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More Than One Way: Stories of UDL and Inclusive Classrooms

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Abstract

Voices of practitioners are often missing in research studies. This project focused on examining general education teachers' stories as they relate to implementation of Universal Design for Learning (UDL) framework and inclusion of students with moderate to severe intellectual disability. Seven general education teachers from Canada and the United States participated in this study. Narrative inquiry was utilized as a method of data gathering and analysis. Four themes emerged: designing for learner variability, talking about inclusion, teaming fosters success, and differing descriptions of UDL. Discussion of implications to research and practice is included.

Keywords

moderate intellectual disability, severe intellectual disability, Universal Design for Learning, inclusion, stories

Universal Design for Learning (UDL) is an instructional design framework that addresses learner variability by facilitating the removal of barriers in the curriculum (Center for Applied Special Technology, 2011). Through intentional planning, educators can address the variability of learners' ability to access and understand information, engage with content and instruction, and express what they know. UDL is defined as a scientifically valid framework in both the Higher Education Opportunity Act of 2008 and the Every Student Succeeds Act of 2015; it is recommended by both acts for use in instructional design. Developed by CAST, the UDL instructional framework includes three primary principles (engagement, representation, and action and expression). The Engagement principle is based on the affective networks of the brain and addresses the "why" of learning. The Representation principle is based on the recognition network of the brain and addresses the "what" of learning. The Action and Expression principle is based on the strategic networks of the brain and addresses the "how" of learning. The UDL principles are supported by nine guidelines and 31 checkpoints. Research support for all checkpoints can be found at http://www.udlcenter.org/research/researchevidence/

Thirty-one checkpoints are included under the UDL framework. While each checkpoint has been supported with research, empirical findings supporting improved student outcomes are scarce (Rao, Ok, &

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Bryant, 2014). There are, however, benefits associated with the use of the UDL framework. Several studies have provided reports of efficacy across the following categories: teacher-reported increases in teacher efficacy, the efficacy of instruction, and the self-efficacy in reaching diverse learners (Benton-Borghi & Chang, 2012; Katz, 2015; Meo, 2008). Other studies demonstrated increased reading outcomes (Hall, Cohen, Vue, & Ganley, 2014; Kennedy, Thomas, Meyer, Alves, & Lloyd, 2014; Narkon & Wells, 2013) and increased engagement (Katz, 2013; Marino et al., 2014). Spencer (2011) offered three key benefits to the implementation of UDL. First, challenging behavior may be reduced if student learning needs are met. Second, maximizing students' individual learning strengths creates independent learners. Third, incorporating many techniques (i.e., multiple means) into lessons increases accessibility for all learners thereby creating a learning atmosphere of engagement and confidence. Ideally then, this framework would be useful in meeting the needs of students with intellectual disability (ID) as a subset of *all* learners.

Students with ID include a wide range of learners with varying support needs and varying impairments in intellectual functioning (Schalock et al., 2010). In United States schools, students are determined eligible under the category of ID based on the definition provided by the Individuals With Disabilities Education Improvement Act (IDEA; 2004). IDEA (2004) defines ID as "significantly sub average general intellectual functioning, existing concurrently [at the same time] with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance" (Part 300A 300.8 c 6). In Canada, each province determines the identification process. In Alberta, the province from which we drew some of our participants, the identification of *cognitive (intellectual) disability* is established by a chartered psychologist based on the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; APA, 2013) and information from an adaptive behavior scale (Alberta Education, 2016). Individuals with ID vary in their need of supports for learning, communication, behavior, social interaction, self-determination, self-care, and independent functioning. Because the UDL framework promotes intentional planning for learner variability and the removal of barriers to learning, the implementation of the UDL framework in inclusive settings should create a pathway to learning for students with ID.

UDL has been touted as holding much promise for individuals with ID (Downing, 2006; Jiménez, Graf, & Rose, 2007; Wehmeyer, 2006). It has been closely linked with inclusive practices (Hehir & Katzman, 2012; Rao et al., 2014; Rose & Gravel, 2009; Rose & Meyer, 2002). While some studies have demonstrated the application of UDL in segregated settings (Browder, Mims, Spooner, Ahlgrim-Delzell, & Lee, 2009), the broader application of the UDL framework seems to be maximized in general education inclusive classrooms (Hartmann, 2015; Ralabate, 2011; Shogren & Wehmeyer, 2014; Wehmeyer, 2006). That being said, of the studies conducted on the implementation of UDL, few explicitly include learners with ID (Coyne, Pisha, Dalton, Zeph, & Smith, 2012; Dymond et al., 2006; Kennedy et al., 2014; Kortering, McClannon, & Baziel, 2008; Lieber, Horn, Palmer, & Fleming, 2008). Fewer still intentionally target the outcomes of those students (Coyne et al., 2012; Dymond et al., 2006). Only one identified the experiences of teachers implementing a UDL framework in a classroom inclusive of students with ID (Dymond et al., 2006).

Several studies have been conducted in inclusive educational settings where teachers were implementing the UDL framework. The most comprehensive of these studies was a yearlong case study conducted by Dymond et al. (2006). The study used participatory action research (PAR) with one general education teacher and two special education teachers in two sections of a high school science course. Students enrolled in these courses included students with ID ranging from mild to severe. Researchers worked with teachers to redesign course curriculum, instructional delivery, environmental arrangement, materials, assessments, and student participation. Findings indicated a redesigned course implementing the UDL framework resulted in benefits for students (specifically students with ID) as well as for the teachers. Benefits included the following:

- increased engagement in class demonstrated by students with severe cognitive disabilities (SCD) and by students without disabilities,
- a shift away from goals emphasizing socialization and participation for students with SCD to goals addressing making progress in the science curriculum and Individualized Education Program (IEP) goals,

- improved completion of work by students without disabilities,
- improved personal responsibility,
- positive impacts on relationships and interactions among students with SCD and peers to include the development of friendships,
- an increased attitude of caring and kindness from individuals without disabilities, and
- increased academic collaboration between students with and without disabilities.

Coyne et al. (2012) examined the effect of a technology-based UDL approach to literacy instruction on the reading achievement of 16 students with significant ID. Students' placements varied from inclusive classrooms to substantially separate classrooms. Results demonstrated statistically significant increases in reading comprehension, word attack skills, listening comprehension, and concepts about print. Although the results are promising for students with ID, the sample size was small ($n = 16$). No information is provided regarding differences in learner changes by educational setting or of teacher experiences in the implementation process.

Other studies have included participants with ID, but their focus has not been on the outcome of those participants or results are not reported as a separate category for individuals with ID. For example, Kennedy et al. (2014) conducted a study incorporating two of the three principles of UDL (representation and engagement) along with the Cognitive Theory of Multimedia Learning (CTML) to create multimedia-based instructional modules to develop background knowledge and vocabulary in a general education world history course. The use of Content Acquisition Podcasts (CAPs) instruction was compared with Business as Usual (BAU) instruction. Of the 141 participants, 32 were identified as having a disability of which two were identified as having an ID. Students with disabilities learned vocabulary terms and concepts at a faster rate when using the CAPs intervention than those in BAU. No data are reported specifically for individuals with ID. In addition, because this study does not apply all three principles of the UDL framework but rather selects only two principles (no guidelines or checkpoints are discussed), it is difficult to identify the impact UDL had in this study.

Lieber et al. (2008) offered a descriptive case study of the Children's School Success (CSS) curriculum designed using the three principles of UDL. The CSS curriculum was implemented in 30 preschool classrooms, 20 of which included individuals with disability. One student with ID was included and 29 were identified as having a developmental delay. Preliminary results of this curriculum demonstrated gains in both academic and social outcomes for preschool children with disabilities. Although exemplars from two students were shared as well as overall outcome data for all students, information specific to the student with ID was not shared. In addition, teacher experiences in the implementation process were not reported.

Kortering et al. (2008) studied the perceptions of students regarding classroom changes made during the implementation of UDL. Although 1,061 student responses were recorded, only two were reported as having mild ID. Researchers trained 22 teacher participants on up to 24 interventions aligning with the UDL framework. Students were surveyed afterwards to assess these activities. Students reported favorable views of UDL interventions. No information was provided on the specific perceptions of individuals with ID or of those of teachers.

Still other studies have looked at inclusive classrooms, but those studies either did not specify participants with ID or did not include participants with ID. Several inclusive studies (King-Sears et al., 2015; Marino, 2009; Rappolt-Schlichtmann et al., 2013) measured interventions designed under the UDL framework where individuals with ID were not specifically named as participants within those studies. These UDL designed interventions might be applicable for students with ID, but we cannot be certain without additional investigation. Studies showing positive gains for students with disabilities when utilizing a UDL framework should be replicated to include samples of students with ID to increase our knowledge regarding the impact of UDL on student learning.

Given the dearth of research on the implementation of UDL in educational settings that include students with ID contrasted with the suggestions of great promise of UDL for these students, more information is needed to assess whether such promise is attainable. An even greater gap exists in studies specifically examining UDL and students with moderate to severe ID. There is also a noticeable gap in the field generated by

the absence of research that documents personal stories of general education teachers told in their own representational voices speaking about UDL, inclusive classrooms, and students with moderate to severe ID. By documenting teacher-reported experiences, we provide new insight into the body of literature regarding UDL implementation in inclusive classrooms. We explore how teachers report their experiences and how they choose to represent these experiences when implementing a UDL framework in general education classrooms including students with moderate and severe ID.

Method

This research draws upon narrative inquiry (Chase, 2011; Connelly & Candinin, 1990; Polkinghorne, 1995). Narrative inquiry is based on the premise that any one person's story, when analyzed in sufficient depth, represents a larger collection of experiences (Mayan, 2009). This particular research method was chosen to gather experiences of teachers and by doing so gain a broader understanding of UDL implementation where students with ID are included.

Polkinghorne (1995) proposed two approaches to narrative inquiry: "analysis of narratives" (p. 12) in which the findings are represented as descriptions of themes across participants' stories and "narrative analysis" where the researchers construct a story with a plot line from the participants' narratives. To arrive at common threads across participants' stories, we chose the thematic approach to data representation (Bold, 2012; Polkinghorne, 1995).

Participants

Following approval by the Institutional Review Board, participants for this study were recruited from the United States and Canada. The systematic recruitment plan targeted professional organizations, states, and school districts known for their involvement with UDL implementation. Specifically, our efforts included the following (a) posting a study flyer in professional groups on social media (i.e., Twitter, Facebook groups for the Council for Exceptional Children, and the Universal Design for Learning Implementation and Research Network [UDL IRN]), (b) sending emails to colleagues at higher education institutions, centers like the School Integrated Framework for Transformation (SWIFT) school network, and state/provincial boards of education, (c) distributing fliers at an annual TASH conference and during a professional development event hosted by the UDL IRN, and (d) posting a call for participation on the UDL IRN and CAST websites.

To be considered for this study, the participants needed to meet the following inclusion criteria. First, all participants were to be general education teachers. Second, they were to work in a district that went through a district-wide implementation of UDL. Third, they were to be practicing UDL-aligned teaching for at least 1 year. Finally, they were to have at least one student with a severe ID included in their class. It was this final criterion, inclusion of at least one student with severe ID that created the biggest challenge in terms of recruitment. After a year of unsuccessful recruitment, we broadened the criteria to include students with moderate to severe ID and continued repeated our recruitment efforts as described above. These efforts resulted in identifying a total of seven participants.

All of the participants included in the study were female and worked as general education teachers. Four of the participants worked in Canada (specifically in the province of Alberta) and three worked in the United States. Each participant worked in a district that was implementing UDL for at least a year. We assigned pseudonyms to participants to protect their confidentiality. See Table 1 for a detailed description of each participant.

Data Collection

In this narrative inquiry study, we collected stories from general education teachers. Semistructured interview questions were designed using both UDL and narrative inquiry literature (e.g., Chase, 2011; Connelly & Candinin, 1990; Holt, 2010; Tanggaard, 2009). All researchers participated in drafting and editing the questions until unanimous agreement was reached. In addition, an interview protocol, including follow up questions and storytelling-enticing phrases, was created and practiced by all involved (Chase, 2011; Holt,

Table 1. Description of Participants.

Teacher/ country	Professional position	Grade level	Years of UDL implementation	Previous training in UDL or SWD	District support	Students with ID
Julie/ Canada	Elementary teacher	Upper elementary	1 year	One course in instructing SWD; two day PD in ASD; ongoing UDL coaching	Strong IT support and monthly meetings with a learning coach	One student with severe ID and ASD
Nicole/ Canada	Science teacher	Sixth grade	2 years	PD on technology and UDL; no training on SWD	Monthly staff meetings	One student with severe ID
Fern/ Canada	Science teacher	Seventh, eighth, and ninth grade	2 years	8-day UDL training	Participated in district PD as a trainer	Three students with moderate to severe ID
Kate/ United States	Culinary arts teacher	High school	More than 1 year	UDL training provided by a corporate center	Unclear from the interview	Two to three students with moderate to severe ID
Wilma/ United States	First-grade teacher	First grade	More than 1 year	No formal preparation in SWD but she had experience at an inclusive preschool; multiday training on UDL	UDL, math, and literacy coaches at a school level	Three "life skills" students; 1 with ID
Sue/ United States	Math teacher	Sixth grade	More than 1 year	College classes on UDL, annual multiday training on UDL	UDL coach at a school level	Two "inclusion" students; one with moderate to severe ID
Lee/ Canada	French immersion teacher	Elementary	Multiple years	A variety of PD on inclusive practices; training in UDL and ongoing UDL district support	District-level PD and coaching support for UDL; team support for SWD	One student with moderate to severe ID and ASD

Note. ASD = autism spectrum disorder; UDL = Universal Design for Learning; SWD = students with disability; PD = professional development; IT = instructional technology; ID = intellectual disability.

2010; Tanggaard, 2009). Nine broad interview questions were developed asking teachers to "talk about" or "tell me about" their experiences with UDL in general as well as with students with moderate to severe ID. We divided the participants randomly so that each of the authors conducted at least one interview. The interviews were conducted via telephone (Holt, 2010) and lasted between 30 and 60 min, with an average time of 35 min. At the beginning of the interview, the participants were presented with a consent document

and after providing an oral consent, the interview commenced. All of the interviews were audio recorded and transcribed verbatim by a research assistant blind to the purpose of the study (Poland, 2003).

Data Analysis

To analyze the data, we adopted Polkinghorne's (1995) method of "analysis of narratives" (p. 12) to create description of themes consistent across all participants' stories. We took the following systematic steps to data analysis. First, the verbatim transcripts were open coded line by line independently by the authors (Hatch, 2002). Next, we identified common categories across the participants' stories. After agreement was reached, we re-coded transcripts utilizing the agreed upon categories. These categories consisted of inclusion, intentional planning, teamwork, support, challenges, assessment, technology, and nonexamples. Finally, we combined the categories into final themes. Throughout this coding process, we engaged in peer debriefing at each phase of data analysis (Hatch, 2002).

While in qualitative research the final decision about credibility of a research report belongs to the reader, the following steps were put in place to ensure trustworthiness of this study (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005). To begin, we recruited a diverse pool of participants from a variety of content areas, school districts, and two countries. This allowed for data triangulation (Brantlinger et al., 2005; Hatch, 2002) across seven participants. Moreover, we reached investigator triangulation (Brantlinger et al., 2005) by involving four researchers as interviewers and data analysts in this study. Within the research methodology, we utilized a peer debriefing process across the researchers and compared data coding across all transcripts until full agreement was reached. As a group, we engaged in collaborative work (Brantlinger et al., 2005) utilizing peer debriefing after each interview was transcribed and independently coded. We listened to each other's interview audio file, read the postinterview memos, and reflected on the interview protocol fidelity. Any disagreements were discussed across researchers until agreement was reached.

Findings

Four themes emerged across all participants' stories: (a) designing for learner variability, (b) talking about inclusion, (c) teaming fosters success, and (d) differing descriptions of UDL. Because of the nature of narrative inquiry, the themes will be described through the stories told by our participants.

Designing for Learner Variability

A common theme across all participants' stories was related to learner variability. All of the teachers shared stories about the ways in which the UDL framework allowed them to address various students' needs, provide options, and plan on overcoming barriers in instruction and assessment through intentional planning. While talking about planning for barriers to address the variability of needs of her students, Sue said,

> And the other thing I think that has really impacted me as far as UDL and lesson planning is that I really try to—when I am planning my lesson, I try to provide as many scaffolds as I can.

Intentional planning that is inclusive of every child perhaps best was captured by Fern's statement, "We need to take all of that in mind when we are designing those lessons so that we can hit each and every kid in every way."

To address the needs of her diverse students, Lee described her intentional planning process in the following story:

> So the first thing that I usually do is kind of brainstorm and sketch out the big ideas and where we want to go with the lesson. Then I take it back to the student. I am always amazed when you get student voice; how things come up that I would have never thought about. So conversations with the students about what it is that engages them. That is almost 80% of the battle is getting the student engaged in their learning, so we talk about that. We talk about having very clear targets of what it is, where we're going and how we're going to get there. Again, the use

> of visuals, which basically came across as a French Immersion teacher, then I realized like this was something that is good for everyone in every class.

In her stories, Sue shared her strategy for addressing students' diverse needs and planning to overcome barriers:

> So typically now what I do with lessons is that I will—I have a big excel spreadsheet that has a chart on it that talks about barriers and I will go through a particular lesson and I will list the students in my class that I think might have a particular barrier with that lesson whether it is language or whether it is vocabulary or whatever that might be and I plan for the barrier beforehand.

When asked whether designing for learner variability can be challenging, Wilma concluded,

> Well I think it allows for a challenge all of the time. It forces you out of that comfortable area. I think it's comfortable for us to follow curriculum verbatim because it's easy and available and the things they have are fantastic and some of it isn't.

Sue shared a story to exemplify that regardless of the difficulties, planning for variability of students around UDL framework is beneficial based on the outcomes she sees from students:

> . . . we were doing a project and this kid has told me, "I have this idea. Can I do it this way? Can I show you what I know by doing this?" And it's like, "Yes. You absolutely can" and that is when I go "Okay, I know I should be doing this. This is the right way to do this. They're getting it." It's giving them the opportunity to be creative which is in a world where that doesn't always happen. And so yeah, there are absolutely moments where I feel like "I don't know if I can do this." And I don't know if this is the right thing to do, but then you have those moments and then I realize that yeah, it works. It's what I should be doing.

Lee told us a story about challenges related to planning for a wide variety of learners. She said,

> Then you start questioning, did I do everything, what else could I have possibly done. And those are the students that we carry with us for the rest of our career. We always question what we could've done better. So it's challenging because when you do think you've got all the brain research behind UDL and all this new knowledge that's coming out and you figure okay you know, I cross that box off and I did that and it still isn't necessarily effective for that student. Then it allows you to grow professionally, but you still always kind of wonder what you've done.

Fern shared a few stories of how she provided options for students to express their knowledge in multiple ways in her science class. For example,

> So this one student chose to create his ideas out of Legos. We had this big Legos mat and he built all kinds of different things out of Legos instead of having to write the paragraph or writing anything. He was able to explain it better. I would say "well, why are the black Legos here?" and he'll say "this is the oil spill" and then he has little animals in there and he had black clay on the animals and he'd say, "this is how the oil affected the animals. Now these guys are all sick" and he made little cars with lots of pollution coming out of them and he did an amazing job with the Legos and little props like mini animals. You just give them the supplies and let them run with their imagination and then they get to speak about what they have learned and how they wanted to show you what they've learned.

Participants shared their success utilizing the UDL framework to provide options in daily instruction and assessment. Fern explained providing options in assessment:

> Whether they did it my way or their own way. As long as they can show me the information or show me that they've learned something; that is the most important part. It doesn't matter if their posters aren't the most beautiful posters on the wall. It doesn't necessarily mean that they have learned anything; it means that they're

> great at drawing. So keep in mind we are assessing. The assessment pieces have to be geared towards what they've learned.

However, several of the participants shared that standardized assessment was a challenge.

While they provided students with options for expression in their everyday practice, standardized assessments require adherence to the guidelines given by the state/province as described by Kate:

> How can I make it to where they can succeed if it's in an environment that they don't usually? Because a teacher can tell you to use UDL all day long, but when the national government or state government come in and say these kids have to take this particular certification test to prove something . . . well you can't UDL that no matter how hard you try. There is no UDL. They tell us this is the test and they have to take that.

When discussing learner variability and overcoming barriers in instruction, Kate reflected, " . . . there are so many students who don't thrive in an academic environment, but they are so smart they can just show you what they know via hands on learning." She followed it with the following:

> Even the students who thrive in an academic setting, some of them go, "you know, I understand it but I understood it so much better when you presented it this way." So you know they all really benefit. So, whether they think they are or not, everybody benefits from several types of learning. I had someone say "you know I got it when you talked about it but when you showed us I got it so much better."

The teachers' experiences gathered here suggest that intentional planning for diversity was their goal regardless of the challenges and barriers that may experience in policy and practice.

Talking About Inclusion

In all participants' stories, there was a clear connection between UDL implementation and inclusive practices. For example, Sue shared with us that "I think about UDL as it pertains to inclusion. I think all this stuff is good for all the kids and that's how we do it, but it is really good for my inclusion students." Similarly, Lee shared,

> I basically just started working with a school that is all inclusive so at that time I really had to change my processes and UDL was a great success and a wonderful process for me in order to do that.

To reflect on inclusive practices, Sue also said,

> Most of this stuff that I do, I do with my whole class and it just benefits every single person in the room . . . Just because something benefits one person or it seems it is meant to benefit one person, you, know, it can really benefit everybody.

Overall, the interconnectedness of inclusion and UDL was articulated in the way teachers described their diverse classrooms, their instructional design, and their instructional implementation.

When talking about her students, Kate described her classroom as very diverse. She said, "I have an absolute broad range of learners. Which is fun for me because I can see them thrive in different environments." Similarly, Fern described how her diverse students would learn together and assess each other:

> So they would help out and do the cutting and the gluing and all that stuff. Once that was done, then the other kids would ask them and say "ok Emily, what is nonliving?" and so then they would point to the rocks. Some words they can say, some they can't but they can point to rocks and you can ask, "is that alive?" and they would shake their heads "no." Or point to a tree and shake their heads "yes." And the other kids would quiz them to see if they knew. They didn't use the words biotic and abiotic but still took it to that level so they knew if something was living or nonliving. So the other kids were quizzing them and that was really powerful for me.

One example of inclusive practices and implementation of UDL framework related to the use of instructional technology. For example, Lee shared a story of how using an iPad for instruction helped her to include her student with moderate ID in practicing conversations in French:

> (We used) an iPad for him to scaffold his learning, especially with French, to be exposed to more vocabulary and also rather than have him write his responses to this project in French he is speaking them and videotaping them and videotaping his conversations and interactions which then in return a parent has access to be involved. So using technology that way is as simple as videotaping. It doesn't have to be an app. It's just really conversation and him being able to watch them back, and see himself smiling and speaking French has been a huge impact on him.

Similarly, Julie shared how digital technology helped her include a student with communication needs. She recalled,

> Natalia, she is nonverbal. So whenever she would get really upset we didn't know what was wrong. And she had a little bit of a behavior problem but with the technology, it really helped. I even had my laptop close by and if she wanted something she would type it in for me. And so that was really exciting.

Wilma brought up a story related to technology and student increased engagement. She shared that in her elementary classroom she used the Raz Kids™ program for leveled reading. And so, each student in her class, including those with ID, would be assigned to a book on their level. Wilma shared that the ability to use this program on a computer or iPad increased focus and engagement of all students, but particularly of her student with moderate ID.

Teacher participants shared stories of how intentional instructional design utilizing the UDL framework allowed access to learning for all of their students, regardless of their diversity and level of needs. In one of her stories, Wilma described students in her class supporting an individual student with severe ID. She shared that assigning and training two or three peer mentors would take her approximately 2 weeks at the beginning of the school year. After 2 weeks, though, these peers would help the individual with ID navigate the classroom and activities. She ended her story discussing the individual's gains in communication due to such peer arrangement:

> Sometimes he will even communicate with them correctly. Not yelling at them or things like that. Answering their questions. So we've been able to see a little bit of growth with things like that as far as working in a group with his peers.

When reflecting on UDL implementation and inclusion of students with moderate to severe ID, Sue shared a story of one of her students:

> I had one student say, "It's kind of like the ramps and the stairs" and I said, "well what do you mean by that?" and he says, "well, here's the thing . . . it's like if we all have to come up the stairs, it gets real crowded but if someone is in the wheelchair and we would push that person up the ramps we could all get up the ramp too."

These teachers' stories suggest that the inclusion of students with moderate to severe ID in these classrooms was supported by UDL and supportive of UDL, bringing new ways of learning to the classroom, fostering peer relations and supports, and providing rich opportunities for engagement and learning.

Teaming Fosters Success

A third theme consistent across participants' stories focused on the importance of a professional support network while planning and teaching with a UDL framework in mind. All of the participants talked about their supportive districts, their participation in team planning, and participating in ongoing professional

development. This articulation of a network or supportive team highlighted teachers' ability to persevere in the implementation of the UDL framework.

Sue shared how important school support is to her professional growth. She explained that each year, all of the teachers participate in a week long UDL Institute that provides a chance to listen to a keynote together so that they hear the same message followed by opportunities to practice and learn in breakout sessions. Sue shared that this annual professional development helps her stay current and continue to improve her teaching practice.

Wilma, Sue, and others talked about the importance of having a building-based UDL resource person to support day-to-day implementation as well as a content area specialist to troubleshoot instructional challenges. For example, Wilma described her experience with her team and the resource person:

> We talk about what's an area where maybe you feel like the kids haven't had success in? Is that an area we can work on? So we try to set a monthly goal. What is it that we want to focus hard on? Last time it was asking questions during our reading. And we all across the board said, no our kids cannot do this. It's really hard and so then we sit together and we come with ideas. How do you want to focus on that this month? What will you use to show that they've gotten it or they don't? We talk about common assessment; we do all of that.

Nicole talked about having a team of professionals collaborating so that inclusion of students with moderate to severe ID is more meaningful. She told a story about collaborating with a speech pathologist as well as with former teachers of her students with ID who were now included in her class. She concluded, "I have people I can call on if I need help. I don't feel like I was ever on my own with it." Similarly, Lee reflected on how critical the teamwork was to her experience with inclusive education and UDL implementation. She shared this story:

> Another big piece that I'm getting back with this journey of UDL is that it is really a team approach because everyone—you don't have the skill set or specialty to fully support the students with intellectual disability even if they are moderate . . . But the biggest learning experience was that you need a team approach and it's not a weakness. But that you are needing to ask for help and find those experts and use those resources and people are thrilled to help. And having a team approach will keep you more accountable to those three guiding principles that I've been using with UDL.

Wilma shared a story about a previous experience of team teaching with a special educator at her school. She explained that the special educator would teach mini-lessons that would allow her, Wilma, to observe and learn new strategies. In contrast, Wilma also talked about her current experience planning instruction with a team of other first-grade teachers that did not include a special education teacher. In this team design, she would consult with the special education teacher and then bring that information back to her first-grade collaborators. Wilma reflected that she had learned a lot from her special educator colleague while team teaching with her. To best exemplify the importance of having school supports and a team of collaborators, Lee shared the following:

> It does really need to take a team approach. So I think that it's exciting. I think that when I first started teaching—you're kind of in your own island in your classroom and more and more research is showing that teachers need to collaborate and in very purposeful ways. To help us get our students where they need to be so they are ready for when they leave school. So I think that is changing more than when I went into school.

To exemplify the importance of professional development opportunities to improve UDL framework implementation, Fern shared a story of participating in an 8-day long workshop focused on UDL. She recalled, "She showed us how to make rubrics and how to create activities for the students to learn and how to teach the kids of how to include those children with special needs." Moreover, Fern shared that the district sent her to this workshop along with four other teachers with intent of them training additional teachers in the district. When discussing professional preparation, Lee talked about how if she could, she would advise all preservice teacher candidates to take as many classes related to special education as possible, even if they are not required.

Finally, Nicole summed up the need for the structures to be in place at the building and district level to support teaming saying, "I think you just need one strong organized system of who is doing what task and what if this doesn't happen, what is the plan B. So the team approach is wonderful, but it still needs some organization." Like UDL, teaming does not happen without intentional planning and support at many levels.

Differing Descriptions of UDL

On several occasions, participants told stories that demonstrated a difference in language from how the UDL framework is described in literature. This language difference varied from somewhat different to very different from that of literature describing the UDL framework (www.cast.org) and/or effective inclusive practices. One aspect of the stories general education teachers shared about UDL implementation included the language they chose to illustrate what they were doing. A closer look at the language used to describe practice seemed important, particularly where there was some confusion between what we as researchers knew about UDL and the practices described by teachers.

Several stories seemed to illustrate planning for shared physical space in a classroom rather than shared educational space. There was a lack of consistency in the descriptions of planning for all within one curriculum supported by the UDL framework versus offering a completely individualized or separate curriculum. Language around the intentionality of UDL also blurred at times even though intentionality in the planning process is one of the pillars of UDL (Rose, Meyer, & Hitchcock, 2005). Finally, for some participants, digital technology was the most reoccurring factor in their stories of UDL implementation. While digital technology can be helpful, it is not necessary to always provide options utilizing technology in instruction (Hall, Meyer, & Rose, 2012; Rose, Gravel, & Domings, 2012). We include this section not to make light of the hard work teachers were doing but rather to highlight and explore how language can communicate a difference in the understanding and practice of a concept.

Some of our participants talked about planning with a UDL framework and planning for separate individualized instruction interchangeably. In one of her stories related to intentional planning and learner variability, Sue said,

> You know it's all about individuality, individual goals—it's not necessarily all my students at the same spot, at the same time. I may teach one thing to the whole class but then after that they are all going to their individual levels, their individual programs, or whatever it is that they're working on. So really UDL has created for me a more individualized education for my kids.

Similarly, Julie said, "they're on a complete and individualized plan. So their planning was completely, completely different." Kate shared,

> I set them up with a one on one assistant. Someone who can read the test to them or modify the test in some way where they can try to be as successful as they can. And that's really about all you can do.

These examples seem to contradict one of the assumptions of the UDL framework: intentional planning for overcoming barriers for all students. While the teachers provided examples of choices and multiple means of representation, engagement, and expression, it seemed that sometimes their language reflected the use of individualization or separate planning synonymously with UDL.

Another example of a difference in understanding the UDL framework related to language discussing UDL as an equivalent to good teaching; not requiring any special planning or thought process. Wilma shared the following story:

> UDL is just good teaching. We've been doing it for years but now it has a name and a guideline to follow, but it is what really good teachers have always been doing. That's kind of what I tell people when they ask what is it? Or, I don't know or what does this acronym even mean? And that is pretty much what I always say. It's good teaching and good practice and this is what we do.

Kate had a similar story in which she said,

> If you want me to be honest, it's just built in to what I do. So I don't sit there and think oh I'm going to use UDL today, it is literally a part of the fabric that I teach . . . Well it was something I always did, but the corporate center that I work for really became a magnet for it in sort of using the terminology. You know and it was funny the first time I went to a UDL meeting, the lady that was running the meeting kept saying—you do UDL every single day but you didn't know what it was called.

Finally, in one of Sue's stories, we heard,

> And I think the biggest thing was that I found with incorporating UDL is that a lot of it was things that I was already doing. I just didn't quite know that they were UDL. [laughs]. You know a lot of it is what teachers kind of do on their own.

The UDL framework, specifically the checkpoints, does include many research-based practices that good teachers could utilize without implementing the UDL framework. However, the core concept of UDL used consistently throughout all CAST literature is that UDL is based on proactive, *intentional* planning to overcome barriers to learning and providing flexible instruction for all students. The intentionality of identifying barriers and planning for variability of the learners seemed to be missing in some of the aforementioned examples.

Finally, in Nicole's and Julie's stories, technology (instructional or assistive) was a defining feature in *every* example shared. While both high- and low-technology tools are helpful in UDL implementation, the UDL literature suggests that digitized or high-technology is not a necessary component of implementation (Rose et al., 2012). Technology (both high and low technology) has been effective in supporting the needs of learners with ID long before the development of the UDL framework (Rose, Hasselbring, Stahl, & Zabala, 2005). And UDL has from the beginning touted the value of the use of digital media to provide flexibility in instructional offerings (Rose et al., 2012). For these reasons, researchers expected some stories would most definitely include technology. Acknowledging that, it was somewhat puzzling that for two of seven participants, *all* stories centered on technology. This seemed to indicate that, at least from these two participants' perspectives, UDL framework implementation is synonymous with technology-based instruction or that the principles of UDL could not be applied without the use of technology-based instruction.

Discussion

Connelly and Candinin (1990) claimed that, "humans are storytelling organisms who, individually and socially, lead storied lives. The study of narrative, therefore, is the study of the ways humans experience the world" (p. 2). In this narrative inquiry project, we sought to gather stories from practitioners and hear the firsthand account of those who experience UDL framework implementation with students with moderate and severe ID in their everyday practice. Our assumption was the authenticity of teachers' voices would add to the currently scarce body of UDL-focused research and provide a springboard to further applied research in this area.

All of the teachers shared stories about the ways in which the UDL framework allowed them to address various students' needs, provide options, and develop plans to overcome barriers in instruction. Designing for learner variability is a primary tenant of UDL (Meyer, Rose, & Gordon, 2014). Currie-Rubin (2013) explained that UDL "requires a shift in thinking about differences among students, or variability, as a problem, instead recognizing and teaching to the natural variability that exists among students" (p. 390). Identifying ways in which the curriculum (e.g., goals, methods, materials and assessments) may impede learner participation and progress is fundamental to UDL (Meyer et al., 2014). Intentional planning using the principles, guidelines, and checkpoints to reduce those barriers is necessary for effective implementation of UDL (Hall et al., 2012). All seven participants shared descriptions of planning for learner variability as core to their experiences in the implementation of UDL in inclusive classrooms. This emphasizes the

necessity of preparing preservice and inservice teachers to focus on designing for learner variability when preparing teachers to implement the UDL framework. However, in sharing their stories, we also identified a disconnect between stories depicting planning for all learner variability to access the same curriculum and stories depicting implementation of a completely separate curriculum experience particularly for learners with moderate and severe ID. The results of this study identified descriptions that seemed to focus on separate curricula in inclusive classrooms implementing a UDL framework. Implementation of UDL in a classroom does not discard the need for individualization but ways in which that individualization fits into the UDL framework should be explored. The language used by some participants to describe separate curriculum and individualization in contrast to the inclusiveness of UDL calls for additional exploration.

Other descriptions from our interviews also prompted new questions within our research group. For example, two teachers told stories explaining that they were already "doing UDL" and did not realize that what they were doing was called UDL until told so. Teachers may continue to utilize some of the instructional strategies they used prior to learning about UDL. However, UDL requires teachers to go beyond just good teaching in utilizing effective practices to include intentional planning for variability and the removal of barriers. Effective strategies should be chosen in advance because they remove barriers and allow a wider range of learners access to content, participation, and progress within the general education curriculum. UDL is more than just good teaching. Intentional planning for student variability is foundational to the framework of UDL (Hall et al., 2012; Meyer et al., 2014).

Finally, we identified differences in how teachers described the necessity of digital or high-technology for addressing student variability under the UDL framework. Although the role of technology has been defined as a tool supporting UDL and not necessary to the UDL framework (Hall et al., 2012; Rose et al., 2012), two participants told stories that included technology in *every* example. While technology is described as "greatly enhance(ing) the ability to individualize and customize the learning experience," it is not a requirement for UDL implementation (Rose et al., 2012, p. 120). "UDL sets out principles that are focused on teaching and learning, not on technologies" (Rose et al., 2012, p. 120). Two of our participants provided examples that focused on technology as a constant part of UDL implementation rather than language that focused on concepts of teaching and learning. This bears additional exploration for future research.

All participants shared stories demonstrating that students with moderate and severe ID can and should be included in the intentional planning for learner variability. General education teachers need more support and training in understanding the characteristics, instructional methods, materials, and expression options to incorporate these learners into the general curriculum (Monahan, Marino, Miller, & Chronic, 1997). The UDL framework offers principles, guidelines, and checkpoints that make the general curriculum more flexible (Hall et al., 2012; Meyer et al., 2014) but specific strategies, exemplars, and experiences with students with moderate and severe ID are necessary to include when preparing teachers to implement the framework (Dymond et al., 2006). It is important to explicitly emphasize the role of intentional planning for learner variability to remove barriers in UDL implementation training to facilitate an understanding that implementation of the UDL framework requires a change in their practice.

Throughout the teachers' stories, the interconnectedness of inclusion and UDL was articulated in the way teachers described their diverse classrooms, their instructional design, and their instructional implementation. Effective inclusive classrooms include a shared vision, collaborative educational professionals who share leadership and decision making, daily problem solving through data-based decision making, high-quality instruction, efficient and flexible resource use, and professional development centered on the learner (Hoppey & McLeskey, 2014). Researchers examining UDL have discussed the connection between UDL and inclusive classrooms (Dymond et al., 2006; Lieber et al., 2008; Ralabate, 2011; Sailor, 2014; Vitelli, 2015). Results of this study documented teacher experiences connecting the UDL framework in inclusive classrooms to feelings of membership, acceptance of diverse approaches, and better outcomes for all students. However, as discussed previously, there were still stories that seemed to illustrate shared physical space in a classroom rather than shared educational outcomes. Based on this study, more work is needed in creating a unified vision for inclusive practices with general education teachers as it applies to implementing practice within the UDL framework.

The UDL framework offers guidelines and structure for implementation of curriculum that could include learners with moderate and severe ID in inclusive settings. However, as this study showed, even when general education teachers are practicing in an inclusive setting utilizing a UDL framework for more than a year, there may still be some gaps in understanding and utilizing the depth of the UDL framework as it applies to students with more intensive support needs. It seems fundamental that we continue to refine inclusive practices as we learn more about the implementation of the UDL framework. Consequently, preservice teacher preparation focused on implementation can directly address the interconnectedness of UDL and its support of inclusive practices.

All of the participants shared stories about their supportive districts, their participation in team planning, and their access to ongoing professional development. CAST (www.cast.org), the UDL-Implementation and Research Network (www.udl-irn.org), and The National UDL Center on UDL (http://www.udlcenter.org) have all emphasized the importance of supporting districts in "scaling up" UDL practices. Books, articles, and webinars have focused on this topic (see Basham, Israel, Graden, Poth, & Winston, 2010; Nelson, 2014; Rose & Meyer, 2002; Sailor, 2014). The identification of human resources via district supports and school-based supports as well as specific professional development for faculty and staff are all clearly identified as important in scaling up the implementation of UDL. Although included as a priority in the American Association on Intellectual and Developmental Disability (AAIDD) National Goals of 2015 (Thoma, Cain, & Walther-Thomas, 2015), there is little emphasis elsewhere on the need to support general education teachers in specifically including learners with moderate and severe ID as part of that scaling up process.

As demonstrated by this study, general education teachers benefit from resources specific to students with intellectual and other disabilities. Learners with moderate and severe ID are highly variable and require varying supports; however, meeting the needs of learners with more intensive support needs was not a part of our participants' initial teacher preparation. It may be that when some educators define the *universe* of UDL, they are thinking about their universe of learners as they have been prepared to think about them, based on a typical learner with some variability within that range. For the implementation of the UDL framework, states, provinces, and district-level systems will need to provide specific supports to general education teachers centering on learner variability including those with moderate and severe ID. Those same systems will need to provide resources and supports for goals, methods, materials, and assessments to address the variability of students with moderate and severe ID within the inclusive classroom. As identified by participants, helpful supports include identified resource personnel who have this expertise, teams that include fellow special education teachers, and professional development opportunities specific to meeting the needs of these learners within the implementation of a UDL framework.

Limitations

Several limitations were noted in the design and implementation of this study. First, researchers set out to collect stories of general education teachers engaged in the implementation of UDL in classrooms inclusive of students with severe ID. After months of searching through various channels, not one potential teacher participant could be identified using these criteria in the United States and Canada. When researchers changed the criteria to moderate-severe ID, seven participants were identified. Possibilities for this could be because (a) inclusive classrooms utilizing UDL and including a student with severe ID do not exist, (b) teachers meeting those inclusive classroom/UDL criteria were not willing to participate, or (c) recruitment procedures were not strong enough. In addition, stories may have included language specific to disability due to the way questions were asked about students with disability. Finally, all researchers conducted interviews, which may have indirectly influenced the content, style, and responsiveness of participants.

Implications for Future Research and Practice

As we analyzed these stories from teachers, new questions emerged. Some of the stories were different than what we understood of UDL based on our review of the literature. Our analysis left us with the following

questions: Does consistent language matter? If so, how can we prepare teachers to implement the UDL framework in a way that utilizes common language and meaning? Do teachers view UDL as synonymous with or as a substitute for individualized education? Do teachers view UDL as "just good teaching?" If intentional planning is fundamental, how is it that teachers trained to implement the UDL framework used language to describe their UDL implementation as something they were already doing prior to being trained in the framework? Do teachers view digital technology as a requirement for implementation of UDL? How can we prepare teachers to identify the necessity of intentional planning for learner variability and the removal of barriers when implementing the UDL framework? How can we ensure this preparation includes the varying support needs of learners with moderate and severe ID?

Our research demonstrates the need for additional exploration of the implementation of the UDL framework, especially in inclusive classrooms. Although researchers have validated UDL as a framework, additional empirical support is necessary to support broad application (Crevecouer, Sorenson, Mayorga, & Gonzalez, 2014). The implementation of the UDL framework in school systems is lacking in empirical research overall regarding the identification of effective practices in implementation (Edyburn, 2010), preparing teachers (Vitelli, 2015), supporting teachers, student outcomes (Basham & Gardner, 2010), and system outcomes (Rao et al., 2014). As we examine the varying support needs of learners with moderate to severe ID, research is needed to understand the experiences, practices, and identified needs of general and special education teachers supporting students with those varying needs in inclusive classrooms (Rao et al., 2014). Development and measurement of tools and curricula designed using a UDL framework and used by students with moderate and severe ID as well as other students is needed to understand what works for these students when utilizing this framework (Crevecouer et al., 2014).

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