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'When I Am Being Rushed It Slows Down My Brain': Constructing Self-Understandings as a Mathematics Learner

'When I am being rushed it slows down my brain':

Constructing self-understandings as a mathematics learner

Rachel Lambert, Chapman University

Abstract

Understanding learning disabilities as constructed through multiple cultural practices including discourse, this paper focuses on a Latino middle school student with a learning disability named Elijah. This study documents both the discourses and practices used to position Elijah as a mathematics learner, as well as his use of similar discourses as he constructs a complex set of self-understandings as a mathematics learner. Elijah is positioned by discourses that prioritize speed as an indicator of mathematical ability, as well as discourses that construct students with LD as having both intelligence and differences such as processing speed. Analysis of interview and observational data suggest that Elijah constructed a unique set of self-understandings as a mathematics learner. Like his sixth grade special education teacher, Elijah seems to differentiate between knowledge and the performance of knowledge in school. He created a unique identity as both 'fast' and 'slow' in mathematics, rejecting the binary found in many mathematics classrooms. These findings suggest that multiple discourses circulate in schools about ability and disability in mathematics.

Keywords: learning disabilities, mathematics, Disability Studies in Education, identity, pedagogy, discourse

[I am] a quick learner but also a slow learner ...some see me slow, but some see me as I rush right through things, I rush right past them.

Elijah, grade 7

Schools in the United States continue to understand learning disability (LD) primarily as a medical condition requiring precise knowledge of deficits and expert intervention. In contrast, a social perspective on LD interrogates the processes that individualize difficulty, exploring how the contexts of classrooms and schools produce disability through a relentless focus on individual progress (McDermott, Goldman, & Varenne, 2006). Emerging from Disability Studies to focus on the social construction of disability in schools, scholars in Disability Studies in Education have analyzed how learners are positioned through both discourses and practices in schools (Collins, 2012; Dudley-Marling, 2004; Reid & Valle, 2005 Wong, 2010).

This article is part of a larger study that found that learners with and without disabilities used circulating discourses of ability and disability in mathematics to construct unique and emergent self-understandings as mathematics learners (Lambert, 2015). I present a case study of the cultural practices and discourses used to position Elijah,[1] a Latino adolescent with LD, as well as the ways in which he both took up and resisted these discourses and practices. Self-understandings in mathematics have significant effects for individual students as they make choices about which mathematics classes to take and how to engage in those classes (Boaler & Greeno, 2000; Horn, 2008; Lambert, 2015).

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[1] All names of people and places are pseudonyms.

Disability Studies in Education has not paid sufficient attention to the particular definitions of *ability*, and thus *disability*, as constructed in pedagogical contexts in schools (Gabel, 2005). In this article I explore how concepts of ability and disability are constructed in mathematics, an area of pedagogy that has been underexplored both in special education (McFarland, Williams, & Miciak, 2013) and in Disability Studies in Education (Tan, 2014). I also explore how one student constructed self-understandings as a mathematics learner through discourses of ability and disability.

Conceptual framework

In order to understand the multiple circulating discourses and how individuals use them, I review three relevant literatures: 1) theories of individual development in sociocultural contexts, 2) discourses of LD and 3) discourses of ability and disability in mathematics.

Individual development in sociocultural contexts

Learning mathematics can be understood as learning to participate in mathematical activity, as individuals become recognized members of math communities and are able to take up the cultural practices and mediating symbols of mathematical thought (Lave & Wenger, 1991; Boaler & Greeno, 2000). One not only learns mathematics in these contexts, but also an identity as a mathematics learner. Learners come to co-construct their place in a perceived hierarchy of ability (Horn, 2008). To understand how identification processes in individuals emerge from co-constructed social worlds, I use the work of Dorothy Holland and colleagues (1998) who developed the concepts of 'figured worlds' and 'authoring the self' through a synthesis of sociocultural theories. Figured worlds are social spaces in which participants create meaning structures around activities through shared participation in cultural practices and discourse. Figured worlds include multiple circulating discourses, as well as hierarchies of ideas

and status. To better understand a figured world, researchers collect evidence of recurring cultural practices such as circulating discourses, categorical naming, and positioning (Skinner, Valsiner, & Holland, 2001).

As individuals participate in figured worlds, they make sense of the multiple discourses that circulate in their social spaces by taking up some of those discourses (and associated practices) and rejecting others. Rooted in the heteroglossic contexts of life, this process is called 'authoring the self' (Holquist, 2002). Authoring the self is a dynamic, emergent way to understand how individuals take in and potentially remake the discourses and practices of their figured worlds, including the worlds of mathematics classrooms. The words of discourse come largely "from other people's mouths, in other people's contexts, serving other people's intentions: it is from there that one must take the word, and make it one's own" (Bakhtin, 1981, p. 293-294). Individuals arrange and rearrange discourses to position themselves as they are addressed and respond. Words carry power, or not, from the world into one's thoughts. Processes of identity formation constitute authoring the self, arranging and rearranging self-understandings. As human experience simultaneously entails multiple social worlds, multiple discourses are constantly in conflict within one's experience.

Such conflict between multiple discourses creates spaces for change. Holland and colleagues (1998) cast the authoring of the self as a potential site for human agency, documenting how individuals orchestrate multiple discourses and practices in agentic ways. They describe the case of Roger, an individual with multiple mental illness diagnoses. He used the discursive materials of multiple mental illness diagnoses to understand himself, self-understandings that shifted over time and across contexts. Through this process, one can rewrite one's world, albeit working within the voices one has experienced.

Discourses from special education and learning disabilities

The field of special education in the United States was influenced by experimental psychology, clinical medicine, and behaviorism, all of which tend to view disability as a condition of the individual (Osgood, 2008). The official definition of a Specific Learning Disability in U.S. law is as follows: "A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations" (Individuals with Disabilities Education Act, 2004).

To qualify for special education services, children undergo a series of psychological assessments that seek to locate these "imperfect" abilities in individual processing or memory. Children also are given intelligence tests. Under federal law in the United States, a student cannot qualify as learning disabled if they also qualify as having an intellectual disability (Individuals with Disabilities Education Act, 2004). Students are categorized as having an Intellectual Disability (ID) if their score on an intelligence test is below the cut-off score. The meanings of these two labels have been constructed legally as non-overlapping; a child in the US cannot have an ID and LD at the same time. LD historically developed as a way to understand otherwise 'bright' children who were having unexpected difficulty learning how to read (Danforth, 2009). LD thus has been constructed as a combination of potential, understood through the construct of intelligence, and disorder, understood through discourses of psychological processing, executive functioning, and memory.

Reid and Valle (2005) describe how these discourses of disability construct individual children as learning disabled in U.S. contexts. They suggest that finding individual deficits in children who are underperforming creates educational contexts focused on identifying and

fixing deficits, rather than investigating how pedagogical contexts might construct both ability and disability. Dudley-Marling demonstrated how competence for students with learning disabilities in a literacy classroom was differently constructed through pedagogies, creating multiple ways to define learners as abled or disabled (2004). When literacy instruction was focused on right or wrong answers, fewer students appeared able. When literacy instruction was designed to build on student thinking and accepted multiple student responses, a wider variety of students were successful.

Wong (2010) focused not only on different classroom pedagogies, but on the discourses used by teachers about students with learning disabilities. She found that some teachers held lower expectations for students with disabilities based on presumptions of deficit based in medical and psychological discourses of individual disability. These teachers used discourse styles during teaching that limited 'correct' answers. The teacher in her study who tended to understand students with LD as having strengths asked questions with a wider range of correct answers and tended to position a wider range of students as successful (Wong, 2010). Both Dudley-Marling and Wong found that pedagogies focused on student strengths positioned learners with LD as successful. These pedagogies included open-ended questions, allowing students to make choices about their responses and reactions.

Discourses about ability and disability in mathematics education

In research in the US and the UK, circulating conceptions of ability in mathematics focus on speed and memorization. In research in math classrooms, both teachers (Horn, 2007) and students (Brown, Brown & Bibby, 2008) use speed as a proxy for ability. In findings from the larger study of which this article is a part, children in Elijah's seventh grade class tended to separate learners into two groups: those who 'get it quick' and those who 'struggle' (Lambert,

2015). In a study of high school students in Calculus classrooms, Boaler and Greeno (2000) found that students' understandings of mathematics ability were related to the math pedagogy they experienced. Students in a more traditional, lecture-based classroom understood mathematical success as memorization. Students in a discussion-based classroom saw a wider range of ways to be successful in mathematics, such as creative problem-solving, questioning, and collaboration.

Popular conceptions of ability in math are narrow, both gendered and racialized. White and Asian males are positioned as naturally talented in mathematics, disadvantaging minorities and women (Campbell, Denes & Morrison, 2000; Cvencek, Nasir, O'Connor, Wischnia, & Meltzoff, 2014). Although I have addressed issues of race and perceptions of ability elsewhere in my own research (Authors, in press), in this article I focus on Elijah, an adolescent Latino with a learning disability to address two additional significant research questions:

1)   In two middle school classrooms, what cultural practices and discourses are used to position students with LD as they learn mathematics?

2)   In relation to the cultural practices and discourses at issue in question one, how does one child with LD develop self-understandings as a mathematics learner over two academic years?

Methods

This article is derived from a larger longitudinal project that followed nine focus children, ages 11 – 13, through their sixth and seventh grade mathematics classrooms in the United States. The study analyzed how teachers constructed disability through pedagogy, particularly how teachers positioned different students with LD as more or less (dis)abled based on discussion-based or procedural pedagogies (Lambert, 2015). After examining the circulating

discourses in the classrooms, I investigate Elijah's construction of his own identity from the discursive resources available to him.

Participants

Participants attended Central Academy, a middle school (ages 11-13) that included students with disabilities in general education classrooms. In this particular school, students with disabilities (learning disabilities, speech and language services or behavioral disabilities) were grouped into a single classroom at each grade level that also included students in general education. A special educator and a mathematics content specialist cotaught these classrooms.

I situated this study in a high-poverty urban school with Latino/a children in order to better understand the ways in which social positioning, including disability, intersects with mathematics. Located in a predominately Latino/a neighborhood, Central Academy is 91% Hispanic, 6% African-American, and 3% combined white and Asian students. Nine percent of the students are classified as English Language Learners. Fifteen percent of the school qualify for Special Education services. There were nine focus students in the full study. All identified as Latina/o (using language such as *Dominican American* or *Hispanic*), and one identified as both Latino and African American.

This article draws on data from just one of these students, Elijah. In interviews, Elijah described himself as 'Hispanic American,' with a family from the 'Dominican Republic' and 'somehow a little Portuguese.' He had an Individual Education Plan (IEP) (A legal document in US schools that establishes eligibility for special education services) for LD and also received speech and occupational therapy services. His family spoke both Spanish and English. He was not labeled as an English Language Learner. Elijah used English during all observations.

Based on classroom observations and interviews, Elijah consistently presented himself as a serious student of mathematics. He raised his hand frequently and regularly contributed to mathematical discussions. He participated actively in small group learning, almost always solving problems accurately, as determined by field notes and video data. While other students often made jokes during class, Elijah rarely did so. He chastised his peers when they were not focused on their work. In interviews with me, Elijah repeatedly asserted that he was proud of his attitude toward his schoolwork and understood himself as different than his peers.

The sixth grade special education teacher, Ms. Emerson, was white and in her third year of teaching. She was familiar with Disability Studies in Education and taught units on ablism in her literacy class. Her coteacher, Mr. Pierce, was also white and in his third year of classroom teaching.

I identify as a non-disabled white woman. Because I was an outsider to this community, I designed the study to be longitudinal so that I could develop relationships over time with the students and teachers. These relationships allowed me to learn more than would be possible with short-term research. In addition, multiple visits over time allowed me to see issues of ability and disability emerging, and shifting, in the classroom.

Interviewing students about sensitive issues such as their status in the classroom involved ethical considerations. When presenting the study to the students, I described it as learning about how they learned mathematics, and I emphasized the importance of their opinions. In addition to parental consent, students gave written assent, and I also repeatedly reminded them that participation was voluntary.

Data collection and analysis

Ethnography

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I visited Elijah's sixth-grade mathematics classroom six times and his seventh-grade classroom twenty-six times. Every class visit was documented through field notes. I also observed teacher planning meetings in both years and documented these with field notes. Twelve classes were video-recorded and transcribed. Using grounded theory (Glaser, Strauss & Strutzel, 1968), I developed claims about the cultural practices and positioning in the mathematics classroom. Using categories that emerged from participants, all classroom data (video and field notes) were coded and analyzed in terms of cultural practices, pedagogies, and positioning. In addition, a case study was created for each focus student, including Elijah, documenting every instance of participation and discourse included in the data set. This case study was used to create questions for the final interview with Elijah.

Interviews

Like other focus students, Elijah was interviewed twice in his seventh grade year, first with another student to increase dialogue. The second interview, at the end of the school year, was individual, and focused on key moments identified through his case study. I asked general questions such as, "Who stands out in your mathematics class" to elicit opinions about what kinds of mathematics learners were privileged in the classroom. I also asked him how he wanted to be identified when I published the study.

All teachers were interviewed at least once, in pairs. The sixth grade teacher interview was audio recorded. Teachers were asked to describe their impressions of individual students, both in mathematics and in general. The transcript of the sixth grade teacher interview excerpted below is a major data source for this article.

I present interview excerpts here using a variant of the transcript presentation of Gee (1986), in which utterances are separated into stanzas based on content, then with line breaks

based on pauses. I recorded gestures as well. I analyzed the interview texts and video recordings thematically, structurally, and dialogically for participants' meaning-making pertinent to ability, disability and mathematics (Riessman, 2007; Skinner, Valsiner, & Holland, 2001).

Findings

I organize the findings section into two discussions that correspond with the research questions. The first section describes the discourses used to position Elijah. It presents an overview of the discourses of ability and disability that circulated in Elijah's sixth grade mathematics classroom. Then, focusing particularly on the transcript from the interview with the sixth grade teachers, I describe how his sixth grade teachers positioned Elijah as a mathematics learner through discourses of ability and disability. The second section addresses how Elijah developed self-understandings as a mathematics learner, using data from classroom observations and interviews in his seventh grade year.

Relevant discourses

Sixth grade practices and discourses in mathematics

In their sixth grade year, the mathematics teacher, Mr. Pierce, organized instruction primarily by following the textbook. Classroom observations documented teacher modeling of procedures and student practice. Significant time was spent 'going over' homework problems. According to interviews and conversations, Mr. Pierce was seeking ways to incorporate more problem-solving and discussion of student strategies into his pedagogy. He collaborated with Ms. Emerson (the special educator) to plan instruction, particularly to teach topics they identified as challenging for students. In general, Mr. Pierce used closed questions with students, defined as questions that had only one correct response.

Sixth grade practices and discourse around ability and disability

In the sixth grade classroom, students primarily worked in pairs of their own choosing. There was no observed instance of grouping based on ability or disability. For most of the observed sessions, Mr. Pierce was the primary facilitator, with Ms. Emerson working with students individually or in pairs. She assisted students with and without disabilities.

Ms. Emerson was the primary teacher of the students in their literacy class and cotaught in their mathematics classroom. She was also the school-wide coordinator of special education. During planning meetings, she described her approach for educating students about their disabilities. In their sixth grade year, the first year in the school, she focused on developing their understanding of their own individual learning processes

Circulating discourses and practices and Elijah

This section explores the discourses from mathematics education, special education and disability studies in education that were used to position Elijah, using a transcript from an interview with the sixth grade teachers. In the following excerpt from such an interview I asked Ms. Emerson and Mr. Pierce to describe Elijah to me. Ms. Emerson began,

Ms. Emerson

Elijah

You know, I always see him by himself

and I know that that is the way that he always positions himself in the classroom . . .

I also see him as separate because he is the kind of kid who

his inability to grasp a pencil and write

he has occupational therapy

his inability shines on me all the time because he always knows

not true

he most of the time knows what is going on in the class conceptually

and he can add and subtract and do stuff in his head and he is really smart at

mathematics

but I always find myself so distracted by the fact that I cannot read what he wrote on the

paper.

Ms. Emerson began by describing Elijah's social place in the classroom, noting that he tended to work alone. She continued, describing another sense in which Elijah was 'separate': his difficulties with writing. In line with the discourse of LD as a combination of intelligence and alternative practices, Ms. Emerson's comments began with wondering about his writing difficulties, then presented the idea that this writing difficulty did not affect his intelligence, then returned to his difficulty, which causes her to be 'distracted' by her challenges in decoding his handwriting. Ms. Emerson named a special education service he received (occupational therapy) for 'inability to grasp a pencil.'

She moved back and forth between the medical model teacher gaze, trained to notice and name disability in school (McDermott et al., 2006), and her insistence on naming Elijah as 'smart,' echoing the construction of LD as individuals who are smart but different. Elijah's difficulty with writing cannot be hidden in the context of the classroom, as classrooms are organized to understand ability as assessed through outputs in writing, tests, homework, worksheets and the like. She contrasted his expressive 'inability' with what she saw as his strengths: he most of the time understood 'conceptually' and 'he is really smart at mathematics.'

Mr. Pierce responded, beginning with Elijah's deficits in writing, naming disability more formally than Ms. Emerson using psychological discourses ('visual organizing'), but then immediately using a more informal, derogatory term for Elijah's writing, 'sloppy.'

Mr. Pierce

Definitely the visual organizing thing is definitely the main thing that sticks out in my

mind with him

very sloppy

can't really see it.

He participates a lot

sometimes his comments are a little out there

I don't know

but he is usually able to go back to himself.

His comments are like don't make sense

either he is not answering the question

or like it's like totally out of focus from at least what I was aiming to get to.

Do you have any insight on that?'

Mr. Pierce brought up a new issue with Elijah; although he participates 'a lot,' 'his comments are a little out there.' His question was directed to Ms. Emerson, positioning her as the special education expert. She responded,

Ms. Emerson

I would say that is an organization thing

and he also has speech and language and processing and

it's organizing what you are saying to him in his head [*hand up to ear*]

and then processing it through his head so that he can spit out what you want to hear

[*hand moves down along the side of her body*].'

Ms. Emerson transitioned instantly into the role of expert, taking up special education discourse to explain Elijah's language difficulties as 'organization' and 'processing.' Ms. Emerson's response combined terms from cognitive psychology ('processing' and 'organization') and a set of legal services that Elijah qualified for ('speech and language').

At the end of her statement, Ms. Emerson seems to call Mr. Pierce's attention to the limited ways in which he structured engagement. Is she suggesting that the issue Mr. Pierce identified, 'his comments don't make sense,' should primarily be understood as a symptom of his disability? Or is this difficulty caused by the narrow expectations of Mr. Pierce's questions? Ms. Emerson may be suggesting that Elijah's language difficulties are made visible by the narrow, monoglossic language demands of his teacher, as Elijah tries to 'spit out what you want to hear.' Her tone in that moment appeared to be critical of her colleague. During previous planning meetings, Ms. Emerson had encouraged Mr. Pierce to allow students to present their own strategies rather than replicating the strategies he modeled. Mr. Pierce was receptive to these ideas, trying to facilitate discussion of student strategies, but reported that he had difficulty doing so as he did not know how to make such discussion productive for all students. In that context, this discussion returns to the issue of the connection between teacher questioning and disability. This echoes Wong's study (2010), which found that when teachers used questions with only one possible answer, it was more difficult for all students, but especially those with disabilities, to engage successfully.

In addition to a monoglossic mathematical pedagogy, Mr. Pierce appears to have a limited set of discourses around disability. He tended to defer to Ms. Emerson about any issues related to special education. In contrast, Ms. Emerson drew from medical discourses of processing, administrative discourses of services provided, and critical discourses which seem to question whether the disability rests within Elijah or pedagogy. She created a heteroglossia of meanings about disability that refuses to rest upon one foundation. As Ms. Emerson moved between discourses, she shifted theoretical approaches to disability. As she stated in an interview, while she doesn't agree with labeling students using medicalized categories, she still has to write IEPs using these labels. Such work routinely forced her into using multiple discourses of disability, not only the multiple discourses of special education, but those of disability studies in education as well

Elijah's self-authoring as a mathematics learner

Elijah took up these circulating discourses about mathematical ability and disability, particularly emphasizing his understanding of processing and his use of the terms *fast* and *slow*. Just as in other research in mathematics classrooms (Boaler & Greeno, 2000; Brown, Brown, & Bibby, 2008), students in this classroom used speed as a proxy for ability in mathematics. In interviews, the majority of focus students in this study described other students using the binary form, either you 'get it fast' or you 'struggle' slow (Lambert, 2015).

Elijah took up a decidedly different way of understanding himself as 'slow,' not as a deficit, but as a difference. During his interview at the end of seventh grade, I asked Elijah what kind of mathematics learner he was. He responded with, 'a quick learner but also a slow learner.' When asked how his peers see him, Elijah responds, 'some see me slow, but some see me as I rush right through things, I rush right past them.' By the end of seventh grade, Elijah,

like the majority of other focus students in the study, understood that he was being judged by his ability to perform procedures either fast or slow. He did not choose these terms as they are widely circulating in mathematics classrooms, but he constructed a self-understanding as simultaneously fast and slow that was unique among the focus students.

Elijah's unique self-understandings were also evident during classroom observations. The following excerpt from field notes comes from an episode at the beginning of the seventh grade year, when Elijah was working in a small group to memorize his multiplication facts using flashcards. The small group was run by another student, Bobby, who did not allow the other students to use paper and pencil, but insisted that they memorize the answers. The following excerpt from field notes describes the interaction;

> As I walked by this group, I felt that Elijah was disgruntled with Bobby, and I paused to watch their interaction. Bobby told Elijah that he needed to memorize the multiplication tables without using paper, because 'what if it is on the test.' After a pause, Elijah forcefully told Bobby that he needed more time and also paper, because, in his words, 'I'm slow writing and [hand moves up to ear, made a circle] but I know them all. Just pressure.'

Elijah begins by describing himself as a 'slow' writer and then perhaps a 'slow' thinker, suggested by Elijah's gesture where his hand circled up around his ear. This gesture echoes Ms. Emerson's gesture the previous year— as she described Elijah's processing as delayed, she used her finger to go up to her brain and then back down. Elijah used these discourses not to describe himself as deficient, but to justify an accommodation (paper and pencil) from a peer. He challenged his peer's insistence on memorization as the only valid way of solving multiplication facts.

Similar to Ms. Emerson, Elijah defended his knowledge and separated it from his ability to quickly produce answers. Elijah's answer also highlights the role of pedagogical context in his difference. The key to his current difficulties was the 'pressure,' suggesting that without the pressure of this particular situation with Bobby and flashcards, his disability would not emerge. Clearly, one cannot know for sure whether Elijah's use of the word *slow* and his allusion to processing came directly from Ms. Emerson. As Elijah has experienced multiple figured worlds of mathematics and schooling, he has experienced a wide range of discourses around mathematics and disability. The two instances, one by a teacher and one by a student, illustrate not causality, but suggest circulation of these ideas within this figured world.

In an interview at the end of his seventh grade year, I asked Elijah about this moment, reading him the quote from my field notes. He recognized the incident right away, telling me,

Elijah

[*Nodding*] I can be pressured because I know the multiplication tables

from both sides like all up [*hand goes up and down the side of his body*]

it is just like

when I am being rushed

it slows down my brain

just slows it down my mind

my brain

ten million thoughts go all at once

and my body just takes time to like put it all down

and then to actually write it down or anything.

Again, Elijah defended not only knowing the multiplication tables, but the extent of his knowing, 'from both sides like all up.' Knowledge was part of his body, filling him up, a particularly embodied description of cognition. In this moment, Elijah seemed to understand his disability as a difference rather than a deficit. He separated knowledge and speed in a way that allowed him to both know, and to also need paper to demonstrate that knowledge. Elijah did not hide from his confrontation with Bobby, but fiercely defended himself using discourses of processing. As Holland and colleagues (1998) suggested, authoring the self is a powerful site of agency, as individuals orchestrate multiple discourses purposefully, in order to shape their own positioning. Elijah defended himself by reclaiming from the circulating discourses and recasting what *slow* means in mathematics. This can be read as powerful resistance, as *slow* is often used between peers in school to denigrate intelligence. Elijah redefined the word, to create a space for his own success in mathematics despite his differences.

Discussion

Individuals take up multiple discourses and practices in order to participate in figured worlds and to author themselves (Holland et al., 1998). Ms. Emerson used multiple discourses as she worked to understand Elijah from multiple perspectives. She presented him as a puzzle, as a contradiction between what she believed he knew ('understands conceptually' and 'smart at mathematics') and how he presented that knowledge through handwriting that was difficult to read. When Mr. Pierce remarked that sometimes he did not understand Elijah's comments, Ms. Emerson echoed the description of a child who knew inside but has difficulty getting that thinking outside. She created a portrait of a child in which knowledge is separate from what is written on an assignment or what is spoken out loud in class.

Like Ms. Emerson, Elijah separated knowledge from the appearance of knowledge. When pressured to quickly recall the multiplication facts by Bobby, Elijah defended not only the slower speed at which he thought, but separated speed from depth of knowledge. He maintained that although it takes longer for him to retrieve information, his knowledge is valid. He recasts the word *slow* in the context of processing, reframing not only meaning but associations. Again, for Elijah, his difference seems to be understood as a disconnect between knowledge and the performance of knowledge in school.

Learning disabilities as defined in the United States are framed by a contradiction between intelligence and achievement, not only in the methods of diagnosis, but in the circulating conceptions of teachers and students. To frame a student as LD, one must establish the student as *smart*, as having some type of internal potential. Only after a child is established as *smart* can one get to the contradiction, *but* the student has difficulty in this particular area of school. Perhaps this is why in the sixth grade teacher interview, the teachers used 'smart' more often for students with LD than for other students. These contradictions are preserved in Elijah's self-understandings. He took up these *smart, but* discourses. In fact, in a moment of crisis for his learning, he seemed to wield multiple discourses as weapons of defense against a procedural pedagogy that valued speed and memorization.

Conclusion

How can Elijah's resistance and reframing influence work in schools? The first major implication for practice is the critical role of teachers in framing disability and ability for children. The second is the need to attend in classrooms and in research to how individuals with

disabilities construct complex and emergent understandings of themselves as mathematics learners.

Teachers have a powerful role in shaping how students and other teachers understand both ability and disability. A graduate of a teacher education program with a strong emphasis in disability studies in education, Ms. Emerson has multiple languages of disability to draw from when working with students. In this case, we can see that Ms. Emerson used multiple discourses to understand children in complex ways, not simply defining, or labeling, students within a single discourse. Mr. Pierce was more limited in his discursive repertoire around disability, but together they reflect a range of circulating discourses to which Elijah and the other students had access.

At the end of the sixth grade teacher interview, both Mr. Pierce and Ms. Emerson noted how much they enjoyed the interview. While they frequently planned together, they felt that having an extended discussion about their students was illuminating, particularly to see the students from the other teacher's perspective. Bakhtin understood heteroglossia as presenting opportunities for cultural change; ideologies shift through conflict both in the public sphere and in the space of the mind (Bakhtin, 1981). Creating spaces for teachers and students to discuss circulating conceptions of ability and disability could provoke change, shifting perspectives about ability and disability in mathematics.

Elijah's self-understandings were unique and emergent, and suggest that much more could be learned from playing attention to the perspectives of students with LD. In their final seventh grade interview, the students in this larger study defined ability in mathematics primarily through the lens of speed (Lambert, 2015). Elijah was an exception, constructing his own understandings of self as both fast and slow, challenging this binary. At the level of the

classroom, such attention could allow educators to build on children's own conceptions of their strengths.

At the level of educational research, attending to the perspectives of students like Elijah can help bridge the discourses of different academic fields such as special education, disability studies in education, and mathematics education. Elijah's case demonstrates that when the path to competence in mathematics is defined narrowly, fewer students are able to define themselves as competent in mathematics (Boaler & Greeno, 2000), but when the options for mathematical success are more open, more students will find themselves positioned as competent within the figured worlds of mathematics classrooms.

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