

# The Effectiveness of Trainertext-Based Reading Interventions: Evidence from a Randomized Controlled Trial

## Introduction

This is an analysis of the results of a trial run by the Open University in 2014. The trial was run by Professor David Messer. The title to the study was *An evaluation of the effectiveness of a computer-assisted reading intervention*.

A full copy of the study can be found here:  
<https://oro.open.ac.uk/48260/10/48260.pdf>

## Executive Summary

A recent randomized controlled trial examined the effectiveness of a 120-session computer-based reading intervention for children identified by schools as needing reading support. The study provides evidence that structured, computer-assisted programs can produce meaningful improvements in reading skills for struggling learners.

The intervention group showed notable gains across multiple literacy measures, with the most significant improvement in decoding skills—moving from the 19th percentile to the 50th percentile nationally. That took the students from 2 years behind to a normal reading level for their age.

These results suggest that systematic, technology-supported interventions may help close performance gaps for children experiencing reading difficulties.

## Study Design and Participants

The research employed a randomized controlled trial design, comparing outcomes between 78 children who received the intervention and a control group that continued with standard school support.

Participants were English-speaking children (average age 8) specifically identified by their schools as requiring reading assistance.

This methodology allows for reasonable confidence that observed differences between groups resulted from the intervention rather than other factors such as maturation or standard classroom instruction.

## Key Findings

### Reading Skills Outcomes

The data in the table shows the percentile position of the students in the normal distribution curve.

The 50th percentile is the normal for the age. These students were around 2 years behind in reading, putting them on around the 20th centile.

The intervention group demonstrated improvements across several literacy measures when compared to the control group receiving the standard intervention used in each of the 6 schools.

## Study Data

Skill	Intervention Group Percentiles			Control Group Percentiles		
	Start	Finish	Gain	Start	Finish	Gain
Word decoding	19th	50th	<b>+31</b>	27th	32nd	<b>+5</b>
Phon. Memory	26th	58th	<b>+32</b>	21st	20th	<b>-1</b>
Phon. Awareness	18th	37th	<b>+19</b>	19th	25th	<b>+6</b>
Working Memory	19th	48th	<b>+29</b>	25th	34th	<b>+9</b>
Naming Speed	34th	59th	<b>+25</b>	44th	50th	<b>+6</b>

## Decoding Skills

The most substantial improvement occurred in decoding—the fundamental ability to convert written letters into sounds and blend them into words. Children moved from below-average performance (19th percentile) to average performance (50th percentile), suggesting the intervention helped establish essential foundational reading skills.

## Cognitive Functions

The study also measured underlying cognitive abilities that support reading. Improvements in phonological short-term memory and executive working memory suggest the intervention may strengthen core mental processes involved in literacy development, not just surface-level reading strategies.

## Study Limitations and Considerations

While the results are encouraging, several factors should be considered:

- The study focused specifically on children already identified as struggling readers
- Spelling skills did not show significant improvement, suggesting the intervention primarily targets reading (decoding) rather than encoding abilities
- Results reflect a 10-month intervention period; longer-term outcomes were not assessed
- The study examined one specific computer-based program; results may not generalize to all technology-assisted reading interventions

## Implications

The research provides evidence that systematic, computer-based reading interventions can produce measurable improvements for children experiencing reading difficulties. The gains in both reading skills and underlying cognitive functions suggest such programs may address fundamental aspects of literacy development.

For educators and parents of struggling readers, these findings indicate that structured, intensive interventions (120 sessions over approximately 10 months) may help children reach grade-level reading performance. However, as with any educational intervention, individual results may vary.

# Application to Practice

This research supports the use of evidence-based, systematic approaches to reading intervention. Key principles demonstrated include:

- Intensive, structured practice over an extended period
- Computer-assisted delivery for consistent implementation
- Focus on foundational decoding skills
- Attention to underlying cognitive processes that support reading

Educational programs that incorporate these elements may be more likely to produce meaningful outcomes for struggling readers, though individual assessment and monitoring remain essential components of effective intervention.