Dr. Minnie Mize

Using Tablets to Support Reading Fluency for Struggling Readers

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Background

- Elementary school teacher (inclusive classroom) in Seoul, Korea for 5 years
- Graduate research assistant/ research coordinator at Univ. of Texas at Austin for 3 years
- Clinical faculty in special education at East TN State for 3 years
- Assistant Professor in Education Core/ Special Education at Winthrop Univ. since 2017

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Advance Organizer

Importance of teaching reading fluency
- Mize et al. (2019)

Effective reading fluency interventions for struggling readers
- Kim [Mize] et al. (2016)

How to find a good app to support reading fluency
- Ok, Kim [Mize] et al. (2016)
- Mize, Park, and Possinger (accepted)

Tablet-based reading fluency intervention ideas
- Bryant, Kim [Mize] et al. (2015)
- Mize, Bryant, and Bryant (2019)
- Mize and Park (in preparation)

Q & A

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Why reading fluency?

- Struggling readers: Slow reading or medium-speed reading with many errors
- LaBerge and Samuels (1974): Theory of automaticity in oral reading
- Fluent reading facilitates reading comprehension (Allor & Chard, 2011).

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What is Reading Fluency?

Oral reading fluency has been identified as one of five essential components of reading by National Reading Panel (NRP, 2000)

The ability to read with "speed, accuracy, and proper expression" (p. 3-1).

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Student Copy **Form 3-1**

Susan was nervous because it was her first day attending a new school. She had just moved from a different state. She did not know anybody at her new school. She was worried that the kids would be mean to her. Both her mother and father had started new jobs, so Susan had to ride the bus to school on her own that first day. This made her even more nervous. As Susan was waiting for the bus, another girl about her age walked up to the bus stop too. She said her name was Karen. She asked if Susan was going to River Park School. Susan told her that she was starting school there that day.

Karen and Susan talked while they waited for the bus. Susan soon found out that they were the same age and would be in the same class at school. On the bus, Karen introduced Susan to a few of her friends. The talked about what they both liked to do. Susan was happy to hear that also liked to read. She was excited to find out that Karen had a pur like Susan did. The two decided they should meet after school s puppies could play together. When they got to school, Karen tour. She made sure to show Susan where the bathrooms the first school bell rang, Susan was starting to feel was so glad she had met Karen. She had a friend

https:// Easycbm.com
https://dibels.uoregon.edu

How to measure

Words Correct Per Minute (WCPM) =
Total number of words read in 1 minute
– error words

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Effective reading fluency interventions for struggling readers

PREVENTING SCHOOL FAILURE
http://dx.doi.org/10.1080/1045988X.2016.1212321

Routledge
Taylor & Francis Group

A synthesis of interventions for improving oral reading fluency of elementary students with learning disabilities

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[a]East Tennessee State University, Johnson City, TN, USA; [b]University of Texas at Austin, Austin, TX, USA; [c]University of Tennessee, Knoxville, TN, USA

ABSTRACT
A synthesis of the research literature was conducted from 2004 to 2014 on interventions designed to build oral reading fluency for elementary students with learning disabilities (LD). An extensive search yielded a total of 12 intervention studies. Among the 12 studies, the majority ($n = 9$) implemented repeated reading with or without a model. Findings from this synthesis indicate that there may be no differential effects between repeated reading with or without a model for improving oral reading fluency of elementary students with LD. In addition, findings suggest that elementary students with LD may benefit from video modeling or word/phrase-based practices that provide opportunities to repeat misread words or phrases with words incorrectly read during the initial reading.

KEYWORDS
Elementary level; learning disabilities; oral reading fluency; reading intervention

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Effective reading fluency interventions for struggling readers

- Repeated reading was demonstrated as the most common and effective intervention approach.
- Repeated reading (reading the same text 2-3 times)
- Majority used text at student's instructional reading level (one grade or two grades below their actual grade)
- Decker and Buggey (2014): **Video modeling**- students watched a video of echo reading (teacher-read and student-echoed)

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Tablets for reading fluency instruction?

- Novelty
- Availability in many schools
- Easy to operate

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1st Fluency Study

- Four 4th graders with Learning Disabilities in Reading
- iPad-assisted instruction vs. Peer-assisted instruction
- Each instruction approach was randomly alternated 7 times each

Behavior Modification
2015, Vol. 39(1) 167–190

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A Comparison of the Effects of Reading Interventions on Engagement and Performance for Fourth-Grade Students With Learning Disabilities

Brian R. Bryant[1], Min Kyung Kim[1], Min Wook Ok[1], Eun Young Kang[1], Diane Pedrotty Bryant[1], Russell Lang[2], and Seung Hyun Son[3]

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iPad-assisted vs Peer-assisted

- iPad-assisted
  - No feedback from a peer or a teacher
  - iPad only with their headphone
  - App provided progress monitoring
  - Students read a text based on their instructional reading level.
  - 12-15 minutes
- Peer-assisted
  - Students worked with their partner and read a text by taking turns.
  - They were asked to provide feedback for their partner's errors.
  - 12-15 minutes

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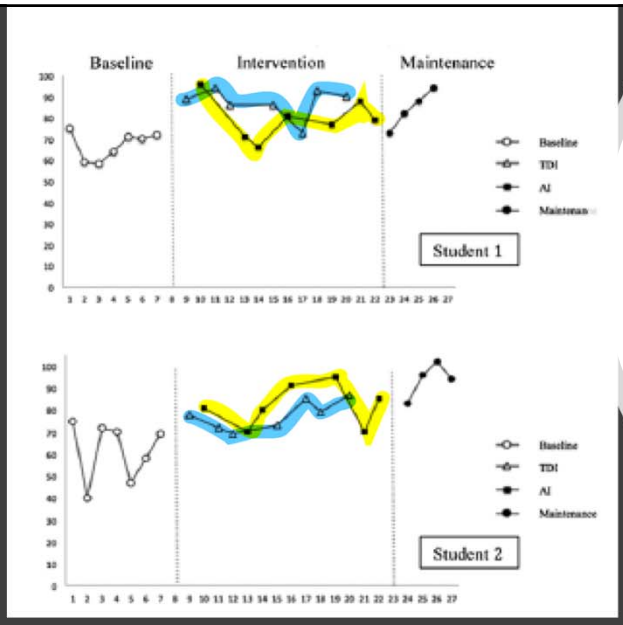

Paragraph reading instruction	
TDI	AI
95.0 (8.7)	96.8 (4.9)
86.0 (9.1)	96.8 (4.9)
92.0 (5.4)	99.0 (2.2)
92.5 (15)	95 (8.7)

Results

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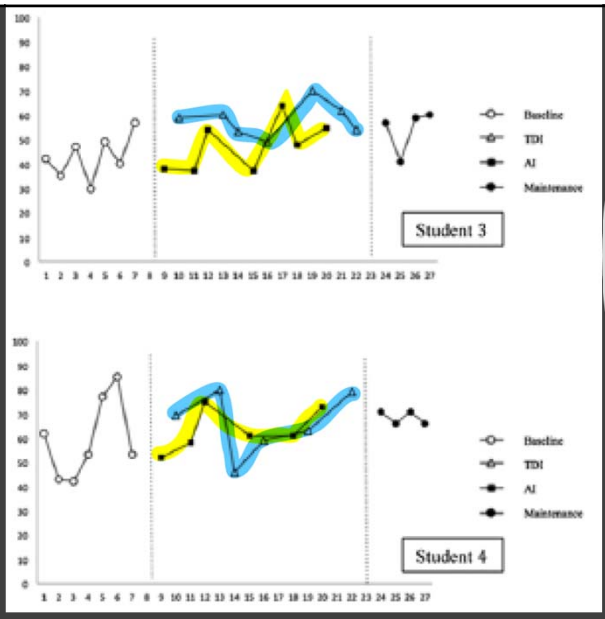

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92.0 (5.4)	99.0 (2.2)
92.5 (15)	95 (8.7)

Results (cont.)

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2nd Fluency Study

- Four 5th graders with Learning Disabilities in Reading
- iPad-assisted instruction vs. Peer-assisted instruction
- Each instruction approach was randomly alternated **11 times** each

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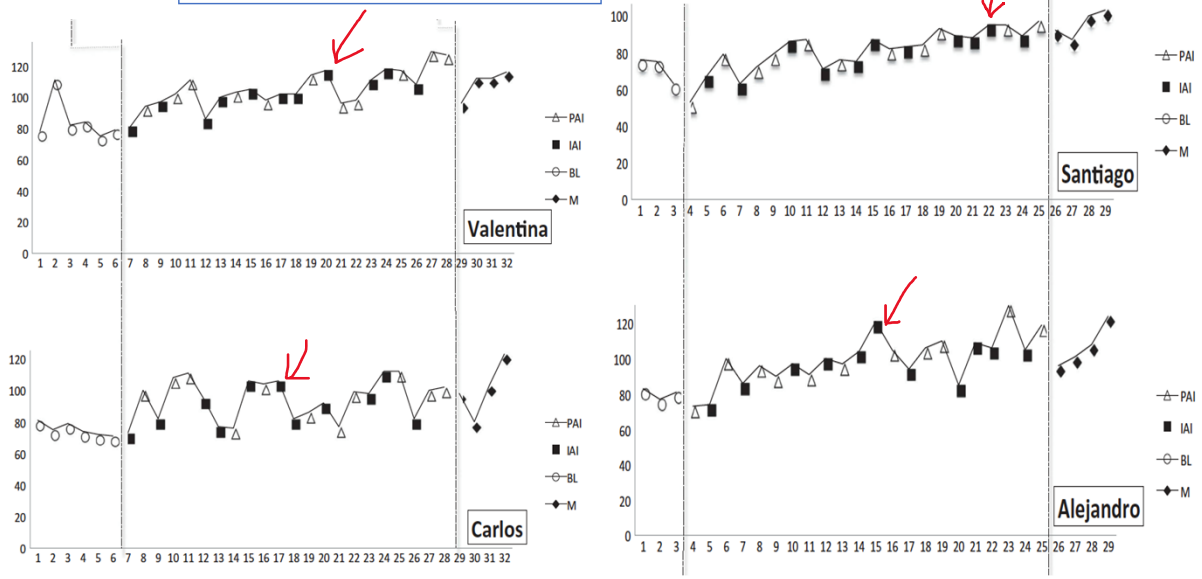
Results

Moderate and positive experimental effects



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What students said…(social validity)

- iPad-Assisted
  - "I like the iPad because sometimes it can be slow "
  - "It is easier to learn with iPad because you don't have to wait for the other student (Santiago) so it doesn't take long."
  - "Working with an iPad (IAI) was easier than Peer-assisted."
  - "iPad helped me enjoy learning, and I liked the application."
- Peer-Assisted
  - "Partner reading in the PAI made me wait when I read faster than Santiago."

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Based on the results from two studies…

- iPad & Peer > Baseline (moderate effects)
- Effects of iPad vs Peer on reading fluency = ?
- Students Preference = iPad >> Peer

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How to make iPad-assisted fluency instruction more effective?

Technology Trends
Cathy Newman Thomas, Associate Editor

Hammill Institute on Disabilities

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How to Find Good Apps: An Evaluation Rubric for Instructional Apps for Teaching Students With Learning Disabilities

Min Wook Ok, PhD[1], Min Kyung Kim, PhD[1], Eun Young Kang, MEd[1], and Brian R. Bryant, PhD[1]

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Developing a Rubric for Evaluating Reading Applications for Learners with Reading Difficulties

Mize, Park, & Possinger (Accepted)

- Accepted by Intervention in School and Clinic (ISC)

Reviewed meta-analyses and syntheses

Followings were added:

- **Text-to-speech**
- **Reading texts by instructional reading level**
- **Vocabulary support**
- **Visual support**
- **Customization options**
- **Opportunities to practice (read)**

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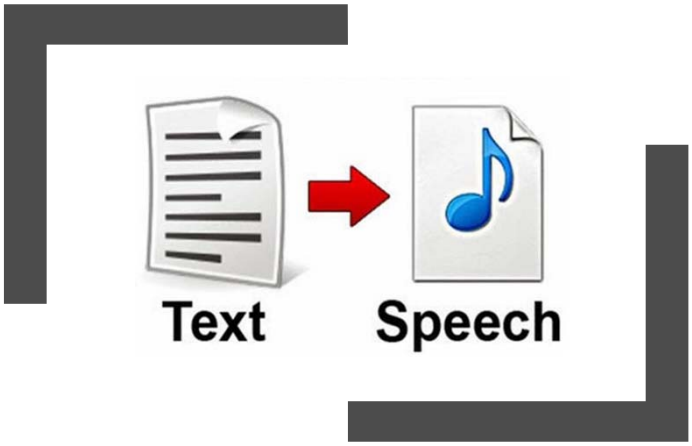
Text-to-Speech



- Crowley et al. (2013) report that text-to-speech functions allowed students to **listen to the word, repeat it, and move on to the next word**, which increased both their motivation to persist and their articulation accuracy.

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Vocabulary support

- This dimension assesses if an application assists students when they encounter either unknown and/or difficult vocabulary words.
- The vocabulary support includes providing a definition – both before or during reading -- of each vocabulary word by clicking on it.
- According to previous studies (e.g., Herbert & Murdock, 1994; Rivera, Spooner, Wood, & Hicks, 2013), teaching unknown words with their **definitions** (rather than teaching how to sound out each word) increases students' word recognition and vocabulary skills.

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Opportunities to practice (read)

- This dimension assesses if an application provides sufficient opportunities for students to read.
- Reading texts more than once, also designated as "sufficient learning time," is reported to be one of the most critical factors for intensive interventions (Torgesen, 2000).
  - For example, Vaughn, Linan-Thompson, and Hickman (2003) assert that second grade students with reading difficulties -- who needed, and who were consequently provided, with more intervention sessions than their peers did -- showed continuous gains in reading fluency.
- Applications also should provide several passages, phrases, and/or words to read at each instructional reading level.

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Dilemma

One Minute Reader Level 4 4+
Read Naturally, Inc.
$19.99

- Good reading fluency apps in the market
  - Key instructional components
  - Cost
- Are the reading apps perfect?
  - Repeated reading
  - Modeling
  - **No error correction**

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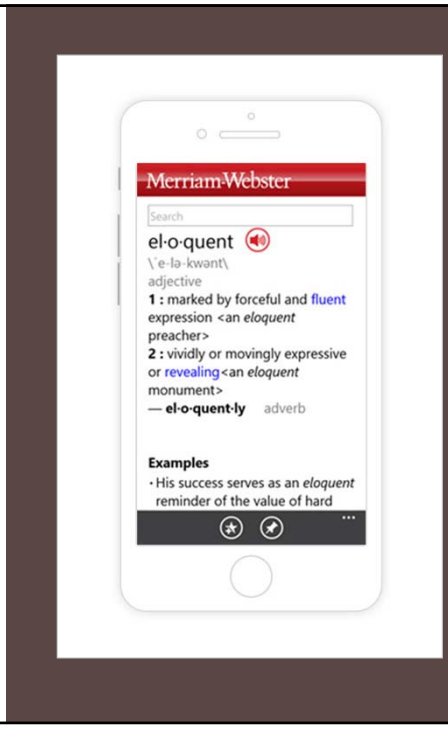
3rd Fluency Study

- Three 4th grade students with reading difficulties
- Vocabulary support
  - Merriam-Webster Dictionary (Merriam-Webster, Inc., 2015)
  - Students typed the unknown words, identified a definition, and repeated the word
- Two texts
  - Familiar text
  - New text



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3rd Fluency Study (cont.)

- Repeated reading
  - ChoreMonster (Choremonster LLC, 2015)
  - Each time they read a text, students were able to click the "completion" button

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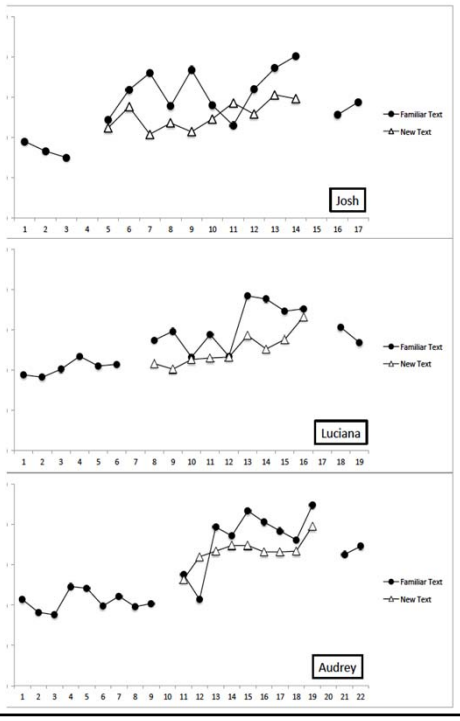
Results

- **WCPM**: Intervention > Baseline
- Familiar Text > New Text > Baseline
- New Text > Baseline --> Generalization



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Implications for Future Practice

- Positive Reinforcement
  - Repeated reading --> Motivation is a key.
  - Identify students' interests through pre-survey before intervention
  - Sticker vs. iPad time

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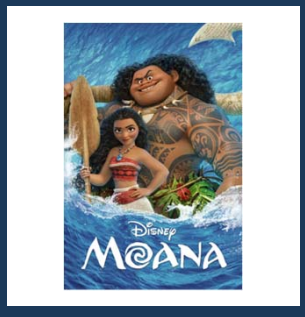
Implications for Future Practice

- Customized Text
  - Find a topic of interest for students
  - Susan → Rapunzel or Moana
  - If you are a teacher, make a connection with his/her prior experience.
    - Field trip, visit to a museum etc.



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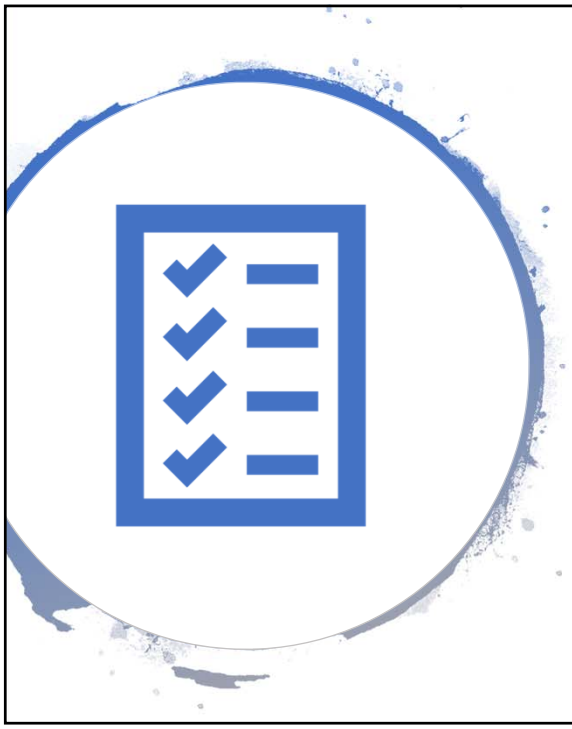

Final Thoughts

- iPad – students' preference, motivation, individualized pace, customization, engagement
- Not all iPad apps are "Good."
- Teacher/researcher's responsibility
  - What is missing?
  - How to supplement--> Teacher modeling, progress monitoring, and corrective feedback

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