

CLD Council for Learning Disabilities

TEXAS The University of Texas at Austin

Project DDOT

Investigation of Teachers' Instructional Decisions Based on Sequential Progress Monitoring Data

Jessica R. Toste
Nathan Clemens & Marissa Filderman

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TEXAS WHAT STARTS HERE CHANGES THE WORLD

Overview

- Rationale
 - Study aim
- Methodology
 - Participants
 - Data sources
 - Simulation activity
- Summary of findings
- Discussion & future research



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RATIONALE

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Reading Intervention

- Students with reading disabilities (RD) require intensive, individualized interventions in order to make measurable gains in their reading performance

Core feature of intensive intervention is the use of assessment data to make instructional decisions

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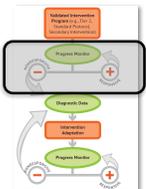
Reading Intervention

- Progress monitoring
 - Frequent, brief assessments of student progress
 - Used to help determine when effective instruction should continue, or ineffective interventions need to be adjusted or customized further
 - Data are typically summarized with a line graph to show student's progress toward a predetermined goals

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Progress Monitoring Data

- When teachers regularly use progress monitoring and a structured set of decision rules for interpretation
 - More aware of their students' progress
 - Greater structure in their teaching
 - Set more ambitious goals for their students
 - Students demonstrate greater growth



Fuchs, Deno, & Mirkin, 1984; Shinn & Hubbard, 1992; Stecker et al., 2005

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Data-Based Decision Making

- Special education teachers are lacking in data literacy skills
 - Ability to interpret CBM graphs or describe them clearly
 - Extracting and using information from CBM graphs
 - Linking data to instructional changes

Espin, Wayman, Deno, McMaster, & Rooij, 2017; Wagner et al., 2017; van den Bosch, Espin, Chung, & Saab, 2017

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Data-Based Decision Making

- Past research evaluating teachers' decision making skills based on progress monitoring data
 - Typically asked teachers to evaluate or make decisions based on a completed graph (e.g., 8+ weeks of intervention)
- Limitation to this approach
 - Does not reflect decision making that happens on an ongoing basis
 - We do not fully understand teachers' data decisions "in the moment"

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Study Aim



- Project DDOT: better understand the *data decisions of teachers*
- The aim of present study is to investigate the decisions teachers make based on progress monitoring data presented sequentially, similar to how they would view and use data in real life
 - We present teachers with one data point at a time and evaluate the decisions they would make regarding the data and possible changes to instruction after each data point

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METHODOLOGY



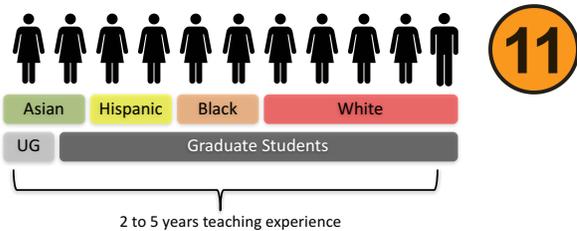
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Participants

- Undergraduate or graduate students in special education
 - Experience teaching students with or at-risk for RD
 - Pre-service teacher near end of program, or graduate student who has taught within the past 5 years

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Participants



11

Asian Hispanic Black White

UG Graduate Students

2 to 5 years teaching experience

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Data Sources

- **Demographic Survey**
 - Undergraduate or graduate-level coursework
 - In-service or professional development trainings
- **Self-Efficacy in Data-Based Decisions** ←
- **Simulation Activity**

5 questions
 0 = not at all true
 1 = somewhat true
 2 = very true

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Self-Efficacy in Data-Based Decisions

1. I feel confident in using students' individual assessment data to guide my teaching.	1.64
2. I can accurately interpret an individual student's progress monitoring graph.	1.27
3. I can recognize when to continue an effective intervention based on a student's progress monitoring data.	1.73
4. I can recognize when to make a change to an intervention based on a student's progress monitoring graph.	1.36
5. I understand the reasons and importance for monitoring individual student's progress	2

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Data Sources

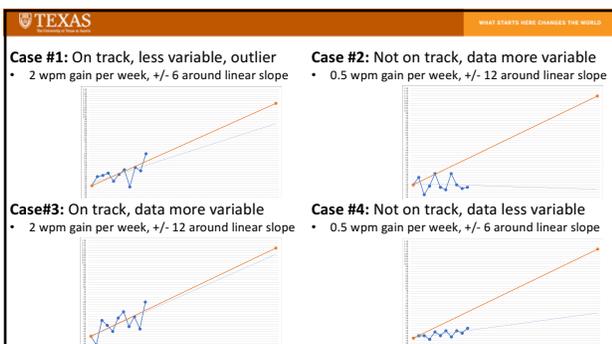
- **Demographic Survey**
 - Undergraduate or graduate-level coursework
 - In-service or professional development trainings
- **Self-Efficacy in Data-Based Decisions**
- **Simulation Activity** ←

4 cases

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Generating Data for Case Examples

- **Goal:** 2 words per minute gain per week = 112 by end-of-year
- Data points for each case randomly generated based on hypothetical rate of growth and pre-defined degree of variability
 - On track vs. not on track to meet goal
 - Degree of variability in the data



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SIMULATION ACTIVITY

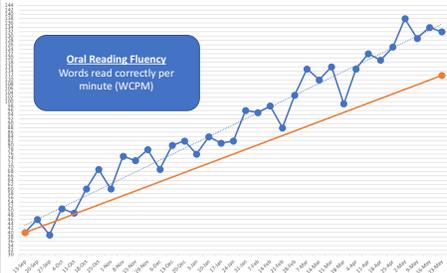


CASE STUDY

- We are going to look at four (4) student cases
- All students are 3rd grade boys with a reading disability (RD) with similar academic profiles. They are all receiving supplemental reading intervention (Tier 2) and their progress is being monitoring once per week with a measure of oral reading fluency.
- **Each case represents 10 weeks of data for one student**

Data Simulation Activity

You will be asked to look at student assessment data on a graph like this one.



Oral Reading Fluency
Words read correctly per minute (WCPM)

Tutorial



- **Baseline** (data collected to measure performance prior to intervention starting)
- **Student goal** (calculated outcome goal)
- **Goal line** (expected performance)
- **Data points** (weekly ORF assessments)
- **Trend line** (observed performance)

Tutorial

You will see a series of slides in which data will appear as if you are collecting it—week by week

After each data point, we will ask how you might interpret the data

A. Continue

B. Make change

C. Don't know

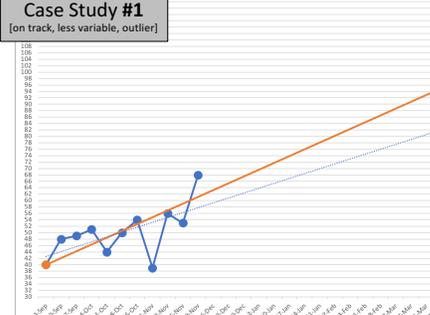
- continue with intervention
- make a change to the intervention
- I don't know (do not know not to interpret)



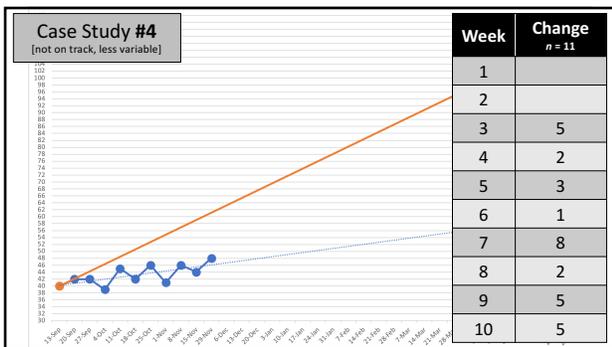
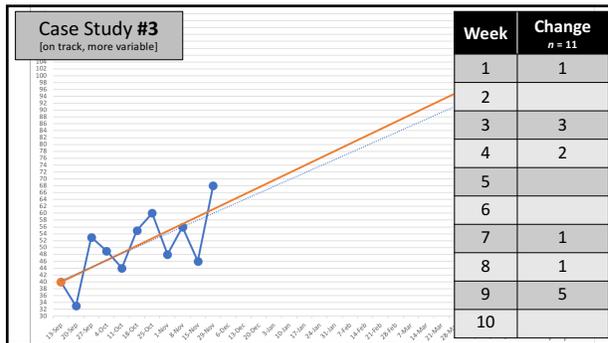
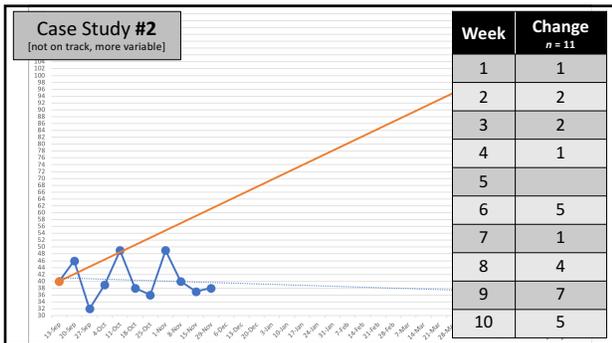
SUMMARY OF RESPONSES

Case Study #1

[on track, less variable, outlier]



Week	Change n = 11
1	
2	
3	2
4	2
5	1
6	
7	3
8	
9	3
10	



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Summary of Findings

- Data Interpretation
- Instructional Knowledge
- Teacher Perceptions

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Future Analyses

- How do teachers explain their decision making? Are there factors that influence this process that we are not considering?
- Are there differences in these responses based on...?
 - Years of teaching experience
 - CBM/data training in teacher prep programs vs. in-service PD
 - Ratings of self-efficacy

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FOR MORE INFORMATION:

- <https://education.utexas.edu>
- jrtoste@austin.utexas.edu
- [@DrToste](https://twitter.com/DrToste)

Jessica R. Toste, PhD
The University of Texas at Austin