

RESEARCH REPORT

Lexia Software Improves Reading Achievement by Supporting Instruction

Conducted by
Revere, Massachusetts Public Schools and Lexia Learning Systems, Inc.
2001-2004

STUDY MANAGERS

Paul Macaruso, Ph.D.

Assistant Professor
Community College of Rhode Island
Research Scientist
Haskins Laboratories, New Haven, CT

Robert McCabe, M.Ed.

Director of Research & Product Management
Lexia Learning Systems, Lincoln, MA

Pamela Hook, Ph.D.

Associate Professor
Graduate Program in
Communication, Sciences and Disorders
MGH Institute of Health Professions, Boston, MA

Del Walker

Research Associate
Lexia Learning Systems, Lincoln, MA

Summary of Research Findings

Background

Lexia Learning Systems collaborated with the Revere Public Schools to conduct district-wide studies from 2001 – 2004 to assess the effectiveness of Lexia reading software as a supplement to Revere's language arts instruction.

During the course of the study, all early elementary students in Revere were taught using the same language arts curriculum. The instructional model emphasized the research-based teaching methods identified by the National Reading Panel and the "*No Child Left Behind*" Act of 2001, including systematic instruction in phonological awareness, phonics, fluency, vocabulary, and comprehension.

Classes were randomly assigned to either Lexia or control groups within the study. While sharing a common core curriculum, Lexia groups used age-appropriate reading software while the control groups did not.

Student Demographics in Revere, Massachusetts

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

KEY FINDINGS

- Lexia Improved Reading Scores in Grades K-3
- Lowest Performing Children Benefited the Most From Using Lexia
- Title I Students Using Lexia Closed the Reading Gap
- All Reported Findings were Statistically Significant
- Teachers Strongly Supported the Programs

Kindergarten Findings

Lexia Intervention

Kindergartners in the Lexia group used *Lexia Early Reading*[®], which provides individualized practice on building and enhancing phonological awareness and letter-sound knowledge. Phonological awareness is a critical pre-reading skill associated with reading success.

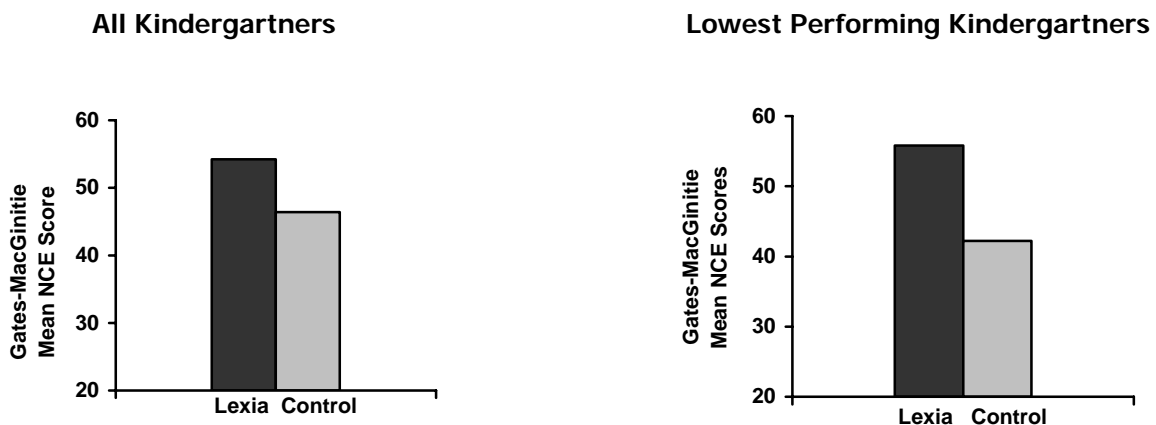
Study Details

- Kindergarten classes using *Lexia Early Reading* were compared to matched control classes taught by the same teachers. (Kindergartners in Revere attend either an AM or PM session.)
- At pretest, there were no significant differences between students in the Lexia classes and students in the control classes on the DIBELS (Dynamic Indicator of Basic Early Literacy Skills).
- The Gates-MacGinitie Reading Test Level PR (Pre-Reading) was used as a post-test measure. It measured phonological awareness, letter-sound correspondences, and listening comprehension.

RESULTS

Outcomes on the Gates-MacGinitie Reading Test

- Students in the Lexia classes significantly outperformed students in the control classes on the Gates-MacGinitie Reading Test.
- Lowest performing Kindergartners who used Lexia significantly outperformed lowest performing control students on the Gates-MacGinitie Reading Test.



A manuscript of these findings has been prepared for peer-review.

First Grade Findings

Lexia Intervention

First Graders in the Lexia group used *Lexia Phonics Based Reading*[®], which provided individualized practice and instruction on the systematic phonics and word recognition skills necessary for reading fluency and comprehension.

Study Details

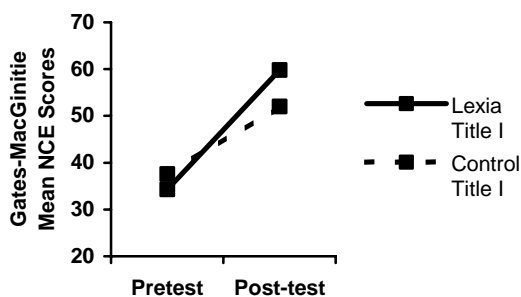
- Title I First Graders using *Lexia Phonics Based Reading* were compared to a Title I control group and to non-Title I students using *Lexia Phonics Based Reading*.
- Title I is a Federal program designed to improve the academic achievement of disadvantaged and at-risk children, including those in need of reading assistance.
- Students were pre- and post-tested using the Gates-MacGinitie Reading Test Level BR (Beginning Reading), which measured the ability to recognize initial and final consonants, consonant clusters, vowels, and basic story words.

RESULTS

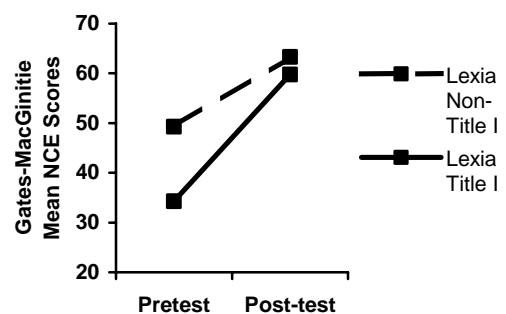
Outcomes on the Gates-MacGinitie Reading Test

- Title I First Graders who used Lexia made significantly greater gains on the Gates-MacGinitie Reading Test than Title I control students.
- Title I First Graders who used Lexia closed the performance gap when compared to Non-Title I students who used Lexia.

All Title I First Graders



Title I and Non-Title I Lexia First Graders



JOURNAL PUBLICATION:

A manuscript based on the First-Grade findings entitled "The Efficacy of Computer-Based Supplementary Phonics Programs for Advancing Reading Skills in At-Risk Elementary Students" has been accepted for publication in *The Journal of Research in Reading*. The article will appear in the Fall of 2005.

Second Grade Findings

Lexia Intervention

Second Graders in the Lexia group used *Lexia Phonics Based Reading*[®] and *Lexia Reading SOS (Strategies for Older Students)*, both of which provided individualized practice and instruction on systematic phonics and word recognition skills necessary for reading fluency and comprehension.

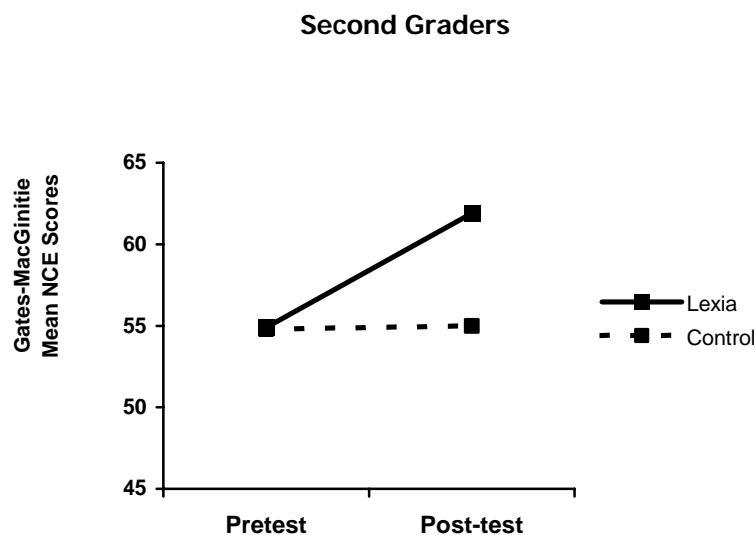
Study Details

- Second Graders who used *Lexia Phonics Based Reading* and *Lexia Reading SOS (Strategies for Older Students)* were compared to matched control students.
- Students were pre- and post-tested using the Gates-MacGinitie Reading Test Level 2, which measured word decoding, reading vocabulary, and reading comprehension.

RESULTS

Outcomes on the Gates-MacGinitie Reading Test

Second Graders who used Lexia made significantly greater gains in *word decoding* on the Gates-MacGinitie Reading Test than control students.



A manuscript of these findings is being prepared for peer-reviewed publication.

Third Grade Findings

Lexia Intervention

Third Graders in the Lexia group used *Lexia Phonics Based Reading*[®] and *Lexia Reading SOS (Strategies for Older Students)*, both of which provided individualized practice and instruction on systematic phonics and word recognition skills necessary for reading fluency and comprehension.

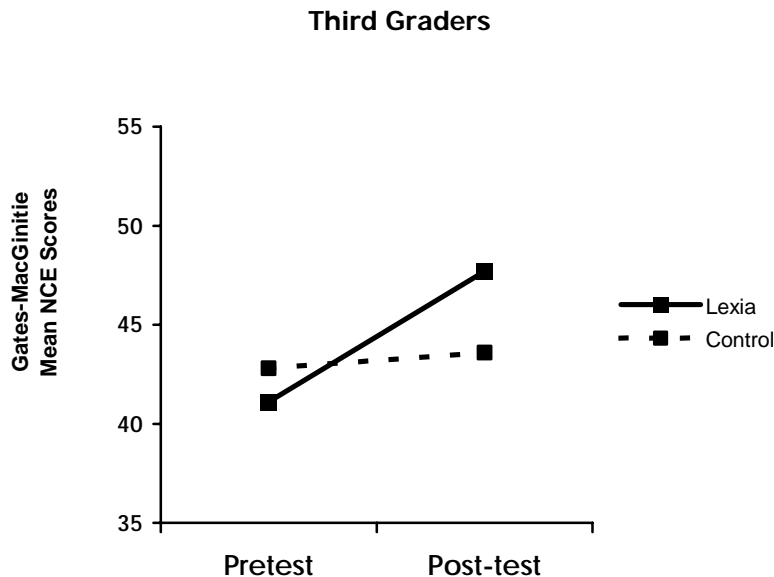
Study Details

- Third Graders who used *Lexia Phonics Based Reading* and *Lexia Reading SOS (Strategies for Older Students)* were compared to matched control students.
- Students were pre- and post-tested using the Gates-MacGinitie Reading Test Level 3, which measured reading vocabulary and reading comprehension.

RESULTS

Outcomes on the Gates-MacGinitie Reading Test

Third Graders who used Lexia made significantly greater gains in *reading comprehension* on the Gates-MacGinitie Reading Test than control students.



A manuscript of these findings is being prepared for peer-reviewed publication.

EDUCATOR RESPONSES

"Revere has worked hard to develop a high quality, scientifically based, comprehensive literacy program. Components of this program are continuously evaluated to ensure that the literacy needs of Revere's diverse population are being addressed. As a result of the positive effects that we have observed in the classroom and as measured in our studies, Lexia has become a key component of our daily literacy instruction. I'm especially pleased with the positive impact it has had on our 'at risk' students."

*Grace Marie Greeno, Ed.D.
Director of Literacy & Title I Programs
Revere Public Schools, Revere, MA*

"I love it! And so do my students. The design of the program keeps their attention and focus. They are motivated to move up a level."

*Cheryl Connors, Teacher
Lincoln Elementary School, Revere, MA*

"My students are always eager to go to Lexia. They are highly motivated and engaged by the program. *All* children are successful because of the independent nature of the Lexia program."

*Donna M. Felzani, Teacher
McKinley Elementary School, Revere, MA*

"Lexia is a great phonics based program. My students look forward to Lexia and are challenged each time they use the program. I am very impressed by the levels in the program. I find them age appropriate and engaging."

*Danielle Johnson, Teacher
Lincoln Elementary School, Revere, MA*

About the Research:

Academic consultants worked with Lexia Learning Systems and Revere Public Schools to ensure that the study met scientific standards, including a pre- and post-test design using control groups, random assignment of classes to groups, and standardized norm-referenced measures. Data analyses were done in accordance with commonly accepted statistical methods. All findings in this summary were significant at a conventional .05 level. All scores are reported using normal curve equivalents (NCE's). Only students with adequate use of the software were included in the Lexia groups (i.e., approximately 45 sessions of 20 minutes or more over a 6-month period).

The goal of Lexia's research is to develop rigorous outcomes studies that measure the efficacy of Lexia products and inform the improvement of their design.

For additional information or for a copy of the complete research,
e-mail info@lexialearning.com, call 800-435-3942 or visit www.lexialearning.com



Lexia Learning Systems, Inc.
2 Lewis Street P.O. Box 466 Lincoln, MA 01773
TEL: (800) 435-3942 OUTSIDE US: (781) 259-8752
FAX: (781) 259-1349
www.lexialearning.com