Glean Education

Glean Education's Research to Practice Podcast
Episode #9 - Jessica Toste & Marissa Filderman
(University of Texas at Austin)

Marissa Filderman: There is a lot of research that shows that teachers are collecting data and they're gaining access to increased amounts of data. But, at the same time, there have also been many studies that have asked teachers about their abilities to use data in the classroom. Teachers overwhelmingly say that they do not have the training or knowledge needed to support their decision making.

Jessica Hamman: Hi, and welcome to Glean Education's Research to Practice podcast where we talk to education experts from around the world about their latest work and bring their fascinating findings out from the journal pages and into your classroom. I am Jessica Hamman, founder of Glean Education. Today, we're talking with Marissa Filderman, doctoral candidate, and Jessica Toste; assistant professor in the Department of Special Education at the University of Texas at Austin. We'll be talking about their article Data Based Decision Making in Reading Interventions: A Synthesis and Meta Analysis of the Effects for Struggling Readers published in 2018 in the Journal of Special Education.

Jessica Hamman:	Marissa and Jessica, thank you so much for joining us today. I'd love to get started by hearing more about you guys and what drew you into this field.
Jessica Toste:	Sure. Thanks so much for having us. I'm Jessica Toste. I am an assistant professor at the Department of Special Education at the University of Texas at Austin and also a fellow in the Meadow Center for Preventing Educational Risk. I'm a [inaudible 00:01:34] scholar and I received my PhD in educational psychology. My research is focused on methods for improving and intensifying reading interventions for struggling learners.
Jessica Toste:	I had the privileged of being trained in reading intervention research at the Florida Center for Reading Research at Vanderbilt University. For many years before and during that time, I was a public school teacher then I worked in a private clinic where we provided intensive services to kids with reading disabilities. I really was drawn to this work and this field because I worked with kids who struggled over many, many years to become proficient in reading. I really wanted to figure out how we could improve practices for them, how I could work with teachers so they had the information they needed to better teach them and better support them in schools.
Jessica Hamman:	Great. Marissa?

Marissa Filderman: I'd also like to thank you for having us. As you mentioned, I'm a doctoral candidate at the University of Texas at Austin and I am just beginning work on my dissertation. I was drawn to this field because as a special education teacher in Washington, DC., I worked with students with dyslexia and I had fourth grade students who were reading on a first grade level and the evidence-based interventions that I was providing them with didn't seem to be working.

Marissa Filderman: I didn't know at the time how to help them more than what I was already doing, so I decided to pursue a doctorate to learn ways to support students like them and to help teachers like me to provide the best possible supports.

Jessica Hamman: Excellent. It's so interesting that both of you started off as classroom teachers, then launched into research to improve your understand and teachers' understanding of best practices. It makes sense that a lot of your research focuses on the classroom and implications that may support better intervention in the classroom. One thing that I found that was fascinating about this journal article that we're discussing is that it's basically a synthesis in meta analysis article, which means that you take a look at all the journal articles that mention data-based decision making in intervention from 1975 was it to 2018. You review, synthesize, and analyze the findings therein.

Jessica Hamman: Before we launch into the study itself, can you tell us quickly about what data-based decision making is and the background behind

why you felt this was a necessary area to conduct this type of study in?

Jessica Toste: Sure. Data-based decision making, or it's also called data-based individualization, DBI, is a systematic process where we use student data to figure out when and how to intensify interventions for a student who is struggling. We know based on national data that only 37% of fourth graders and 36% of eight graders are reading at what we deem to be a proficient level of reading. Many of these students who struggle are supported efficiently through standard evidence-based reading interventions, but these reading interventions do not work for some students. Those students really have persistent, severe reading difficulties and they require much more intensive intervention in order to make gain.

Jessica Toste: In order to provide this intensive and individualized intervention, we need to use student data to drive the decisions we're making. We wanted to conduct this study to really better understand first the evidence that was related to the efficacy of this practice of data-based decision making or data-based individualization in the area of reading. Then, also to look at whether their specific characteristics of those interventions that seem more or less important for student outcomes.

Jessica Hamman: Can you tell us a little bit about your methods for selecting these research articles that were included in the study?

Marissa Filderman: Yeah. The first thing that we did was explicitly define data-based decision making, which we define as collecting student data on an ongoing basis, and explicitly using the data to adjust instruction. In order for our study to meet this definition it had to describe the data source as well as the process for how the data was used. Then, we decided on additional inclusion criteria. This included the article focused on kindergarten through 12th grade, Struggling Readers was published in a peer-reviewed journal between 1975 and present included a reading outcome and incorporated data-based decision making.

Marissa Filderman: After that, we put together search terms that might capture reading interventions that included data-based decision making and at this point, we consulted with the librarian and other researchers to make sure that we captured all possible articles. Then, we read the abstracts of the articles to determine if the studies met those criteria. If it wasn't clear in the abstract, we pulled the article and read the article in full to determine whether it met our criteria.

Marissa Filderman: After we had our final set of articles, we coded them for key features of the study such as participant characteristics, findings, and methodology as well as key features of data-based decision making such as the decision rules that were used and the data sources. That allowed us to identify themes in our findings.

Jessica Hamman: I found it fascinating that in the article it mentions that you culled initially over 12,000 articles that mentioned data-based decision making, but found only 15 that strictly met your requirements.

We've heard the list of requirements is large, so maybe that's why. But, were you surprised that you were only able to find 15 that strictly met your requirements?

Marissa Filderman: Yeah. We were surprised, but the main reason why many of these studies did not end up getting included was our definition of data use. A lot of studies mentioned the use of data, but they didn't describe the process of using data to actually inform instruction. They might say something like "Progress monitoring was collected weekly," but not what they did with that progress monitoring data.

Jessica Hamman: Ah, so interesting. Do you think that that in any way reflects the way data-based decision making is used in classrooms? They may check the box and say that they're using progress monitoring, but maybe don't use it to inform instruction specifically?

Marissa Filderman: I would absolutely say that. There is a lot of research that shows that teachers are collecting data and they're gaining access to increased amounts of data. At the same time, there have also been many studies that have asked teachers about their abilities to use data in the classroom, and teachers overwhelmingly say that they do not have the training or knowledge needed to support their decision making. There does seem to be a disconnect between collecting data and then actually using the data to support instructional decisions.

Jessica Hamman: What were your findings from this study?

Marissa Filderman: We found a significant weighted average effect of .24 across all studies and .27 in studies that compared similar interventions with and without data-based decision making. When you think about students like those who I described earlier, it is a challenge to see any growth so the fact that we did see small positive effects for this population of struggling readers is quite important.

Marissa Filderman: We also found that studies used ongoing assessment of student mastery more frequently than systematic decisions of students progress based on their overall rate of improvement. That most studies were of word reading instruction and that instructional changes included both structural changes such as group size or a time in intervention, as well as content-based changes such as aligning instruction to individual student needs. Maybe most importantly, we found a need for further research in order to determine which features of data-based decision making are most effective to improve outcomes for struggling readers.

Jessica Hamman: It seems like a very complex field, because you get the information on the progress from the progress monitors, but then there's so many areas to potentially intensify so it is really hard to tease apart maybe what is contributing to the progress.

Jessica Toste: Absolutely. On one level it seems fairly simple. You collect data, you examine that data, and you help it guide your decisions. But, it is pretty complex to think of teachers having to decide what forms of

data they're going to collect, how they're going to graph or analyze those data, when they're going to make a decision. How do I decide whether or not a student is being responsive to my intervention or whether I need to make a change. All of those processes that go into the decision making there.

Jessica Toste: Then, also, what do I do after? If my data is showing me the student isn't growing or the intervention is not working as well as I want it to, now what do I do next? There are so many different options for how I could intensify an intervention or change it for a student.

Jessica Hamman: I'm glad you mentioned graphing data, because this was something that was mentioned in your study as well. That there's three different ways to graph the data and look at the data in order to then change your instruction. The more you dig into what data-based decision making is, the more the need seems to be for training for teachers for this type of thing, because like you said at the surface it seems fairly simple but actually there is quite a bit of complexity.

Jessica Hamman: Is there currently a place for teachers to get training on this or any resources that you could point to for teachers to get training, and implement it in their classroom and make sense of that data they're collecting?

Jessica Toste: For teachers looking for a place to start to get more information, we often recommend the National Center for Intensive Intervention,

which is IntensiveIntervention.org. On that website, teachers can download information and resources that help them understand how to engage in data-based individualization or data-based decision making. There are also tool charts on that website that help them select measures to use, so figuring out what forms of data should I collect for my students. That's a place to get started and it has a lot of different options depending on the questions folks have.

Jessica Hamman: Great. What are the classroom implications of this study? What information does this study provide on data-based decision making and how it can be used in the classroom to support struggling learnings?

Jessica Toste: I think the most critical implication from this work is that data-based decision making shows promise for improving student outcomes. There was another meta analysis published in 2018 by Jung, McMaster, and colleagues in the journal Learning Disabilities Research and Practice. They showed similar moderate effects across reading, math, and writing; so, different subject areas. If looking at these two articles together, the effects seem modest but they're very - as Marissa mentioned - They're critically important, because we're looking at a population of students who have the most intense academic needs. These are students who it's very difficult to move the dial for them on these outcomes. Thinking about this population of students and the persistent difficulties they've shown, the inadequate response they often show to other evidence-based practices; it's really important for us to think about ways to intensify intervention for them. The most important finding here is that the process of using student data is what allows us to make those important decisions.

Jessica Hamman: Where is your research taking you both next?

Jessica Toste: Building on the findings from this study, other work we've been doing, and work that our colleagues have been doing, our team is really excited about thinking about data decision making, and the different ways we need to understand this, the research we're doing, and the work we're doing with teachers. We're trying to better understand the processes that teachers use to make data decisions and how these practices can be leveraged to improve student outcomes. Looking at different forms of working with teachers, providing training, and support so that they can use data-based decision making in their practice.

Jessica Hamman: How are you going about providing the training and support? Is it by further research or other applications of it?

Jessica Toste: In my own work, I do professional development trainings with teachers around the country, so a lot of times it is reaching out to schools or districts who are looking for additional training for their staff. A lot of the work I do is with pre-service teachers, so my goal is really that when they graduate and they become a special education teacher, data-based decision making will be a part of their regular practice. It will be something that they know how to do and that they know how important it is for their students and the success of their students.

Jessica Toste:	Then, from a research perspective, we're conducting a series of studies looking at different kinds of decision making processes. It isn't just about teachers knowing how to collect data, but what are all of the things that go into making decisions as human beings and how we look at data, and how we figure out what those data are telling us. Looking at that and also doing larger scale research, developing, training, and coaching models to work with teachers doing this type of intensive intervention for students.
Jessica Hamman:	It's so important increasingly in schools, because teachers are exposed to data more and more with all of the tech tools that classrooms have access to now. I think we can be overwhelmed with all the data and not knowing what to do with it, so putting more and more emphasis on how to use these data to support instruction is so important for our pre-service and our in-service teachers right now.
Jessica Toste:	Absolutely. Yeah. I think Marissa can add a little bit of what another project she's looking at.
Marissa Filderman:	As I mentioned, I am just starting to work on my dissertation. For this, I'm planning to conduct an intervention study that uses data-based decision making within small groups in a multi-syllabic word reading intervention for later elementary struggling readers. We are hoping that this will provide more information on how teachers can individualize support in small group settings.

Jessica Hamman: So you're not only working on the training aspect for helping teachers utilize data-based decision making, but also thinking about the types of intervention that would be the most effective to use to intensify instruction. Is that right?

Marissa Filderman: Yes. Then, not only effective but feasible for special education [inaudible 00:16:20] who usually don't have the capacity to work with students one-on-one.

Jessica Hamman: That's so important, because I think a lot of times even with best intentions, when we remove ourselves from the classroom we very quickly think about what would be ideal; but stop thinking about what is applicable in the classrooms. I think your emphasis on what is realistic and what is feasible in the classroom is important. I thank you for that.

Jessica Hamman: Thank you so much for joining us, Jessica and Marissa, I really enjoyed our conversation today.

Jessica Toste: Thanks so much for having us.

Marissa Filderman: Yeah. Thank you for having us and thank you for your interest in our article and on this topic.

Jessica Hamman: To learn more about upcoming research from Marissa Filderman, visit her at https://www.researchgate.net/profile/Marissa-Filderman-2 or on Twitter @MJFilderman. To find more about Dr. Jessica Toste's work, visit her faculty website at https://education.utexas.edu/faculty/Jessica_Toste or on Twitter @DrToste. To find links to the articles and resources mentioned in this podcast, go to gleaneducation.com/podcast and access them in the show notes.

Jessica Hamman: Thanks for listening to Glean's Research to Practice podcast. If you're interested in learning more, head over to gleaneducation.com to listen to more episodes, access teacher resources, and join the movement to make in-service teacher education more dynamic and accessible. Bye for now.