

# Intensive Reading Interventions with Inadequate Responders in Grades K-3: A Synthesis

Christy R. Austin, Sharon R. Vaughn, Amanda M. McClelland

Department of Special Education, The University of Texas at Austin



A subset of students fail to respond adequately to reading interventions. This synthesis systematically reviews studies in which students in grades K-3 responded inadequately to a tier 2 reading intervention and were provided with a tier 3 intervention. Descriptions of the tier 3 reading interventions and effects are provided. To meet inclusion criteria, studies were required to: (a) provide documented, multi-tiered reading interventions with at least one reading outcome measured, (b) include students in grades K-3 who previously responded inadequately to a tier 2 intervention, (c) use experimental, quasi-experimental, or multiple group designs, and (d) be peer reviewed and conducted in English. Twelve studies met inclusion criteria. Results demonstrate that students who responded inadequately to tier 2 interventions can make significant growth from tier 3 interventions compared to a control group of peers who were also inadequate responders, but often fail to catch up to their more responsive peers.

- According to the National Center for Education Statistics, only 36% of 4<sup>th</sup> grade students performed at or above the proficient level in reading. (NCES; U.S. Department of Education, 2015)
- Approximately 20-25% of students with learning disabilities do not benefit from the reading interventions that are provided in schools today. (Fuchs & Fuchs, 2015)
- 2% - 6% of early readers do not respond adequately to research-based early reading interventions. (Torgesen, 2000)
- Research demonstrates that many students with reading difficulties and disabilities can improve their reading when provided intensive reading intervention. (Edmonds et al., 2009; Solis et al., 2012; Wanzek et al., 2013)

- 1) What reading interventions are provided to students in grades K-3 who previously responded inadequately to a documented, tier 2 intervention?
- 2) What are the effects of providing a tier 3 reading intervention to students who have previously responded inadequately to a documented, tier 2 intervention?

## Search Procedures

- 1) Electronic Search:  
**Databases:** Education Source, ERIC and PsycINFO  
**Line 1:** reading OR fluency OR phonics OR phonemic OR phonological  
**Line 2:** "non respon\*" OR "treatment resist\*" OR "inadequate respon\*" OR "minimal respon\*" OR unresponsive OR "difficult to remediate" OR "severe reading dis\*" OR "severe dis\*" OR remedia\*  
**Line 3:** NOT "depress\*" OR drug
- 2) Hand Search:  
*Journal of Learning Disabilities, Reading and Writing, Reading Research Quarterly, Learning Disabilities Quarterly, and Exceptional Children*
- 3) Reference List Search

## Inclusion/Exclusion Criteria

- Inclusion Criteria:**  
 Studies were required to:
- Provide multi-tiered reading interventions. This was defined as students responding inadequately to a documented, small-group or one-on-one, tier 2 reading intervention, and then being provided another documented, small group or one-on-one tier 3 reading intervention.
  - Document inadequate response by a subset of students. The definition of inadequate response was any student responding insufficiently to a previous intervention. How inadequate response was defined was left up to the researcher and was coded for further analysis.
  - Include at least one reading outcome, which was broadly defined as a standardized or researcher-developed measure including any of the 5 components of reading.
  - Include participants in grades K-3. Students could be identified for special education, but were not required to be in special education for inclusion in this synthesis due to the young age of the participants.
  - Utilize experimental, quasi-experimental, or a multiple-group research designs.
  - Be conducted in English and published in a peer-reviewed journal.

- Exclusion Criteria:**  
 Studies were excluded if:
- They involved only a single group or single-case design, reporting growth from pretest to posttest. These studies were excluded on the basis of not including a control group from which to compare student growth.
  - They did not include a multi-tiered reading intervention, as this was the mechanism for identifying studies classifying students as inadequate responders.

## Findings

- n = 12 studies
- Dosage, group size, grade level or expertise of the implementer did not appear to moderate the effects of tier 3 interventions.
  - Variability in how researchers defined inadequate response.
  - Variability in how researchers selected participants for the comparison condition
  - 3 of 4 studies that included a comparison group that also included inadequate responders demonstrated statistically significant effects for the treatment group that received a tier 3 intervention.
  - 5 of 6 studies that included a comparison group of students that responded adequately to a tier 2 intervention demonstrated that students in the treatment group that received a tier 3 intervention failed to catch up to their higher performing peers.

## Implication of Findings

- There is a need for a universal definition of what constitutes an inadequate responder.
- Results demonstrate that students who have previously responded inadequately to intervention are capable of making meaningful gains in reading skills, despite their inability to catch up to higher performing peers.

Table 1: Components of Reading Assessed After Tier 2 Intervention to Determine Student Responsiveness

Study	Phonological Awareness	Phonics	Fluency	Vocabulary	Comprehension
Berninger et al., 2002		X			X
Denton et al., 2006		X	X		X
Denton et al., 2013		X	X		X
Gilbert et al., 2013		X	X		
O'Conner, 2000		X	X		
O'Conner et al., 2005		X	X	X	X
Scanlon et al., 2005	X	X			X
Vadasy et al., 2008		X	X		X
Vaughn et al., 2003	X	X			X
Vaughn et al., 2009		X	X	X	X
Velluntino et al., 2008		X			X
Wanzek & Vaughn, 2008		X	X		

Table 2. Method for Intensifying Intervention from Tier 2 to Tier 3

Study	Increase Frequency of Sessions per Week	Increase Length of Each Session	Increase Duration of Intervention from Start to Finish	Decrease Group Size	Increase Expertise of Instructor	Adjust Instruction by Engaging in the Process of Data-Based Decision-Making
Berninger et al., 2002			X	X		
Denton et al., 2006		X		X		
Denton et al., 2013		X	X	X	X	X
Gilbert et al., 2013	X			X		
O'Conner, 2000	X	X	X		X	
O'Conner et al., 2005		X	X			X
Scanlon et al., 2005	X			X		
Vadasy et al., 2008						
Vaughn et al., 2003			X			X
Vaughn et al., 2009		X	X	X		
Velluntino et al., 2008	X		X	X		
Wanzek & Vaughn, 2008		X	X			