading skills. Automatic branching uses the computer's capacity to analyze student performance, and provides additional activities for students who have difficulty, and advances students only after they demonstrate mastery.

Since 1996, Lexia Learning Systems has been conducting rigorous outcomes studies in collaboration with public schools in Massachusetts, Utah, Texas, Connecticut, California and Illinois. To date, these studies have included over 1500 students in more than 20 different schools. The studies are designed to compare reading scores of elementary and middle school students who used Lexia software to supplement their regular language arts instruction with reading scores of students who received regular instruction without using the software.

Academic consultants work closely with Lexia and the participating schools to ensure that the studies meet rigorous, scientifically-based research standards including a pre- and post-test design, control populations, random assignment, and standardized norm-referenced measures. Data analyses are done in accordance with commonly accepted statistical methods.

The results of the research prove the efficacy of Lexia reading skills software. . . but what other lessons were learned that could help prospective users achieve similar gains in reading achievement?

As a complement to the Lexia Research Report (which can be accessed online at www.lexialearning.com/research), we have prepared this paper so that educators can learn about best practices for implementing the software in their schools.

These tips are based on findings from years of work with many schools that used Lexia to effectively improve their students' reading achievement.

Key Research Findings

Research findings about Lexia reading skill software are impressive.

- ▶ **Kindergartners** using *Lexia Early Reading*® significantly outperformed students in control classes on the Gates-MacGinitie Reading Test with the largest benefits demonstrated by the lowest performing kindergartners. (paper accepted for publication in *Reading Psychology*, 2008)
- ▶ **Title I first graders** using *Lexia Phonics Based Reading*® (now called *Lexia Primary Reading*™) made significantly greater gains on the Gates-MacGinitie Reading Test than Title I control students. In fact, Title I first graders who used Lexia closed the performance gap when compared to non-Title I students. (paper published in *The Journal of Reading Research*, May 2006, vol. 29 (2), pp 162-172)
- ▶ **Second graders** using *Lexia Phonics Based Reading*® (now called *Lexia Primary Reading*™) and *Lexia Reading SOS (Strategies for Older Students)* made significantly greater gains in word decoding on the Gates-MacGinitie Reading Test than control students. (findings presented at *International Dyslexia Association* annual conference, 2006)
- ▶ **Third graders** using *Lexia Phonics Based Reading*® and *Lexia Reading SOS* made significantly greater gains in reading comprehension on the Gates-MacGinitie Reading Test than control students. (findings presented at *International Dyslexia Association* annual conference, 2006)
- ▶ **Middle School students** using *Lexia Reading SOS* in remedial reading classes made significantly greater gains in word attack skills on the Woodcock-Johnson III than control students in the same classes. (manuscript in preparation)

How were these gains achieved and can they be repeated in your school with your students?

First, keep in mind that the population of students involved in these studies was very diverse. For example, the elementary school studies were conducted in a district where:

- ▶ Over 50% of the students qualify for free or reduced lunch.
- ▶ 40% of the students are bilingual.
- ▶ 47% of the students are non-Caucasian.

Traditionally, children who are from lower economic status and speak English as a second language present the toughest educational challenge in public schools. Yet these children were among the students who experienced the highest benefits from using Lexia software!

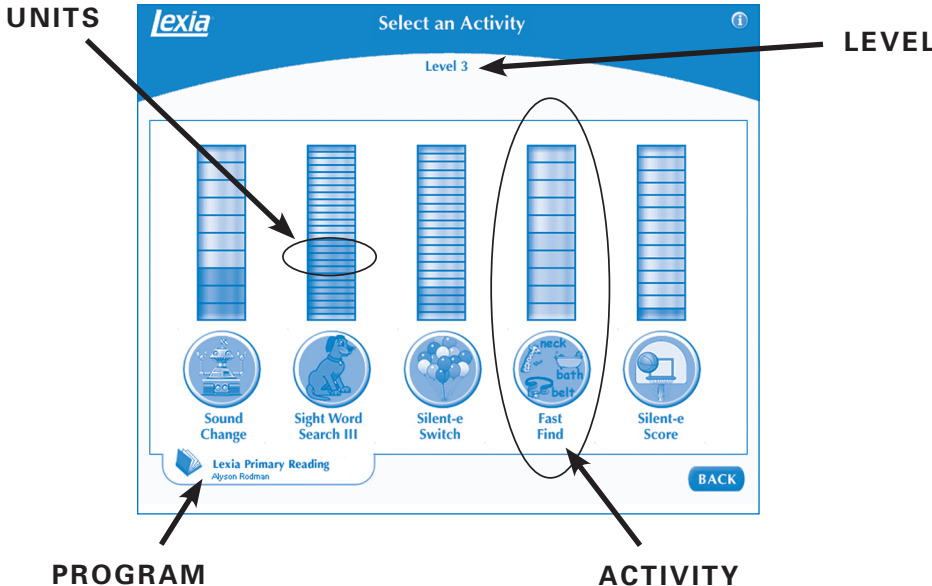
To read more about Lexia's published research findings, please visit www.lexialearning.com/research

Best Practices: 5 Steps to Success

Implementing Lexia’s reading software involves much more than simply installing the programs, and planning ahead can go a long way to making the most of a school’s software purchase. Introducing software in an educational environment where a complex set of interdependent factors ultimately determines a program’s success can be challenging. Lexia research has identified the best practices associated with student gains. This information can be used to guide your own planning to ensure that your school and students attain the greatest possible benefits from the Lexia programs.

1 Step One: Accurate Leveling in Lexia Reading Programs

Leveling consists of using the Lexia program management tools to restrict a student’s access to a specific and appropriate set of exercises. This is one of the most important steps in setting up and maintaining a group of students on the Lexia software. The design of the programs intentionally introduces new skills in a linear progression, so students should be restricted to only one program (*Early Reading, Primary Reading, or SOS*) to ensure that they are practicing only skills they have been introduced to through classroom instruction. At the same time, within each program, students should have access to only one level at a time. This will allow the student to practice and master skills at his or her own pace, without the possible distraction of activities that are either too easy or too difficult. As the student completes each level, the program will automatically turn on the next level and turn off access to the completed level.



Elementary students have highly divergent developmental rates for reading skill acquisition. A typical first grade class will consist of students still learning their letter sounds and others capable of reading and comprehending chapter books. These different skill groups are the norm in the public school classroom and pose various implications for the use of Lexia programs.

Lexia software activities are “skill based”; i.e., the levels in the program are hierarchical and do not equate to grade equivalents. Instead, children should be leveled on Lexia programs based on their abilities — not their age or grade. This task is simpler for the lowest grades such as kindergarten and 1st grade, and becomes more complex with students in upper grades.

Lexia Learning Systems publishes the Lexia Quick Reading Test (QRT) which allows teachers to administer computer-based one-on-one evaluations to their students. At the end of the assessment, which can be easily completed within 10 to 15 minutes, the program will make a recommendation for appropriate leveling for that particular student in the Lexia Reading Programs.

LEXIA LEVEL	GRADE LEVEL CORRELATION	READING SKILLS
ER Level 1	PreK – K	Phonemic awareness
ER Level 2	K	Alphabetic Knowledge
PR Level 1	K – 1st	Transition to Decoding, Pre-Primer Sight Words
PR Level 2	1st	Short Vowels, Blends, Digraphs, Primer Sight Words
PR Level 3	1st – 2nd	Long Vowels (silent-e), 1st grade Sight Words
PR Level 4	2nd	Vowel Combinations, Vowel-r, 2nd grade Sight Words
PR Level 5	2nd – 3rd	Two-Syllable Words, Suffixes, 3rd grade Sight Words
SOS Level 1	K – 1st	Short Vowels, Blends, Digraphs, One-Syllable Words
SOS Level 2	1st – 5th +	Long-Vowels (silent-e), Two-Syllable Words
SOS Level 3	2nd – 5th +	Vowel Combinations, Vowel-r
SOS Level 4	3rd – 5th +	2 sounds of ‘c’ and ‘g’, Multi-Syllable Words
SOS Level 5	4th – 6th +	Structural Analysis: Prefixes, Roots, Suffixes

In all cases it is advisable to level students on the low side of their ability range as opposed to too high in the program. A child leveled slightly below his or her skill level will make steady progress and build confidence as well as speed and accuracy. A child leveled too high, above his or her skill level, will experience frustration and initially will struggle to make progress through the program units. To assist teachers and other school staff with the leveling process, Lexia has developed a simple set of guidelines available in the documentation that accompanies the product.

2 **Step Two:** **Determining Frequency and Duration** **of Lexia Program Use**

Perhaps the most frequent question Lexia customers ask is, “How often should my students use Lexia?” Fortunately, research has provided an answer to this question and led to tremendous improvements in Lexia’s ability to provide detailed advice regarding use patterns. The story is a bit complex, again, owing to the wide range of skills displayed by children in the same classes.

A rule-of-thumb answer is, “Children should use the programs 2 to 3 times per week for 15 to 30 minutes per session depending on their age and ability level.” Younger children often need shorter use periods while older children can work independently for longer periods of time. Students who are performing on or above grade level may only need a couple of sessions per week for enrichment, while at-risk and SPED students will benefit from a more intensive schedule. This simple answer is enough to get people started, but a more sophisticated understanding of the programs leads to more informed and nuanced use patterns. Let’s look at it by grade levels.

► Pre-K

Lexia’s research team recently examined the effects of *Lexia Early Reading* use in a preschool/early childhood education setting. Students who are developmentally ready to engage in some independent learning can begin with short, 10-minute sessions using *Lexia Early Reading*. The phonological awareness activities in Level 1 require no letter knowledge and provide beginning readers with practice learning to manipulate sounds using rhyming, segmenting, and blending games. Level 2 provides a structured way to map the sounds they are familiar with in spoken language to the new letters they are learning.

One of the most effective ways to utilize Lexia in a preschool setting is to set up the computer as a center and allow students to rotate on and off during center time. It should not be expected that all students in early childhood education programs will have with the focused attention span, or computer skills necessary to make progress in Lexia, nor should students be expected to complete an entire program such as *Early Reading* in the course of a school year. However, as a supplemental component of an early literacy program, Lexia can provide students with the additional exposure to letter sounds, rhyming, and syllables that will be the basis for future reading development.

► Kindergarten

Virtually all typically developing kindergartners should start with, and will benefit from, multiple (2-4) weekly sessions with *Lexia Early Reading* (designed for children ages 4-6). All kindergartners need to master the phonological skills in *Early Reading* in order to be successful with higher-order reading skills. Lexia's data showed that children beginning kindergarten with poor phonological skills experienced the greatest benefits the program has to offer. Low-performing children in kindergarten should be provided with frequent opportunities to use *Early Reading*, their progress should be monitored, and additional instruction should be provided as needed. Typically developing kindergartners will finish both levels of *Early Reading* while they are still in kindergarten. Completing *Early Reading* mastery of fundamental skills including rhyming, blending, segmenting, identifying initial and final letter sounds and knowledge of letter sound correspondence.

Those kindergartners (or older students) who do not make steady progress and fail to complete the *Early Reading* program may be identified as at-risk of reading failure and most likely will need supplemental instructional services. Conversely, those kindergartners with precocious reading abilities, meaning those children who can already read and understand text, are unlikely to experience significant benefits from the use of *Early Reading*. For the majority of kindergartners, consistent practice with *Early Reading* will enable them to move on to Lexia Primary Reading during their first year in school. *Early Reading* has broad benefits for young learners and should be a high priority, i.e. a core element of the kindergarten language arts plan for virtually all students.

► Grades 1-3

Students entering first, second and third grade display a wide range of reading abilities that require a systematic and individualized approach to the use of Lexia programs. For children who are reading delayed and do not have mastery of basic phonemic skills such as rhyming, blending, segmenting, and identifying initial and final sounds, or are still learning letter-sound correspondences for consonants, we recommend *Early Reading*.

Students with command of phonemic skills, and students who have completed *Lexia Early Reading*, should use *Lexia Primary Reading* (for ages 5—8). With five levels, *Primary Reading* includes the skills sets commonly taught in grades 1 through 3. First, second and third grade students with typically developing reading skills will make steady, and even rapid progress through *Primary Reading*. Students in these grades will commonly complete several or perhaps all five levels of the program in a school year if given consistent access to the program (2-3 times per week).

Students in grades 1 through 3 who do not make steady progress and cannot complete multiple levels of the program are experiencing reading difficulties and may require additional support services including individual instruction.

Students who complete *Primary Reading* may be placed into *Lexia Strategies for Older Students* (ages 9 and up) at Level 4 to practice more advanced skills. Placement at Level 4 approximates the continuation of skills these children will develop after completing Level 5 of *Primary Reading*. Placing them in Level 1 of *Strategies for Older Students* is the equivalent of taking them from third grade skills back to first grade skills.

► **Grade 4 and above**

Students in grades 4 and higher present the same need for individualized skills based used patterns as those in grades 1 through 3. These students differ from younger Lexia users in one distinct way— they should use *Lexia Strategies for Older Students* (ages 9 to adult). The Strategies program has a more mature interface suited for older students. In its lower levels it is able to provide remedial skill work for older students without the potentially stigmatizing effect of a younger, less mature interface.

Students in grades 4 and above who are reading at or above grade level should only use the upper levels of the *SOS* program and will find *Strategies for Older Students* relatively easy to complete. The design is intended to be principally a remedial program for older students with delayed reading ability. Students reading on grade level in grades 5 or higher generally do not gain significant benefits from using the program. By virtue of their demonstrated reading level, they have acquired mastery of advanced decoding and word recognition skills. Conversely, older students and adults reading at or below the 4th grade level can use *Strategies for Older Students* to acquire automatic word decoding skills, sight word vocabulary, word level fluency, and reading comprehension skills.

Older students generally have the capacity to work for longer periods of time on Lexia programs. This increased duration of use can reduce the number of sessions required for students to make progress through and complete all five levels of *Strategies for Older Students*. That means older students may have fewer weekly sessions (as low as 2) and still have the aggregate computer time to advance through the program.

A Final Note on Frequency and Duration

Lexia programs feature essential reading skills that should be acquired by the end of fourth grade; therefore, the fundamental goal for students regardless of age, grade, or the program they are using is to complete the units. In other words, a good implementation and use pattern provides students with the time on task they need to acquire basic reading skills and practice them to mastery! This time on task will vary from student to student, but the rule is constant across all grades, ages and programs. If students are given the opportunity to work on the programs, the software will engage them, and over time they will master the foundational skills they need to become proficient readers.

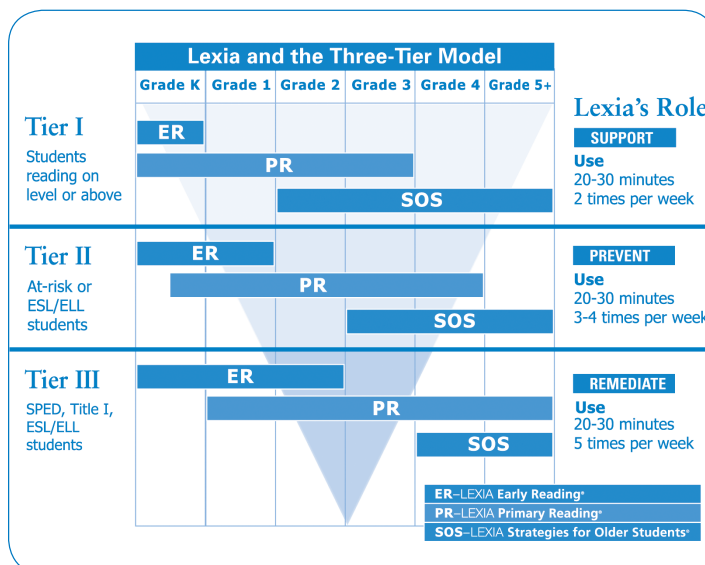
3 Step Three: Maximize Use for “High Benefit Students”

The term “high benefit students” is derived from Lexia research and is used to indicate that some students experience statistically higher gains on standardized reading measures when compared to other children their age. These children are heavily represented in the early elementary grades K-2.

The research demonstrates that they share common characteristics despite the range in their grades and ages. First, they were low scoring on pre-test measures in Lexia studies. Second, they had moderately high to very high sessions of program use, anywhere from 50 to 90 sessions over periods of time ranging from six to nine months. Students fitting this profile generally made remarkable reading score gains when compared to students in control groups who did not use Lexia, and compared to students who used Lexia but had low average session totals, from 20 to 35 sessions.

The results are clear: low performing students who are given consistent opportunities to practice skills on Lexia software made the greatest reading gains. Their scores improved more than Lexia users who scored average or high on pre-test measures, more than control students who did not use the program, and much higher than low scoring students with low levels of use. “High benefit students” are the students who have the greatest difficulty learning to read, and Lexia is highly effective with this population.

In fact, national initiatives such as the Response to Intervention (RTI) instructional model require that instruction and remediation be structured to meet the needs of the struggling students by using the most intensive interventions. Students who require additional resources must be provided with consistent opportunities to practice basic skills.



The 3-Tier Model of RTI depicts a tiered approach to delivering the appropriate intervention at each level of student ability. With proper implementation, Lexia’s reading programs correlate with this model, and support students at all levels of reading skill development.

4 *Step Four:* *Tackling Scheduling Concerns*

Time on task is crucial for Lexia software to help students acquire reading skills, so how can educators find time for its use in an already crowded classroom schedule? Which language arts programs or other curriculum elements can be adjusted to allow time for Lexia?

To put program use in perspective, the suggested levels of Lexia use represent only a small portion of the total time available in the school day and year. For example, a school year is normally 180 days, with approximately 90 minutes per day allocated to language arts. That is 7.5 hours of language arts instruction per week, or roughly 240 hours per school year. Lexia recommends use patterns of roughly 60-90 minute per week. That translates to approximately 15% to 20% of the language arts block in a given week.

Taking into account the fact that many students will complete their Lexia use over the period of the school year, the decision boils down to the following question: “Is it beneficial to dedicate 60 to 90 minutes per week to establish basic reading skills?” Given the performance of Lexia in promoting reading gains, particularly gains for struggling students, the answer is undoubtedly, “yes!”

Lexia also suggests that schools carefully examine the activities students engage in when they use computers in the classroom and computer laboratory. In many cases, the most common programs focus on games, computer skills competency, and other custodial programs only tangentially related to the core school mission. Classroom and laboratory use of Lexia programs to support reading instruction is frequently a far more fundamental and beneficial learning activity when compared to other forms of computer use.

Customers frequently ask if there are advantages to using Lexia on classroom workstations or in computer lab stations. In fact, there are benefits to both approaches, and both may be used in conjunction with each other. Classroom use allows teachers to more closely monitor student progress, prioritize the use of the programs for those students who need it most, and more easily support students with individualized instruction when needed.

Laboratory use promotes broader access to the program and is often characterized by better levels of technical support. A fixed schedule in a computer lab can be easily incorporated into a daily routine and can enhance the consistency and frequency of program use. Lab use also tends to support broader implementations allowing for larger numbers of students to use the programs more consistently. In our observations, either method is effective. Any perceived advantage or disadvantage of either method is balanced out by consistent use.

5 *Step Five:* **Supplementing a Strong Core Curriculum**

Lexia Reading Programs are easy to use, and provide great results, but your students will not learn to read and comprehend text by using Lexia alone. Lexia software was carefully designed to supplement core reading curricula, and is a much more effective practice tool than paper-and-pencil workbooks. There are several unique features of the Lexia Reading software that ensure that your students have the opportunity to work at their own pace to master the basic skills necessary for reading success. Used in conjunction with whole-class and small-group instruction, Lexia can be a key component of your literacy program. Students using Lexia Reading Programs will be provided with scaffolded, individualized practice on the skills they may struggle to learn in a group setting.

Lexia Learning Systems has made it easy to incorporate any or all of the three reading programs into your literacy curriculum. Our team of educational consultants has developed correlations to the leading basal curricula, and mapped the Lexia programs to several state standards as well. These easy-to-interpret charts allow educators to pinpoint the appropriate levels and activities within the Lexia Reading Programs to reinforce specific skill deficits. Additionally, Lexia is correlated to the DIBELS test, making it simple to provide immediate, focused intervention for students struggling in specific skill areas.

The entire library of Lexia correlations can be found on the website at www.lexialearning.com.

Wrap Up

Lexia not only has incorporated proven approaches into product design, but has also conducted outcomes studies using scientific standards including a pre- and post-test study design, control populations, random group assignment, and standardized norm referenced measures. Results have shown that incorporating Lexia reading skills software into your school's reading curriculum can have significant benefits. Implementing a reading program that incorporates Lexia software is straightforward. By following the simple principles laid out in this paper, your school can improve student reading achievement and, more importantly, close the reading achievement gap between struggling readers and their higher performing peers.

Best Practices Checklist

- Place students in the Lexia program and level appropriately by age, skill readiness, and need.
- Provide frequent and consistent opportunities for students to use the programs.
- Monitor the use of the program and require compliance with use-pattern goals.
- Give low performing students more time to use the programs.
- Plan your implementation to support struggling readers and allow proficient readers to move through and out of the programs.
- Lexia is supplemental — use a strong research-based core reading curriculum.
- Stay in touch with Lexia. Visit www.lexialearning.com to stay up to date on new offerings and releases.

For additional information about Lexia or a copy of the complete outcomes research studies, email info@lexialearning.com, call 800-435-3942, or visit www.lexialearning.com.

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