

# Accelerated Reader Software and Best Practices

## Key Scientifically Based Research Summary

Accelerated Reader (AR) software makes the essential student practice component of any reading curriculum more effective. Using AR, this practice time is personalized to each student's individual level to ensure a high rate of success and immediately followed by feedback to help educators target instruction. Personalized reading practice includes guiding students to books at appropriate levels, closely monitoring their progress, and intervening with appropriate instruction when necessary.

Accelerated Reader software and best classroom practices have been shown by scientifically based research to be effective in helping educators dramatically accelerate reading growth in K–12 classrooms. Numerous studies by independent researchers demonstrate that students' reading abilities improve with the use of Accelerated Reader and best practices, and that the performance gap between high-achieving and low-achieving students is substantially reduced.

The large evidence base supporting Accelerated Reader consists of a number of *experimental* and *quasi-experimental* research studies—generally considered by both the **No Child Left Behind Act** and the research community to provide the strongest evidence of effectiveness and to be consistent with the definition of scientifically based research—and includes articles that have been published in *peer-reviewed journals*. The research evidence on Accelerated Reader has been favorably reviewed by the **What Works Clearinghouse**, **National Center on Student Progress Monitoring**, and **Florida Center for Reading Research**, among others. Key studies that support Accelerated Reader are summarized on these pages.

### Significant Reading Gains in Tennessee Tied to Accelerated Reader

Nunnery, J. A., Ross, S. M., & McDonald, A. (2006). A randomized experimental evaluation of the impact of Accelerated Reader/Reading Renaissance implementation on reading achievement in grades 3 to 6. *Journal of Education for Students Placed At Risk, 11*(1), 1–18.

Ross, S. M., Nunnery, J., & Goldfeder, E. (2004). *A randomized experiment on the effects of Accelerated Reader/Reading Renaissance in an urban school district: Final evaluation report*. Memphis, TN: University of Memphis, Center for Research in Educational Policy.

#### Study Details

Location: Memphis, Tennessee

Design: Independent, experimental, peer-reviewed

Sample: 1,665 students and 76 teachers in 11 elementary schools

Measures: STAR Early Literacy, STAR Reading

Duration: 1 school year

#### Results

In this study, teachers at urban elementary schools were randomly assigned to use or not use Accelerated Reader. The students' STAR Early Literacy and STAR Reading results showed significant gains and moderate to large effect sizes in grades K–2 and small to moderate effect sizes in grades 3–6. Eighty-three percent of the students in grades 3–6 were eligible for free or reduced-price lunch. Students with learning disabilities benefited most in classrooms with high-implementation of AR compared to those in low- or no-implementation classrooms.

#### For More Information

Summary (L2296): <http://research.renlearn.com/research/pdfs/198.pdf>

Article: Email [research@renlearn.com](mailto:research@renlearn.com) to request a copy.

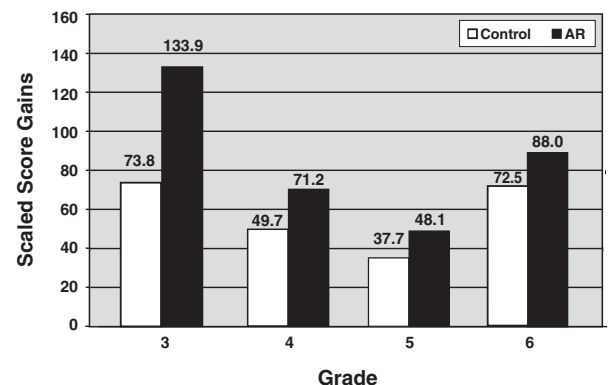
Report: Email [research@renlearn.com](mailto:research@renlearn.com) to request a copy.

#### About the Authors

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**Steven M. Ross, Ph.D.** is a Faudree Professor and executive director of the Center for Research in Educational Policy at the University of Memphis.

AR Users Outgain Controls



## Higher Test Scores in Texas Attributed to Accelerated Reader and Accelerated Math

Nunnery, J. A., & Ross, S. M. (2007). The effects of the School Renaissance program on student achievement in reading and mathematics. *Research in the Schools, 14*(1), 40–59.

Nunnery, J. A., Ross, S. M., & Goldfeder, E. (2003). *The effect of School Renaissance on TAAS scores in the McKinney ISD*. Memphis, TN: University of Memphis, Center for Research in Educational Policy.

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### Study Details

Location: McKinney, Texas

Design: Independent, quasi-experimental, peer-reviewed

Sample: 9 elementary and 2 middle schools, and matched controls

Measures: Texas Learning Index (TLI), Texas Assessment of Academic Skills (TAAS)

Duration: 5 years

### Results

Comparing students' TLI scores on the TAAS, researchers found statistically significant, positive effects of Accelerated Reader/Accelerated Math software and best practices on reading and mathematics achievement for elementary students, and on mathematics achievement for middle school students. Students in high-implementation schools scored even higher than comparison schools or low-implementation schools.

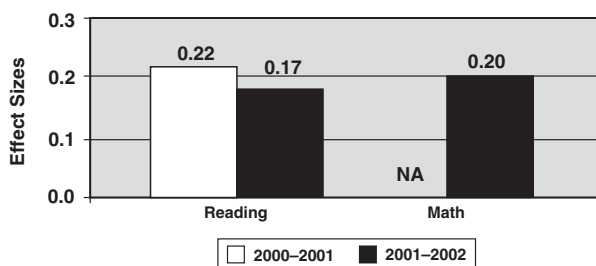
### For More Information

Summary (L2431): <http://research.renlearn.com/research/pdfs/149.pdf>

Article: Email [research@renlearn.com](mailto:research@renlearn.com) to request a copy.

Report: <http://www.eric.ed.gov/>, search for ED500027

**Renaissance Tools Have Significant Impact on Fifth-Grade TLI Scores**



## Greater AR Use Leads to Higher Gains in Title I Schools in Georgia

Holmes, C. T., Brown, C. L., & Algozzine, B. (2006). Promoting academic success for all students. *Academic Exchange Quarterly, 10*(3), 141–147.

Holmes, C. T., & Brown, C. L. (2003). *A controlled evaluation of a total school improvement process, School Renaissance* (Tech. Rep.). Athens: University of Georgia, Department of Educational Administration.

### About the Authors

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**Carvin L. Brown, Ed.D.** is professor emeritus at the University of Georgia and executive director of the Georgia Accrediting Commission.

**Bob Algozzine, Ph.D.** is a professor in the Department of Educational Leadership and director of the Behavior and Reading Improvement Center at the University of North Carolina at Charlotte.

### Study Details

Location: Central and Northern Georgia

Design: Independent, quasi-experimental, peer-reviewed

Sample: 2,287 students at 4 elementary schools

Measures: Georgia Criterion-Referenced Competency Test (CRCT), STAR Reading

Duration: 3 years

### Results

Of the 4 Title I schools in the sample, 2 were located in urban areas and 2 were located in rural areas. One school in each area was either a high or low implementer of Accelerated Reader and Accelerated Math. Results from the CRCT indicated that students in the 2 high-implementing schools outperformed students in the 2 low-implementing comparison schools overall (Effect size, ES = 0.65) and in reading (ES = 0.50), language arts (ES = 0.71), and math (ES = 0.75). Researcher observations confirmed that the 2 high-implementation schools engaged in Accelerated Reader best classroom practices more often than the 2 low-implementation schools. Teachers in all schools expressed positive attitudes towards Accelerated Math and Accelerated Reader.

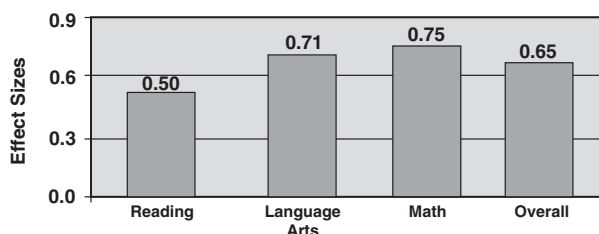
### For More Information

Summary (L2420): <http://research.renlearn.com/research/pdfs/136.pdf>

Article: Email [research@renlearn.com](mailto:research@renlearn.com) to request a copy.

Report: <http://www.eric.ed.gov/>, search for ED474261

**High AR Implementers Outperform Low on CRCT**



## AR Accelerates Quality, Quantity of Reading Practice for Students at All Achievement Levels

Topping, K. J., Samuels, J., & Paul, T. (2007). Does practice make perfect? Independent reading quantity, quality and student achievement. *Learning and Instruction, 17*, 253–264.

### Study Details

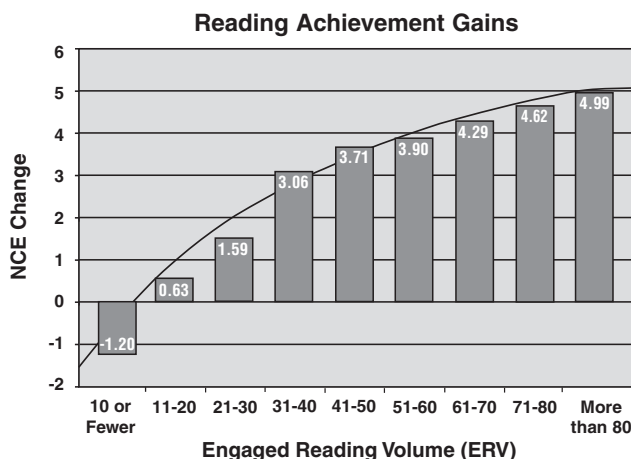
Location: 24 U.S. states  
 Design: Independent, correlational, peer-reviewed  
 Sample: 45,670 students in grades 1–12 at 139 schools  
 Measure: STAR Reading  
 Duration: 1 school year

### Results

Data for students who read and took Accelerated Reader quizzes for more than 3 million books were analyzed. Measures largely of quantity (engaged reading volume) and purely of quality (success in reading comprehension) showed that the more time students spent engaged in independent reading practice facilitated by AR, the greater their gains in reading achievement. This held true for students at all levels of achievement. However, both high quantity and high quality in combination were necessary for high achievement gains, especially for older students.

### For More Information

Article: Email [research@renlearn.com](mailto:research@renlearn.com) to request a copy.



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## Instant AR Feedback Helps Comprehension Gains Double at Minnesota School

Samuels, S. J., & Wu, Y. (2003). *The effects of immediate feedback on reading achievement*. Unpublished manuscript, University of Minnesota, Minneapolis.

### About the Authors

**S. Jay Samuels, Ed.D.** is professor of educational psychology at the University of Minnesota and a member of the National Institutes of Child Health and Human Development National Reading Panel.

**Yi-Chen Wu, Ph.D.** is a professor at National Sun Yat-Sen University in Taiwan.

### Study Details

Location: St. Paul, Minnesota  
 Design: Independent, quasi-experimental  
 Sample: 67 students in grades 3 and 5  
 Measures: STAR Reading, Group Reading Assessment and Diagnostic Evaluation (GRADE), Curriculum Based Measurement (CBM)  
 Duration: 6 months

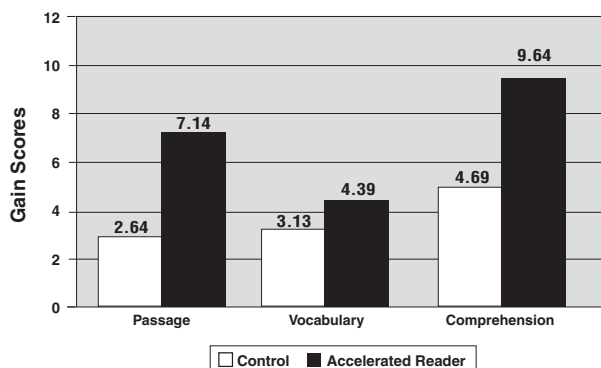
### Results

This study took place at a school where 64% of the students were eligible for free or reduced-price lunch. It compared students that completed book reports, which resulted in delayed feedback, and students that completed Accelerated Reader quizzes, which provided immediate feedback. The results revealed that students who used Accelerated Reader showed significantly higher gains on 3 measures of reading achievement compared to students who completed book reports and received only delayed feedback. In particular, students receiving immediate feedback through Accelerated Reader demonstrated twice the gain in reading comprehension of students not using Accelerated Reader.

### For More Information

Report: <http://www.tc.umn.edu/~samue001/papers.htm>

**AR Students Achieve Higher Gain Scores on the American Guidance Service GRADE Test**



## Arizona Students Using AR Consistently Outperform Peers on SAT-9

Brem, S. K., Husman, J., & Duggan, M. A. (2005). *Findings from a three-year study of Reading Renaissance in a Title I urban elementary school: The effects of Reading Renaissance on students' standardized reading performance and motivation towards independent reading* (Tech. Rep.). Tempe: Arizona State University, Division of Psychology in Education.

Husman, J., Brem, S., & Duggan, M. A. (2005). Student goal orientation and formative assessment. *Academic Exchange Quarterly*, 9(3), 355–359.

### About the Authors

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### Study Details

Location: Arizona

Design: Independent, quasi-experimental, peer-reviewed

Sample: 239 students at 2 matched elementary schools

Measures: STAR Reading, Stanford 9 (SAT-9), Patterns of Adaptive Learning Scales (PALS)

Duration: 3 years

### Results

Students at an urban, Title I treatment school using Accelerated Reader with recommended best classroom practices achieved greater SAT-9 reading scores than students in a similar school that did not use this tool. Through student surveys, researchers also found that mastery orientation (learning for the sake of learning) remained consistently high and performance orientation (working for the grade) decreased for students using AR.

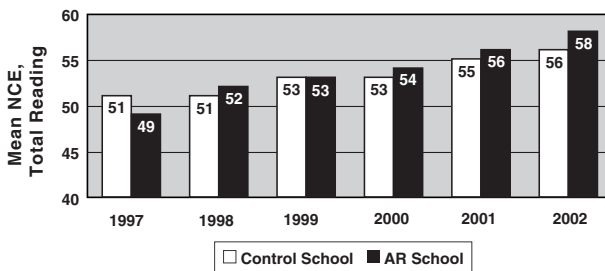
### For More Information

Summary: <http://research.renlearn.com/research/pdfs/196.pdf>

Article: <http://www.rapidintellect.com/AEQweb/5oct304715.htm>

Report: <http://www.drbrm.net/renlearn/publications/rr2005.pdf>

AR School Demonstrates Stronger Growth on SAT-9 Than Non-AR School



## CAT Scores and Attitudes Improve for North Carolina AR Students

Peak, J. P., & Dewalt, M. W. (1994). Reading achievement: Effects of computerized reading management and enrichment. *ERS Spectrum*, 12(1), 31–35.

### Study Details

Location: Cherryville and Gastonia, North Carolina

Design: Independent, quasi-experimental, peer-reviewed

Sample: 100 students in grade 9

Measure: California Achievement Test (CAT)

Duration: 5 years

### Results

This study showed that a randomly selected sample of students using AR gained 72 points from pretest (3rd grade) to the posttest (8th grade) on the CAT. In contrast, randomly selected students from the control school gained only 42 points during the same span of time. The students using AR started off with lower average pretest scores than the control group and still demonstrated greater acceleration in learning over their counterparts. Additionally, students that used AR read more books and spent more time reading than the students at the other school.

### For More Information

Summary (L0322): <http://research.renlearn.com/research/pdfs/14.pdf>

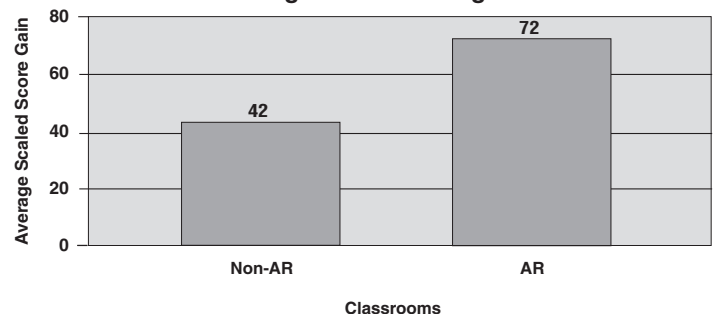
Article: Email [research@renlearn.com](mailto:research@renlearn.com) to request a copy.

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Students Using AR Achieve Higher Gains on CAT



## With AR Best Practices, UK Student Growth Is Fast, Dramatic

Topping, K. J., & Fisher, A. M. (2003). Computerized formative assessment of reading comprehension: Field trials in the UK. *Journal of Research in Reading, 26*(3), 267–279.

### Study Details

Location: United Kingdom  
 Design: Independent, peer-reviewed  
 Sample: 13 schools, primary through a city technology school  
 Measures: Primary Reading Test (PRT),  
 Group Reading Test II 6-14 (GRT), STAR Reading  
 Duration: 6 months

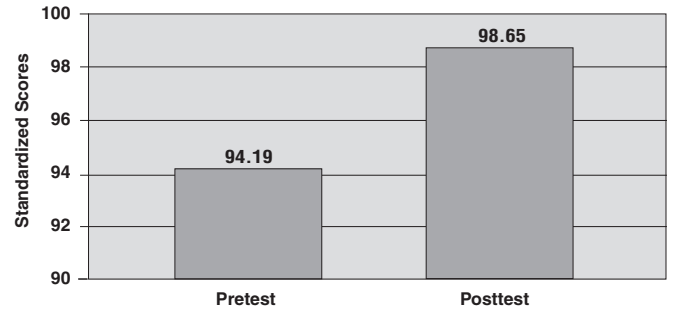
### Results

Nine of the 13 schools in this study were from disadvantaged areas in the UK. Results indicated a statistically significant average gain in standardized scores for the paper-and-pencil test of 2.84 and an average gain in grade equivalent on the STAR Reading test of 0.75 in half a year. The authors concluded that Accelerated Reader had a significant impact on reading achievement in the study schools when implemented with best practice recommendations. The authors also cited the value of Accelerated Reader as a tool that generates its own implementation integrity data.

### About the Author

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### AR Schools See Dramatic Improvement in Half Year



### For More Information

Summary (L1970):

<http://research.renlearn.com/research/pdfs/92.pdf>

Article: Email [research@renlearn.com](mailto:research@renlearn.com) to request a copy.

## Tennessee Teachers' Effectiveness Rises With High Quantity, Quality AR Use

Topping, K. J., & Sanders, W. L. (2000). Teacher effectiveness and computer assessment of reading: Relating value-added and learning information systems data. *School Effectiveness and School Improvement, 11*(3), 305–337.

### Study Details

Location: Tennessee  
 Design: Independent, quasi-experimental, peer-reviewed  
 Sample: 62,739 students in grades 2–8  
 Measure: Tennessee Value-Added Assessment System (TVAAS)  
 Duration: 1 school year

### Results

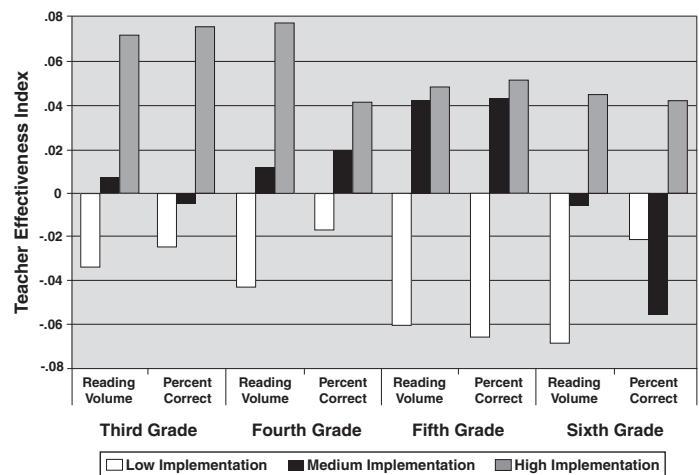
This study found that when teachers monitor reading to ensure that students average at least 85% on their Accelerated Reader quizzes, a higher volume of reading practice yields higher student reading achievement. This study supports the National Reading Panel's recommendation that teachers need to be actively involved in the process of reading development, and it shows that Accelerated Reader is useful in this process.

### For More Information

Summary: <http://research.renlearn.com/research/pdfs/19.pdf>

Article: Email [research@renlearn.com](mailto:research@renlearn.com) to request a copy.

### Teacher Effectiveness Increases as AR Implementation Improves



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**William L. Sanders, Ph.D.** is a senior research fellow with the University of North Carolina system. Previously, he was a professor for 34 years and director of the University of Tennessee's Value-Added Research and Assessment Center. He is the creator of and authority on the TVAAS.

## Test Scores, Climate Improve With Accelerated Reader, Accelerated Math in Mississippi

Ross, S. M., & Nunnery, J. A. (2005). *The effect of School Renaissance on student achievement in two Mississippi school districts*. Memphis, TN: University of Memphis, Center for Research in Educational Policy.

### Study Details

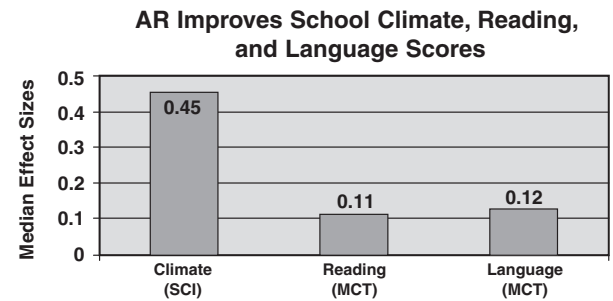
Location: Pascagoula and Biloxi, Mississippi  
Design: Independent, quasi-experimental  
Sample: 10,000 students in grades 3–8, 23 treatment/18 control schools  
Measures: Mississippi Curriculum Test (MCT), Mississippi Writing Assessment, School Climate Inventory (SCI)  
Duration: 2 years

### Results

More than 60% of the 10,000 students participating in this study were eligible for free or reduced-price lunch. MCT results favoring Accelerated Math and Accelerated Reader were found in reading (median effect size 0.11), language arts (median effect size 0.12), and math (median effect size 0.08). The researchers also found that the organizational climates reported by teachers at treatment schools were significantly more favorable than those reported by teachers at control schools on all 7 dimensions of the SCI, with effect sizes ranging from 0.20 to 0.54.

### For More Information

Report: <http://www.eric.ed.gov/>, search for ED484275



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**John A. Nunnery, Ph.D.** is an assistant professor in the Department of Educational Leadership and Counseling at Old Dominion University where he teaches program evaluation, planning, and advanced statistics.

## Independent Analysis Confirms AR Positively Impacts Student Achievement

Borman, G. D., & Dowling, N. M. (2004). *Testing the Reading Renaissance program theory: A multilevel analysis of student and classroom effects on reading achievement*. Unpublished manuscript, University of Wisconsin–Madison.

### Study Details

Location: 24 U.S. states  
Design: Independent  
Sample: 50,823 students in grades 1–12 at 139 schools  
Measure: STAR Reading  
Duration: 1 school year

### Results

This study is an independent evaluation of a large database containing reading and achievement records for students that used Accelerated Reader. In the elementary grades, students in classrooms implementing Accelerated Reader with best practices showed statistically significant improvements in overall achievement level. In middle and high school, teachers who promoted a greater overall reading success rate were able to improve achievement results. Higher average percent correct on AR quizzes and reading at levels above the initial zone of proximal development (ZPD) were linked to greater outcomes. Additionally, even after using rigorous statistical controls for students' initial reading skill levels, reading success rate, and challenge of reading material, the amount of text read was a key predictor of later literacy development.

### For More Information

Summary: <http://research.renlearn.com/research/pdfs/180.pdf>

Report: [http://www.education.wisc.edu/elpa/people/faculty/Borman/BormanDowling2004\\_RdgRenProg.pdf](http://www.education.wisc.edu/elpa/people/faculty/Borman/BormanDowling2004_RdgRenProg.pdf)

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**N. Maritza Dowling, Ph.D.** is a postdoctoral fellow at the Wisconsin Center for Educational Research at the University of Wisconsin–Madison.

## Virginia Students Score Better in Comprehension With High AR Use

Johnson, R. A., & Howard, C. A. (2003). The effects of the Accelerated Reader program on the reading comprehension of pupils in grades three, four, and five. *The Reading Matrix*, 3(3), 87–96.

### Study Details

Location: Virginia  
Design: Independent, quasi-experimental, peer-reviewed  
Sample: 755 students in grades 3–5 at 7 schools  
Measure: Gates-MacGinitie Reading Test  
Duration: 1 school year

### About the Authors

**Roger A. Johnson, Ph.D.** has published in leading educational journals such as *Kappan*, *The Reading Teacher*, and *Gifted Child Quarterly*.

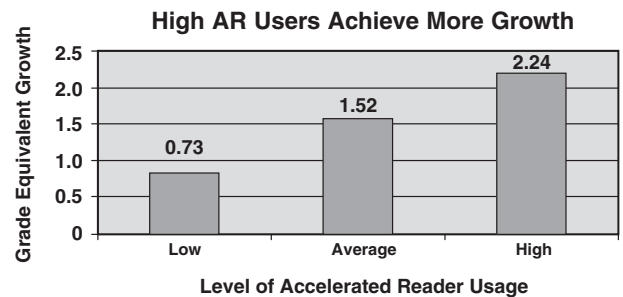
**Carol Howard, Ph.D.** serves as Special Education Resource Team member at Campostella Elementary School.

### Results

This study investigated the effect of Accelerated Reader on the reading achievement and vocabulary development of students from a Title I, urban environment. Students categorized as high-AR users gained significantly more on reading comprehension than those students categorized as average and/or low users. Results indicated that the AR program can be quite effective if the participating students are willing to do supplemental reading.

### For More Information

Summary (L0397): <http://research.renlearn.com/research/pdfs/80.pdf>  
Article: [http://www.readingmatrix.com/articles/johnson\\_howard/article.pdf](http://www.readingmatrix.com/articles/johnson_howard/article.pdf)



## Special Education, ELL Students in Scotland Show Greater Gains Using AR

Vollands, S. R., Topping, K. J., & Evans, H. M. (1999). Computerized self-assessment of reading comprehension with Accelerated Reader: Action research. *Reading and Writing Quarterly*, 15(3), 197–211.

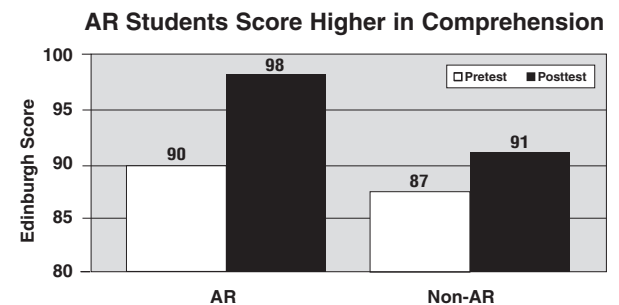
### About the Authors

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**Keith J. Topping, Ph.D.** is a professor in the School of Education, Social Work, and Community Education at the University of Dundee in Scotland.

### Study Details

Location: Aberdeen, Scotland  
Design: Independent, quasi-experimental, peer-reviewed  
Sample: 89 students in grades 5 and 6 at 2 schools  
Measures: Edinburgh reading comprehension test, Neale reading accuracy test  
Duration: 6 months



### Results

The student population involved in this study consisted of mixed abilities including special education and students learning English as a second language. The study looked at the effect of AR and partially implemented best classroom practices on students from 2 schools in severely economically disadvantaged areas of Scotland. The schools were divided into 2 separate project studies, A and B. Results indicated that despite having less reading time than comparison students, the students using AR best practices demonstrated greater statistically significant gains in reading achievement across a number of measures, including comprehension and reading accuracy. In addition, students in the Accelerated Reader classes demonstrated measurable gains in attitudes toward reading.

### For More Information

Summary (L0323): <http://research.renlearn.com/research/pdfs/17.pdf>  
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